



CAPITAL UNIVERSITY OF SCIENCE AND  
TECHNOLOGY, ISLAMABAD



**Impact of Project Green  
Advocacy on Green Behavior in  
Projects; Mediating Role of  
Employees' Pro-Environmental  
Attitude and Moderating Role of  
Green Psychological Climate**

by

**Sidra Shahid**

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

in the

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*Every challenging work needs self-efforts as well as guidance of elders especially who are very close to our heart. My humble efforts we dedicate to our sweet and loving parents whose affection, love, encouragement and prays of day and night make us able to get success. Along with my all hardworking and respective teachers whom endless support, struggle and kindness are beyond expression.*



## CERTIFICATE OF APPROVAL

### Impact of Project Green Advocacy on Green Behavior in Projects; Mediating Role of Employees' Pro-Environmental Attitude and Moderating Role of Green Psychological Climate

by

Sidra Shahid

Registration No:MPM173032

### THESIS EXAMINING COMMITTEE

S. No.	Examiner	Name	Organization
(a)	External Examiner	Dr. Riaz Ahmed	BU, Islamabad
(b)	Internal Examiner	Dr. Sayyed.M.Mehdi.Raza Naqvi	CUST, Islamabad
(c)	Supervisor	Dr. Sajid Bashir	CUST, Islamabad

\_\_\_\_\_  
Dr. Sajid Bashir  
Thesis Supervisor  
April, 2019

\_\_\_\_\_  
Dr. Sajid Bashir  
Head  
Dept. of Management Sciences  
April, 2019

\_\_\_\_\_  
Dr. Arshad Hassan  
Dean  
Faculty of Management & Social Sciences  
April, 2019

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1. Shahid, S., Bashir, S., (2019). Impact of Project green advocacy on green behavior in Projects; Mediating Role of employees' pro-environmental attitude and Moderating Role of Green Psychological climate, JPMA\_2019\_138.

**Sidra Shahid**

MPM173032



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## *Abstract*

Current research literature on project based organizations does not provide detailed insights on how project based organizations respond to the challenges that are posed by environment by incorporating it into their company's goals and mission and that shape the project employees' current behavior towards green behavior. This research paper explores those accentuating factors that can be ascertained to contribute in improving project performance. Data was collected from 225 respondents working in various project based organizations across Pakistan. The study examined the impact of project green advocacy on green behavior in projects. The results of the study indicate that project green advocacy has significantly positive impact on project employees green behavior. The mediating role of employees' pro-environmental attitude is also significantly positive between the relationship of project green advocacy and project employees green behavior. The moderating role of Psychological green climate, however, has shown insignificant impact on the relationship between project green advocacy and employees' pro-environmental attitude. The study significantly contributes to the area of research specifically in the domain of project management. The implications, limitations and future directions are discussed.

**Keywords:** Project Green Advocacy, Employees pro-environmental Attitude, Psychological Green Climate, Project Employees Green Behavior.

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# Abbreviations

<b>PGA</b>	Project Green Advocacy
<b>EPEA</b>	Employees Pro-Environmental Attitude
<b>PGC</b>	Psychological Green Climate
<b>PEGB</b>	Project Employees Green Behavior
<b>CSR</b>	Corporate Social Responsibility
<b>SOP</b>	Standard Operating Procedures
<b>WCED</b>	World Commission on Environment and Development



# Chapter 1

## Introduction

### 1.1 Background of the Study

Environmental issues are considered to be increasingly important to worldwide organizations ([Fritsch et al., 2012](#)). Some of potential environmental issues faced by organizations are indoor or outdoor air pollution, global warming, and disposal of solid waste, depletion of ozone layer, population growth, and reduction in biodiversity, deforestation, modification in climate and other environmental destruction issues. As these issues can be both technical and complex are extensively knotted to organizational activity, and have widespread consequences for organizations. However, the question arises to what extent these issues are relevant to environment and how serious they are and how organizations should address such issues. In 1991 study conducted by Booz-Allen showed that 67% of senior executives of major organizations believed that environmental issues to be ‘extremely important’ to their companies, whereas, only (7%) executives assured about the environmental issues that their companies faced ([Newman and Breeden, 1992](#)). In addition to this, environmental issues are entangled with the concept of sustainable development, which refers to incorporating both social and environmental concerns into a company’s goals and mission, without preceding financial strength ([McGee, 1998](#)).

These issues are considered as the part of corporate issues which demonstrates that it's difficult for organizations to comprehend such environmental issues, for some reasons. First, many organizations are in of view that environmental issues are too complex and scientific, as they are undetectable and incalculable because of translated in difficult technical language, ([Shrivastava, 1995](#); [STEAD WE, 1992](#); [Stern, 2000](#)). Second, due to environmental issues organizations face difficulties of accepting fault and changing business systems in order to counter the damaging effects of their products and processes ([Schmidheiny, 1992](#); [Shrivastava, 1995](#)). According to ([Taylor et al., 2015](#)) organizations are responding to the challenges that are posed by the environment by incorporating it into their company's goals and mission. ([Dean and Brown, 1995](#)) conducted a survey that proposed some of the organizations by incorporating the environmental issues into their business strategies were pursuing to gain competitive advantages. Thus the research shows that organizations are focusing on achieving competitive advantage by integrating environmental issues into their business plans and policies ([Ali et al., 2017](#)).

Researchers from different domains like economics, organizational behavior, operations and other have tackled environmental issues, using different theories and paradigms but lacking in domain of project management. However, in 21st century organizations are bound to be environment friendly because of pressure by higher regulatory authorities ([Scott, 2008](#)). The population of world is rapidly increasing so they consume natural resources more than their production in world. As the researchers and scientists are observing the changes in the environment intensely ([Ballantyne et al., 2012](#)). So, organizations find out methods for sustainability of natural resources but there is a need of project based organizations so that divide the task into project teams who will share the responsibilities and do some contribution in finding out the best sustainable methods for natural resources and to avoid damaging the natural resources of environment. Previous studies show that important approach towards sustainable environment is corporate social responsibility and studies of ([Bonan, 2008](#)) and ([McIntosh, 2011](#)) provide a change in thoughts by including scientific, behavioral and technological thinking in order to shape environmental sustainability.

The concept of advocacy was defined by (Lawer and Knox, 2006) as a new kind of market orientation that responds or prefers the demands of customer, their involvement and knowledge. As today's organizations are more focused towards the concept of sustainability of environment so, they always consider the demands of customers and then make the strategies in order to accomplish their demands (Fernández-Sánchez and Rodríguez-López, 2010). According to (Todorović et al., 2015) its core responsibility of organization to provides moral, physical and psychological support to the employees and make sure that it provides all the resources that are needed and advocates the employees of organizations till the completion of any project. So here the green advocacy shapes the project employees current behavior towards green behavior and "being green" means having good business sense (Holme and Watts, 2000).

Some practical studies that are conducted so far, report that employee behavior towards corporate greening has some association with pollution prevention, more efficient environmental management systems, improvements in environmental performance, and green project innovations (Bansal and Roth, 2000; Ramus and Killmer, 2007). (Lanfranchi and Pekovic, 2014) propose that it's organizations responsibility to make the strategies according to the demands of customers and to motivate and trained the employees to behave in environment friendly manner which is an essential approach for sustainable and healthy work environment. Moreover, human resource of any project is the main factor in deciding the success and failure of any environmental management system and success of environment friendly organization is based on its employees green behavior (Zibarras and Coan, 2015).

Previous studies conducted so far in traditional organization's context but this concept needs to be incorporated in project based organizations. As now a day with the advancement of technology organizations are becoming project based organizations and project employees also show their concerns towards environmental issues (Starik and Marcus, 2000). (Crossan et al., 2011; Chaston et al., 2001) proposed that over the last couple of decades, interest of customers in understanding the concept of greening of organization has been aroused so as to explain that how to

improve employees attitude and developed their green behavior is required not only on traditional organizations but also in project based organizations. Moreover, its responsibility of project based organizations to indulge employees in environment friendly activities by communicating the environmental policies and strategies to employees (Schneider et al., 2013).

In organizations green climate is operationalized by figuring project employees perception and interpretation of the project's policies, procedures. This perception and interpretation of project employees is called psychological green climate (James et al., 2008). (Kuenzi and Schminke, 2009) proposed that Psychological green climate is the result of social interaction of employee, whereby organizational values, policies, practices, and procedures are determined by the employee's itself. So, psychological green climate is considered as unique variable in project based organization and it strengthen the relationship between Project green advocacy and project employees' pro-environmental attitude.

## 1.2 Gap Analysis

Greening of organization concept or impact of green climate on employees pro environmental attitude that shapes the employees green behavior has been studied so far in the organizations like small and medium enterprises (Norton et al., 2017, 2014) but this concept is not applied on project based organizations so far. The study propose employees environmental attitude as a significant mediator between project green advocacy and project employees engagement in green behavior. (Norton et al., 2017) studied the moderating effect of psychological green climate on employees environmental attitude and suggested for further research on impact of project green advocacy on project employees green behavior. However, limited theoretical perspective exists in the literature as of yet it clarifies the relationships among these constructs in project based organizations specifically. In this context, this study is also an attempt to explore these thematic areas and their inter relationship in depth in project based organizations.

Project green advocacy and project employees green behavior are relatively new variables and so far these variables have been studied in the context of traditional organizations. The scope of work on these variables in the context of project based organizations and as an individual capability of project employees is relatively limited. A recent study by (Norton et al., 2017) highlighted the role of psychological green behavior in employees green behavior, but this study utilizes the gap to study green advocacy's role in enhancing green behavior in employees, making it one of the fewer studies in the particular domain.

While addressing this gap, the study also identifies potential mediator and moderator. The study suggests that employee's pro-environmental attitude as a mediator along with the variable; project green advocacy would be an important distinction in the domain of project management. However, Psychological green climate as a moderator is one of the unique domains which are still needed to be explored in the context of project management because competitive edge on which most of the organizations thrive in the modern era is showing concerns towards environmental issues. There is more room to study these variables in the context of Pakistan. The study will contribute significantly towards the existing literature as well as towards the research study in Pakistan for project based organizations. The moderating role of psychological green climate between project green advocacy and employees pro-environmental attitude is yet to be explored in project management's domain and contextual setting of Pakistan.

### **1.3 Problem Statement**

In Pakistan we observe that most of the projects are not environment friendly so, a lot of issues regarding sustainability of environment are increasing day by day and such projects badly affect the environment. Due to increasing levels of pollution in the world there is a paradigm shift in which organizations are more focused towards green environmental aspects that should be incorporated in the strategies of the organizations. Therefore, the study aims at institutionalizing these environmental aspects into the strategies of the organization. As, today's

customers demand such projects that will be environment friendly. So, the present study will address this particular problem.

This study focuses on project green advocacy impact on project employees green behavior with mediating role of project employee's pro-environmental attitude. The mediating role of project employee's pro-environmental attitude to enrich green behavior in employees is yet to be explored in the domain of project management. The moderating role of psychological green climate between project green advocacy and employees pro-environmental attitude is yet to be explored in project management's domain and contextual setting of Pakistan. So, this is the novel domain which has not been studied yet along with all the variables (Project green advocacy, Project employees' pro-environmental attitude, Project employees green behavior and Psychological Green Climate).

## 1.4 Research Questions

The objective of the present study is to find answers of the following research questions:

### **Research Question 1**

Does the relationship exist between project green advocacy and project employees green behavior?

### **Research Question 2**

Does project employees' pro- environmental attitude mediated the relationship between project green advocacy and project employees green behavior?

### **Research Question 3**

Does green psychological climate play a role of moderator on the relationship of project green advocacy and employees pro- environmental attitude?

## 1.5 Research Objectives

The main objective of this study is to test the projected model to find out the link between project green advocacy, project employees pro- environmental attitude and project employees green behavior. In addition green psychological climate is added as the possible significant moderator to enhance the relation of project green advocacy and project employees' pro-environmental attitude.

Following are the specific objectives of this study:

### Research objective 1

To explore impact of project green advocacy on project employees green behavior.

### Research objective 2

To find out the mediating relationship of project employees pro- environmental attitude between project green advocacy and on project employees green behavior.

### Research objective 3

To find out the moderating relationship of green psychological climate between project green advocacy and project employees pro-environmental attitude.

