Impact of Conscientiousness on Work Engagement, with Mediating Role of Job Crafting and Moderating Role of Top Management Support in Project Managers of Pakistani Project Based Organizations

by

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

in the

Faculty of Management & Social Sciences

Department of Management Sciences

2021

This thesis is dedicated to my late father, my beloved mother, my wife, my beautiful daughter, my younger brother, my adorable sisters, and all my teachers.

CERTIFICATE OF APPROVAL

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Acknowledgement

First and foremost, thanks to Almighty Allah for blessing me with knowledge and power to complete the thesis. Without His vast blessings I would have never been able to complete this project.

I cannot express enough thanks to my supervisor **Mr. Irfan Mustafa** for his continued support and encouragement I offer my sincere appreciation for the learning opportunities provided by thesis supervisor. His direction and instructions were remarkably challenging and encouraging which enabled me to get free of my problems throughout the study. He was always there whenever I needed him. I will always be thankful to him for his vital support.

Finally, to my caring, loving, and supportive family. My deepest gratitude to my late Father **Mr. Javed Khan** for his never-ending motivation. My beloved mother, my wife and my sisters and my brother for their support, and my beloved daughter for giving me a reason. Your encouragement when the times got rough are much appreciated and properly noted. It was a great ease and relief to know that you were agreeable to provide management of our household activities while I completed my work. My deepest thanks.

(Bakhtawar Khan)

Abstract

The aim of this study was to examine the impact of project manager's conscientiousness on project manager's work engagement with a mediating role of project manager's job crafting and moderating role of top management support. This study made contribution to literature by linking the relationship of variables with Job characteristics theory and job demand resource theory. The study explained that there is an insignificant relationship between project manager's conscientiousness and project manager's job crafting. This hypothesis is not supported by literature review conducted in this study. Furthermore, this study demonstrates that project manager's conscientiousness is positively related to project manager's job crafting and project manager's job crafting is positively related to project manager's work engagement. These results are aligned with conducted literature review. Data was collected from 428 project managers working in Pakistani project-based organizations. Quantitative research was conducted. Questionnaires survey method was used, and the responses were from project-based organizations of Pakistan. Process Macro y Andrew F. Hayes version 4.0 was used in SPSS for analysis of data. Descriptive statistics test, normality test, correlation, mediation and moderation tests were run for the analysis of the data. Results of the study demonstrated that job crafting is a significant mediator between project manager's conscientiousness and project manager's work engagement, while top management support was found insignificant as a moderator. There are limitations that are discussed. Future research should consider time-lag studies with large sample size.

Keywords: Conscientiousness, Job Crafting, Work Engagement, Top Management support, Project Managers.

Contents

Bibliography   61

Appendix A   73

List of Figures

List of Tables

Abbreviations

JCT	Job Characteristics Theory
JD-R	Job Demand Resource
PM	Project Manager
PMC	Project Manager's Conscientiousness
PMI	Project Management Institute
PMJC	Project Manager's Job Crafting
PMWE	Project Manager's Work Engagement
SPSS	Statistical Package for Social Sciences
TMS	Top Management Support

Chapter 1

Introduction

1.1 Theoretical Background

Research on project management is shifting from process and methods towards interaction among projects and individuals. Which means that the research is now focused parts of project management that are societal and behavior dependent (Haffer & Haffer, 2015; Leybourne, 2007). The aim of my research is to contribute towards this growing area of research. Different researchers have provided solid arguments that being engaged at work is important for workforces to produce optimistic results such as behavior related and organization related results (Bakker, 2010). In existing literature different researchers have defined work engagement and these definitions are included in either of these two forms, either they are motivated to be engaged or either they are engaged because they are willing to achieve some goal, objective or deliverable (Byrne, 2015). In this study we will look at work engagement as an employee's motivational state (i.e., employee is engaged because he/she is motivated) from the influential description given by (Kahn, 1990). In his first attempt Kahn (1990) defines engagement at work he stated "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances".

There is a direct relationship of conscientiousness as a personality trait with

employees way of performing job and intensity of employees being committed to job (Hurtz & Donovan, 2000). Hochwarter et al. (1999), identified that organizational commitment, job satisfaction, and job involvement all lead to conscientiousness. According to different researchers conscientiousness refers to "the degree of effectiveness and efficiency with which a person plans, organizes, and carries out tasks and includes an individual's degree of self-discipline, control, order, dutifulness, effort, prudence, and need for achievement" Maltby et al. (2010); Taylor and Bruin (2006). According to Digmon (1990) a conscientious person is defined as "dependable, hardworking, determined, disciplined, orderly, and strong willed".

Wrzesniewski and Dutton (2001) introduced the term job crafting, but (Kulik et al., 1987) gave idea of job crafting two decades ago. According to Wrzesniewski and Dutton (2001) Crafting of a job in a work environment can take different forms. First of all, an employee can change features of their work that are linked to task, like the number of errands they have at work or the format of these tasks. Secondly, personnel can alter the features of their work that include the relations they have at their job, for example the volume and intensity of relationship they have with co-worker or clients. The final way in which an individual can craft their job is that personnel can alter their thoughts (i.e., cognitions) regarding features of work, and the aim is to improve, sense of task (Wrzesniewski & Dutton, 2001). With that for employees, a very significant thing to remember is that crafting their jobs doesn't mean altering the job completely but it means redesigning some features of the job within the limits of the precise work responsibilities (Dutton, 2008).

A research study conducted by Floyd (1990) proposes that that "middle managers expects top management direction, therefore, top management should clearly define the strategic context". Display of transformational leadership skill by higher level executive triggers similar skill among middle managers as well (Rainey & Watson, 1996). Similarly if the support is inadequate from the top management then there are minimum chances that they will exhibit transformational leadership (Rainey & Watson, 1996). Allocation of fund, assigning of personnel to project, assigning of equipment to projects and developing a setting that enables

the flow of resources is responsibility of top management (Shanks, 2000). Top managers' existence and prominence are, thus, other significant indicator of their support. According to (Nah et al., 2003), it is responsibility of top managers to set achievable project goals, top management should help in resolving challenges or difficulties that are related to management (Young & Jordan, 2008), and it is also their responsibility to restore non-working organizational assemblies or procedures (Sarker & Lee, 2003). Project managers can successfully complete their projects and can achieve their project goals if there is active involvement of senior managers (Ofer Zwikael, 2008). According to work of different researchers in field of project management it is observed that top management support has a direct and positive relation with success of a project (Besner & Hobbs, 2008; Lester, 1998; Whittaker, 1999; Zwikael & Globerson, 2004; Johnson & Chang, 2001; McManus et al., 2004).

1.2   Research Gap

Personality trait of conscientiousness can be explained as "propensity to give response to in different ways under different conditions, it can be said that, a person's capability to ponder, sense, and act in a comparatively lasting and constant way at different times in settings where traits are affordable" (Roberts et al., 2009). Definition of Work engagement by Schaufeli et al. (2002) states that ''A condition of mind that is optimistic, satisfying, and related to work state and it is categorized by 1. vigor, 2. dedication, and 3. absorption''. Conscientiousness as a personality can effect work engagement by considering internal motivational process as a mediator (Kim et al., 2009). Or we can say that, people with increased level of conscientiousness are motivated internally, they have increased level of achievement striving and because of that they are energized at work (Akhtar et al., 2015). Therefore, there is a probability that these individuals will be engaged in their work.

Although different variables that effect work engagement are identified in existing literature ,but other mechanism that determine why employees are engaged

at work need to be identified (KERSE & NAKTIYOK, 2020). Previously extensive research is done for examining the relationship between variables like conscientiousness, job crafting, work engagement and top management support. But research on the relationships between project managers' coaching skills and work engagement using different mediation variables like job crafting, job crafting intentions etc. along with the different moderator variables like top management support might be studied (R. Haffer et al., 2020). The purpose of this research is to remove the research gap by investigating the link among these variables. On the basis of this discussion my research model is given below in Figure 1.

1.3   Problem Statement

A lot of research is now focused on successful management of projects. Project managers are one of the most important individuals in the project on which success of project is dependent. Previously different research studies have found that an employees' personality traits are critically important for shaping his/her job in an organization. A lot of research is available regarding how employees including project managers can improve their work engagement in different organizations. Similarly, there are different personality traits that can help employees in getting more engaged to their assigned work so that projects' success rate can increase. Different studies are carried out previously for investigating the impact of conscientiousness on work engagement. But there are still many avenues to explore for increasing project managers' work engagement and there is always room for improvement. Accordingly impact of project managers' conscientiousness on their work engagement has found very little attention.

A project manager's conscientiousness along with the ability to craft their job can increase the level of their work engagement which can ultimately help in success of project. This field of study is progressing swiftly, accordingly, the current study is carried out for examining the relationship between project managers' conscientiousness and project managers' work engagement while testing the secondary effect of project managers' job crafting on project managers' work engagement

and moderating effect of top management support on relationship between project managers' conscientiousness and project managers' job crafting.

1.4 Research Questions

Based on previous research and underpinning theory and after taking in to account stated problems, my study is intended to find answer to following questions:

1. What is the relationship between project managers' conscientiousness and project managers' work engagement?

2. Does Project managers' conscientiousness influence project managers' job crafting?

3. What is the relationship between project managers' job crafting and project managers' work engagement?

4. What is the role of project managers' job crafting in relationship between project managers' conscientiousness and work engagement?

5. What is the impact of top management support upon the relationship between project managers' conscientiousness and project managers' job crafting?

1.5 Objective of the Study

we look at the term personality it can be explained in terms of five basic factors they are called the BIG FIVE, these five personality traits are "Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience" John (1990); R. R. McCrae and John (1992). Conscientious people are those who have the quality to do their work well and thoroughly. A person (Project manager in our case) is considered conscientious when they are disciplined or controlled while achieving, goals and objectives. We have considered this personality trait specifically in our study because according to Barrick and Mount (2005)

conscientiousness as a personality trait has proven to be the most consistent predictor across different situations and settings. According to Barrick and Mount (2005), Scholar who are trying to discover the impact of Big Five on employees behavior at work should examine such factors of motivation that are more proximal, so that they can draw conclusions more correctly. In light of discussion above the objective of my study is to figure out:

(a) The effect of project managers' conscientiousness on project mangers' work engagement in Pakistani project-based organizations.

(b) The effect of project managers' conscientiousness on project managers' job crafting in Pakistani project-based organizations.

(c) The impact of project managers' job crafting on project mangers' work engagement in Pakistani project-based organizations.

(d) The influence of project managers' job crafting on the relationship between project managers' conscientiousness and project managers' job crafting in Pakistani project-based organizations.

(e) The role of top management support upon the relationship between project managers' conscientiousness and project managers' job crafting in Pakistani project-based organizations.

1.6 Significance of Study

Organizations in Pakistan are bringing a lot of employees in to work on different projects. This up rise of project-based employees in organizations brings new challenges to manage. And with that there is a need for better project management. In any project-based organization one of the most important resource is human resource and if this resource is managed correctly it results in successful completion of project. Hence a project managers' engagement in their work for achieving their goals and objective plays a vital role in completion of projects successfully. This research intends to examine the link between project manager's

conscientiousness, project managers' job crafting and project managers' work engagement in Pakistani project-based organizations. The findings of this research can help project managers and organizations by providing them with information related to how project managers' conscientiousness can impact project managers' job crafting and in giving details about how project managers' conscientiousness can improve project managers' work engagement. Therefore, this study will be of use to scholars and practitioners to understand how project managers' conscientiousness impacts project managers' work engagement, what is the effect of project managers' job crafting as a mediator on this relationship and what is the role of top management support as a moderator on the relationship between project managers' conscientiousness and project managers' job crafting which will ultimately lead to successful completion of projects.

1.7 Underpinning Theory

Job characteristics theory was proposed and stated by two psychologists (Hackman & Oldham). The theory was presented in 1976 in their book "Organizational Behavior and Human Performance, Vol. 16, Issue 2". The theory argues that "motivation, work performance and job satisfaction is effected by job design" this theory has been used as a framework in management so that it can be identified how job outcomes are affected by job characteristics. According to this theory there are five job characteristics that are given below:

1. **Skill variety:**

   It explains "degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of a person". Meaning that individual working on the job will require talent and skills for performing their job.

