

CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD



**Evaluation of Nurses' Creative
Performance and Prosocial Behavior as
Outcomes of Experienced Compassion at
Workplace: An Application of Affective
Events Theory**

by

Muhammad Nadim

A thesis submitted in partial fulfillment for the
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**Evaluation of Nurses' Creative Performance and
Prosocial Behavior as Outcomes of Experienced
Compassion at Workplace: An Application of
Affective Events Theory**

By

Muhammad Nadim

(DMS143002)

Dr. Mohd Anuar Bin Arshad, Senior Lecturer

Universiti Sains, Penang, Malaysia

(Foreign Evaluator 1)

Dr. Takács Sándor, Professor

Corvinus University of Budapest, Hungary

(Foreign Evaluator 2)

Dr. Sayyed Muhammad Mehdi Raza Naqvi

(Thesis Supervisor)

Dr. Lakhi Muhammad

(Head, Department of Management Sciences)

Dr. Arshad Hassan

(Dean, Faculty of Management & Social Sciences)

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

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To my praiseworthy parents and elder brother

‘Your prayers and support are the basic reason behind this achievement’

To my caring wife

‘Your care and facilitation helped me to achieve this milestone’

To my loving kids

‘You are the colors of my life: arfa, zayan and saim’



CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY ISLAMABAD

Expressway, Kahuta Road, Zone-V, Islamabad
Phone: +92-51-111-555-666 Fax: +92-51-4486705
Email: info@cust.edu.pk Website: <https://www.cust.edu.pk>

CERTIFICATE OF APPROVAL

This is to certify that the research work presented in the thesis, entitled “**Evaluation of Nurses' Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory**” was conducted under the supervision of **Dr. S. M. M. Raza Naqvi**. No part of this thesis has been submitted anywhere else for any other degree. This thesis is submitted to the **Department of Management Sciences, Capital University of Science and Technology** in partial fulfillment of the requirements for the degree of Doctor in Philosophy in the field of **Management Sciences**. The open defence of the thesis was conducted on **August 19, 2022**.

Student Name :

Muhammad Nadim (DMS143002)

The Examination Committee unanimously agrees to award PhD degree in the mentioned field.

Examination Committee :

- (a) External Examiner 1: Dr. Khurram Shahzad
Professor
Riphah Int. University, Islamabad
- (b) External Examiner 2: Dr. Tasneem Fatima
Associate Professor
IIU, Islamabad
- (c) Internal Examiner : Dr. Samyia Safdar
Assistant Professor
CUST, Islamabad

Supervisor Name :

Dr. S. M. M. Raza Naqvi
Associate Professor
CUST, Islamabad

Name of HoD :

Dr. Lakhi Muhammad
Associate Professor
CUST, Islamabad

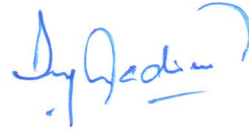
Name of Dean :

Dr. Arshad Hassan
Professor
CUST, Islamabad

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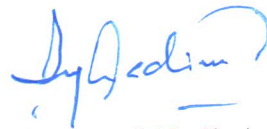
Registration No : DMS143002

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(Muhammad Nadim)

Dated: 19th August, 2022

Registration No : DMS143002

List of Publications

It is certified that the following publication(s) has been made out of the research work that has been carried out for this thesis:

1. Nadim, M., & Zafar, M. A. (2021). Evaluation of Nurses' Job Engagement as an Outcome of Experienced Compassion in the Workplace, Using the Lens of Affective Event Theory. *Sage Open*, 11(4), 1-15.
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Muhammad Nadim

(DMS143002)

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Abstract

Supervisor undermining has gained a considerable attention of researchers in the recent years due to its severe negative consequences not only for the victims but also for the organizations. However, relatively little research attention is devoted to explore the role of supervisor undermining in awakening compassion at the workplace and the resulting effects of compassion in the form of positive attitudes and behaviors. Considering this line of thought, the objective of this study was to test the role of supervisor undermining in awakening compassion at workplace and the resulting effects of compassion in the form of prosocial behavior, job engagement, and creative performance of nurses using the theoretical underpinning of affective event theory. The unique context of public sector hospitals in Pakistan was used for conducting this study.