## 1.6 Significance of the Study

This research is not only adding theoretical content to project management but it also helps to understand the concerns of projectized organizations towards the concept of environmental sustainability. As today's projectized organizations are also very concerned about environmental issues either the project is related to infrastructure or any other sector. Its responsibility of organization to advocate and communicate the project employees the policies and engage them in environmental sustainable activities ([Lanfranchi and Pekovic, 2014](#)).

([Norton et al., 2017](#)) argues that green psychological climate plays significant role in developing employees' environmental attitude towards green behavior at work

and this green behavior in employees can be triggered by intrinsic factors because employees are voluntarily involved in environmental sustainable activities and willingly save the project resources and time. If employees would develop this green behavior then the negative behavior of employees in projects like wasting the project resources and time would also decrease. (Chen et al., 2015) stated that green behavior would allow employees to conduct awareness campaigns for protecting the green environment of projects and encourage more on plantation and pollution reduction projects.

All the above mentioned activities come under the umbrella of green behavior. So the present study also opens new aspects for researchers and practitioners to observe and identify new ways of investing time and resources in promoting green behavior activities in the projects. It will also help the development sector of Pakistan to realize the importance of this study as in today's modern era green behavior is the need of every projectized organization because the organizations generate more of their revenue from environment so with the increasing demand of customers projectized organizations won't be able to promote green behavior in and outside the organization without the consent of employees. The present study highlighted that how projectized organizations advocate green behavior of employees effectively and efficiently.

## 1.7 Supporting Theory

Different researchers have presented many theoretical perspectives that are widely used to support the studies of green employees' behavior, green climate and employees' environmental attitude like theory of planned behavior, but institutional theory can cover overall all the variables of the present study. The theory is presented by (Zucker, 1987) and it explained further.



### 1.7.1 Institutional Theory

Institutional theory states that organizations need to upgrade their strategies as per change in the market demand therefore the latter needs to institutionalize the needed. Changes as the part of their standard operating procedures (SOP) (Zucker, 1987).

The research model of current study is based on institutional theory that shows it concerns about corporate social responsibility (Scott, 1995). The concept of corporate social responsibility has gained significant success in last two decades. This theory provides a theoretical foundation for understanding the organizations conduct and design (Zucker, 1987; Kostova et al., 2008). (Schneider et al., 2013) argues that today organizations need to appear 'legitimate' in the eyes of customers because they know if they considers the demand of customers and function according to their demands they would be able to generate more revenue. So with the increasing demands of customers' towards environment sustainable projects or simply the green projects projectized organizations make policies and strategies in order to satisfy the demands of customers (Young, 2013).

According to this theory, project green advocacy shapes the employees attitude towards environmental sustainability. It means if an employee perceives that the orientation of projectized organization is towards environmental sustainability, then all employees' have common perception about green climate of projects that shapes their social norms, formal rules, policies and guidelines (Schneider et al., 2013). If an employee work in green culture of its organization than that working environment supports and enhance their positive attitudes towards green psychological behavior. In addition to this green Psychological climate shapes the employees attitude towards the green behavior it means employees think that today's projectized organizations are more concerned towards environmental sustainability so they more likely to involve in activities which are included in project policies and guidelines and in those activities where participants are encouraged and rewarded (Barrick et al., 1993).

In the today's business world the concept of environmental sustainability is gaining significance. So, Projectized Organizations are increasingly recognizing the significance of corporate sustainability and makes corporate social responsibility (CSR) as a part of their organizational strategies ([van Marrewijk, 2003](#)). In order to incorporate CSR in existing business, organizations embedded these CSR policies ([Lamm et al., 2013](#)) and incorporated into a comprehensive strategy ([Galpin and Lee Whittington, 2012](#)). Some scholars point out the presence of limited research related to organizations and CSR especially on individual employee and their behavior level ([Aguinis and Glavas, 2012](#); [Robertson and Barling, 2013](#); [Linnenluecke et al., 2009](#)); factors that influence the small, everyday sustainability behaviors are not investigated enough. Given that human activities drives the climate change, and so environmental program's success often depends on employees' behavior ([Daily et al., 2009](#)), fostering employees' pro-environmental behavior (PEB) could be one of the factors that may help to deal with these grand societal challenges.

# Chapter 2

## Literature Review

### 2.1 Project Green Advocacy

The World Commission on Environment and Development defined green development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 43). (Chelminski and Coulter, 2011) propose the term advocacy as an effective means to empower customers and gain their trust. The term advocacy refers to work that influence public policy in social, economic, political, and cultural spheres in order to bring about justice and positive change in human rights and environmental issues. (Frese and Fay, 2001) defined the concept of green advocacy as the degree to which the people openly share their knowledge and views about the environmental sustainability and encourage other people as well to engage in eco-friendly behavior.

### 2.2 Employees Green Behaviors

(Steg and Vlek, 2009) defined the paradigm of green behavior as an individual activity that reduces the level of harmness to environment and provide more benefits to natural environment. (Ones and Dilchert, 2012) dened employees green behavior, as “scalable actions and behaviors that employees engage in that are

linked with and contribute to or detract from environmental sustainability” (p. 87).

Pro-environmental behavior, include two types of behavior, ([Borman and Motowidlo, 1993](#); [Williams and Anderson, 1991](#)) task performance that is in-role employees behavior, and employee’s voluntary behaviors which are their initiatives at workplace ([Frese and Fay, 2001](#); [Frese et al., 1996](#)). These both types of employee’s behavior refer towards green environmental behavior at workplace. Williams Anderson (1991) elaborated the concept of green behavior as employees are engaged in eco- friendly tasks and tried to protect the environment and safeguard the project assets and resources.

## 2.3 Employees Pro- Environmental Attitude

([Eagly and Chaiken, 1993](#)) defined the term attitude as an individual’s emotional tendency of evaluating the things positively or negatively. ([Stern, 2000](#)) elaborated this concept according to him the term pro-environmental behavior refers to such behavior that deliberately reduces the harmful impact of employee’s actions on the natural world .([Chen et al., 2015](#)) protracted this concept of attitude into environmental attitude and it refers to people’s general view about the green environment and its issues.

Pro-environmental behavior of employees refers to the perception of the employees about activities that are directly or indirectly undertaken by them at their work place and will think how to conserve and improve the natural environment ([Fryxell and Lo, 2003](#)).

## 2.4 Green Psychological Climate

([Burke, 2002](#)) defined the construct of green psychological climate as this climate captures “individual perceptions of work environment characteristics” or “employees’ perceptions of their organizations” ([Patterson et al., 2005](#)). According to

Chou (2014) Projectized organizations achieve this climate by employing various ranges of pro-environmental policies and procedures in order to achieve goals of sustainable environment.

Employees perceive that organization's green values exposes about organization's pro-environmental strategies, policies and processes and this refers to Psychological green climate. (Kuenzi and Schminke, 2009) proposed that Psychological green climate is the result of social interaction of employee, whereby organizational values, policies, practices, and procedures are determined by the employee's itself.

## 2.5 Project Green Advocacy and Project Employees Green Behavior

Lewin (1951) argues that behavior is a function of an individual's own characteristics and his or her environment. (Steg and Vlek, 2009) defined the concept of employees green behavior as the individuals should indulge themselves in such activities which reduces the level of harmness to environment and provides more benefits to natural environment. Organizational green advocacy has a great influence on employees green behavior. Different researches were conducted on the topic of employees green behavior in workplace and it was found that the employees show two types of behavior one is acquired green behavior or task related behavior and other is voluntary behavior (Borman and Motowidlo, 1993; Organ, 1997; Rotundo and Sackett, 2002).

Green behavior of employees is abstracted as voluntary behavior (Ramus and Steger, 2000; Paillé and Boiral, 2013). It is not possible for employees to show both the types of behavior so, employees behave differently when belongs to different groups. Among two above mentioned behaviors task related behavior refers to such behavior that helps in achieving the core values and competences of projectized organizations (Borman and Motowidlo, 1993; Organ, 1997; Rotundo and Sackett, 2002);, whereas voluntary behavior refers to social and psychological environment and also includes personal initiatives of employees towards environment. Moreover

(Schmit et al., 2012) stated that this behavior is non- task behavior means that behavior is constructive for society and though organizations don't need to pay for such activities.

In the context of employees green behavior, previous research has proposed that green advocacy can influence employees' attitudes which, in turn, affect voluntary green behavior (Kim et al., 2017). Another recent study has conducted that indicated the relationship between green advocacy and employees voluntary green behavior is positive when employees perceive that the environment of projectized organization is favorably green means employees follows the new environmental policies and strategies of organization also raising awareness for green behavior and motivate themselves to do work for the best interest of organization (Norton et al., 2017).

(Chelminski and Coulter, 2011) stated that the term advocacy refers to tendency that reflects the enthusiastic referral for an organization. This concept emerged as an important and effective means to empower and gain trust of employees. Social issues are commonly referred to as advocacy. Therefore, the term green advocacy describe the collective behavior of a group of people and express it as the degree to which employees openly discuss environmental sustainability, share relevant information, and communicate their various opinions in order to boost others to engage in eco-friendly behavior (Frese and Fay, 2001).

Employees communicate about environmental issues and share the concrete information about green behavior that provides the support for the development of informal norms that standardize the project members' behaviors (Feldman, 1984). According to (Cialdini et al., 1990) the more dynamic and significant green advocacy becomes, the more likely project employees will perceive voluntary green behavior. In addition, to this green advocacy may trigger employee's personal goals for environmentally friendly behavior and also further motivate such behavior (Klein et al., 2008; Unsworth et al., 2013).

According to (Littleford et al., 2014) states that project green advocacy shapes the employees green behavior means that organizations make such strategies that advocates employees to be involved more in environment friendly projects. When

employees observe others around them engaged in particular behavior, they are likely to engage in such behaviors that are environment friendly (Goodman, 1974; Kulik and Ambrose, 1992). In this research we focus mainly on project employees green behavior so we found that employees in of view that green advocacy have a direct effect on employees green behavior. Therefore, we hypothesize that project employees perceive that strategies about implementation of green advocacy in projectized organizations will engage them more in green behavior.

**H1:1** *Project green advocacy will positively significantly affect project employees' green behavior.*

## 2.6 Project Green Advocacy and Employees' Pro-Environmental Attitude

In 1970s the green concept became prominent and was derived from environmentalism (Tsaour et al., 2017). In the past few decades this concept was applied in the domain of business management (Tsaour et al., 2017), however the green concept still remains rare in project management context. (Chelminski and Coulter, 2011) propose the concept of advocacy in PM according to them; advocacy means empowering the employees and gains their trust. So in the context of PM its responsibility of organization and particularly project manager to empower his project employees provide them all the necessary resources they need. Therefore along with non-profit organizations government organizations also show their concern towards environment sustainable projects either it would be metro project or anything infrastructure project.

(Stern, 2000; Kuang et al., 2016) defined pro-environmental attitude. According to them it's a behavior that deliberately reduces the harmful impact of employee's actions on the natural world. So here pro-environmental attitude of employees refers to the context that employees are not aware of the environmental issues but it's their responsibility to take significant steps in order to improve the environment (Kuang et al., 2016). (Saeednia and Valahzaghari, 2012) found positive

association between green advocacy and employees attitude as if organizations concerns are towards environment friendly projects then they would better advocate the project employees attitude towards environmental sustainable projects as well.

Employees have positive attitude towards environment when they have environmental concerns it means they are intrinsically motivated enough to indulge themselves in such activities that are environment friendly and the project manager would better advocate or encourage employees to actively participate in environment friendly activities and employees who are involved in such activities have to be rewarded (Barrick et al., 1993). (Bakker et al., 2006) explored that green advocacy positively impact the employees green behavior as employees are motivated towards the achievement of targeted goals, means they indulge themselves in those activities that are included in organizational policies and strategies and those policies helps in promoting environment friendly behavior.

There is huge number of interventions that proposed to increase engagement of employees in pro-environmental behaviors, and this research has significantly advanced our indulgent in this area (Osbaldiston and Schott, 2012). However, it might be a notorious statement that suggests that there will be certain interventions that will change the employees' behavior to integrate more pro-environmental actions. (Tanner and Wölfing Kast, 2003) stated that people's positive attitude towards environmental safety influenced green behavior. It means that there is need to give importance to environmental issues and make sure they should not be neglected in any case and also needs to advocate the employees' environmental behavior (Bei and Simpson, 1995).