2. **Task Identity:**

   It explains "degree to which the job requires completion of a whole, identifiable piece of work; that is, doing a job from beginning to end with visible

outcome". Meaning that individual must be able to identify whether the task at hand has a clear beginning, middle and end.

3. **Task Significance:**

   It explains "degree to which the job has a substantial impact on the lives of other people, whether those people are in the immediate organization or in the world at large". Meaning if other people's life is affected by the job or task then it is significant it doesn't include only the individuals within the organization but also those who are external to the organization.

4. **Autonomy:**

   It explains "degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedure to be used in carrying it out". Meaning that people will be allowed to execute their job with their own decisions and call by using their own efforts and initiatives.

5. **Feedback:**

   It explains "degree to which carrying out the work activities required by the job provides the individual with direct and clear information about the effectiveness of their performance". Meaning that individuals will come to know about how well they are performing their job it will not only help them in knowing that how well they are performing their job but also help in boosting their self-esteem.

My study is in line with this theory because job characteristics model developed on the basis of job characteristics theory which explains that core job characteristics explained above give outcomes like increased level of being motivated internally, amplified level of growing satisfaction, amplified general job satisfaction and amplified level of being effective at work (Hackman & Oldham, 1976). The theory of JD-R is shaped by job characteristics model (Demerouti et al., 2001). The job demands-resources (JD-R) theory has contributed a lot towards understanding the variable of work engagement Bakker, 2011; Bakker and Demerouti, 2007,2008). According to the JD-R theory, 2 qualities of job are: job demand

and job resources. Job demand explains "the physical, social, psychological and organizational aspects of the job that require sustained cognitive and emotional effort and are associated with physiological and/or psychological costs" (Upasna A. Agarwal & Gupta, 2018). According to Upasna A. Agarwal and Gupta (2018) Job resources state to "those physical, psychological, social or organizational aspects of a job that achieve work goals, reduce job demands, and physiological and psychological costs, stimulate personal growth and development and, in turn, increase work engagement". JD-R theory (Demerouti et al., 2001) look at personnel working in an organization as a driver who has the ability to keep equilibrium between job resources and demands in order to decrease job related stress, which ultimately leads to tension and burnout when job demands are more than job resourcesBakker and Demerouti (2007); Demerouti et al. (2001); Maria Tims and Bakker (2010); Maria Tims et al. (2012). JD-R theory proposes that along with number of resources at job, individual's own resources can also effect work engagement (Arnold B. Bakker, 2011). Resources effect work engagement through the process of motivation (Wilmar B. Schaufeli & Bakker, 2004). These resources are the organizational, physical and societal traits of the job that can: (1) help in attaining work related objectives; (2) help in decreasing job demands and also the linked functional and mental costs; and (3) it encourages personal development and growth'' (Demerouti et al., 2001), p. 501. Hackman and Oldham (1976) in their Job Characteristics Theory (JCT) support the motivational process. The JCT proposes that each job has five essential job characteristics that are discussed above and the existence of these features raises critical psychological states and these psychological states leads towards optimistic results such as increased job satisfaction and increased performance.

Chapter 2

Literature Review

2.1 Literature Review and Hypothesis Development

2.1.1 Project Managers' Conscientiousness and Project Managers' Work Engagement

As mentioned earlier personality traits can be explained in terms of five basic factors THE BIG FIVE, or as OCEAN, these personality traits are named as 1. Extraversion, 2. Agreeableness, 3. Conscientiousness, 4. Emotional Stability, and 5. Openness to Experience John (1990); McCrae and John (1992). Paul costa, Robert McCare, Lewis Goldberg and Warren Norman did a survey of thousands of people in 1970's and on the basis of these findings Norman named five personality factors that are discussed. Later on McCrae and Costa (1997) went on to develop five factor model (FFM).

Meta-analyses in field of five big personality traits has discovered that particular personality traits positively forecast performance in some situations (Barrick & Mount, 1991). We selected conscientiousness as a personality factor because conscientiousness has been identified as best and most vital predictor (from the Five Big personality traits) of performing at job in different professions Arnold B

Bakker et al. (2012); Yankai Lin et al. (2015); Nandkeolyar et al. (2014); Vesa Peltokorpi et al. (2015). Conscientiousness has proven to be the most consistent predictor across different settings (Barrick & Mount, 2005). Inceoglu and P. Warr (2012) stated that no research has yet observed the association between being engaged at work and all five dimensions of personality. But relationship between all five traits and engagement was investigated by Mostert and Rothmann (2006). In psychology the OCEAN model of personality traits is most generally used (OP John & Srivastava, 1999).

According to Akanni and Oduaran (2017) conscientiousness is a person's ability to show discipline, to work with responsibility consciousness and to be achievement-oriented and hardworking (Ciavarella et al., 2004). Conscientious personal have increased level of achievement striving motivation because of which they spend additional energy on their work (Kim et al., 2009). Conscientiousness echoes commitment, consistency, attentiveness, structure, answerability, and purpose (Barrick & Mount, 1991). According to Hurtz and Donovan (2000) conscientiousness is directly and positively related with job performance and job commitment.

Witt et al. (2002) stated that conscientiousness signifies the grim and answerable attitudes that a person has towards the work and life. Person with increased level of conscientiousness is more accountable, with advanced achievement motivation and determination, well prepared and incline to chase for quality. Individual with increased level of conscientiousness regularly display a more positive approach to solve problems with effective strategies when opposing problems and possible engagements.

Conscientious individuals specifically employees/managers are well-organized, consistent, diligent and achievement striving (Goldberg, 1990). They incline to set vigorous goals and apply more energy; they are determined and they perform their job-related tasks with determination in a well-organized and planned way. In comparison, people who have decreased level of conscientiousness are inconsiderate, less well-organized and more confused, unreliable, insensitive and disordered (R. R. McCrae & Costa, 1987). The default conduct of people with decreased level of conscientiousness is to evade hard work and be detached. According to

OP John and Srivastava (1999) facets of conscientiousness are: individual with high conscientiousness are Competent, Organized, Dutiful, Achievement striving, Self-disciplined, and Deliberate. Individuals with low conscientiousness are Incompetent, Disorganized, Careless, Procrastinate, Indiscipline, and Impulsive.

Individuals with increased conscientiousness have self-control (Nayyar Raza Zaidi et al., 2013), they are more focused towards finishing and achieving their task at work and they are not focused on the rewards they might get on their job or work (Lalita Jain & Ansari, 2018). Wilmar B. Schaufeli and Bakker (2004) demonstrate that job resources can lead to an increase in individual's (manager's/employees) work engagement. On the other hand, previous experimental results propose that deficiency of resources (e.g., independence, teammate support, skill application, and Top management support) leads to decreased work engagement Cordes and Dougherty (1993); Lee and Ashforth (1996); Michael P. Leiter and Maslach (1988), (1991); Maslach (1998).

The term engagement was used by Kahn (1990), According to Kahn being engaged at work is demonstrated as "the harnessing of organization members' selves to their roles at work; when employees are engaged it means that they are working and expressing themselves , physically, cognitively, and emotionally during role performances". While employees are engaged, they become physically focused/involved in their responsibilities, cognitively ready, and emphatically associated to others (Kahn, 1990). Kahn's work on job engagement was on conceptual basis, but Kahn did not give operational definition of engagement. Definition of engagement given by Wilmar B. Schaufeli and Bakker (2004) is: ''an employees' state of mind that is optimistic towards job and work'' (p. 295) and stated three exclusive attributes of being engaged are: 1. Vigor, 2. Dedication, and 3. Absorption. Vigor is categorized by great ranks of liveliness and psychological elasticity during their work, eagerness to struggle in their job, and being determined even in the presence of challenges and problems. An employee's intellect of significance, being passionate, encouragement, pride, and challenge is categorized as dedication. Absorption points towards the state in which an employee is completely absorbed and tremendously devoted in work, in this case employee is unaware of the time

spent at work and similarly such individual face issues when they try to remove themselves from work. As mentioned earlier availability of resources are the best and utmost significant interpreters of being engaged at work (Halbesleben (2010); Wilmar B. Schaufeli and Bakker (2004)). Having resources at job helps in attaining work objectives, decrease demands at job, or in encouraging individual development (Wilmar B. Schaufeli & Bakker, 2004). Mauno et al. (2007) in his research invented that individual with increased job control have increased level of Vigor, Dedication and absorption.

Accordingly, conscientiousness as a personality trait of an employee can effect work engagement when that employees is motivated internally (Kim et al., 2009). According to Kim et al. (2009) personal with increased conscientiousness are motivated internally and they give their energy to their work. Therefor it is possible that individuals with high or amplified conscientiousness have amplified and surged work engagement (KERSE & NAKTIYOK, 2020). According to research conducted by J Mróz and Kaleta (2016) and Akhtar et al. (2015) on service sector employees and different sector employees it showed that conscientiousness directly effects engagement at work. Similarly a research conducted by Renée A. Scheepers et al. (2016) indicated that conscientiousness is positively related to work engagement in doctors and teachers. Similar finding were obtained by Kim et al. (2009), Mostert and Rothmann (2006), Arnold B Bakker et al. (2012) and Zecca et al. (2015). Following hypothesis is proposed on the basis of this discussion:

Hypothesis 1: Project managers' conscientiousness is positively related to project managers' work engagement.

2.1.2 Project Managers' Conscientiousness and Project Managers' Job Crafting

As discussed earlier conscientious personalities are not only determined, reliable, and involved in conduct that is directed towards attaining goals, but also self-restraining, vigilant, and ethically dependable Barrick and Mount (1991); T.Costa et al. (1991). Similarly, conscientiousness has formerly been witnessed to have

optimistic significances on personal happiness DeNeve and Cooper (1998); Dyrenforth et al. (2010); Jacqui Smith et al. (2013), healthy living Bogg et al. (2004); Yusuke Takahashi et al. (2013), associations and being satisfied at jobs Judge et al. (2002); Lapierre and Hackett (2007); Claxton et al. (2012).

A lot of uncertainty is still present in association between personality trait of conscientiousness and crafting of job (Bell and Njoli, 2016; Rudolph et al., 2017).

According to M. Tims et al. (2013) demonstrated crafting at job as: "self-initiated change behaviors that employees engage in with the aim to align their jobs with their own preferences, motives, and passions" (P.173). Individuals in a project can craft job in two ways, specifically personal crafting of job or cooperative crafting of job inside teams (Carrie Leana et al., 2009).

Personal crafting of job is explained as an active action that personnel raise to alter the way in which they observe things at job and the way in which they do their job by fitting themselves according to their roles (Maria Tims & Bakker, 2010). On the other hand, job crafting in a team is stated as the amount of energy members of team exert to stabilize their job demands and resources in an organized way (M. Tims et al., 2013).

Advantages of crafting job conducts have formerly been detected for: personal and those who are in the same team which is performing work or uniformly in the complete association Jos Akkermans and Tims (2017); Uta K. Bindl et al. (2019); Fangfang Zhang and Parker (2019). Relating to this conscientious individuals are more willing to be involved in job crafting, which can fulfill their achievement needs and work commitment (Simmering et al., 2003; Tims et al., 2013).

Conscientiousness has a statistically and essentially important part in forecasting job crafting tendencies (Bell & Njoli, 2016). Accordingly, Bell and Njoli (2016) also investigated that Conscientious managerial employees within an organization's environment involve in behaviors that includes crafting of job. Based on this discussion following hypothesis is proposed:

Hypothesis 2: Project managers' conscientiousness is positively related to project managers' Job Crafting.

2.1.3 Project Managers' Job Crafting and Project Managers' Work Engagement

According to different researchers Chen (2019); Evangelia Demerouti and Peeters (2018); Karatepe and Eslamlou (2017); (Matsuo, 2019); Maria Tims et al. (2016) Work engagement is completely related to job crafting. Similarly researchers offer solid arguments that work engagement is important for personnel to generate optimistic results, results can be inform of behavioral and organizational results (A. B. Bakker, 2010). Optimistic interactive and administrative work results of individuals who are engaged in their work include performing of job, both in their roles and outside of their roles, which generate outcomes in form of optimistic feelings, inventiveness, and the skill to inspire other personnel to involve as a team Arnold B. Bakker et al. (2004); A. Bakker (2009). As discussed earlier many definitions of work engagement in existing literature are included into one of these two types, expressing that employee will be engaged in their work when they are motivated at work or when they strive to achieve something at their job/work (Zinta S. Byrne, 2015).