Specifically, this study has tested an integrated model which examined experienced compassion as an outcome of supervisor undermining. In addition to this, attitudinal and behavioral outcomes of experienced compassion in the form of job engagement, prosocial behavior and creative performance are also analyzed. Furthermore, the mediating role of state optimism in the relationship between experienced compassion and job engagement as well as between experienced compassion and prosocial behavior is also explored. Besides, job engagement is also examined as an explanatory mechanism between state optimism and creative performance. Finally, the moderating role of regulatory emotional self-efficacy in the relationship between experienced compassion and state optimism is also examined.

We collected the data in five time-lags from 406 nurses and their peers working in various public sector hospitals in Pakistan. We employed convenience sampling, and self-administered approach to data collection. The data were analyzed by using SPSS and AMOS 21st software package. The findings of this study indicate that supervisor undermining triggers compassion at the workplace. Furthermore, experienced compassion at workplace is found to be related with job engagement and prosocial behavior of nurses and these relationships are mediated through state optimism. In addition to this, state optimism is found to be related with job engagement but contrary to our expectations, state optimism is not found to be

related with creative performance of nurses directly as well as indirectly through job engagement. We also found support for the moderation effect of regulatory emotional self-efficacy in the relation between experienced compassion and state optimism.

The results of this study have significant implications for theory and practice. This study makes an important theoretical contribution by integrating literature on supervisor undermining with literature on experienced compassion, and the resulting upshots of experienced compassion in the form of positive work attitudes and behaviors by using the lens of affective event theory. The findings of this study imply that administrators of public sectors hospitals in Pakistan should consider the significance of experienced compassion at workplace to mitigate the negative effects of workplace stressors like supervisor undermining, and influencing positive emotions, attitudes, and behaviors among nurses. Hence, efforts must be made to promote such practices which encourage experienced compassion at workplace. For instance, socialization, and training practices, employees support practices, and similar other practices which encourage and foster experienced compassion at workplace. The practioners can also benefit from these findings by understanding that emotions, and the work events that cause them, should not be ignored, they accumulate and influence important work attitudes and behaviors. Further implications, strengths, limitations and future research directions are also highlighted.

Keywords: Creative Performance, Experienced Compassion, Job Engagement, Public Sector Hospitals, Regulatory Emotional Self-Efficacy, State Optimism, Supervisor Undermining.

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Abbreviations

AMOS	Analysis of Moment Structure
ANOVA	Analysis of Variance
CFA	Confirmatory Factor Analysis
CP	Creative Performance
CR	Composite Reliability
EC	Experienced Compassion
EFA	Exploratory Factor Analysis
JE	Job Engagement
MSV	Maximum Shared Squared Variance
PB	Prosocial Behavior
RESE	Regulatory Emotional Self-Efficacy
SEM	Structural Equation Modeling
SO	State Optimism
SPSS	Statistical Package for Social Sciences
SU	Supervisor Undermining

Chapter 1

Introduction

This chapter highlighted the background of the study, identified the gaps in the body of knowledge and provided contextual overview of the study. It also elaborated the problem statement, research questions, and research objectives of the study. It gave rationale of the research and discussed the theoretical as well as practical significance of the study. Finally, definitions of key words are also provided.

1.1 Background

Organizations aspire for positive attitudes and behaviors on the part of its employees to attain superior performance benchmarks. Some of the positive work attitudes and behaviors which have attracted immense research attention in the field of organizational behavior include job engagement, prosocial behavior and creative performance among others. Organizations are striving to increase job engagement of their employees because it is linked with increased productivity, higher performance, greater satisfaction and other desired positive outcomes ([Alessandri, Consiglio, Luthans, & Borgogni, 2018](#); [Hallberg & Schaufeli, 2006](#); [Kwon & Yoon, 2015](#); [Yan, Su, Wen, & Luo, 2019](#)). Although job engagement of over a million of workers in various work settings has been investigated ([Antoinette Bargagliotti, 2012](#)), yet it is still an important concern for organizations pursuing high employees'

productivity (Gallup, 2013). This is so because job engagement not only influence important organizational upshots, it also has substantial desirable effects on employees' psychological well-being (Robertson & Cooper, 2010). Accordingly, research on job engagement has increased tremendously in the last few years (Bakker & Demerouti, 2007; Lestari & Margaretha, 2021; Tengah, 2022; Sheehan, Tham, Holland, & Cooper, 2019).