In studies of finding the impact of advocacy on environmental attitude it was explored by (Schlegelmilch et al., 1996) that the persistent predictor of pro environmental behavior is individual's attitudes toward it, because environmental attitude refers that employees are not conscious of environmental issues but also have knowledge, responsibility, takes certain steps to improve the environment (Kuang et al., 2016).



The study conducted by (Kuang et al., 2016) directed that earlier research portrays that environmental attitude is one of the crucial factor that envisages environmental behavior and such behavior is basically dependent upon individual perception. They further shed light that major factors that influence environmental behaviors are environmental attitude, sense of accountability, perceived behavioral control and behavioral intents. Environmental behaviors are more influenced by person's attitude, ability and situational factors (Stern, 2000). When projectized organizations institutionalize environmental polices along this project employees have high environmental attitude accompanied with sense of accountability and have ability to control the behavioral changes are more likely to involve in environmental behavior (Kaiser and Gutscher, 2003).

**H2:** *Project green advocacy will positively significantly affect employees' pro-environmental attitude.*

## 2.7 Employees' Pro-environmental Attitude and Project Employees' Green Behavior

There is a widespread literature on environmental concern and purpose here is not to make a comprehensive analysis of the subject, but the concept of environmental concerns emerged in 1970s and the main objective in terms of attitude was to exhibit pro-environmental attitude. (Clayton and Opatow, 2003) are of the view that social identity has been considered as the major predictor of pro-environmental attitude. Stern et al., explained pro-environmental attitude as “the attitude objects exist independently of social processes and that they do not appear, disappear, or transform themselves over the period within which they are being measure” (1995, p. 1612).

People having different lifestyles have different attitude towards environment and lead environment friendly lives (Katalin, 2008) and among them some of these behaviors are pro environmental behaviors that show more concern for environment. (Klein et al., 2008) states that such type of pro environmental behaviors depends

on individual's personality and such behaviors help in developing green behavior in employees at workplace. Employees who have positive perception about the environment usually reveal pro environmental attitudes (Wuertz, 2015; Chen et al., 2015) and the person's positive beliefs and values about environment termed as pro environmental attitudes (Wuertz, 2015; Chen et al., 2015). (Wuertz, 2015) in his study claimed that it is necessary that by pro-environment attitude the employees will be able to understand and implement the green behavior while doing projects.

(Ones and Dilchert, 2012) discuss number of possible individual and some contextual factors of employee green behavior. Among them organizational climate and predominantly employees pro-environmental attitude is the major predictor of green behavior. Earlier research focused mainly on organizational attitude towards environment, and pro-environmental attitude reflects employees' mutual perceptions of their organizations' pro-environmental norms, practices, policies and procedures (that must correspond with the organizational vision, missions, operations, strategies and functions stated by Ones and Dilchert). (Kuenzi and Schminke, 2009) noticed that when employees accepted that particular projectized organization has embraced formal "green policies" 'in their different projects, then their behavior and work attitude reflects that pro-environment attitude contributes in developing employees green behavior towards the organization.

(Sagiv et al., 2011) argued that there is a need of separate pro-environmental attitude construct, the reasons which they suggested are firstly, it's mandatory for organization to develop and refine their environmental policies and procedures in order to engage the employees in green behavior. Secondly, this construct assist in better understanding of employees KSAOs (Knowledge, skills, abilities and other factors) and provide support to explain that how these KSAOs helps in generating green behavior in employees at workplace.

(Daily and Huang, 2001) explored that there is need for considering the human factor in environmental management theory, as previous studies focus on exploring the components which support green behavior in employees. On the other hand,

(Paillé and Boiral, 2013) stated that employee green behavior in projects has astonishingly got less research attention than employee green behavior other than the projects. Furthermore, previous studies of (Norton et al., 2014) on employees green behavior at workplace have mostly discovered the effect of organizational sustainability programs; and influence of leaders. Preceding research has not yet effectively accounted for the effect of employee's involvement when employing organizational policies, procedures and practices (Ramus and Steger, 2000; Robertson and Barling, 2013).

**H3:** *Employees' pro- environmental attitude will positively significantly affect project employees green behavior.*

## 2.8 Project Employees' Pro- Environmental Attitude as a Mediator Between Project Green Advocacy and Project Employees Green Behavior

(Tanner and Wölfing Kast, 2003) states that employees positive attitude towards environmental protection influenced the green behavior. Environmental issues should not be neglected in any case especially in project management context and there is always need to emphasize the employees to behave in environment friendly manners. Therefore, employees environmental attitude means that they not only aware of the environmental issues but also know their responsibilities and must be motivated enough to take initiatives to improve the environment (Kuang et al., 2016).

Employees who have positive perception about the environment usually show pro environmental attitudes. (Wuertz, 2015) and Pro Environmental attitudes are basically an employee's positive beliefs and values about environment (Wuertz, 2015). The positive impact of environment on employees' attitude may be streamlined due to the reason that it helps the project manager to improve the relationship

with in the project with employees and to motivate them make sure that employees should understand the environmental issues (Lanfranchi and Pekovic, 2014).

(Kuang et al., 2016) earlier research portrays that employee's environmental attitude is one of the important factor which predicts their behavior and individual perception is the main focus of such behavior. Along this employee personal abilities and other situational factors also have influence on environmental behavior. It means that when project employees have higher environmental attitude along with sense of responsibility and behavioral control are more likely to involve in green behavior (Kaiser and Gutscher, 2003). Previous literature on employees green behavior is in organizational context but the impact of project green advocacy on project employees green behavior in project based organization have not been particularly implored. Along with this impact of employees' pro-environmental attitude on project employees green behavior has not been explored yet.

According to (Michael et al., 2010) Green behavior generates number of constructive outcomes as one of it is it helps the projectized organizations in cost saving and also helps in satisfying employees intrinsically. Green behavior also offers financial and non- financial benefits. Financial benefits refer to reduction in cost and non-financial benefits involve motivating the employees to indulge in green behavior. Getting financial benefits from manager is not enough for employees to engage their self in green activities but it is also mandatory that employees are motivated towards these actions and they deliberately participate in those green activities that increase their level of satisfaction. Also employee's attitude towards work and their commitment toward organization and colleagues were both leads towards green environment (Lamm et al., 2013).

Employees green behaviors are influenced by their positive attitude towards environmental protection (Tanner and Wölfing Kast, 2003). Projectized organizations should not neglect environmental issue but focus more to motivate employees' environmental behavior (Bei and Simpson, 1995). The study by (Schlegelmilch et al., 1996) explored that the persistent predictor of pro environmental behavior

is individual's attitudes toward itself. Environmental attitude means that individuals are not aware of environmental issues but also have responsibility, knowledge and takes initiative to improve the environment (Kuang et al., 2016).

Employees' pro-environmental attitude links project green advocacy with employees green behavior in such a way that if projectized organizations advocates or institutionalize green environmental aspects into their strategies then the employees would also behave accordingly, and those employees who set goals for themselves to behave in environmentally friendly ways should always be more likely to engage in EGB because this goal setting helps in increasing motivational level of employees (Locke and Latham, 2002). (Kaiser and Gutscher, 2003) stated that when employees have higher environmental attitude accompanied with sense of responsibility and behavioral control means that they are more likely to involve in environmental behavior (Kaiser and Gutscher, 2003) Therefore, we hypothesize that employees pro-environmental attitude will mediate the relationship between project green advocacy and employees green behavior.

**H4:** *Project employees' pro-environmental attitude will mediate the relationship between project green advocacy and project employees green behavior.*

## **2.9 Green Psychological Climate as a Moderator Between Project Green Advocacy and Employees Pro-Environmental Attitude**

Green Psychological climate is new construct in project management literature and it refers to how employees perceive about project's policies, procedures concerning to environmental sustainability. (Norton et al., 2012, 2015). In the PM domain project culture and climate are considered to be important contextual factors that influence the employee's attitude and behavior (Schneider et al., 2013). (Clegg and Bailey, 2007) defined the term project climate as "employees shared perception of project's policies, procedures and translate the policies into guidelines in order

to implement them and get rewards”. These perceptions and interpretations of project employees are known as project psychological climate (James et al., 2008). Psychological climate captures “individual perceptions of work environment characteristics” (Burke, 2002) or “employees’ perceptions of their organizations” (Patterson et al., 2005, p. 380). Green climate has been defined in the literature as the climate that applies to corporations that achieve sustainable objectives by implementing a range of pro-environmental policies (Norton et al., 2014; Paillé et al., 2014; Ramus, 2002). (Rousseau, 1985) explored that psychological climate is considered as an immediate predictor of behavior because both behavior and psychological climate are individual-level constructs and employees need to recognize and interpret their green work environment before they can act upon it (James et al., 2008).

(Kuenzi and Schminke, 2009) stated that psychological climate is the consequence of employee social interactions, and employees know the organizational values, policies and procedures and it would help in developing employees green behavior at work. Projectized organizations develop a resilient environmental agenda, and convey the employees the values and ethics that are essential to the organization (Rangarajan and Rahm, 2011). By implementing such green environmental strategies, the projectized organization directs a message to the employees about its concern of the environment that goes beyond pure financial gains, and also pursues to involve employees in green-related activities and decisions (Renwick et al., 2013).

Chou (2014) suggested that if projectized organizations advocate and clarify the green environmental strategies properly to employees then there will be less chance that the employees would indulge in such activities that are harmful to environment. So the projectized organizations work on doing such projects that enrich employee awareness of green values to encourage their participation in green activities. Therefore, green advocacy will be positively associated to employee’s psychological green climate. A recent study conducted by (Norton et al., 2014)

found that positive relationship exist between the adoption of organizational environmental policies and employee behaviors, with both task related and proactive green behavior mediated by employees pro-environmental attitude.

(James et al., 2008) findings consistent with previous research on psychological green climate has shown that green psychological climate is positively linked to employee's environmental attitude (Dumont et al., 2017; Norton et al., 2014). Therefore, researchers assume that green psychological climate predicts EGB as employees are usually inspired to show such behaviors that are consistent with the perceptions of their organization's policies, and procedures (Schneider, 1990). (Ones and Dilchert, 2012; Ramus and Steger, 2000) proposed that projectized organizations are increasingly adopting the green environmental strategies to promote green behavior in employees while doing different projects.

Earlier research conducted on psychological climate indicated that green psychological climate of project predicts the employees green behavior (Schneider, 1990). Employees need to perceive their project environment. It means that employees are motivated enough to show such behavior that is according to the policies and procedures of the project. So it's expected that employees show green behavior and they believed that by showing such behavior they would be able to achieve the rewards as well. Green Psychological climate is taken as moderator in present study and it is hypothesized that the relationship between project green advocacy and project employees green behavior is strengthen when the climate of project is psychological green.

**H5:** *Green Psychological Climate moderates positively the relationship between project green advocacy and project employees pro-environmental attitude: such that if green psychological climate is high then the relationship between project green advocacy and project employees pro-environmental attitude would be strengthened.*

## 2.10 Research Model

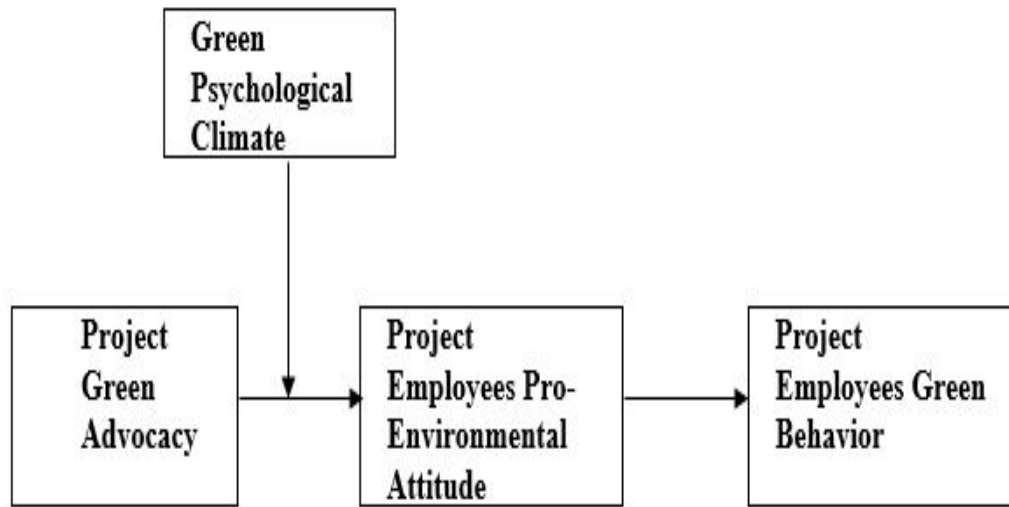


FIGURE 2.1: *Research Model of project green advocacy impact on project employees green behaviour with the mediating role of Project employees' pro-environmental attitude and moderating role of green Psychological climate*

## 2.11 Research Hypothesis

**H<sub>1</sub>:** Project green advocacy will positively significantly affect project employees' green behavior.

**H<sub>2</sub>:** Project green advocacy will positively significantly affect employees' pro-environmental attitude.

**H<sub>3</sub>:** Employees' pro- environmental attitude will positively significantly affect project employees green behavior.