Researchers R. Haffer et al. (2020) studied that job crafting is directly proportional to work engagement in domain of project management, meaning that increase in one will cause an increase in other. The results of this study specifically focused individuals that are involved in projects. The job demand resource model Bakker and Demerouti (2007), (2013) visibly specifies which job characteristics help employees in getting motivated at work and which characteristics can cause health problems for employees. As mentioned earlier Wilmar B. Schaufeli et al. (2002) stated that engagement at work is a positive, filling, work associated form of mind that is characterized by vigor (e.g., to be greatly active at work), dedication (e.g., to be greatly tangled at job), and absorption (e.g., to be greatly focused on job). This definition links to our concern because it focuses on how individuals or employees are involved or engaged at work, and with that this definition also focuses on the type of wok activity in which employees are involved and the work itself William H. Macey and Schneider (2008); W. Schaufeli and Salanova

(2011). Resources for crafting job and thought-provoking job demands is completely associated to work engagement, and with that it also has the capability to surge performance at work Carrie Leana et al. (2009); Lyons (2008). Engaged employees possibly can experience optimistic emotions, such as joy and passion (E Demerouti et al., 2010). These optimistic feelings lead to a broader range of views and actions because joyful and passionate individuals incline to assimilate different thoughts in an improved way (Fredrickson, 2001) which ultimately increase performance which can increase chances of project success.

Wrzesniewski and Dutton (2001), investigated that crafting of job is focused on the procedure with the help of which workers alter components of their tasks and relations they have with other individuals in organization and outside the organization so that they can define in a better way the significance of their job and the societal atmosphere at work. This is because of the reason that job crafting includes starting alterations in job related tasks, Maria Tims et al. (2012) gave an operation definition of job crafting in accordance with the characteristics of job that were explained or proposed in the JD-R model. Job demand resource theory (Arnold B. Bakker & Demerouti, 2014), states that there are two qualities of every job as stated earlier the first one is demands at a job and the second one is resources at a job.

According to the Job demand resource model, (Maria Tims et al., 2012) it states that personnel at work/job can involve in job crafting by growing societal job resources, growing organizational resources, growing thought-provoking job demands, or dropping impeding job demands. According to Jessica Van Wingerden et al. (2017) Some examples in which employees display job crafting behaviors includes, asking for response on how they performed their work and training, by surging independence and producing chances to develop at work, starting new projects, and dropping excessive work. With help of job crafting, the fit among an individual needs, abilities, and passions that are linked to the job can be improved (Maria Tims & Bakker, 2010). And accordingly, workers can come capable of surging their own engagement at (B.Bakker & Oerlemans, 2013). Based on this discussion following hypothesis is proposed:

Hypothesis 3: Project managers' job crafting is positively related to project managers' work engagement.

2.1.4   Mediating Role of Project Managers' Job Crafting

Maria Tims et al. (2012) stated that crafting of job comprises of 4 components. The initial one, growing organizational job resources, includes looking for self-sufficiency, diversity in work and chances for knowledge creation and proficient growth. The next one, growing societal job resources, focuses on growing community support, managerial tutoring and constructive criticism. The next component of job crafting is reducing obstructive job demands, demonstrating the actions employees take to make their work cognitively and expressively less intense. The physical and cognitive alterations people specifically workers make in their job or interpersonal boundaries is explained as process of job crafting. Physical alterations relates to alterations that are made in, scope or quantity of tasks or relations at work, on the other hand cognitive alterations relates to altering the way individual thinks about their job (Maria Tims et al., 2012). Justin M. Berg et al. (2010) gave some examples of how individuals involve in physical alterations. They questioned a technician who said that he involved in job crafting by doing additional tasks at work. After working in that company for a longer time, he actively started by helping newly hired employees to learn the job. Because he was good at what he was doing, later on he was officially accountable for the training of beginners. (2010: 167). As discussed earlier conscientious personnel are the one who are most likely involved in job crafting, which can help them in fulfilling their achievement need and needs of being committed Simmering et al. (2003); M. Tims et al. (2013). Individuals who are involved in crafting their jobs actively try to link the conditions in which they are working to their own wants, skills and capabilities (Arnold B Bakker et al., 2012). Based on this literature review our next hypothesis is:

Hypothesis 4: Project managers' job crafting plays a mediating role between project mangers' conscientiousness and project managers' work engagement.

2.1.5 Moderating Role of Top Management Support

According to Bell and Njoli (2016) the five big personality traits are linked to overall job crafting. By being cognitively aware about the precise job crafting dimensions, conscientious employees are oriented to tasks and determined. By looking at the previous research conducted by, Grant and Ashford (2008) they highlight the significance of determination for the constant representation of active work conduct. Which means that conscientiousness as a personality trait should enable growing thought-provoking job demands, reducing hindering job demands, and growing organizational resources of Job. .

Top management support represents how top managers offer direction, power, and resources in the organization (Ifinedo, 2008). Top management is the cluster of people who institute the highest level of management in an organization. They are the people who set directions in as organization (Alderson, 1993). With them lies the concern to formulate policy, strategies, achievable objectives, plan, mission, and explanation of responsibilities in order to keep organization moving in the anticipated track (Alderson, 1993). A research study conducted by H. Rainey and Watson (1996) exhibited that display of transformational leadership skill by top management activates related skills among middle managers (i.e. project managers) as well. In contrast, if there is insufficient support from the top management then there are less chances that they will display similar skills (Rainey & Watson, 1996).

The models introduced in the software sectors such as: 1. Model of Capability Maturity CMM, 2. Combined Administrative Project Management Maturity Model Paulk et al. (1995) and 4.Project Management Institute PMI (2003) make an assumption that an organization (including top management) is directly related to the way project managers execute or plan their projects. According to Besner and Hobbs (2008) top management support extremely effects the techniques and methods or procedures project managers are willing to use in projects. According to Ofer Zwikael (2008) there are some process by which organizations can support their project managers. Critical top management support procedures that

an organization can apply, includes development of project processes, inclusion of project manager during introductory stages of project, by giving support to the ongoing project management training programs, by developing or creating an office for managing projects (PMO), development of a helpful project organizational structure, by defining a vibrant project success criterion and by supporting projects in quality management.

One of the resource that is very important for successful project completion is Top Management Support (TMS). According to the existing literature many senior position employees think that issues that are related to organization are of more importance then technical issues. As mentioned earlier with introduction of maturity model such as OMM (Organizational Maturity Model), CMM (Capability Maturity Model) and OPM*3 (Organizational project management maturity model). The models that are mentioned above are used to describe the level of maturity with which an organization basically supports and manages their projects (Paulk et al., 1995). In different settings the maturity level of an organization was found to be highly linked with successful completion of project. Conducts that help and contribute to employees' growth may contain such activities on the part of top management as giving workers productive feedback or by communicating with employees that they are available and eager to converse complications or problems that can occur in the work. By acting in this way, top management inspire employees to change the limitations that describe the responsibilities they have at work (Carrie Leana et al., 2009). In light of discussion made in the theory, personnel with increased organizational support will most probably display job crafting behaviors. Organizational support also helps in achieving dynamic employees' need for emotive support, consent, and association (Jaewon Lee & Peccei, 2007), which in turn surge employee's work engagement (Zacher & Winter, 2011). Based on this literature review following hypothesis is proposed:

Hypothesis 5: Top Management support moderates the relationship between project managers' conscientiousness and project managers' job crafting such that increase in top management support will strengthen the relationship.

2.2   Research Model
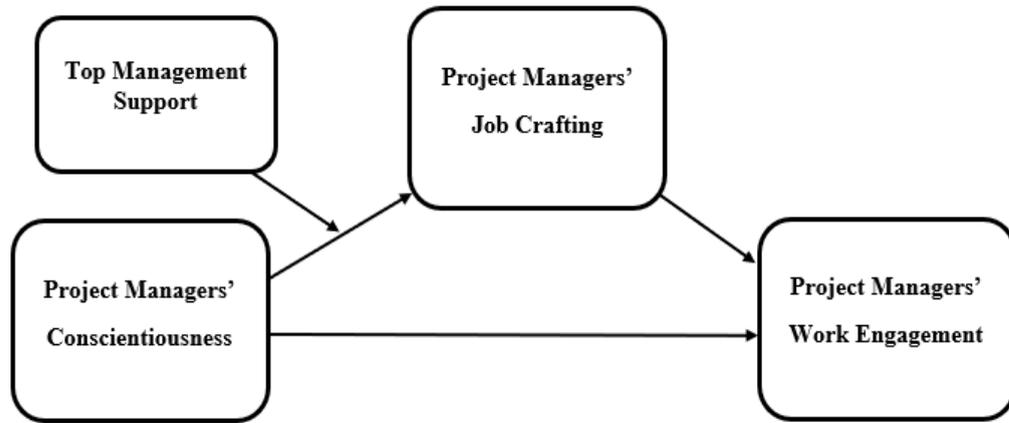
FIGURE 2.1: Research Model

2.3   Hypothesis of Study

In the light of literature review, five hypotheses are developed to study:

Hypothesis 1: Project managers' conscientiousness is positively related to project managers' work engagement.

Hypothesis 2: Project managers' conscientiousness is positively related to project managers' Job Crafting.

Hypothesis 3: Project managers' job crafting is positively related to project managers' work engagement.

Hypothesis 4: Project managers' job crafting plays a mediating role between project mangers' conscientiousness and project managers' work engagement.

Hypothesis 5: Top Management support moderates the relationship between project managers' conscientiousness and project managers' job crafting such that increase in top management support will strengthen the relationship".

Chapter 3

Research Methodology

3.1 Research Design

3.1.1 Type of Study

The purpose of this study is to examine the association between project managers' conscientiousness and project managers' work engagement. There is a cause-and-effect relationship that exists therefore positivist approach is used. Hypothetical deductive research method is used, because in a hypothetical deductive research method a problem is identified, hypothesis is developed, measures for constructs are determined, data is collected, data is analyzed and then data is interpreted to check whether the hypothesis is accepted or rejected. Accordingly, this research study is based on the theory-hypothesis confirmation, as an existing theory was used for testing different constructs. As already mentioned, constructs of the study were measured with scales to quantify and analyze them so that relation and association between these variables can be found. Hence it is quantitative research. Collection of data was carried out at given point in time from a sample population. Hence a cross sectional survey was carried out.

3.1.2 Unit of Analysis

For this study my unit of analysis is project managers working in Pakistani project

-based organizations, all these project managers were requested to participate physically in this study. All those project managers that are involved in any kind of projects in project-based organizations were included in this study. Project based organizations were selected because these organizations are involved in different projects and for these projects, they have different project managers who are assigned with different responsibilities.

3.1.3 Sample Size

Sample size was calculated with confidence level 95 % and confidence interval 5. After calculation the resulting sample size for my study was 428. Questionnaires were distributed in Pakistani project-based organizations where project managers are continuously involved in different projects.

3.2 Sampling Technique

Non-probability sampling consists of several different types the type of sampling which is used in this study is called convenience sampling will be used for sampling. In convenience sampling those units are included in the sample who are easiest to access. Convenience sampling is selected because of some of its advantages like: there are fewer rules because of which it can be carried out easily, time and cost required to perform convenience sampling is lower as compared to other sampling techniques, sample data is easily accessible, and data is collected quickly.

3.3 Procedure of Data Collection

For calculating data from respondents self-administered questionnaires were developed in google forms and then they were distributed among project managers of different project-based organizations. Respondents filled these questionnaires and returned them without worrying about their confidential information. They were told that this data is for academic research only and it will be kept confidential.

Data was calculated by distributing questionnaires via email to different project-based organizations of Pakistan. Email was sent to 25 different project-based organizations and I was able to get 428 complete responses which basically fulfilled requirement of 428 responses according to the calculated sample size. The employees were given enough time and privacy so that they can easily complete their responses.