Similarly, prosocial behavior which refers to a particular behavior which protects, promotes, and contributes to the welfare of others (Grant, 2007) has also attracted the attention of researchers in the recent years (Berman & Silver, 2022; Martin-Raugh, Kell, & Motowidlo, 2016; Hellmann, Dorrough, & Glöckner, 2021; Lim & DeSteno, 2016; Wu, Luan, & Raihani, 2022). In organizational context, prosocial behavior captures how members of an organization help and cooperate with one another, in addition to how they help and cooperate with other stakeholders residing within as well as outside the organization. The research on prosocial behavior is promising owing to its significance particularly in hospital settings where nurses are facing a lot of problem and stressful situations (Cortese, Colombo, & Ghislieri, 2010; Kahn, 1990; Keller, Krainovich-Miller, Budin, & Djukic, 2018; Khowaja, 2009; Malik, Sattar, Shahzad, & Faiz, 2020). Likewise, creative performance also plays a crucial role in the current technologically advanced and highly competitive work environment (Afsar, Cheema, & Saeed, 2017). This is so because organizations build and maintain competitive edge in the market through creative performance of their employees (Chen, Chen, et al., 2012). Researchers have identified many factors which influence employees' creative performance at the workplace. These factors include leadership support, coworker characteristics, task design and organizational climate (Cho, Laschinger, & Wong, 2006; Kim et al., 2009; Tierney, Farmer, & Graen, 1999) psychological capital (Sweetman, Luthans, Avey, & Luthans, 2011) employee learning orientation (Gong, Huang, & Farh, 2009) mood, and personality (Ding et al., 2015; Li, Chen, & Chen, 2017) creative self-efficacy (Tierney et al., 1999) rewards (Malik et al., 2020) and divergent thinking (An, Song, & Carr, 2016).

Though extant research had documented certain HR practices and motivational strategies for increasing positive attitudes and behaviors like job engagement,

prosocial behavior and creative performance (Gerhart & Fang, 2015; Karatepe, 2012; Reijseger, Peeters, Taris, & Schaufeli, 2017; Spinrad & Gal, 2018; Tengah, 2022; Wu et al., 2022), yet positive social interactions among employees can also be instrumental to achieve this objective. This is so because positive social interactions among employees are considered important determinants of what happens in organization i.e. how an organization works, how it performs its major functions, and how it responds to the demands of external environment (Afsar et al., 2017; Duffy, Ganster, & Pagon, 2002; Runyan et al., 2019; Sarwar, Khan, Muhammad, Mubarak, & Jaafar, 2021). Such interactions among employees are as essential as other factors which have attracted attention of scholars in the field of psychology and organizational behavior, like appraisal, and reward systems for instance (Baron & Neuman, 1996; Wu et al., 2022). Hence, research on antecedents and consequences of positive social interactions at workplace is of greater significance. On the contrary, negative social interactions at the workplace is an important issue in organizational behavior and industrial organizational research (Burton, Hoobler, & Scheuer, 2012; Ng & Yim, 2015; Pearson, Andersson, & Wegner, 2001; Schwepker Jr & Dimitriou, 2022; Sun et al., 2022; Tepper, Duffy, Henle, & Lambert, 2006). These negative social interactions and mistreatments ranges from subtle behaviors of incivility to more aggressive and overt types of behaviors like verbal and physical aggression (Andersson & Pearson, 1999). Furthermore, extant research on workplace mistreatment behaviors had suggested that low level mistreatment behaviors, like supervisor undermining, occur more frequently as compared to high level mistreatment behaviors, like workplace aggression and violence (Montal-Rosenberg et al., 2022; Pearson et al., 2001). So it is logical to argue that research on subtle but potentially harmful forms of mistreatments behaviors like supervisor undermining is of greater significance.