**H<sub>4</sub>:** Project employees' pro-environmental attitude will mediates the relationship between project green advocacy and project employees green behavior.

**H<sub>5</sub>:** Green psychological climate moderate the relationship between project green advocacy and Employees' pro- environmental attitude such that it strengthen the relationship among both variables.



# Chapter 3

## Research Methodology

The following chapter comprises of the detail about all the methods and procedures applied in this research to get the reliable results. The discussion comprises particulars regarding design of research, population, sampling techniques, instrumentations, sampling characteristics, statistical tools, pilot testing and reliability analysis of all the variables and items included in this research.

### 3.1 Research Design

#### 3.1.1 Type of Study

This research is used to highlight the impact of project green advocacy on the project employee's green behavior, for this inter-relational study has been conducted. The target population for this study is project based organizations of Pakistan in order to get the required data needed to get the reliable results. Initially 350 questionnaires were distributed among the target respondents but 225 genuine responses were collected. The sample for this research is representative of the entire population of projectized organizations of Pakistan. The current study will assist in generalization of the results from the sample statistics that will possibly to be revealed by the entire population of Pakistan.

### **3.1.2 Research Philosophy and Quantitative Research**

This research is following the hypothetical deductive research method which is based on determinism philosophy, in which previous research and existing theories were employed to demonstrate and support our hypothesis which will then be tested empirically for verification of the proposed hypothesis. The hypothetical-deductive model or method is an anticipated description of scientific method. According to this method, scientific inquest initiates by framing a hypothesis in a way that could credibly be falsified by a test on visible data. A test that runs antagonistic to forecasts of the hypothesis is taken as a falsification of the hypothesis. A test that does not run antagonistic to the hypothesis substantiates the theory. It is then proposed to compare the descriptive value of competing hypotheses by testing how strongly they are authenticated by their predictions.

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

### **3.1.3 Unit of Analysis**

The most important characteristic in any research study is the unit of analysis. In the following study, unit of analysis can vary from an individual belongs to different groups, organizations, cultures etc. Since this study is designed on dyadic relationship i-e. The impact of project green advocacy on the project employee's green behavior, therefore the employees of project based organizations were unit of analysis.

In order to evaluate the impact of project green advocacy on the project employee's green behavior, targets the specific sector of project based organization which basically required and promoted knowledge management in their projects under affective presence of the project based learning. To measure the performance of

the projects the employees who eventually benefited from the projects were taken as the unit of analysis.

## **3.2 Population and Sample**

Population for current study comprises of all the employees and employers working in different telecom sector projects, the population of the study is the managers and subordinates of this sector. For the current study, data were obtained from project based organizations operating in Islamabad and Rawalpindi. The sample mainly consists of Islamabad and Rawalpindi projectized organizations. Almost 350 questionnaires will be distributed in all selected organizations. Data must be collected for measuring these four variables of concern i.e. Project green advocacy, Project employees pro-environmental attitude, Project employees green behavior and Psychological green climate in English were distributed and explained according to their education level for the better understanding.

## **3.3 Sample and Sampling Technique**

It's generally difficult to collect data from the whole population due to some limitations for example limited time and resource scarcity. Sampling is the commonly used procedure for data collection. For this, a specific group of people are chosen that are the true representatives of the entire population. For the present study, generally, only project based organizations of Pakistan were targeted.

The data on independent variable (i.e. Project green advocacy), moderator (Green Psychological climate) were reported by the projects employees who had a direct impact. However, support staff was excluded from this group.

The data on employees green behavior and mediator of this study (employee's pro-environmental attitude) has been obtained from project managers.

Almost three fifty project managers and project employees were approached for data collection; however, 225 complete responses were received. For reporting

purposes, the data on project employees green behavior obtained from project managers were merged and described as averages, which indicated that there is no threat of common method variance exists. The convenience sampling technique was used due to limited time. One of the techniques of non-probability sampling technique is convenience sampling which is used for this study, in which data is collected randomly and based on the feasibility of effective data collection. Hence, this sampling technique is the most appropriate technique to be used in this research because by using this technique data can be collected from the project based organizations of Pakistan randomly, that will illustrate the most genuine picture of the entire population in representing the impact of project green advocacy on the project employee's green behavior.

### **3.4 Sample Characteristics**

The demographics that are considered in this research are; project managers and employee's age, their dynamic experience in the project based organizations and information linked to gender and qualification. As it was a dyadic relationship, questionnaires were filled by two different people; one to be filled by the project manager only and one to be filled by the project employees.

Sample characteristic's details are elaborated as follows:

#### **3.4.1 Gender**

Gender is an important component which remains in focus for the intention to maintain gender equality, so it is also considered as the important element of the demographics because it differentiates between male and female in a given population sample. In this study, it has been tried to make sure the privilege of gender equality but still it has been observed that ratio of male managers is considerably greater than the ratio of female managers.

TABLE 3.1: Gender Distribution

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	143	63.6	63.6	63.6
Female	82	36.4	36.4	100
<b>Total</b>	<b>225</b>	<b>100</b>	<b>100</b>	

**Table 3.1** represents the gender composition ration of the sample in which 63.6 % were male and 36.4 % were female. The male percentage of male respondents was high.

### 3.4.2 Age

Age is considered as one of the demographics, to which respondents sometimes feel uncomfortable to disclose openly. So, for the convenience of respondents, scale/range was used to collect information regarding their age.

TABLE 3.2: Age Distribution

Age	Frequency	Percent	Valid Percent	Cumulative Percent
<b>18 – 25</b>	70	31.1	31.1	31.1
<b>26 – 33</b>	70	31.1	31.1	62.2
<b>34 – 41</b>	49	21.8	21.8	84

**Table 3.2** shows the composition of the sample with reference to age groups. 31.1% of respondents were having age between the ranges of 18 – 25 and 26 - 33 years. 21.8 % respondents were having age between the ranges of 34 - 41 years, while 12.4 % respondents were having age between the ranges of 42 - 49 years and just 3.6 % respondents were more than 50 years. In this study, most of the respondents lie in the ranges of 18-25 and 26 - 33 years of age.

### 3.4.3 Qualification

Education is the major element which contributes towards the prosperity of the whole Nation and it is also the basic need of the time to compete globally. Hence

after gender, qualification/education is another dynamic dimension of the demographics.

Education opens up many new and unique paths for success and creativity in order to gain competitive advantage amongst all the other countries around the world. Probably education plays an important role in demonstrating creativity and innovation in project tasks.

TABLE 3.3: Qualification Distribution

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Matric</b>	1	0.4	0.4	0.4
<b>Intermediate</b>	17	7.6	7.6	8
<b>Bachelor</b>	103	45.8	45.8	53.8
<b>Masters</b>	62	27.6	27.6	81.3
<b>MS/M. Phil.</b>	37	16.4	16.4	97.8
<b>Ph. D</b>	5	2.2	2.2	100
<b>Total</b>	<b>225</b>	<b>100</b>	<b>100</b>	

**Table 3.3** represents the qualification of the respondents, 0.4% were Matric qualified, 7.6% were Intermediate qualified, 45.8% were Bachelors qualified, 27.6% were Masters qualified, 16.4% were MS/M. Phil qualified, 2.2 % were Ph.d qualified. The large number of responded were having a Bachelor's degree.

### 3.4.4 Experience

Again to collect information regarding the experience of the respondents, different ranges of experience time period were developed so that every respondent can easily indicate the specific occupation of their experience in the relevant field of projects.

As experience includes gaining knowledge about concerns of projectized organizations toward adopting new strategies for safety and protection of environment.

TABLE 3.4: Experience Distribution

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
0 – 5	104	46.2	46.2	46.2
6 – 10	63	28	28	74.2
11 – 16	36	16	16	90.2
17 – 22	15	6.7	6.7	96.9
Above 29	1	0.4	0.4	100
<b>Total</b>	<b>253</b>	<b>100</b>	<b>100</b>	

**Table 3.4** represent that 46.2 % of the persons were having job expertise ranging from (0 - 5) years, 28.0 % of persons were having job expertise ranging from (6 - 10) years, 16.0 % of persons were having job expertise ranging from (11 - 16) years, 1.6 % of respondents were having job expertise ranging from (17 - 22) years, and 0.4% of respondents were having work expertise more than 29 years. Most of the respondents were lying in the work expertise of (0 - 5) years.

## 3.5 Instrumentation

### 3.5.1 Measures

The data was collected through adopted questionnaires from different authentic sources. Almost 50-60 questionnaires were distributed in each project based organization and we visited each organization during distribution period of questionnaires. We also distributed questionnaires online to the websites of project based organizations for the quick response. Past researches indicate that, online collection of data is the more convenient way of data collection, as respondents find it more easier to fill the questionnaires in contrast to the process of filling questionnaires by paper-pen method and regardless of data collection approach, there is no substantial effect on the quality of data while utilizing any of the two aforementioned methods (Church et al., 2001).

According to the nature of research, items included in the questionnaire that is Project green advocacy), moderator (Green Psychological climate) were reported

by the projects employees and employees green behavior and mediator of this study (employee's pro-environmental attitude) were reported by project managers. All the items in the questionnaire were responded using a 5-points Likert-scale where 1 (strongly disagree) to 5 (strongly agree), unless otherwise stated. Questionnaires also cover demographic variables like Gender, Age, Qualification and Experience. 350 questionnaires were distributed in total but only 250 were received. But the actual numbers of questionnaires used for the analysis of data for demonstrating the results were 225. The rejected questionnaires out of 225 questionnaires were those which were not having the complete information or many of the questions were unfilled in those questionnaires hence making them not authentic for the study.

### **3.5.2 Project Green Advocacy**

The scale developed by (Kim et al., 2017) will be used to measure the project green advocacy. We will use three item scales to measure this variable. The items of the scale are "In our project we convince project team members to reduce, reuse, and recycle office supplies in the workplace", "Our project work with project team members to create a more environmentally-friendly workplace", "Our project share knowledge, information, and suggestions on workplace pollution prevention with other project team members". The responses will be obtained through 5 point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree).

### **3.5.3 Project Employees' Pro-environmental Attitude**

We adopted eight item scale to measure environmental attitude by (Bamberg, 2003). The responses will be obtained through 5 point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). The items of the scale are "It is still the case that the major part of the population does not act in an environmentally conscious way". "There are limits to economic growth which our industrialized world has crossed or will reach very soon". "Environmental-protection measures should be carried out even if this reduces the number of jobs in the economy".



“Thinking about the environmental conditions our children and grandchildren have to live under, worries me.” “When I read newspaper articles about environmental problems or view such TV-reports, I am indignant and angry.” “If we continue as before, we are approaching an environmental catastrophe”. “It is still true that politicians do far too little for environmental protection.” “For the benefit of the environment we should be prepared to restrict our momentary style of living.”

### 3.5.4 Project Employees Green Behavior

A four item scale was used to assess employees green behavior in projects, adapted from (Bissing-Olson et al., 2013) The rating scale ranged from 1=Strongly disagree to 5= Strongly Agree. The items are “Today, I adequately completed assigned duties in environmentally friendly ways.(T)”, “Today, I fulfilled responsibilities specified in my job description in environmentally-friendly ways.(T)”, “Today, I took a chance to get actively involved in environmental protection at work.(P)”, “Today, I took initiative to act in environmentally-friendly ways at work.(P)”.