3.4 Contribution to Study

Rate of project failure in developing countries is very high as compared to that of developed countries. Similarly in Pakistan project managers fail to achieve their objective due to different reasons, which ultimately leads to decrease in project success rates. Some reasons of lower project success rates in Pakistan can be ignorance towards employee's personality traits, employee's job crafting behavior, top management support, work engagement etc. An example of job crafting is proactive behavior and accordingly a longitudinal study has stated that crafting of job is a mediator in the procedure of growing work engagement and person-environment (Lu et al., 2014). As discussed earlier conscientiousness as a personality trait is directly related to how individual's perform their job and how committed they are at their job (Hurtz & Donovan, 2000). Similarly as mentioned (Hochwarter et al., 1999), recognized that conscientiousness can improve employee's commitment to organization, satisfaction at job, and involvement at job. Conscientious individuals are categorized as disciplined, consistent and oriented to work (Barrick & Mount, 1991). According to a Harvard business review engaged employees most probably invest themselves in the work they perform which results in higher quality of work. From the review of literature, it is clear that conscientiousness, job crafting and work engagement are the constructs with high potential. Increase in number of projects in Pakistan is observed. Similarly, in almost every developing and developed country number of projects are increasing. Our research is based in context of Pakistani project-based organizations. This research will help project-based organizations of Pakistan in understanding the impact of project

managers' conscientiousness, project mangers' job crafting, and project managers' work engagement. Which will ultimately help organizations in developing strategies and procedures for selecting project managers based on their personality traits, attributes, and behaviors.

3.5 Research Instrument

In this quantitative study for gathering data, I will be using close ended questionnaires. These questionnaires will contain close ended questions that will ask participants to choose form some pre-defined responses. Questionnaire will contain five sections and participant will be required to fill out all the questions in these sections. Sections will include:

- Demographic Variables (gender, education, age and experience)

- Conscientiousness

- Job Crafting

- Work Engagement

- Top Management support

Scales for measuring these variables were adopted from existing literature. All four constructs are rated on five point Likert scale type scale which ranges between 1 (strongly disagree) to 5 (strongly agree). Description about the scales used for each variable in this study is given below:

3.5.1 Conscientiousness

The variable of conscientiousness was measured by 9 items scale developed by (OP John & Srivastava, 1999). These items for measuring conscientiousness were selected from the big five inventory (BFI) that was constructed by John et al. (1991). According to OP John and Srivastava (1999) the goal of this inventory

was to allow efficient and flexible assessment of the five dimensions of personality. In this BFI total number of items were 44, out of which 9 items were used for measuring conscientiousness.

3.5.2 Job Crafting

For measuring the variable of job crafting a 21 items job crafting scale by Maria Tims et al. (2012) was used. According to Maria Tims et al. (2012) Job crafting scale is a dependable instrument that contains of IV diverse dimensions:

1. Increasing structural job resources

2. Increasing social job resources

3. Increasing challenging job demands

4. Decreasing hindering job demands

A sample item of this scale in dimension of increasing structural job resources is "I make sure that I use my capacities to the fullest".

3.5.3 Work Engagement

The work engagement variable was examined by means of an updated version of the Psychological Engagement Scale (PES) proposed by May et al. (2004) which will contain 9 items this scale is based on Kahn (1990) conceptualization of psychological engagement. This Psychological engagement scale measures three sub dimensions, which are given below:

1. Cognitive

2. Emotional

3. Physical

Sample items from each dimension are: Cognitive (I am rarely distracted when performing my job); Emotional (I get excited when I perform well on my job); Physical (I stay until the job is done).

3.5.4 Top Management Support

For measuring variable of top management support a six-item scale developed by Md Zahidul Islam et al. (2009) was used. According to Md Zahidul Islam et al. (2009) Top Management Support can take several different forms such as signifying commitment, assisting groups to overcome problems, getting work done, and providing reassurance to employees. A sample item from the scale is "Sufficient resources were provided for implementation of the project".

3.6 Method of Analysis

Data was collected using survey questionnaires. After collection of data it was entered, cleaned and processed by using Software Package for Social Science-20 (SPSS-20). For analyzing this data in SPSS-20 PROCESS macro by Andrew F. Hayes (2016) was used. PROCESS macro was used because many types of models can be analyzed by using PROCESS macro like: Mediation, multi-mediation, mediation-moderation, and moderation-mediation. And it can test highly complex data manipulation and analysis with simple instructions. List of tests that were conducted using SPSS are given below:

- Test of Descriptive Statistics for finding Frequencies of demographic variable.

- Test of descriptive statistics for finding mean, and standard deviation.

- Test of descriptive statistics for calculating Skewness and Kurtosis.

- Correlation Analysis

- Reliability Analysis

- Regression, moderation (Model 7) and mediation (Model 4) were tested using PROCESS macro version 4.0 by Andrew F Hayes.

3.7 Characteristics of Sample
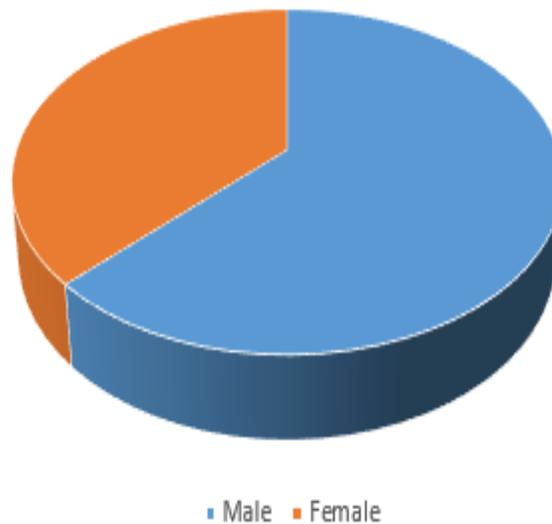
FIGURE 3.1: Gender of Respondents

1. **Gender**

   to the Table 1 given below out of 428 respondents, 268 respondents were male and 160 were females. According to this data 62.6% respondents were male and 37.4 % were female. According to the results of these tests, number of male respondents are higher in number than female respondents.

   TABLE 3.1: Frequency by Gender

Gender	Frequency	Percentage
Male	268	62.60%
Female	160	37.40%
Total	428	100%

2. **Education**

   By looking at the Table 3.2 we can see that 2 respondents were qualified from school which is 0.5 percent of total number of respondents. 25 responses were from respondents who have a college level qualification which 5.8 percent. The highest number of responses 202 were from individuals who had a bachelor's degree their percentage is 47.2 out of total respondents. 43.9 % respondents had a master's degree with a frequency of 188. And total 11 respondents were PHDs and their percentage was 2.6.

TABLE 3.2: Frequency by Education

Education	Frequency	Percentage
School	2	0.50%
College	25	5.80%
Bachelors	202	47.20%
Masters	188	13.90%
PHD	11	2.60%
Total	428	100%

- School - College - Bachelors - Masters - PHD
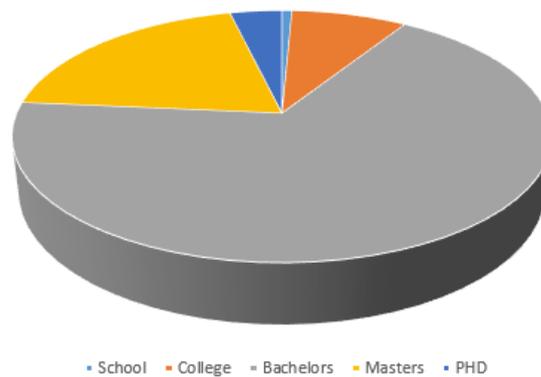
FIGURE 3.2: Education of Respondents

3. **Age**

The table 3 given below illustrates those 87 respondents out of 428 were between ages 18-24. Which is 20.3 % of the total number of respondents. The highest number of respondents that is 227 were between ages 25-34 that is 53 %. 80 respondents were of ages 35-44 that is about 18.7 %. 33 respondents were of ages 45-54 that is 7.7 % and only 1 respondent is of age 55 or more.

TABLE 3.3: Frequency by Age

Age	Frequency	Percentage
18-24	87	20.30%
25-34	227	53%
35-44	80	18.70%
45-54	33	7.70%
55 or more	1	0.20%
Total	428	100%
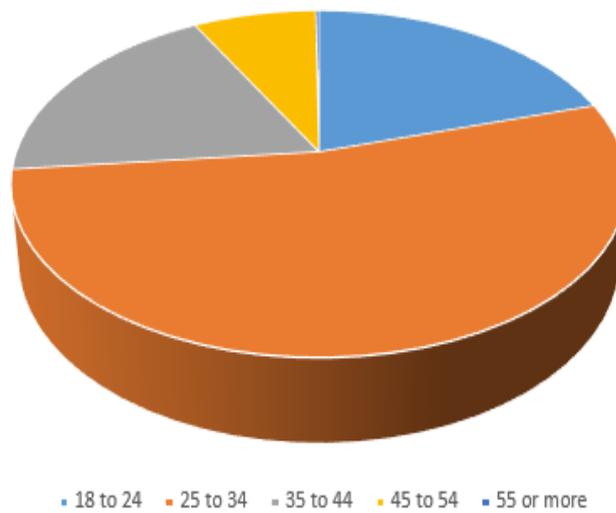
FIGURE 3.3: Age of Respondents

4. **Experience**

   Respondents with experience of 4-7 years were highest in number that is 177 which is 41.4 %. Respondents with experience of 1-3 years were 167 which is 39 %. 62 respondents have experience of 8-11 years that is 14.6 %. 17 respondents had an experience of 12-15 years which is 4 % and only 5 respondents had an experience of over 15 years that is 1.2 %.

   TABLE 3.4: Frequency by Experience

Experience	Frequency	Percentage
1-3	167	39.00%
4-7	177	41.40%
8-11	62	14.60%
12-15	17	4%
Over 15	5	1.20%
Total	428	100%

3.8   Pilot Testing

An initial study of small scale that is carried out to examine a planned research study before a complete analysis is preformed is called a pilot study. This study
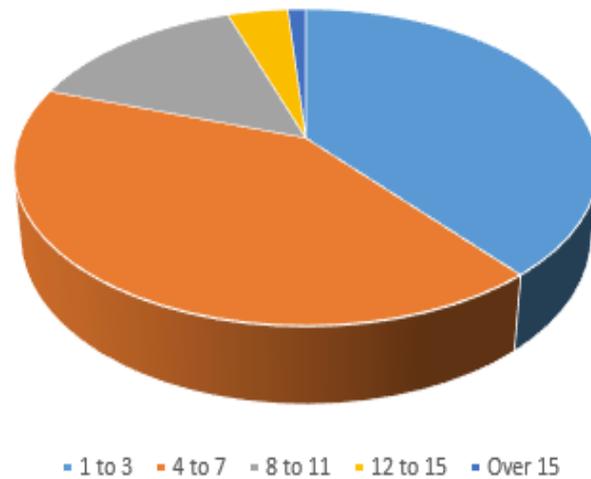
Figure 3.4: Experience of Respondents

typically trails the precise similar procedures and methods that are used in the full-scale data analysis of original study. Pilot study can help in examining the validity of the variables (Van, Teijlingen & Hundley, 2001). It is carried out before gathering the actual data, to see the respondent's opinion and to check if the items of scale are easily understood by respondents or not.

According to the previous literature pilot testing is done on 10 % of the total sample size it is mostly more than 40 respondents and of these responses' reliability is checked. According to Haier et al (2006) Cronbach's Alpha's value above 0.7 is acceptable. After performing the pilot study, I was able to identify that reliability of the scales was in acceptable range. Results of this pilot study gave indication that I can continue with my research stud.

Table 3.5: Reliability of Pilot Testing

Variables	No. of items	Cronbach's Alpha
Project Manager's Conscientiousness	9	0.756
Project Manager's Job Crafting	21	0.896
Project Manager's Work Engagement	9	0.765
Top Management Support	6	0.834

N = 50

3.9 Reliability of Scales

The purpose of reliability analysis is to check the internally consistent the items of a variable are. It explains about how items of different variables are closely related. According to Haier et al (2006) a scale is accepted as a reliable scale if Cronbach's alpha's value is above 0.7.