Supervisor undermining is defined as supervisor's "behavior intended to hinder, over time, the subordinates' ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation" (Duffy et al., 2002). An important characteristic of such behavior is that it must be perceived by the subordinate as intentionally designed to undermine him or her. If the behavior is not so perceived, it cannot be labeled as undermining (Duffy et al., 2002; Whitman,

Matthews, & Williams, 2021). The common instances of supervisors' undermining behavior in organizations include making derogatory or insulting comments to a subordinate, belittling a subordinate's ideas, putting him/her down when he/she ask about work procedures, and denying help in times of need.

Existing research has pointed out that victims of supervisor undermining experience lower levels of organizational commitment, and self-efficacy beliefs, and higher levels of counterproductive work behaviors and somatic complaints (Duffy et al., 2002; Sun et al., 2022). Moreover, extant research had revealed that targets of supervisor undermining experience more depression, stress, turnover intentions, lower level of trust in supervisors, low job involvement, decreased job satisfaction (Duffy et al., 2002; Montal-Rosenberg et al., 2022), lower innovation related work behavior (Ng & Yim, 2015), decreased self-esteem and creative performance (Eissa, Chinchanchokchai, & Wyland, 2017), and negatively effects group perceptions of voice climate and group performance (Frazier & Bowler, 2015).

Although the extant research on supervisor undermining had highlighted a plethora of negative outcomes (Crossley, 2005; Duffy et al., 2002; Eissa et al., 2017; Frazier & Bowler, 2015; Greenbaum, Mawritz, & Piccolo, 2015; Ng & Yim, 2015; Sârbescu, Sulea, & Moza, 2017), but little research attention is devoted on studying the role of supervisor undermining in awakening experienced compassion at workplace (Sun et al., 2022). In this study it is argued that supervisor undermining may trigger experienced compassion from colleagues at workplace because at the time of suffering in employees' lives, their colleagues often reach out for help. They want to help the person in pain. They listen while the person cries. They take on tasks. They help by extending the deadlines and granting time off. Although these are everyday events happening at the workplace, very few studies have explored their role at the workplace (Dutton, Frost, Worline, Lilius, & Kanov, 2002). Experienced compassion is defined as a relational process of observing the sufferings of other people, empathically feeling their pain, and behaving in some way to ease their suffering (Dutton et al., 2002).

Experienced compassion is a multidimensional process encompassing three elements: noticing the sufferings of another person, empathically feeling the pain of that person, and acting or behaving in a way to reduce the suffering (Dutton et

al., 2002). These three elements are essential for complete understanding of compassion. Essentially, compassion goes a step further from just feeling empathy for people in pain to entail action for effectively alleviating the suffering (Hur, Moon, & Rhee, 2016; Kanov et al., 2004). A primary assumption of this conceptualization is that a compassionate response may be of multiple forms. Considering this range of responses, compassion is fundamentally related to, yet significantly different from, numerous other variables. For instance, although emotional social support is defined as “talking, listening, and expressing concern or empathy” (Zellars & Perrewé, 2001), compassion often go far beyond empathetic talks to include substantial allocation of instrumental and material resources for the person experiencing pain (Dutton et al., 2002). Furthermore, it is argued that compassion exists in a variety of organizations owing to the fact that it is a response to the inescapable and unavoidable pain of human life (Frost, Dutton, Worline, & Wilson, 2000; Frost et al., 2000). Since compassion is experienced by people at the time of sufferings and pain in their life hence it is possible that the victims of supervisor undermining may experience compassion from their colleagues at the workplace. Considering this line of thought, the purpose of this study is to test the role of supervisor undermining for awakening experienced compassion at workplace and the resulting effects of experienced compassion in the form of state optimism, prosocial behavior, job engagement, and creative performance by using the lens of affective event theory (AET) (Weiss & Cropanzano, 1996). In doing so, this study will integrate literature on supervisor undermining with the literature on experienced compassion by using the overarching theoretical framework of AET. Through AET, (Weiss & Cropanzano, 1996) had highlighted the significance of features of work environment in triggering workplace events, employees’ emotional reactions, attitudes and behaviors.