### 3.5.5 Green Psychological Climate

We adopted five item scale to measure green psychological climate used by (Norton et al., 2014). The responses will be obtained through 5 point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). The items are “The employees are interested in supporting environmental causes”, “The employees believe it is important to protect the environment”, “The employees are concerned with becoming more environmentally friendly”, “The employees are worried about environmental impact of project”, “The employees would like to be seen as environmentally friendly”.

## 3.6 Statistical Tools

At very first stage scale reliability and validity was tested by doing CFA (confirmatory factor analysis) by using AMOS and model was found good fit because

TABLE 3.5: Instruments

Variables	Source	Items
<b>Project Green Advocacy</b> (IV)	Kim, Kim, Han, Jackson & Ploy- hart -2014	3
<b>Project employees' pro- environmental attitude</b> (Med)	Bamberg's -2003	8
<b>Project employees green behavior</b> (DV)	Bissing-Olson et al. -2013	4
<b>Green psychological cli- mate (Mod)</b>	Norton, Zacher & Ashkanasy (2014)	5

CFI (comparative fit index), GFI, TLI (Tucker-Lewis index) and RMSEA (root mean square error of approximation) values were significant. The measurement model provided an excellent fit to the data over the alternative models. These CFAs results showed that four-factor model had satisfactory discriminate validity. Moreover, all the items loaded significantly on their respective latent factors, with factor loadings ranging from 0.58 to 0.99.

TABLE 3.6: Confirmatory Factor Analysis (CFA)

	Chi Square	Df	CMIN DF	GFI	TLI	CFI	RMSEA
<b>Initial Model</b>	344.073	164	2.098	0.869	0.963	0.968	0.06
<b>Modified Model</b>	364.408	183	1.991	0.903	0.972	0.979	0.051

As the Table 3.6 is showing that the values are significant and model is good fit. The value of GFI is more than 0.9, values of TLI and CFI are more than 0.92 and the value of RMSEA is less than 0.6. It gave the evidence of model fit and scale validity. Figure 3.6 contains more explanation of CFA.

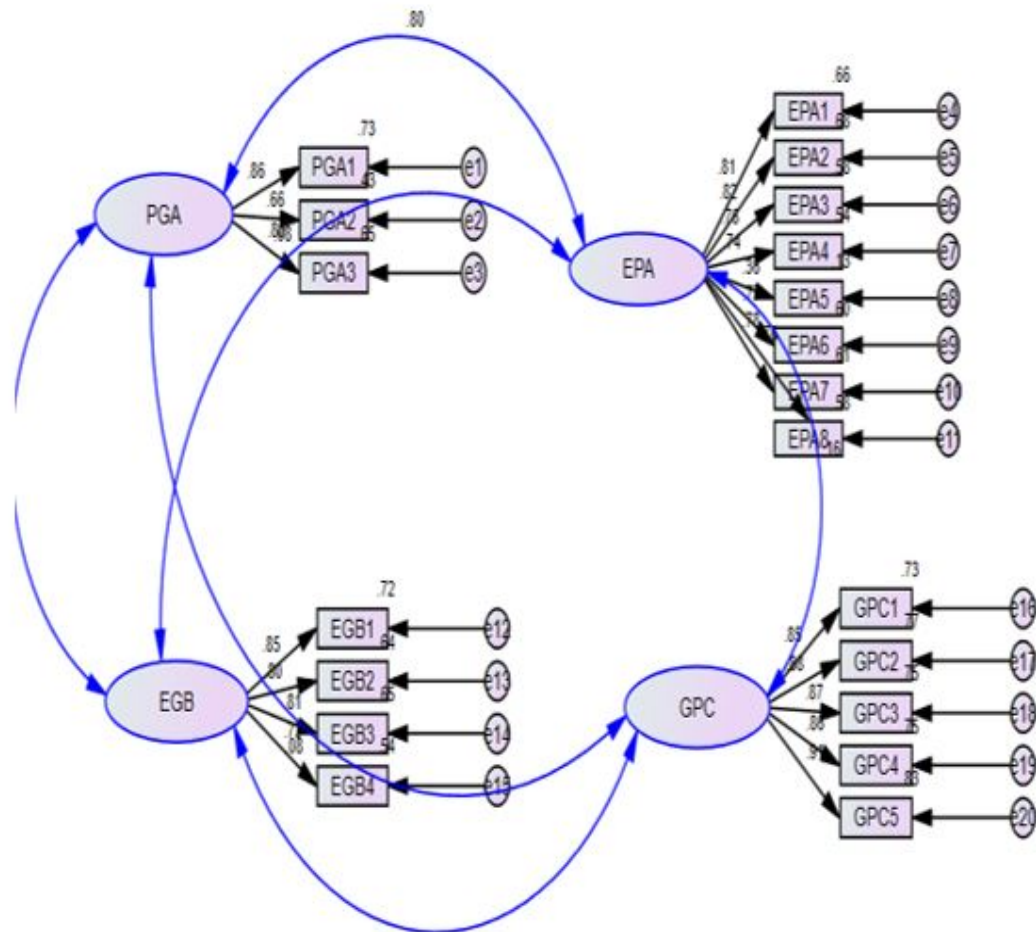


FIGURE 3.1: CFA Model

### 3.7 Pilot Testing

Before going to perform something on a larger scale it would be a very proactive and effective approach to conduct a pilot testing for it, as it will avoid many risks related to wastage of resources and time. Hence, Pilot testing of almost 30 questionnaires were carried out in order to validate, whether results are familiar and in line with the proposed hypothesis or not. After conducting the pilot testing it was concluded that there was no significant problem in the variables and the scales were absolutely reliable for the pilot study conducted.

### 3.8 Reliability Analysis of Scales Used

Reliability is referred to a process of giving same consistent results over and over again when the specific item is being tested over number of time, same is for the scales. Reliability of scale depicts the ability of the scale to give consistent results when it is being tested for number of times. I have conducted reliability test through Cronbach alpha, it tells about the internal reliability of the variables and tells about if those variables have a link between them or nor along with that it also measures the single construct. Significant range for Cronbach alpha is 0 to 1 (Cronbach, 1951). Higher the value of cronbach alpha, the reliability of the scale to measure the construct it is meant to measure is also higher. Scale is considered reliable when the value of alpha above 0.7 and it is less reliable in measuring the selected set of construct when the value is below 0.7.

In **Table 3.7**, the Cronbach alpha of the scales used in data collection are shown. The values of cronbach alpha for the variables under research are above 0.7. All the items having values 0.8 shows that these scales are highly reliable to be used in this study according the context of Pakistan.

TABLE 3.7: Scale Reliability and Validity Analysis

Variables	Cronbach's alpha ( $\alpha$ )	Items
<b>Project Green Advocacy</b>	0.812	3
<b>Project Employees pro-environmental attitude</b>	0.819	8
<b>Project employees green behavior</b>	0.852	4
<b>Green psychological climate</b>	0.778	5

**Table 3.7** shows the Reliability and Validity Analysis results after complete data collection. Cronbach Coefficient Alpha value of Project Green advocacy was 0.812, Project Employees pro-environmental attitude was 0.819, Project employees green behavior was valued as 0.852, and Green psychological climate was 0.778.

### **3.9 Data Analysis Techniques**

After the collection of the data that is relevant to the study from 225 respondents, the data was then analyzed on SPSS software version 20. A number of procedures while analyzing the data are used, such procedures are as following:

1. First of all, only the questionnaires which were filled appropriately were selected for the analysis.
2. Each variable of the questionnaire were coded and each coded variable was used for data analysis.
3. Frequency tables were used in regard to explain the sample characteristics.
4. Descriptive statistics was conducted by using the numerical values.
5. Reliability of all the variables was checked through Cronbach coefficient alpha.
6. Confirmatory Factor Analysis (CFA) was used to justify the measurement model.
7. Correlation analysis was conducted in order to know whether there is a significant relationship exist between the variables understudied in this research or not.
8. Single linear regression analysis of Independent and Dependent variable was conducted to determine the proposed relationship.
9. Preacher and Hayes Process were used for conducting mediation and moderation to determine the existence of the role of mediator and moderator between the Independent and dependent variables.
10. Through correlation and Preacher and Hayes method, the intended hypotheses were tested to check the rejection and acceptance of the proposed hypothesis.

# Chapter 4

## Results

### 4.1 Correlational Analysis

Generally correlation analysis is carried out to determine the association among the variables. In this research work, foremost objective to conduct correlation analysis is to find out the correlation between project green advocacy and project employees green behavior, the mediating role of project employees pro-environmental attitude and the moderating role of green psychological climate; to make the proposed hypotheses valid.

Correlation analysis is conducted in order to know about the nature of variation between the two variables that if the variables vary together at the same time or not. Basically correlation analysis doesn't entail relationship between two or more than two variables because it is different from the regression analysis.

In correlation analysis, Pearson correlation analysis tells about the strength and nature of the relationship through Pearson correlation range i.e. from -1 to +1. Hence, through magnitude value we can conclude the strength of the relationship between two variables and that magnitude value can generalize by the distance of correlation from zero. If the correlation is distant from zero that means the relation between the two variables is strong and vice versa. But if the values are zero that straightly means that there exist no relationship between the understudied variables. Positive and negative sign depicts the nature of the relationship, if the

sign is positive that means increase in one variable causes increase in the other variable and that is considered as direct relationship and in the same way if the sign is negative that means that increase in one variable will cause decrease in another variable and that would be an indirect relationship.

The below mentioned table show the mean, standard deviation and correlation between the variables that are being studied under this study. And the values of correlation are depicting the nature and magnitude of relationship between the variables.

TABLE 4.1: Correlation Analysis

Sr No.	Variables	1	2	3	4
1	Project green advocacy	1			
2	Project employees pro-environmental attitude	0.362 **	1		
3	Project employees green behavior	0.366**	0.442**	1	
4	Green Psychological Climate	0.378**	0.357**	0.381**	1

\*\*Correlation is significant at the 0.01 level (2-tailed). N = 225, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$  (PGA = Projectgreenadvocacy, EPA = Employeespro – environmentalattitude, EGB = Employeesgreenbehavior, GPC = GreenpsychologicalClimate).

**Table 4.1** presents the correlations for all theoretical variables. Project Green advocacy was positively correlated with Project employees pro-environmental attitude ( $r = 0.362$ ,  $p < 0.01$ ), with Project employees green behavior ( $r = 0.366$ ,  $p < 0.01$ ), and with Green psychological Climate ( $r = 0.378$ ,  $p < .01$ ). Project employees pro-environmental attitude positively correlated with Project employees green behavior ( $r = 0.442$ ,  $p < 0.01$ ), and with Green psychological climate ( $r = 0.357$ ,  $p < 0.01$ ). Project

employees green behavior was positively correlated with Green psychological climate ( $r = 0.381^{**}$ ,  $p < 0.01$ ).

## 4.2 Descriptive Statistics

Descriptive statistics comprehends the important points of information about data. It includes the total number of respondents, the minimum and maximum values of each variable, moreover the means and standard deviations of each variable. The mean values demonstrate the average of responses while the standard deviation values indicate the variation of responses from their means. All the variables understudied were measured at 5 point Likert scale. Descriptive statistics is the information summary of whole data because it highlights the significant statistic points. The given table presents some significant figures that are representing the whole data.

TABLE 4.2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard Deviation
Project green advocacy	225	1.33	5	3.26	0.737
Project employees' pro-environmental attitude	225	1.71	5	3.27	0.447
Project employees green behavior	225	1.33	5	3.23	0.632
Green Psychological Climate	225	1.75	5	3.29	0.588

The descriptive statistic comprises basic particulars like the size of the population, minimum and maximum values, mean values and standard deviation values of the data. Descriptive statistics of the current data were given in Table 4.2. First column of the table gives the details of the variables. Second, third, fourth, fifth and sixth columns inform about sample size, lower most value, upper most value, mean and standard deviation respectively.