TABLE 3.6: Reliability Analysis

Variables	No. of items	Cronbach's Alpha
Project Manager's Conscientiousness	9	0.756
Project Manager's Job Crafting	21	0.896
Project Manager's Work Engagement	9	0.765
Top Management Support	6	0.834

N = 428

According to the table 4.6 given below each variable's Cronbach's alpha is more then 0.7. Cronbach's alpha's value for project manager's conscientiousness is 0.729 with 9 items. Cronbach's alpha's value for project manager's job crafting is 0.856 with 21 items. Cronbach's alpha's value for project manager's work engagement is 0.749 with 9 items. Cronbach's alpha's value for top management support is 0.772 with 6 items. According to this data all the values are in acceptable range (i.e., above 0.7) which means that we can continue further with our analysis.

Chapter 4

Analysis and Findings

4.1 Descriptive and Normality Analysis

Descriptive analysis gives a conclusion of the dissemination of data, it helps in detecting mistakes and outliers, and allows to recognize resemblances among variables, which helps in finding out whether the data is good enough for conducting further statistical analyses. Descriptive Analysis helps in explaining and summarizing data points in a helpful way such that patterns might appear that justify every condition of the data. The mean values enlighten about the inclination of the data. It gives a clear understanding about the responses, that where most of the responses lie. In the table 4.1 given below it is clearly visible that the mean values of each variable are in range of 3, clarifying that large number of respondents were neutral. Which means that they neither completely agree nor completely disagree with the statements in the questionnaire. Similarly, according to the table mean value of project manager's job crafting is 3.75 meaning that most of the respondents agree with questions about job crafting. Meaning that project managers are involved in job crafting in their projects.

In Table 4.1 the next column is of Standard deviation it talks about the shape of our distribution, how near the specific data values are from the mean value. Standard deviation explains about how near our sample mean is to the true mean of the general population. Both of them can help in providing a clearer picture

TABLE 4.1: Descriptive and Normality Analysis

Variables	Mean	Std. Deviation	Skewness	Kurtosis
Project Manager's Conscientiousness	3.1773	0.34622	0.45	2.452
project Manager's Job Crafting	3.754	0.37403	-0.509	2.326
project Manager's Work Engagement	3.7009	0.4433	-0.600	2.224
Top Management Support	3.679	0.49685	-0.323	0.86

than the mean alone. The purpose of measuring Standard deviation is to check the range or spreading around the mean of a data set. Negative standard deviation never occurs. Standard deviation is high when there is presence of outliers. A solitary outlier can increase standard deviation and in turn, misrepresent the data. The value of standard deviation must be lesser then 1. From table number 7 it is clear that all the vales of standard deviation are in range of 0.3 to 0.4. In Table 4.1 the last two columns are of skewness and kurtosis, these values basically explain that whether the data is normally distributed or scattered.

Symmetry of data is explained by value of skewness and normal distribution of data is explained by kurtosis. The value of skewness should range between -1 to +1. In the given Table 4.1 all the values of skewness are in range. As values for Project manager's conscientiousness, project manager's job crafting, project manager's work engagement and top management support are 0.450, -0.509, -0.600, -0.323, respectively. Values for kurtosis must lie in range of -3 to +3 above table demonstrates that value of kurtosis for each variable are in range. As values for Project manager's conscientiousness, project manager's job crafting, project manager's work engagement and top management support are 2.452, 2.326, 2.224, and 0.860 respectively. Thus, according to Table 4.1 data is normally distributed.

4.2 Correlation Analysis

I have used Pearson correlation test it basically describes about the association between the variables. It is a single number which describes relationship, from this test I am able to explain that how strongly variables are related to each other. The satisfactory value for correlation is in range of -1 to +1. Values that range from 0.10 to 0.29 show that there is a weak or smaller correlation between variables

but there is association between variables. Values that range from 0.30 to 0.49 show that there is a moderate correlation and values that range from 0.5 to 0.8 explains that there is a strong correlation (Cohen, West & Aiken, 2014). Values that are above 0.8 shows that the variables are highly correlated, this mean that the relationship between variables is so strong that they can be represented as a single variable. Which means that there is an error of multicollinearity. Therefor this error must be dealt accordingly by running different tests so that it can be minimized. Otherwise, error of multicollinearity can affect the correlation of other variables.

According to the table given below the relationship between Project manager's conscientiousness and project manager's job crafting is 0.345 that is significant because it lies in range of 0.30 to 0.49 which mean that there is a moderate correlation between these variables. It is a positive value which means that increasing project manager's conscientiousness will increase project manager's job crafting.

The correlation between project manager's conscientiousness and project manager's work engagement is 0.217 which means that there is a weak correlation between these variables. Which means that increase in conscientiousness will increase work engagement but on a smaller scale. The correlation between project manager's conscientiousness and top management support is 0.121 which means that there is a weak relationship between these variables. The correlation between project managers job crafting and project managers work engagement is 0.613 which means that there is a strong relationship between these variables. The positive value indicates that increase in project manager's job crafting will increase project manager's work engagement.

The relationship between project manager's job crafting and top management support is 0.266 which means that there is a weak relationship between these variables. The relationship between project manager's work engagement and top management support is a moderate relationship. The positive value indicates that increase in project manager's work engagement will increase top management support. P value indicates the significance value, and it demonstrates about chance of error that might occur in data.

If P value is lesser the 0.01 it means that there is 1 % chance of error in data. In the table given above values with less than 1 % error are symbolized with "**" while the values with 5 % chance of error in data are symbolized with "*". These values also represent that the correlation is 99 % significant if values are less the 0.01 and it is 95 % significant if values are less than 0.05. In table given above only one value is less than 0.05 others are less than 0.01.

TABLE 4.2: Correlation Analysis

Variables	Project manager's Conscientiousness	Project Manager's Job crafting	Project Manager's Work Engagement	Top Management Support
Project manager's Conscientiousness	1			
Project Manager's Job crafting	0.345**	1		
Project Manager's Work Engagement	0.217**	0.613**	1	
Top Management Support	0.121*	0.266**	0.316**	1

*Significant Correlation is at the 0.01 level (2-tailed). **
*Significant Correlation is at the 0.05 level (2-tailed). *

4.3 Testing Theoretical Relationships

For testing the theoretical relationship between variables, I have used PROCESS Macro by Andrew F. Hayes 2012. This tool uses the technique of bootstrapping, in this technique random sample are made from data for calculation of anticipated statistics in each sample (Preacher & Hayes, 2004; Shrout & Bolger, 2002). For testing the link among conscientiousness and work engagement of project managers, for testing the relation among conscientiousness and job crafting of project managers, for testing the link among job crafting and work engagement of project managers, for testing the effect of mediator on the relationship between project manager's conscientiousness and project manager's work engagement, process macro's model number 4 is used, and for testing effect of moderator on the link among conscientiousness and work engagement of project managers and for testing if moderated mediation exists in the model I have used model 7 of process macro.

4.3.1 Direct Effect of PMC on PMWE

In the first step the relationship between the PMC (project manager's conscientiousness) variable and dependent variable (project manager's work engagement) is considered, this is known as the path "c " in my case this is the direct effect of project manager's conscientiousness on project manager's work engagement. According to Table 4.3 given below the variable of project manager's conscientiousness is denoted by alphabet "X" and project manager's work engagement is denoted by alphabet "Y".

TABLE 4.3: Direct effect of X on Y

Predictor	Effect	SE	t	p	LLCI	ULCI
X to Y	0.008	0.052	0.158	0.874	-0.094	0.111

N=428 Confidence Interval = CI, UL= Upper limit, LL= Lower Limit

According to the Table 4.3 and Figure 4.1 the p value is 0.874 which is greater than 0.05 and similarly there is a zero between values of LLCI i.e., -0.094 and ULCI

i.e., 0.111 which mean that direct effect of project manager's conscientiousness is not significant on project manager's work engagement. This means that our first hypothesis that "project manager's conscientiousness is positively related to project manager's work engagement" is not supported.

FIGURE 4.1: Direct effect of X on Y

4.3.2 Mediation Analysis

In the second step the association between project manager's conscientiousness and project manager's job crafting is considered also known as path "a". According to the Table 4.4 and Figure 4.2 given below the p value is lesser then 0.01 and there is no zero between the values of LLCI and ULCI which means that the relationship between these variables is significant. The value of SE i.e., 0.049 suggests that the project manager's conscientiousness will bring a change of 4.9 units in project manager's job crafting. It means that with every one unit increase in project manager's conscientiousness, project manager's work engagement will increase by 4.9 units. Positive value of SE indicates that if project manager's conscientiousness will increase, project manager's job crafting will also increase. This mean that our second hypothesis that "Project managers' conscientiousness is positively related to project managers' Job Crafting" is supported.

In the third step relationship between project manager's job crafting and project manager's work engagement also known as path "b" is considered. According to Table 4.4 and Figure 4.3 given below the p value is 0.00 which is less than
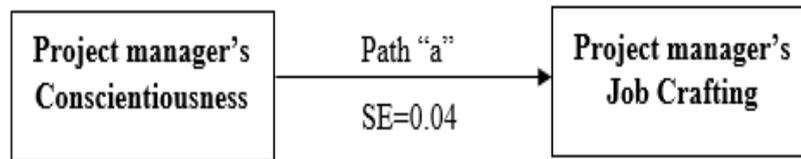
FIGURE 4.2: Direct effect of X on M

0.001 and accordingly if we look at the values of LLCI and ULCI there is no zero between the 2 values i.e., 0.629 and 0.819 which means that the relationship is significant and the value of SE 0.048 suggests that project manager's job crafting will bring a 4.8 unit change in project manager's work engagement. It means that with every 1 unit increase in project manager's job crafting the project manager's work engagement will increase by 4.8 units. The positive value indicates that with increase in project manager's job crafting, project manager's work engagement will also increase. This means that our third hypothesis that "Project managers' job crafting is positively related to project managers' work engagement" is supported.
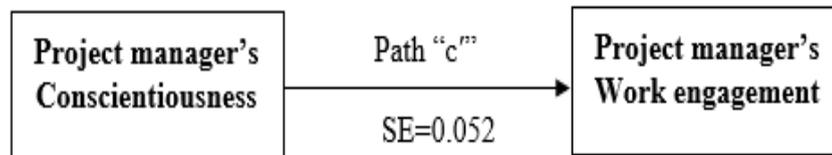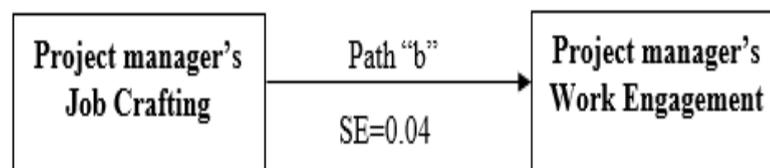

FIGURE 4.3: Direct effect of M on Y

The indirect effect of project manager's conscientiousness on project manager's work engagement through project manager's job crafting also known as path "c" is significant as bootstrapping values (i.e., BOOTLLCI= 0.150 and BOOTULCI=

TABLE 4.4: Direct Effect

Predictors	Coeff	SE	t	p	LLCI	ULCI
X to M	0.373	0.049	7.59	0	2.261	2.878
M to Y	0.724	0.048	14.926	0	0.629	0.819

X = Project manager's conscientiousness, Y= Project manager's work engagement
M= Project manager's job crafting. N=428, Confidence Interval = CI, UL= Upper limit,
LL= Lower Limit.