1.1.1 Gap Analyses - Supervisor Undermining and Experienced Compassion

Compassion is mainly of two types: self-compassion and experienced compassion. Self-compassion refers to being kind and sympathetic to one-self when confronting

personal problems, failures, or setbacks in one's life. On the other hand, experienced compassion signifies compassion received from others at the time of sufferings in one's life (Dutton et al., 2002). In organizational context compassion may be experienced from one's social circle like colleagues or group members at workplace. The relationship of supervisor undermining and experienced compassion is targeted in this study.

Existing research on experienced compassion suggests a number of factors which stimulate compassionate behavior at workplace (Ko & Choi, 2020; Lilius et al., 2008). For instance, prior research had suggested high quality relationships, work group and organizational norms, trust in sharing pain and leaders who establish the legitimacy and value of compassion (Ashforth, Kreiner, & Fugate, 2000; Clark, 2000; Dutton et al., 2002) as the factors which are considered to foster compassion at the workplace. Despite these insights from the previous research on compassion, many questions about the occurrence and impacts of compassion at the workplace still remain unanswered. For example, how in a negative work environment for instance the one characterized by supervisor undermining, acts of compassion from colleagues or group members at the workplace leads to positive employees' attitudes and behaviors? The underlying mediating mechanism through which this may occurs? And the critical moderators which can arrest or bolster this relationship?

One form of work environmental factors which has the propensity to trigger compassion at the workplace is supervisor undermining (Lim & DeSteno, 2016; Whitman et al., 2021). This is due to the very nature of compassion being a specific form of responsiveness which occurs in the face of another person's suffering and pain (Dutton et al., 2002; Kanov et al., 2004). Compassion is considered a desirable human behavior because it occurs at the time of sufferings of others and helps to alleviate those sufferings (Ko, Ryu, & Choi, 2022; Black & Reynolds, 2016).

So it is argued in this study that nurses who the victims of supervisor undermining will experience compassionate behavior from their colleagues at the workplace. So keeping in view the above discussion, and recent trends towards exploring factors which stimulate compassion at workplace (Roeser, Colaianne, & Greenberg,

2018; Simpson & Michelle, 2009; Straughair, 2016; Worline, Dutton, & Sisodia, 2017), the current study is going to theoretically and empirically examine the predictive capacity of supervisor undermining for experienced compassion at the workplace. In doing so, a new theoretical model is examined, incorporating the Affective Event Theory (Weiss & Cropanzano, 1996) framework to produce the model of compassion at work. As per (Cropanzano, Dasborough, & Weiss, 2017) the integration of affective events theory with other streams of literature is the demand for future research and further conceptual growth.

1.1.2 Gap Analyses - Experienced Compassion and State Optimism

Inherently affective nature of experienced compassion suggests that it may have strong association with affective reactions of employees experiencing compassion (Ko, Kim, & Choi, 2021). This argument is in conjunction with the framework provided by AET (Weiss & Cropanzano, 1996), which demonstrates that affective events happening at the workplace elicit corresponding emotional reactions in employees, shape momentary actions, and cultivate a continuous emotional tone at the workplace.

Several research studies have confirmed a positive link between experienced compassion and positive emotions of employees (Dutton, Worline, Frost, & Lilius, 2006; Folkman & Moskowitz, 2000; Kahn, 1993; Lilius et al., 2008). Compassion is understood as an affective event at the workplace as giving and receiving compassion may trigger positive emotions in employees (Weiss & Cropanzano, 1996). This is so because when employees experience compassion at the workplace, it results in increasing their feelings of connectedness with each other, which in turn produce a variety of positive feelings and emotions in them (Miller, 2007).