**Table 4.2** displays that sample size was 225 for all the four variables. All variables (Project green advocacy, Project employees' pro-environmental attitude, Project employees green behavior and Green Psychological Climate) were rated on a five point Likert scale, such as 1 demonstrating "Strongly Disagree" and 5 demonstrating "Strongly Agree". Mean values and Standard Deviation values show the essence of responses. This is respondents' observation regarding a particular variable. The mean value of the Project green advocacy (PGA) was 3.26 whereas value of standard deviation was 0.737. The mean value of Project employees' pro-environmental attitude (PEPA) was 3.27 whereas value of standard deviation was 0.447. The mean value of Project employees green behavior (PEGB) was 3.23 whereas value of standard deviation was 0.632. Finally, the mean value of Green Psychological Climate (GPC) was 3.29 whereas value of standard deviation was 0.588.

### 4.3 Regression Analysis

To analyze the existence of relationship between the variables, correlation analysis has been performed in the study, however mere reliance on the correlation analysis does not suffice because it just shows the existence of relationship between variables through an inadequate support and doesn't tells about the casual relationship amongst the variables. Therefore, regression analysis is executed so as to validate the one variable is dependent on another variable. Regression analysis basically illustrates the degree to which one variable is dependent on another variable i.e. independent variable on which it is being regressed.

In this study, (Preacher and Hayes, 2004) methods have been used for both mediation and moderation regression analysis. Model 1 for moderation and Model 4 for mediation is used in (Preacher and Hayes, 2004) process; both for mediation and moderation are conducted separately.

TABLE 4.3: Regression of Outcomes

Predictor	Project Employees pro-environmental attitude			Project employees green behavior		
	$\beta$	R2	$\delta R2$	$\beta$	R2	$\delta R2$
<b>IV: Project green advocacy</b>						
Step 1						
Control Variables						
Step 2						
Project green advocacy	0.216***	0.137	0.256***	0.304***	0.249	0.229***
<b>Med: Employees pro-environmental attitude</b>						
Step 1						
Control Variables						
Step 2						
Employees pro-environmental attitude				0.350***	0.225	0.301***

Un-standardized regression coefficient reported. N = 225, \*  
 $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

### H1: Project green advocacy and Project employees green behavior.

Table 4.3 indicates the results of hypotheses testing. First, we tested H1 that project green advocacy is positively associated with project employees green behavior. Results of regression analysis revealed that there is significant and positive relationship existing between project green advocacy and project employees green behavior. The  $\beta$  co-efficient value is 0.304, R2 = 0.249 with the p value = 0.000. The value of R2 shows coefficient of determination whereas  $\beta$  value shows the rate of change demonstrating that 1 unit change in project green advocacy leads to 0.304 unit change in project employees green behavior. The p value of 0.000 indicates that relationship is highly significant. Hence, Hypothesis 1 is accepted.

### H2: Project green advocacy and Project Employees pro-environmental attitude.

In Hypothesis H2 we assumed that project green advocacy is positively associated with Project Employees pro-environmental attitude. The regression results of this hypothesis are given in Table 4.3.

Results of regression analysis revealed that there is significant and positive relationship existing between project green advocacy and Project Employees pro-environmental attitude. The  $\beta$  co-efficient value is 0.216,  $R^2 = 0.137$  with the p value = 0.000. The value of  $R^2$  shows coefficient of determination whereas  $\beta$  value shows the rate of change demonstrating that 1 unit change in project green advocacy leads to 0.216 unit change in Employees pro-environmental attitude. The p value of 0.000 indicates that relationship is highly significant. Hence, Hypothesis 2 is accepted.

**H3: Project Employees pro-environmental attitude and Project employees green behavior.**

In Hypothesis H3 we assumed that Project Employees pro-environmental attitude is positively associated with project employees green behavior. The regression results of this hypothesis are given in Table 4.3.

Results of regression analysis revealed that there is significant and positive relationship existing between Project Employees pro-environmental attitude and project employees green behavior. The  $\beta$  co-efficient value is 0.350,  $R^2 = 0.225$  with the p value = 0.000. The value of  $R^2$  shows coefficient of determination whereas  $\beta$  value shows the rate of change demonstrating that 1 unit change in Project Employees pro-environmental attitude leads to 0.350 unit change in project employees green behavior. The p value of 0.000 indicates that relationship is highly significant. Hence, Hypothesis 3 is accepted.

## 4.4 Mediation Analysis Results

The Hypothesis 4 assumed Project Employees pro-environmental attitude plays a mediating role between project green advocacy and project employees green behavior. To test the mediation of H4 we used model 4 of PROCESS macro

through SPSS by (Hayes, 2013). In which we checked different paths a, b, c and c' respectively. According to Preacher and Hayes process there are total three effects that have to be ascertained: total effect, direct effect and indirect effect.

TABLE 4.4: Mediation Analysis

DV	Effect of IV on M	Effect of M on DV	Total effect of IV on DV	Direct effect of IV on DV	Bootstrap results for indirect effects	
	(a path)	(b path)	(c path)	(c path)	LLCI	ULCI
	$\beta$ t	$\beta$ t	$\beta$ t	$\beta$ t		
<b>PG</b>	0.216***5.54	0.350***3.85	0.304*** 5.63	0.228** 4.08	0.027	0.149

N = 225, \* p < .05; \*\*p < .01; \*\*\*p < .001. Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95%. N = 225, Control variables were, Gender, Age, Education and Marital Status, \* p < .05; \*\* p < .01; \*\*\*p < .001. LLCI = Lower Limit Confidence Interval; ULCI = Upper Limit Confidence Interval. Following is the explanation of every path:

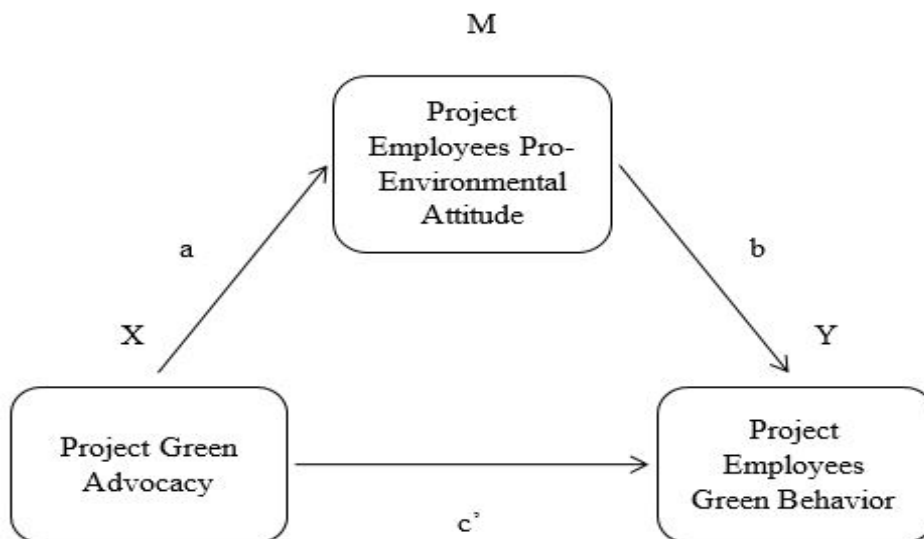


FIGURE 4.1: Mediation Analysis with coefficients

### **Total Effect**

Total effect demonstrates the effect of IV project green advocacy and DV project employees green behavior. The total effect of project green advocacy on project employees green behavior is 0.304 with the significance of  $p = 0.000$ .

It indicates that approximately 30% variance occur in project employees green behavior due to project green advocacy. The lower limit of bootstrap is 0.198 while the upper limit is 0.410, without having any zero between both limits. Hence, H1 is accepted that project green advocacy is positively associated with project employees green behavior.

### **Direct Effect**

Direct effect identifies the effect of IV green advocacy on DV project employees green behavior in the presence of mediator Project Employees pro-environmental attitude. In the presence of mediator direct effect is 0.228 with the significant p-value of 0.000.

It demonstrates that project green advocacy covers 22% variation of project employees green behavior in the presence of Project Employees pro-environmental attitude. The lower limit of bootstrap is 0.118 while the upper limit is 0.338, without having any zero between both limits, which clarifies that the results are significant.

### **Indirect Effect**

Indirect effect identifies that mediation exists between IV and DV i.e. Project Employees pro-environmental attitude mediates the relationship between project green advocacy and project employees green behavior.

The bootstrap values are predicting the significant results because there is no zero existing between lower limit i.e. 0.027 and upper limit i.e. 0.149. Therefore, the results are supporting the H4 and this hypothesis is accepted.

## 4.5 Moderation Analysis

In order to test the hypothesis H5 which states that green psychological climate moderates the relationship between project green advocacy and employees pro-environmental attitude, we used model 1 of PROCESS macro through SPSS (Hayes, 2013).

Following is the explanation of every path:

TABLE 4.5: Moderation analysis

DV	Effect of PGA on EPA		Effect of GPC on EPA		Effect of PGA x GPC on EPA		Bootstrap results for indirect effects		
	$\beta$	T	$\beta$	T	$\beta$	T	LL	95%	UL
EPA	0.593	3.05	0.465*	2.4	-0.09	-1.71	-0.212		0.015

EPA 0.593 3.05 0.465\* 2.40 -0.090 -1.71 -0.212 0.015 Un-standardized regression coefficient reported. Bootstrap sample size was 5000. Confidence Interval = 95N = 225, Control variables were, Gender, Age, Education and Marital Status, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

**Table 4.5** exhibits Moderation Analysis. Hypothesis 5 states that “Green psychological Climate moderates the relationship between Project Green advocacy and Project employee’s pro-environmental attitude. The result show regression coefficients of Interaction Term (PGA x GPC) and Project employee’s pro-environmental attitude as ( $\beta = -0.099$ ,  $p = 0.087$ ,  $\delta R^2 = 0.010$ ). The finding shows that Green psychological Climate does not moderate between Project Green advocacy and Project employee’s pro-environmental attitude the relationship is insignificant because lower limit of bootstrap value is -0.212 and upper limit value is 0.015, having the zero value between both limits. The results are shown in the table and also explain the conditional effect.

**Figure 4** represents the graphical explanation of rejection of Hypothesis 5. The green psychological climate does not moderate the relationship between green advocacy and employee’s pro-environmental attitude.

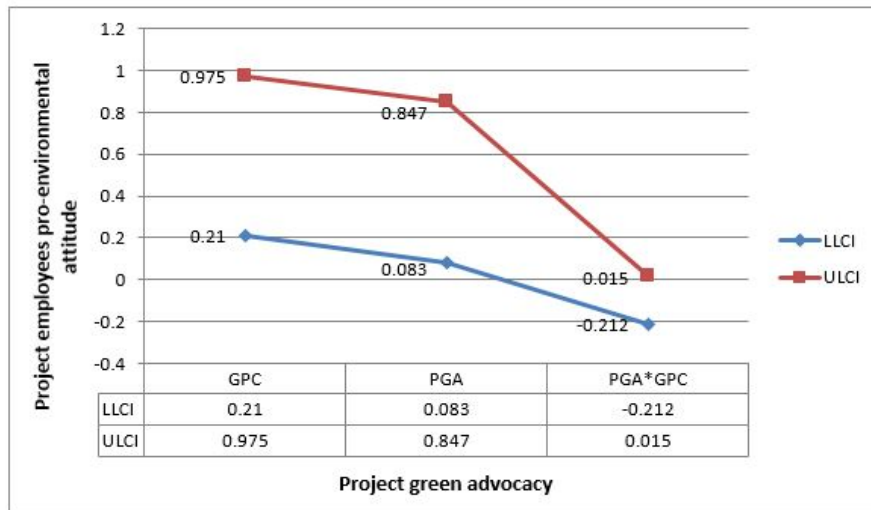


FIGURE 4.2: *Conditional effect of green advocacy on employee’s pro-environmental attitude at the values of green psychological climate.*

## 4.6 Summary of Accepted/ Rejected Hypothesis

Table 4.6 illustrates the precise summary of results for the proposed hypotheses under this study.