0.373) of indirect effect doesn't have a zero between them. And accordingly, both values are positive which confirm that there is a mediation in model.
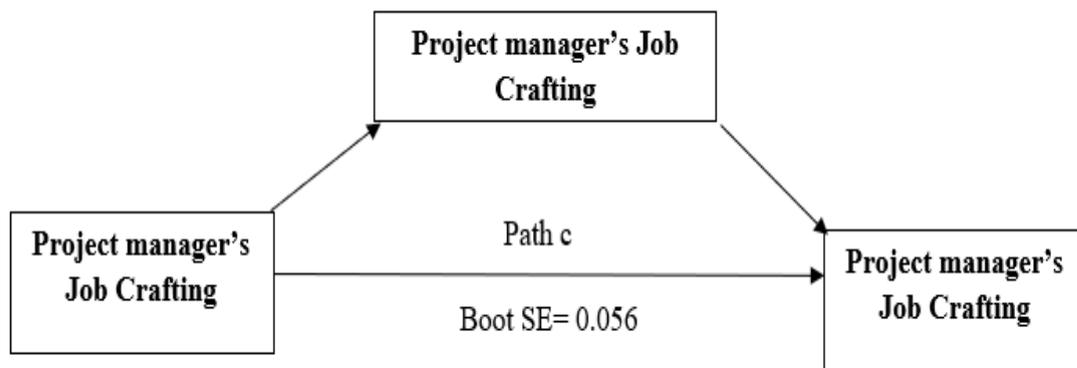
FIGURE 4.4: Mediation Analysis

Total effect is calculated by adding direct effect and indirect effect. In my case the value (i.e., 0.056) of indirect effect is positive which means that with the presence of mediator the values of total effect will increase. Hence according to Table 4.5 and Figure 4.4 given above the values of indirect effect are significant hence my fourth hypothesis that "Project managers' job crafting mediates the relationship between project mangers' conscientiousness and project managers' work engagement" is supported.

4.3.3 Moderation Analysis

For testing Top management support as a moderator, I have used model 7 in process macro. If we look at Table 4.6 that is given below, we will come to

TABLE 4.5: Indirect Effect of X on Y

	Effect	Boot SE	Boot LLCI	Boot ULCI
Project Manager's Job Crafting	0.27	0.056	0.15	0.373

X = Project manager's conscientiousness, Y= Project manager's work engagement, M= Project manager's job crafting. N=428, Confidence Interval = CI, UL= Upper limit, LL= Lower Limit.
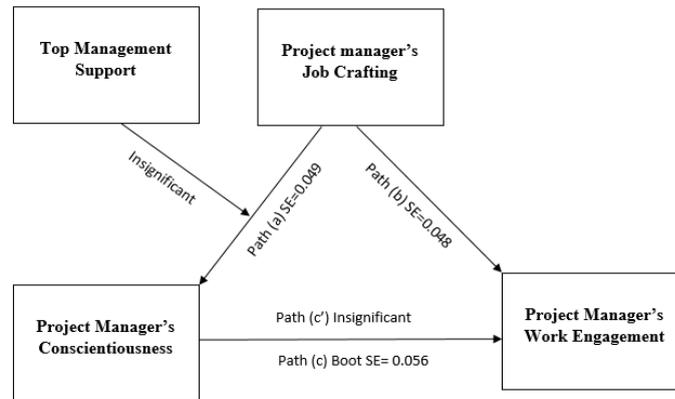
FIGURE 4.5: Research Model with Results

know that the values off LLCI and ULCI are -0.144 and 0.095 respectively which indicates that a zero exists between these two values. Along with that p value also show the insignificance of moderator because in my case the p value is 0.690 that is greater than 0.01. which means that my fifth hypothesis that "Top Management support moderates the relationship between project managers' conscientiousness and project managers' job crafting such that increase in top management support will strengthen the relationship" is not supported.

TABLE 4.6: Moderation Analysis

	Coeff	SE	t	p	LLCI	ULCI
Constant	1.732	0.778	2.228	0.026	0.204	3.261
Int-term	-0.024	0.061	-0.399	0.69	-0.144	-0.095

N= 428, Int-term= Project manager's conscientiousness x Top Management Support

Furthermore, according to Table 4.7 which demonstrates the index of moderated mediation suggests that moderated mediation doesn't exist in the model. Because according to values of table Boot LLCI is -0.174 and Boot ULCI is 0.138, since there a zero between the two values it means that moderated mediation doesn't

exist in model.

TABLE 4.7: Index of Moderated Mediation

	Index	Boot SE	Boot LLCI	Boot ULCI
Top Management Support	-0.018	0.077	-0.174	0.138

N=428, Confidence Interval = CI, UL= Upper limit, LL= Lower Limit.

4.4 Hypothesis Results Summary

TABLE 4.8: Hypothesis Results Summary

Hypothesis	Statement	Status
H1	Project manager's conscientiousness is positively related to project manager's work engagement	**Not Supported**
H2	Project managers' conscientiousness is positively related to project managers' Job Crafting	**Supported**
H3	Project managers' job crafting is positively related to project managers' work engagement	**Supported**
H4	Project managers' job crafting plays a mediating role between project mangers' conscientiousness and project managers' work engagement	**Supported**
H5	Top Management support moderates the relationship between project managers' conscientiousness and project managers' job crafting such that increase in top management support will strengthen the relationship	**Not Supported**

Chapter 5

Discussion and Conclusion

5.1 Discussion

In this chapter, I will explain importance and relevance of research to existing literature. This chapter will explain that what we have found from the results, how this study contributes to existing literature, and how it contradicts existing literature. The research study was conducted with an aim, to test the hypothesis that were based on theoretical background. Main purpose of my study was to investigate the link between Project manager's conscientiousness and project manager's work engagement. In this study project manager's job crafting was considered as the mediator and top management support was taken as a moderator. This chapter basically debates the results and findings that were displayed in the previous chapter. If we read chapter 4 of this thesis we will come to know that relationship between project manager's conscientiousness and project manager work engagement is not significant, relationship between project manager's conscientiousness and project manager's job crafting is significant, relationship between project manager's job crafting and project manager's work engagement is significant, Project manager's job crafting as mediator is significant, and top management support as a moderator is not significant. In this chapter discussion are made on these results in light of existing literature.

Accordingly, this chapter will discuss in detail the relationship that were found

and the result that were created after the analysis of data. As a hole this chapter will link my study with the previous studies that are undertaken and will help us in knowing that how much the findings of our study are similar to the finding of previous study and if the result deviate what can be the reason. At the end previously discussed objectives will be linked with tested hypothesis for giving direction to our discussion so that theoretical contributions and practical implications can be drawn.

5.1.1 What is the Relationship Between Project Manager's Conscientiousness and Project Manager's Work Engagement?

The first hypothesis proposed for study states that *"Project manager's conscientiousness is positively related to project manager's work engagement"* it is not supported according to the finding of studies. From existing literature, we came to an understanding that conscientiousness can effect work engagement with the help of process of internal motivation (Kim et al., 2009). According to Kim et al. (2009) personal with amplified conscientiousness are motivated internally and they give their energy to their work. Therefor it is possible that individuals with high or amplified level of conscientiousness have increased work engagement (KERSE & NAKTIYOK, 2020).

According to research conducted by Mróz and Kaleta (2016) and Akhtar et al. (2015) on service sector employees and different sector employees it showed that there is a positive effect of conscientiousness on work engagement. Similarly a research conducted by Renée A. Scheepers et al. (2016) indicated that conscientiousness amplified work engagement in doctors and instructors. According to (KERSE & NAKTIYOK, 2020) it was detected that individuals with increased levels of conscientiousness are more absorbed in their job and are eager to achieve their work responsibilities. The results are in line with the findings of existing literature (Akhtar, et al., 2015; Mróz and Kaleta, 2016; Scheepers, et al., 2016; Zecca, et al., 2015).

But according to findings of my data analysis the association between conscientiousness and job crafting in project managers in Pakistani project-based organizations is not significant. By looking at the table 9 given above the p value is 0.874 which is greater than 0.05 and similarly there is a zero between values of LLCI i.e., -0.094 and ULCI i.e., 0.111 which mean that direct effect of project manager's conscientiousness is not significant on project manager's work engagement. According to Zhao, Lynch, & Chen (2010) One of the main reasons of this insignificant relationship can be low statistical power (i.e., when statistical power is low: the probability of type 2 risk occurrence is high). Individual who are a conscientious are organized, disciplined, determined, they are able to postpone immediate rewards so that they can benefit in the long run. Although some people consider that being conscientious is a good thing but there are some disadvantages of being highly conscientious. Because people who are highly conscientious can become extremely serious, they can burn themselves out by working too hard which can lead to sickness which can lead to lower work engagement, they become overly rigid because of which they cannot adapt to change which can help them in getting more engaged. As discussed in chapter of literature review individual who are high in conscientiousness are achievement oriented because of which they are more engaged in work. But according to the Job demands and resource theory if resources are not available at the job to an employee who is conscientious, he or she can be less engaged towards their work which can lead towards turnover intentions as well.

Conscientious individuals are often achievement oriented they want to achieve their goals at any cost. conscientious personalities are not only determined, reliable, and driven in goal focused conducts, but also well-organized, vigilant, and ethically dependable (Barrick and Mount, 1991; Costa et al., 1991). In some cases, conscientious individuals are faced with issues in which their employers or senior managers ask for completing work that are out of their domain and because of that they become less engaged in their work and they find themselves in position that are more hectic.

A lot of money is spent in Organizations for the hiring of employees or on their

recruitment, but later on because of heavy work load and less organizational resources employees start raising questions about their job. They start thinking about work that is more suitable for them. This because employees mentally get disturbed because of less resources and amplified number of demands which can cause decrease in work engagement. Employees are more engaged when they have increased physical job resources, increased societal job resources and reduced hindering job demands. In Pakistan it is necessary for Organizations that they should focus on retaining employees who are conscientious by balancing job resources and job demands. Although conscientious individuals are dependable, determined, disciplined and achievement oriented but if job demands will increase from job resources and balance is not kept it can lead towards decrease in level of work engagement. Conscientious individuals are looking for growth opportunities but when in organization they are not awarded with such opportunities they tend to lose interest and get less engaged in their work.

Although from the review of previous literature we came to know that conscientious individuals are more engaged in work but it depends a lot on the number of job resources provided along with the reduced number of hindering job demand. On the other hand, culture and way of doing work varies from one industry to another. As well as management of human resource can also vary in different organizations because of which it is necessary to understand personality traits of employees. Different factors can affect a conscientious individual in different ways. Conscientious as a personality trait is not the only variable that effects work engagement, there are different other variables that can affect work engagement. In different domains the effect of conscientiousness on work engagement can be different. So, it is not necessary that positive relation between conscientiousness and work engagement will always stand in project management domain.

5.1.2 What is the Relationship Between Project Manager's Conscientiousness and Project Manager's Job Crafting?

The second proposed hypothesis of my study states that *"Project manager's conscientiousness is positively related to project manager's work engagement"*. This hypothesis is accepted because, according to the table 10 the p value is lesser then 0.01 and there is no zero between the values of LLCI and ULCI which demonstrates that the link between these two variables is significant. The value of SE i.e., 0.049 suggests that the project manager's conscientiousness will bring a change of 4.9 units in project manager's job crafting. It means that with every one unit increase in project manager's conscientiousness, project manager's work engagement will increase by 4.9 units.

Positive value of SE indicates that if project manager's conscientiousness will increase, project manager's job crafting will also increase. According to existing literature when conscientious project managers are provided with amplified physical job resources, amplified societal job resources, amplified thought-provoking job demands and reduced obstructive job demands they tend to be involved in job crafting behaviors. Job crafting doesn't mean that an employees will change his or her job completely it means making certain alterations to tasks of job without changing the job completely. When a project manager is conscientious it means he is determined, disciplined, achievement oriented, orderly and strong willed. A conscientious project manager is determined, disciplined, achievement oriented, orderly and strong willed. A conscientious individual doesn't only stick with what has been asked. According to researchers a conscientious individual with be engaged in job crafting behaviors when there is an internal motivation.

Their many advantages of job crafting not only for the individual who is working in the organization but also for those who are working in his or her team and it also benefits the organization for which the employee or team is working for. Jos Akkermans and Tims (2017); Uta K. Bindl et al. (2019); Fangfang Zhang and Parker (2019). In case of project management, when project is undertaken every project manager is assigned with a project team and if anyone of that employee is conscientious, and they are crafting their job it can help organizations a lot. According to Simmering et al. (2003); Tims et al. (2013) individual who are high on conscientiousness are viable to craft their jobs. A research study conducted

by (Bell & Njoli, 2016)gave finding that conscientiousness as a personality trait is significantly and essentially important for prediction of job crafting tendencies among an individual (Bell & Njoli, 2016). In relation to that, Bell and Njoli (2016) also found out in the similar study that Conscientious managerial employees within an organization's environment are involved in some kind of job crafting behaviors. My research study is in line with the literature review conducted for this study.

In existing literature some researchers have suggested that the characteristics of a conscientious worker propose that conscientious individual may have reduced tendencies to involve in crafting job. Though, this kind of worker is very involved in his work. There are very small chances that this type of worker will try to alter the characteristics of his work in a way that helps in attaining objectives that are linked to the job because he or she follows because this type of worker will follow to already established standards.

According to them, a conscientious employee has very less chances of decreasing job demands, increasing resources at job M. Tims et al. (2013). This type of workers may not involve in crafting their jobs like altering the number of tasks and responsibilities stated by an official explanation of job, by growing or reducing tasks, altering the number of assigned tasks or varying the quantity of time, energy and devotion given to numerous tasks to M. Tims et al. (2013). My research study rejects this statement and from the findings of data analysis it is stated that Project manager's conscientiousness is positively related to Project manager's job crafting.

5.1.3 What is the Relationship Between Project Manager's Job Crafting and Project Manager's Work Engagement?

The third proposed hypothesis of my study states that *"Project manager's job crafting is positively related to project manager's work engagement"*. This hypothesis is supported by the conducted literature review and is also accepted by the results that are displayed in chapter 4. According to table 10 the p value is 0.00

which is less than 0.001 and accordingly if we look at the values of LLCI and ULCI there is no zero between the 2 values i.e., 0.629 and 0.819 which means that the relationship is significant and the value of SE 0.048 suggests that project manager's job crafting will bring a 4.8 unit change in project manager's work engagement. It means that with every 1 unit increase in project manager's job crafting the project manager's work engagement will increase by 4.8 units. The positive value indicates that with increase in project manager's job crafting, project manager's work engagement will also increase. When in an organization project manager are involved in job crafting it means that they are altering some aspects of their task so that they can achieve their goals which in turns will help them with getting rewards in form of positive feedback and promotion as well as with other advantages. When an employee is involved in job crafting, they are more engaged in their work.

Researchers (Wrzesniewski & Dutton, 2001), in job crafting individual or personnel change some aspects of their jobs in an organization and their relations with others in organization so that they can reinvent the aim of their job societal atmosphere in which they are working. In job crafting individuals change certain aspect of their job designs. In this regard Maria Tims et al. (2012) elaborated crafting of job in accordance characteristics of job stated in the Job demand resource model. According to Job demand resource theory (Bakker & Demerouti, 2014), every job contains of demands at job and resources at job. By linking job crafting to the Job Demand Resource model, Maria Tims et al. (2012) elaborated that individuals are involved in job crafting by growing societal job resources, growing organizational resources, growing thought-provoking job demands, or reducing obstructive job demands.

Some job crafting related examples are: asking for response and training increasing individuality and generating chances to grow oneself at work, initiating new projects and reducing workload. Job crafting involves the alterations personnel make by dropping the number of demands at job or by growing the number of resources, which points consideration to the vigorous, conducts by which individual change aspects as well as limitations of their work. By crafting their job, workers

can recover the link among their individual capabilities, skills, wants, aptitudes and desires that are related to their work Maria Tims and Bakker (2010). As a result, personnel are able to surge the level of engagement at work.

Similarly, project managers working in Pakistani project-based organizations can also alter certain aspect of their jobs by which they can increase their level of work engagement as well. Existing literature suggest that in different domains or situations increase in an employee's job crafting will increase employee's level of work engagement, in this regard this study was conducted in domain of project management and results are in line with existing literature on basis of this results it can be said that, results My results are in line with the existing literature which suggest that there is a direct and positive relationship between job crafting and work engagement in case of project managers working in Pakistani project-based organizations.

5.1.4 What is the Role of Project Managers' Job Crafting in Relationship Between Project Managers' Conscientiousness and Work Engagement?

My fourth hypothesis of study states that "project manager's job crafting mediates the relationship between project manager's conscientiousness and project manager's work engagement". This hypothesis is supported according to the results of the analysis conducted in previous chapter. The indirect effect of project manager's conscientiousness on project manager's work engagement through project manager's job crafting is significant as bootstrapping values in Table 4.5 (i.e., BOOTLLCI= 0.150 and BOOTULCI= 0.373) of indirect effect doesn't have a zero between them. And accordingly, both values are positive which confirm that there is a mediation in model. According to Andrew F. Hayes (2016) mediation can exist between independent variable and dependent variable even if direct effect among these variables is insignificant. Conscientious individuals in an organization are engaged in their work because they are internally motivated and have need for achievement. When these conscientious individuals are engaged in job

crafting the tend to grow their organizational resources, their societal resources, thought-provoking job demands and they reduce their obstructive job demands and this all leads towards positive alteration in task at hand because of they are more engaged in their work. According to previous research when a conscientious individual is engaged in job crafting, they are automatically more engaged because job crafting is a positive attribute of work engagement meaning that crafting of job can increase work engagement. In Pakistani project-based organizations employers and administration in organizations should focus towards getting employees more involved in altering their jobs so that their work engagement can increase which will in turn help in growth and development of organization.

Different organizations are encouraging employees toward crafting their job because it helps employees in getting committed to their work, it help employees in getting diverse, it gives them ability to make their own decisions, it helps organization in getting employees more engaged, it help employees in becoming responsible for what they do, it helps employees in understanding their job in a better way, it benefits them as well as their teams, it help in making changes that are important for the business. Work engagement is considered largely in the JD-R model, in this model it is affected by resources at job such as independence, response or constructive criticism, societal support and variety of skills, as stated in many research articles and meta-analyses.

The association between work engagement and job resources is described by quarreling those job resources that help by growing employees' extrinsic motivation (or it can be said that, they rise their concentration in accomplishing work goal) and by motivating employees internally (nurturing employees' wish for development, knowledge and advancement), which, in turn, leads to increased level work engagement. Conscientious Individuals who are involved in job crafting beforehand try to link their conditions while working to their own wants, skills and capabilities (Arnold B Bakker et al., 2012). My study verifies this literature through analysis that job crafting as a mediator can positively affect the link between conscientiousness and work engagement specifically in managers of projects working in Pakistani project-based organizations.

5.1.5 What is the Impact of Top Management Support Upon the Relationship Between Project Managers' Conscientiousness and Project Managers' Job Crafting?

My fifth hypothesis of study states that "Top Management support moderates the relationship between project managers' conscientiousness and project managers' job crafting such that increase in top management support will strengthen the relationship". This hypothesis is not supported. According to the literature review conducted for the study it was proposed that if conscientious individuals are given top management support, they will be more willing to perform job crafting but according to the findings of my study this is not the case. Although researchers have argued that for crafting job a conscientious individuals should have increased societal job resources, increased organizational resources, increased thought-provoking job demands, and reduced obstructive job demands. According to this statement if conscientious individuals are provided with increased top management support it can strengthen the relation between conscientiousness and job crafting. But according to the findings of my study, we come to know that the values off LLCI and ULCI are -0.144 and 0.095 respectively which indicates that a zero exists between these two values. Along with that p value also show the insignificance of moderator because in my case the p value is 0.690 that is greater than 0.01. this means that our results are not in line with the literature review that we conducted.

(Alderson, 1993) proposed that top management is a group of people who have highest position in an organization. These people are responsible for giving direction, they are the one who formulate strategy, goal, missions etc. Similarly Besner and Hobbs (2008) proposed that decision of which tools to use by project managers in projects is effected by top management support. some process by which organizations can support their project managers. Some process which can be used by top management for supporting their project managers are: development of project processes, including project managers in decision making, by helping them in getting trained for project management through different training programs, by

developing a project management office, by developing a structure of organization that is helpful for employees Ofer Zwikael (2008). But sometimes employees in organization are not sure about either they are getting top management support or not because in some scenarios top management is helping by implementing process that can help project managers but they are unaware of it because they consider it part of job. And because of this they consider that top management is only responsible for strategic decision making. And this feeling can make impact of top management support somewhat unworthy Ofer Zwikael (2008).

Top management can help employees/ project managers in case of project-based organization by giving them positive feedback (i.e., constructive criticism) or by communicating them a message that they are available for discussing any kind of challenges employees are facing at their work. By maintaining this behavior they can inspire workers to change boundaries that outline their responsibilities at their job (Carrie Leana et al., 2009). In light of this statement workers or project managers who get support from top management are most probably involved in job crafting. But since employees are unaware that this support is not only from organization but these directions are set by top management it can reduce the effect of top management support. Therefore, in these conditions it can be possible that impact of top management support as a moderator is insignificant. With that other job resources like social and structural resources can have a greater impact as moderator on the association amongst conscientiousness and job crafting.

5.2 Theoretical Contribution

My study contributes to literature by discussing link between project manager's conscientiousness and project manager's work engagement. According to the findings of study the link between project manager's conscientiousness and project manager's work engagement is insignificant. But if conscientious individuals are provided with job resources, they can alter certain aspects of their job which lead towards increased work engagement. Thus, according to the finding if individuals high with conscientiousness are provided with resources it will make them

internally motivated and help them in altering their jobs which will increase job crafting, it can trigger their need for achievement which will ultimately lead to increased level of work engagement. In addition to that top management support was considered as a moderator and job crafting as a mediator.

Witt et al. (2002) stated that those individuals who have increased level of conscientiousness are more answerable and responsible, they have string achievement striving motivation and they are very determined, they are always prepared and they are in search of quality. They display a very optimistic approach towards challenges and they try to decrease these challenges by using effective strategies and plans. (Goldberg, 1990) stated that employees and managers are well organized, they work with consistency and they strive for achievement. According to the Job characteristic theory (Hackman & Oldham) of 1976 and JD-R theory by Bakker and Demerouti (2007) conscientious individual who have all five

characteristics of job are internally motivated to be more engaged and similarly increased job resources and reduced job demands can also help employees in getting more engaged in work. My finding of study contradicts these findings of existing literature and make theoretical contribution to JD-R theory and job characteristics theory.

According to job demand resource theory by Bakker and Demerouti (2007), based upon job characteristics theory of 1976 by (Hackman & Oldham) stated that the (JD-R) theory has contributed majorly towards understanding the concept of work engagement. Two qualities of job in light of job demand and resource theory are number of demands at a job and number of resources at a job. Bakker and Demerouti (2007) investigated that when employees have increased job resources, they feel internally motivated. Similarly resources influence work engagement through the process of motivation (Wilmar B. Schaufeli & Bakker, 2004). Job demand and resource theory suggests that along with number of resources at job, individual's own resources can impact work engagement (Arnold B. Bakker, 2011). Resources influence work engagement through the process of motivation (Wilmar B. Schaufeli & Bakker, 2004). JD-R model, (Maria Tims et al., 2012) suggest that individual in an organization can perform job crafting when they have increased

resourced and reduced demands. In this regard Jessica Van Wingerden et al. (2017) gave cases of some job crafting behaviors such as demanding constructive criticism and training, growing independence and producing chances to grow at work, starting new projects, and reducing workload. With help of job crafting, individual can advance the connection among their individual wants, skills, and desires about their work (Maria Tims & Bakker, 2010). And accordingly, this will help employees in increasing work engagement (B.Bakker & Oerlemans, 2013). From this literature we come to know that individuals with increased personality trait of conscientiousness can have increased level of job crafting which can lead to surge in work engagement.

Job demand resource theory suggest that every job includes job demand and job resources. Similarly as mentioned above job demands are such aspects of job that require bodily and psychological efforts and are linked to certain costs (these costs can be physiological or psychological). In other word we can say that job demand are those thing at work that can drain a person's energy at work. Some examples of these job demands can be extra load at work, issues or problems between employees at work, and a stress about either the employee can retain the job in future or not.

On the other hand job resources are such aspects of job that can help an employee in achieving work related objectives that can help employees in decreasing the costs associated with job demands, such resources that can help employees in learning and can help in growth and development of employees. Some examples of job resources can be coaching provided management to employees in projects, autonomy provided to employees for shaping their jobs by using their own efforts or initiatives which can also help in reducing job demands, Feedback to employees regarding either they are performing good or not can also help employees in improving.