TABLE 4.6: Hypotheses Summarized Results

Hypotheses	Statement	Status
<b>Hypothesis 1</b>	There is positive association between Project Green advocacy and Project Employees green behavior	<b>Accepted</b>
<b>Hypothesis 2</b>	There is positive association between Project Green advocacy and Project employee’s pro-environmental attitude.	<b>Accepted</b>
<b>Hypothesis 3</b>	There is positive association between Project employee’s pro-environmental attitude and Project employees green behavior.	<b>Accepted</b>
<b>Hypothesis 4</b>	Project employee’s pro-environmental attitude plays a mediating role between Project Green advocacy and Project employees green behavior.	<b>Accepted</b>
<b>Hypothesis 5</b>	Green psychological climate moderate the relationship between project green advocacy and Employees’ pro- environmental attitude such that it strengthen the relationship among both variables	<b>Rejected</b>

# Chapter 5

## Discussion, Conclusion, Limitations and Recommendations

### Introduction

This chapter comprises of details of relationship of hypothesis and also their reasoning of acceptance and rejection, and also discusses the theoretical implication, practical implication, strengths and weaknesses of the study and future research directions.

### 5.1 Discussion

The main emphasis of this research was to study the relationship between project green advocacy and project employees green behavior in project based organizations within contextual settings of Pakistan. The research also studied the mediating role of project employees' pro-environmental attitude between green advocacy and project employees green behavior; and moderating role of green psychological climate between green advocacy and project employees' pro-environmental attitude. The study was conducted in project-based firms having cultural diversity in the workforce.



The results of the study suggests that project has a positive impact of project green advocacy on project employees green behavior which means that project green advocacy enhances the green behavior in employees. There is a positive relationship between project green advocacy and project employees' pro-environmental attitude, which further have positive association with project employees green behavior. Therefore, H1, H2, H3 and H4 are accepted developing a relationship between project green advocacy and project employees green behavior through mediator of project employees' pro-environmental attitude. This implies that green advocacy positively enhances employees' attitude towards environment and in result develop green behavior in employees.

The study inculcated variable of green psychological climate as a moderator. The data analysis on the variable in the contextual settings of Pakistan proves that green psychological climate negatively influences the relationship between project green advocacy and project employees' pro-environmental attitude. The role of green psychological climate was found to be insignificant and negatively affecting relationship between green advocacy and project employees' pro-environmental attitude.

### **5.1.1 Hypothesis 1: Project green advocacy will positively significantly affect project employees' green behavior.**

The results of first hypothesis of the study are well supported through data collection. As it was hypothesized that Project green advocacy will positively related to Employees green behavior, project green advocacy shapes the employees green behavior means that organizations make such strategies that advocates employees to be involved more in environment friendly projects. The results of the hypothesis ( $\beta = 0.304$ ,  $t = 5.635$ ,  $p = 0.00$ ) proved the existence of significantly positive relationship between project green advocacy and project employees green behavior. The  $t$  value of 5.635 indicates the significant level of relationship between project green advocacy and project employees green behavior, as the value is greater than

2 means that results are statistically significant. The  $\beta$  co-efficient is 0.304 which demonstrates that if there is 1% unit change in green project advocacy then there is 30.4% units chances of employees showing green behavior while doing projects.

The results of current study are lined with (Kim et al., 2017) and found positive and significant relationship between green advocacy and employees' green behavior which means that when employees perceive that the environment of projectized organization is favorably green means employees follows the new environmental policies and strategies of organization also raising awareness for green behavior and motivate themselves to do work for the best interest of organization. So green advocacy influence employees green attitudes which, in turn, affect voluntary green behavior in employees.

The term advocacy defined by (Chelminski and Coulter, 2011) which refers to tendency that reflects the enthusiastic referral for an organization. This concept emerged as an important and effective means to empower and gain trust of employees. (Frese and Fay, 2001) also found positive association between green advocacy and employees green behavior. According to him green advocacy describe the collective behavior of a group of people and express it as the degree to which employees openly discuss environmental sustainability, share relevant information, and communicate their various opinions in order to boost others to engage in eco-friendly behavior.

Research suggested that project green advocacy shapes the employees green behavior means that organizations make such strategies that advocate employees to be involved more in environment friendly projects. When employees observe other people around them engaged in particular behavior, they are more likely to engage in such behaviors that are environment friendly. In the current study we focus mainly on project employees green behavior so we found that green advocacy have a direct effect on employees green behavior. Therefore, we assume that its project employee's perception that implementation of green advocacy in projectized organizations will engage them more in green behavior.

The results of earlier study of (Cialdini et al., 1990) aligned with current study results. The results depicted that the more dynamic and significant green advocacy

becomes; the more likely project employees will perceive voluntary green behavior. It means green advocacy elicit employee's personal goals for environmentally friendly behavior and motivate them to behave in such environment friendly way.

### **5.1.2 Hypothesis 2: Project green advocacy will positively significantly affect employees' pro- environmental attitude.**

In Hypothesis 2 it was proposed that there is positive association between project green advocacy and project employees' pro-environmental attitude. The results of the hypothesis ( $\beta = 0.216$ ,  $t = 5.548$ ,  $p = 0.00$ ) proved the existence of significantly positive relationship between project green advocacy and project employees' pro-environmental attitude. The  $t$  value of 5.548 indicates the significant level of relationship between green advocacy and project employees' pro-environmental attitude, as the value is greater than 2 means that results are statistically significant. The  $\beta$  co-efficient is 0.483 which demonstrates that if there is 1% unit change in green advocacy then there is a likelihood that employees show 21.6% of their concerns towards the environment.

The results of second hypothesis of the study are also well supported through data collection. As it was hypothesized that Project green advocacy will positively related to Employees pro-environmental attitude. (Stern, 2000; Lu et al., 2017) defined pro-environmental attitude. According to them it's a behavior that deliberately reduces the harmful impact of employee's actions on the natural world. So here pro-environmental attitude of employees refers to the context that employees are not aware of the environmental issues but it's their responsibility to take significant steps in order to improve the environment.

Results of current study aligned with results of study of (Kuang et al., 2016). (Saeednia and Valahzaghari, 2012; Lu et al., 2017) and found positive association between green advocacy and employees attitude as if organizations concerns are towards environment friendly projects then they would better advocate the project employees attitude towards environmental sustainable projects as well.

(Barrick et al., 1993) also found a significant positive relationship between project green advocacy and employees pro-environmental attitude which demonstrates that employees have environmental concerns and they are intrinsically motivated enough to indulge themselves in such activities that are environment friendly and the project manager would better advocate or encourage employees to actively participate in environment friendly activities and employees who are involved in such activities have to be rewarded.

Research suggested that green advocacy positively impact the employees pro-environmental attitude as employees are motivated towards the achievement of targeted goals, means they indulge themselves in those activities that are included in organizational policies and strategies and those policies helps in promoting environment friendly behavior (Bakker et al., 2006). In this research, we study impact of project green advocacy on employee's pro-environmental attitude and the results of this study are consistent with past research that shows a positive association between them (Norton et al., 2014).

The current study results explored that when employees have the feeling of contributing something towards organizational policies and practices so this feeling motivates them to indulge themselves in such activities that are environment friendly, because they know they are rewarded for their contribution. So, this mean if organizations better advocate green environmental policies to employees this would help them to develop employees' attitude towards the concept of environmental sustainability.

The another possible reason behind the acceptance of this hypothesis is that today's projects are very sensitive in nature and their focus is more towards conservation of natural environment and so projectized organizations are concerned more on institutionalizing the environmental policies and strategies in order to conserve the natural environment and also advocate the project employees to implement those strategies that will help them in achieving their targeted goals.

### **5.1.3 Hypothesis 3: Employees' pro- environmental attitude will positively significantly affect project employees green behavior.**

In Hypothesis 3 it was proposed that there is positive association between employees' pro-environmental attitude and project employees green behavior. The results of the hypothesis ( $\beta = 0.350$ ,  $t = 3.853$ ,  $p = 0.00$ ) proved the existence of significantly positive relationship between employees pro-environmental attitude and project employees green behavior. The  $t$  value of 3.853 indicates the significant level of relationship between employees' pro-environmental attitude and project employees green behavior, as the value is greater than 2 means that results are statistically significant. The  $\beta$  co-efficient is 0.350 which demonstrates that if there is 1% unit change in employees pro-environmental attitude then there is a 35% chances of developing green behavior in employees.

The results of third hypothesis of the study are also well supported through data collection. As it was hypothesized that Project employees pro-environmental attitude will positively related to Project employees green behavior. Pro-environmental attitude is defined by (Stern, 2000) as "the attitude objects exist independently of social processes and that they do not appear, disappear, or transform themselves over the period within which they are being measure". The aim objective of study is to exhibit pro-environmental attitude among employees.

The study demonstrates that people around the worldwide have different lifestyles and usually show different attitude towards environment. Some show more concern towards environment that would lead towards environment friendly lives. Pro-environmental attitude depends on individual's personality and such attitude help in developing green behavior in employees while doing different projects. (Wuertz, 2015) stated that employees who have positive perception about the environment usually reveal pro environmental attitudes and the person's positive beliefs and values about environment termed as pro environmental attitudes.

The results of study suggest that environmental attitude better predicts the green behavior of employees while doing different projects. According to the results of

current research, we found that pro- environmental attitudes will show significant and positive impact on project employees green behaviors. It means that employees think that environment is the important factor that influences them to engage in green environmental activities and it also help them to develop their intentions towards implementation of environment protection campaigns and programs in a projectized organizations.

The current study results aligned with study of (Ones and Dilchert, 2012) that talk about number of some individual and contextual factors of employee green behavior. Among them organizational climate and mainly employees pro-environmental attitude is the major predictor of green behavior. The current research focus mainly on projectized organizational attitude towards environment, and pro-environmental attitude reflects employees' mutual perceptions of their organizations' pro-environmental norms, practices, policies and procedures (that must correspond with the organizational vision, missions, operations, strategies and functions).

When employees accepted that particular projectized organization has embraced formal "green policies" 'in their different projects, then their behavior and work attitude reflects that pro-environment attitude contributes in developing employees green behavior towards the organization So, we conclude by saying that employees who have positive attitude towards environment, they are more likely to be involved in such activities that are environment friendly and their behavior is not affected by events that happen on some particular day but those employees who are less concerned about environment more likely to indulge themselves in green activities only when they are feeling positive (Kuenzi and Schminke, 2009).

#### **5.1.4 Hypothesis 4: Project employees' pro-environmental attitude will mediate the relationship between project green advocacy and project employees green behavior.**

In Hypothesis 4 it was proposed that employees' pro-environmental attitude plays a mediating role between project green advocacy and project employees green behavior and this hypothesis has been accepted because results are demonstrating the significant relationship of employees' pro-environmental attitude as a mediator between green advocacy and project employees green behavior, as the lower limit and upper limit 0.027 and 0.149 respectively indicated by the unstandardized regression coefficient are both positive and there is no zero existing in the bootstrapped 95% interval around the indirect effect of relationship of green advocacy and project employees green behavior through employees' pro-environmental attitude.

Results provide evidence about intervening of project employees pro-environmental attitude between project green advocacy and employees green behavior. The relationship of project green advocacy and employees green behavior was positive, and Project employees' pro-environmental attitude partially mediates between green advocacy and green behavior. As (Kuang et al., 2016) showed that green advocacy positively affected employees' pro-environmental attitude which leads towards developing green behavior in employees while working in projects.

There is no research existing previously to study mediating effect of employees' pro-environmental attitude in the domain of project management. However, findings of the research conducted by (Ramus and Steger, 2000; Paillé and Boiral, 2013) described that pro-environmental attitude of employees is considered as the most important factor in developing green behavior in employees as green behavior is abstracted as voluntary behavior. The research shows that when employees perceive that the environment of projectized organization is favorably green means employees follows the new environmental policies and strategies of organization also raising awareness for green behavior and motivate themselves to do work for the best interest of organization (Norton et al., 2017).

The result shows that a partial mediation exists between green advocacy and employees green behavior. The possible reason for partial mediation is that in Pakistan mostly organizations while doing different projects do not show their concerns for environmental friendly practices which in result increase the level

of harmness to the natural environment. So if the concerns of organizations are not towards the conservation of natural environment then it's quite possible that employees also not involve themselves in environment friendly activities which in results employees would not show green behavior at workplace.