This research study identified that if conscientious individuals are provided with job resources then they are more engaged in their

work. Meaning that this research makes theoretical contribution by agreeing that if job resources are provided to individuals in an organization then these individuals

are more engaged in their work. Similarly this study also contradicts some finding of existing literature.

According to the JD-R theory resources can motivate individuals to get involved in job crafting. Top management support in our study can be considered as one of those resources that can make the connection amongst conscientiousness and job crafting strong. (Carrie Leana et al., 2009) investigated that top management can support their employees in certain ways which can encourage them in getting more involved in altering ways of doing things. This means that top management support can get employees more involved in job crafting.

According to literature with increased top management support relationship between conscientiousness and job crafting become stronger. But with findings of our study TMS is not a significant moderator which means it will not affect the relation between conscientiousness and job crafting. Keeping in mind the discussion made above it is clear that some findings of my study are aligned and are contributing towards the JD-R theory and job characteristics theory but some findings are contradicting the suggestion made by JD-R theory ad job characteristics theory in existing literature.

5.3 Practical Implications

My study can help organizations in different ways. As I have already mentioned that project-based organizations in Pakistan need to focus on their human resources so that they can manage them effectively. My study will help organizations especially human resources department in evaluating employees. Along with that, finding of this study can help organizations in recruitment of employees. Therefore, this study can help in proper management of employees, it can help organizations in recruitment of employees, it can help in evaluation of employees, it can help organizations in managing their projects more effectively, it can help in increasing productivity of organization, and it can help in completing projects in time.

Management of human resources in an organization is of extreme importance. If

human resource in organization is managed properly it can help in successful completion of project. Similarly successful management of people in an organizations can also help organizations in achieving their strategic objectives. Our research is focused on behavioral and social aspects of project management, with help of this research organization can understand personality traits of employees, their attitude towards job crafting and in getting them more engaged in their work which ultimately leads to successful management of human resources in project based organizations.

Every project is different from other projects, meaning that every project has its own human resources requirements because of which in every project different, strategies policies and procedures are used for managing human resource. This study can help in development of such policies and procedures that can help in better management of people in a project. In this fast moving world there is a need to hire such workers that are qualified and have required skills to complete projects on time. So the importance of human resource management is increasing continuously specifically in field of project management. Organization now a days are putting a lot of their focus towards successful management of people. Accordingly a lot of research is now focused on human resource management in projects. Similarly this research is also focused on behavioral and social aspects of project management.

We have discussed earlier that employee who are high in conscientiousness are more involved in job crafting which leads to increased level of work engagement. In this regard organizations should focus on developing personality trait of conscientiousness in employees and should provide them with resources that can motivate them in increasing their job crafting which will ultimately lead to more engaged employees. Along with that organizations should focus on recruiting employees who high level of conscientiousness. Organizations should make a comfortable environment and develop a culture that promotes job crafting this can be done by increasing the number of job resources for employees. Furthermore, organizations should evaluate employees and they should give them constructive criticism in this way employees will feel motivated and will be more engaged in their work.

Organizations can communicate with employees regarding the issues and

challenges they are facing in projects and should encourage them to make physical and cognitive alterations which can lead to job crafting. Organizations should tell employees about the characteristics of job which will help them in getting motivated for their work and can lead to work engagement. Project-based organizations can implement similar activities which will help them in getting project managers and team more engaged which will lead to success in projects. By doing this organizations can increase their productivity which can ultimately lead to profit maximization.

5.4 Future Directions

The research study was carried out to investigate the association between project manager's conscientiousness and project manager's work engagement with a mediating role of project manager's job crafting and moderating role of top management support.

- In future a study can be conducted with a different mediator variable like job crafting intentions, along with a different variable moderator variable like organizational culture.

- In Future studies can be conducted to check the relationship between other personality traits and work engagement.

- Future research studies can be conducted with a different unit of analysis.

- Future studies should consider a larger sample size for more accurate results.

- The current study used the cross-sectional method for the collection of the data, in the future research longitudinal study needs to be conducted.

- Future study can be conducted to check why impact of moderation in not significant.

5.5   Limitations

Every study has some limitations because it is not possible to cover every aspect and same is the case with my research study. My research study has filled a research gap by making contribution to existing literature. Some limitations associated with this study are related to the time and resource constraint. The goal of study was to examine the association between variables in project managers of Pakistani project-based organizations but because of the time constraint we only managed to gather data of some organizations operating in Pakistan. It was difficult to capture target population in recent times because of COVID situation and security reasons. Some of the results of our study were not according to what we anticipated, if we look at previous literature the results were different.

It is also important to add that the current study used the convenience sampling method because of limited time and resources. We used convenience sampling because it was less costly and can be done in lesser time. I calculated data with help of google forms randomly from different project-based organizations of Pakistan. Furthermore, most of the project managers were busy with their project activities and because of which they were not ready to give data properly, most of the employees responded to questions without reading the statements, resulting in low generalizability of the study as response rate was very low.

In future studies can consider the time-lag method to collect data instead of conducting a cross sectional study. Time-lag method can give improved results by reducing common method biasness. Lastly, we analyzed our data using SPSS tool, in future research study can be conducted by using advanced tools for analysis like M Plus or Smart PLS which are used for analyzing complex models in detail.

5.6   Conclusion

My research is focused on one of the most important aspects of project management. A lot of research in field of project management is now focused on social and behavioral aspects of project. Human resources in a project if managed properly

can yield results that are beyond expectations which in the long run can benefit organizations immensely. A lot of studies are conducted for discussing and understanding this issue but a wide gap still exists which requires dedication so that concepts can be understood properly. Previous study was focused on linking job crafting to work engagement in project settings but in my study, we have tried to examine the relationship between personality trait of conscientiousness and work engagement while considering mediating effect of job crafting and moderating effect of top management support.

The world in current times is moving at a very fast pace. Things are changing really fast because of advancements in technology with that organizations are faced with challenges that require immediate solutions. And for dealing with these challenges there is a need to manage resources of organization in a proper way. One of the most significant resource of any organization is human resource and if human resources are managed properly it can help in dealing with issues and challenges in a proper way.

According to the literature review that was conducted conscientiousness as a personality trait is in direct relationship with work engagement meaning that if an employee was high in conscientiousness, they will be more engaged although according to the findings of data analysis the relationship between conscientiousness as a personality trait and work engagement is not significant this can be because of many reasons which I have discussed earlier in this chapter. Although the direct effect was insignificant the relation between conscientiousness and job crafting was significant in case of project managers in Pakistani project-based organizations which is also supported by the literature review. Accordingly, the relation among job crafting and engagement at work was also significant in case of project managers working in Pakistani project-based organizations which is also supported by literature review.

According to the findings of data analysis, job crafting can mediate the relation between conscientiousness and work engagement which is also accepted in the literature review. This mean that indirect effect of conscientiousness through job crafting is significant on work engagement in project managers working in

Pakistani project-based organizations. Furthermore, according to the findings of my study effect of moderator top management support on relationship between conscientiousness and job crafting was not significant which was not supported by the literature review. Which ultimately tell us that moderated mediation doesn't exist in our model.

My study highlighted that if conscientious individuals are provided with proper resources, then they can balance job demands which can help them in altering their job-related tasks which can ultimately increase their level of work engagement. But if proper resources are not provided it can make job crafting difficult for employees which will lead to increased turnover rate that can damage organizations in the long run. All these finding of my study can help management of project-based organizations in properly managing project employees by getting to know about their traits, behaviors, norms etc. it can help them in hiring employees who can help organization in the long run. It can also help researchers and student in increasing their existing knowledge about variables, and it can help scholars in future research.

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Appendix A

QUESTIONAIRE

DEPARTMENT OF MANAGEMENT SCIENCES, CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY ISLAMABAD

Dear Respondent,

I am a student of MS Project management in Capital University of Science and Technology Islamabad. I am conducting a research study to find out if there is a relationship between project managers' conscientiousness and project managers' work engagement with a mediating role of project managers' job crafting and moderating role of top management support. It will help organizations in analyzing behaviors, attributes and personality traits of their employees specifically project managers, which will help organizations in managing their employees in a better way so that they are more productive and satisfied on their jobs. Few minutes from your time are requested. Your response will be highly valuable and will help me a lot in finding accurate results.

I guarantee you that your data will remain confidential and it will only be used for academic purpose. It will not be shared with anyone. There is no need to mention your name. Thank you.

Sincerely, **Bakhtawar Khan**

Section I: (Demographics)

Please encircle the appropriate option.

1. **Gender**

1	2
Male	Female

2. **Education**

1	2	3	4	5
None	School	College	University	MPhil/ PhD

3. **Age (years)**

1	2	3	4	5
18-24	25- 34	35- 44	45 - 54	55 or More

4. **Experience in Projects (years)**

1	2	3	4	5
1-3	4-7	8-11	12-15	Over 15

For following set of questions. Please read the statement and tick mark the box of your choice against each statement. To indicate the extent to which you agree or disagree with the statement.

1. Strongly Disagree

2. Disagree

3. Neutral

4. Agree

5. Strongly Agree

Section II: (Conscientiousness)

Serial. No.	Questions	1	2	3	4	5
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
1	I see myself as someone who does a thorough job.					
2	I see myself as someone who can be somewhat careless. (R)					
3	I see myself as someone who is a reliable worker.					
4	I see myself as someone who tends to be disorganized. (R)					
5	I see myself as someone who tends to be lazy. (R)					
6	I see myself as someone who preserves until the task is finished.					
7	I see myself as someone who does things efficiently.					
8	I see myself as someone who make plans and follow through with them.					
9	I see myself as someone who is easily distracted. (R)					

Section III: (Job Crafting)

Sr. No.	Questions	1	2	3	4	5
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
	Increasing structural job resources					
1	I try to develop my capabilities					
2	I try to develop myself professionally					
3	I try to develop myself professionally					
4	I try to learn new things at work					
5	I make sure that I use my capacities to the fullest					
6	I decide on my own how I do things					
	Decreasing hindering job demands					
1	I make sure that my work is mentally less intense					
2	I try to ensure that my work is emotionally less intense					
3	I manage my work so that I try to minimize contact with people whose problems affect me emotionally					
4	I organize my work so as to minimize contact with people whose expectations are unrealistic					
5	I try to ensure that I do not have to make many difficult decisions at work					
6	I organize my work in such a way to make sure that I do not have to concentrate for too long a period at once					

Sr. No.	Questions	1	2	3	4	5
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
	Increasing social job resources					
1	I ask my supervisor to coach me					
2	I ask whether my supervisor is satisfied with my work					
3	I look to my supervisor for inspiration					
4	I ask others for feedback on my job performance					
5	I ask colleagues for advice					
	Increasing challenging job demands					
1	When an interesting project comes along, I offer myself proactively as project co-worker					
2	If there are new developments, I am one of the first to learn about them and try them out					
3	When there is not much to do at work, I see it as a chance to start new projects					
4	I regularly take on extra tasks even though I do not receive extra salary for them					
5	I try to make my work more challenging by examining the underlying relationships between aspects of my job					

Section IV: (Work Engagement)

Sr. No.	Questions	1 Strongly Dis-agree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
	Cognitive					
1	Performing my job is so absorbing that I forget about everything else.					
2	I am rarely distracted when performing my job.					
3	Time passes quickly when I perform my job.					
	Emotional					
1	I really put my heart into my job.					
2	I get excited when I perform well on my job.					
3	My own feelings are affected by how well I perform my job.					
	Physical					
1	I exert a lot of energy performing my job.					
2	I stay until the job is done.					
3	I take work home to do.					

Section V: (Top Management Support)

Serial. No.	Questions	1 Strongly Dis-agree	2 Disagree	3 Neutral	4 Agree	5 Strongly Agree
1	Sufficient incentives are provided by top management (TM) for the implementation of the projects					
2	The projects are viewed as a strategic activity by TM					
3	There is sufficient commitment to the implementation of the projects.					
4	Sufficient resources are provided for implementation of the projects.					
5	The top managers of the division actively support the projects.					
6	TM identify the implementation of projects as a critical priority					