**5.1.5 Hypothesis 5: Green psychological climate moderate the relationship between project green advocacy and Employees' pro- environmental attitude such that it strengthen the relationship among both variables.**

In Hypothesis 5, the moderating effect of green psychological climate between green advocacy and employees' pro-environmental attitude was studied. The results of Hypothesis 5 showed insignificant results. The analysis showed that there is insignificant effect of green psychological climate ( $\beta = -0.09$ ,  $t = -1.71$ ,  $p = 0.087$ ). The value of  $\beta = -0.09$  predicts that green psychological climate is not bringing any noticeable change in the relationship of green advocacy and employees' pro-environmental attitude. The t-value of -1.71 demonstrates that the relationship is highly insignificant because for a hypothesis to be significant t-value should be greater than 2. The lower and upper limit of -2.21 and 0.015 respectively indicated by un-standardized regression are having different signs and zero exists in the bootstrapped 95% interval, which means the results are insignificant. Hence, the results are not meeting the standards, statistically this relationship is insignificant and the hypothesis is rejected. According to the results of the hypothesis green psychological climate does not moderate the relationship between green advocacy and employees' pro-environmental attitude.

In this study we explored the moderating effect of green psychological climate on the relationship of project green advocacy and employees' pro-environmental attitude. More specifically, the study was intended to prove that green psychological climate enhances employees concerns towards environmental friendly projects.



But the results of the hypothesis are insignificant and in our sample of study moderator of green psychological climate does not significantly impact the relationship of green advocacy and employees' pro-environmental attitude.

Previous studies have established the significant impact of green psychological climate on the relationship of green advocacy and employees' attitude in HR domain but this relationship is not tested before in project management domain. As Green Psychological climate is new construct in project management literature and it refers to how employees perceive about project's policies, procedures concerning to environmental sustainability. (Norton et al., 2012, 2015). In the PM domain project culture and climate are considered to be important contextual factors that influence the employee's attitude and behavior. (Clegg and Bailey, 2007) defined the term project climate as "employees shared perception of project's policies, procedures and translate the policies into guidelines in order to implement them and get rewards". These perceptions and interpretations of project employees are known as project psychological climate.

Chou (2014) correspondingly argues that investigations on the impacts of green psychological climate cannot be generalized so there is gap in determining all the impacts of green psychological climate and their consequences on employees' environmental attitude of their green behavior. The reason of rejection of this hypothesis is that we are conducting this research in the context of Pakistan so, in Pakistan there is lack of green climate in organizations and organizations do not show their concerns for sustainability of environment. Organization tend to do such projects that are not environment friendly which results in increase the level of harmness to the natural environment. If organizations concerns are not towards environmental sustainability then the employees would also not be aware of those policies, procedures concerning to environmental sustainability.

In conclusion, there is not only one way in which green psychological climate impacts employees environmental attitude, there are many other social factors impacting the green behavior of employees in projects. In the contextual settings of Pakistan it is important to put light on these distinctive realities. The data suggests that organization's concerns towards environment while doing any project

is quite less and so project managers will also not aware of such green environment practices and policies, therefore it negatively affect the project employees green behavior which in return affects employees' attitude towards environment. In project based organizations of Pakistan, as the results of the hypothesis suggests that there is need of institutionalizing the environmental aspects into the strategies of the organization and also involve project employees in environment protection campaigns and activities.

## **5.2 Practical and Theoretical Implication**

This study did very significant contributions in the past literature in both theoretically and practical ways. The study has contributed to the literature of variables like green advocacy, project employees' pro-environmental attitude, green psychological climate and project employees green behavior. There is very limited literature available on project green advocacy in the domain of project management (Paillé and Boiral, 2013). This is very important contribution to literature since previously there is no research available highlighting the impact of project green advocacy on employees green behavior with mediating role of employees pro-environmental attitude and moderating role of green psychological climate within the contextual settings of Pakistan in the domain of project management.

The studies on employees green behavior and green climate of organizations are the need for today's projectized organizations as due to increasing levels of pollution in the world there is a paradigm shift in which organizations are more focused towards green environmental aspects that should be incorporated in the strategies of the organizations. So researchers and practitioners are encouraged enough to conduct more studies on green work climate that will be helpful in promoting green behavior in employees.

There is need to explore different contextual factors of green work climate and also need to study their impact in the form of green behavior, and highlight the voice against unfriendly environmental practices on different projectized organizational

outcomes. The present study has added green psychological climate as moderator between green advocacy and employees pro-environmental attitude, different other factors like psychological capital and others personality traits needs to be studied in the above-mentioned relationship. Moreover, some of contextual factors like organizational culture, role of leadership and other administrative roles are overlooked in the present study. So, future studies are encouraged to study these factors and test the particular relationships.

(Lewin et al., 1951) argues that behavior is a function of an individual's own characteristics and his or her environment. It means in order to develop employees' attitude towards environment it is mandatory to involve them in environment protection activities and projects and make them to behave in environment friendly way and to make this green behavior as part of their job so it will be easy and enjoyable for employees to work in environmental friendly projects. Another most important practical implication is that it's the responsibility of projectized organizations to communicate environmental green policies, procedures and practices in such a way that employees should take interest and show positive attitude towards environmental sustainability (James et al., 2008). (Cantor et al., 2012) stated that apart from making policies and procedures and communicating it to employees there is need to provide resources and also give incentives to those employees who are involved in such activities. It's a responsibility of today's projectized organizations to conduct environmental awareness campaigns so to help the employees to understand the importance of environmental sustainability. Instead, when designing awareness campaigns and other interventions, practitioners might get benefit from targeting EGBs that are easy and enjoyable.

### **5.3 Limitations of Research**

While conducting the study it is tried to eliminate and overcome flaws but still there are always few limitations in research as it is not possible to cover all aspects in one study. By adding some well-informed evidences in literature few research gaps have been filled by the current research. On the other hand because of time

and resource constraints there are some other limitations associated with this study. The study is directed only to the project based organizations of Pakistan and the results may not be generalized to other sectors. Only one mediator and one moderator were tested due to time constraint. However, future research can improve the model and also check the other mediators as well.

Small sample size is another limitation of the study and the reason behind this limitation is that data is collected in a very short time. Data was collected from only projectized organizations from telecom sector operating in Islamabad and Rawalpindi so it might not represent the whole culture of Pakistan, whereas employees working in different cities exhibit different behavior due to environment and other geographical changes.

Additionally we use convenience sampling method and choose the sample which was easily accessible to us. Due to convenient sampling and data collected from the few organizations, the results of the present study cannot be generalized for the projectized organizations that are not engage in such green activities. The results are different because of strong contextual and situational factors as well as Pakistani cultural has strong impact and results cannot be generalized to other countries.

## **5.4 Future Research Directions**

This research opens several novel paths for future researches. In this study we empirically analyzed the impact of project green advocacy on project employees green behavior but in the future researchers can examine the impact of project green advocacy on other employees project related green behaviors i.e. project employees green experiential satisfaction (peges). The current study has been done with the focus on project based organizations only, this actually gives a way forward to the researchers observe and replicate the model in organizations (both public and private) other than project based organizations in order to study the impact with a large sample size.

Moreover, the relationship between project green advocacy and project employees green behavior can be studied with other mediating variables. Future researches can also focus on moderating role of other variables between the relationship project green advocacy and employees pro-environmental attitude. Along this multiple conditional factors that can affect such relationships could also be explored in future. Project green advocacy is the novel variable in the domain of project management can be studied and empirically tested in other relationships on organizational level.

For further research we recommend to focus more on data collection and data collection techniques because this study has some shortcomings. The results and significance of the study will be useful for the future researchers who are focusing on this area to link project green advocacy to various other variables. Along this the sample size can also be broadening as this study is just limited to easily available sample. In doing this the rejected hypothesis can be re-analyzed by using specified domain. Hence, upcoming researches possibly can incorporate these guidelines.

## **5.5 Conclusion**

This study is conducted to develop the domain of project green advocacy and project employees green behavior that are very popular fields and having great significance in the present era. This study has made an attempt to consider the relationship between project green advocacy and project employees green behavior in project based organizations of Pakistan. Data was collected from project based organizations (telecom sector) of Pakistan through a questionnaire survey to measure the extent to which project green advocacy impacts project employees green behavior with mediating role of employees' pro-environmental attitude and moderating role of green psychological climate.

Altogether 350 questionnaires were disseminated however, only 225 were used for analysis since these questionnaires were having the most appropriate and complete information required for carrying out the analysis of this study. Statistical tests indicate that validity and reliability of the model variables and fit of the model are

also suitable. The proposed hypotheses are also supported through institutional theory. The data analysis results in the acceptance of all hypotheses except the hypothesis of moderation .i.e. green psychological climate positively moderates the relationship between project green advocacy and employees pro-environmental attitude, which is not accepted possibly due to the fact that in the context of Pakistan there is lack of green climate in organizations and organizations do not show their concerns for protection or sustainability of environment.

This study contributes to the existing literature of project green advocacy and employees pro-environmental attitude because there is very limited literature available about the variables in the domain of project management. Moreover this study contributes to the literature in a way that it identifies a different mediator of employees' pro-environmental attitude between project green advocacy and project employees green behavior. This study has given a holistic view of impact of green advocacy on project employees green behavior along with employees' pro-environmental attitude as a mediator in project based organizations of Pakistan.

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# Appendix-A

## Questionnaire

**Dear Respondent,**

I am a student of MS Project Management Capital University of Sciences Technology, Islamabad. I am conducting a research on the topic: “Impact of Project green advocacy on Project employees green behavior with Mediating Role of Project employees’ pro-environmental attitude and Moderating Role of Green Psychological climate “.You can help me by completing the attached questionnaire. I appreciate your participation in my study and I assure that your responses will be held confidential and will only be used for education purposes.

**Sidra Shahid**

**MS Scholar,**

**Capital University of Sciences and Technology, Islamabad.**

**Please provide following information.**

<b>Section: 1</b>	<b>Demographics</b>
Gender:	1- Male 2- Female
Age:	1 (18-25), 2 (26-33), 3 (34-41), 4 (42-49) 5 (50 and above)
Qualification:	1 (Matric), 2 (Inter), 3 (Bachelor), 4 (Master), 5 (MS/M.Phil), 6 ( Phd),
Experience:	1(0-5), 2(6-10), 3(11-16), 4(17-22), 5(23-28), 6(29 and above)

<b>Project Green Advocacy</b>						
1	In our project we convince project team members to reduce, reuse, and recycle office supplies in the work-place	1	2	3	4	5
2	Our project work with project team members to create a more environmentally-friendly workplace	1	2	3	4	5
3	Our project share knowledge, information, and suggestions on workplace pollution prevention with other project team members	1	2	3	4	5

<b>Project Employee Green Behavior</b>						
1	Today, I adequately completed assigned duties in environmentally friendly ways.(T).	1	2	3	4	5
2	Today, I fulfilled responsibilities specified in my job description in environmentally-friendly ways.(T).	1	2	3	4	5
3	Today, I took a chance to get actively involved in environmental protection at work.(P).	1	2	3	4	5
4	Today, I took initiative to act in environmentally-friendly ways at work.(P).	1	2	3	4	5

<b>Project Employees Pro-Environmental Attitude</b>						
1	It is still the case that the major part of the population does not act in an environmentally conscious way.	1	2	3	4	5
2	There are limits to economic growth which our industrialized world has crossed or will reach very soon.	1	2	3	4	5
3	Environmental-protection measures should be carried out even if this reduces the number of jobs in the economy.	1	2	3	4	5
4	Thinking about the environmental conditions our children and grandchildren have to live under, worries me.	1	2	3	4	5
5	When I read newspaper articles about environmental problems or view such TV-reports, I am indignant and angry.	1	2	3	4	5
6	If we continue as before, we are approaching an environmental catastrophe.	1	2	3	4	5
7	It is still true that politicians do far too little for environmental protection	1	2	3	4	5
8	For the benet of the environment we should be prepared to restrict our momentary style of living	1	2	3	4	5

<b>Green Psychological Climate</b>						
1	The employees are interested in supporting environmental causes.	1	2	3	4	5
2	The employees believe it is important to protect the environment.	1	2	3	4	5
3	The employees are concerned with becoming more environmentally friendly.	1	2	3	4	5
4	The employees are worried about environmental impact of project.	1	2	3	4	5
5	The employees would like to be seen as environmentally friendly.	1	2	3	4	5