In this perspective, positive organizational behavior (POB) researchers had stressed the exploration of positive oriented states of human resources which can be measured, developed, and managed for the purpose of improving performance at the workplace (Bolino & Grant, 2016; Luthans & Youssef, 2007; Sweetman et al.,

2011). POB researchers specifically, (Luthans, 2002a) had suggested to study positive states of individuals with reference to work outcomes, as these states of individuals are measurable, changeable and have substantial real-world implications for practitioners at the workplace. Thus POB researchers emphasize to turn research attention towards this under explored area on optimism i.e., investigating optimism as an adaptable and measurable construct (popularly known as state optimism) and its upshots in terms of workplace attitudes and behaviors (Kluemper, Little, & DeGroot, 2009).

State optimism encompasses the optimism that may change depending upon the situation or context as opposed to trait optimism which denotes steady individual variations in the level of experienced optimism (Kluemper et al., 2009; Ragsdale & Beehr, 2016). For example, positive remarks from one's supervisor can cause a subordinate to experience high level of optimism which is known as state optimism (Kluemper et al., 2009; Meli, Birk, Edmondson, & Bonanno, 2020). As state optimism is influenced by contextual factors (Kluemper et al., 2009; Meli et al., 2020; Ragsdale & Beehr, 2016; Urzúa, CAqUeo-UrízAr, Araya, Rocha, & Valdivia, 2016), hence, it is argued that experienced compassion at the workplace may trigger state optimism in those nurses who are experiencing personal difficulty such as supervisor undermining. Following the above discussion, and the leads of affective event theory, the current study examines state optimism as an outcome of experienced compassion at workplace.

1.1.3 Gap Analyses – Role of Dispositional Moderator

One dispositional variable which can moderate the relation between experienced compassion and state optimism is the individual's level of regulatory emotional self-efficacy (RESE). RESE is defined as the self-efficacy beliefs of an individual in managing his/her negative emotions as well as expressing positive emotions (Caprara et al., 2008). Managing negative emotions signifies the beliefs about an individual's emotional competence to alleviate negative emotions (e.g., sadness, discouragement, and anger) that arouse in response to sufferings or stressful events in one's life. On the contrary, managing positive emotions represents beliefs in

one's own capability to express positive feelings which arise due to pleasant events in one's life (Caprara et al., 2008; Pan, Zhang, Liu, Ran, & Wang, 2016; Wang et al., 2018).

RESE is different from emotion self-regulation because it refers to one's perceived capability to regulate emotions, which does not always reflect one's actual level of emotion regulation. This is owing to the fact that some people may not fully recognize their capability in emotion self-regulation while others may overestimate it (Alessandri, Vecchione, & Caprara, 2015). Similarly, RESE is also different from emotional intelligence (ability EI and trait EI). Ability of emotional intelligence depicts a person's competence to reason about emotions and to use emotions to improve thinking and action (Lewis, Neville, & Ashkanasy, 2017; Mayer, Salovey, Caruso, & Sternberg, 2000; Ugwu & Igbende, 2017), thereby reflecting actual competence as opposed to RESE which depicts perceived competence. On the other hand, trait EI consists of various elements like emotion perception, emotion regulation, and adaptability (Petrides, Pita, & Kokkinaki, 2007). However, RESE is related only with perceptions regarding one's capability in emotion regulation.

Existing research on RESE had highlighted that positive emotional self-efficacy is related with increased well-being, prosocial behavior and empathy (Caprara & Steca, 2005; Caprara, Steca, Gerbino, Paciello, & Vecchio, 2006), while negative emotional self-efficacy is inversely linked with shyness, depression and anxiety (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Caprara et al., 2008). Moreover, in a recent investigation conducted by Pan et al. (2016), RESE is found to mediate the link between parental and peer attachment and internalizing symptoms of depression and anxiety.

In the perspective of positive emotionality, existing research had suggested that positive emotions constrain aggressive behavior and stimulate prosocial behavior (Mesurado, Vidal, & Mestre, 2018). However, adjustment in behaviors depends upon one's competency in regulation of emotions. Effective emotion regulation constitutes control over one's emotions both positive as well as negative. Individuals who are able to manage their negative emotions and express positive emotions, generally have more personal resources to tackle negative situations and exhibit

positive attitudes and behaviors (Hung, Wang, Tian, Lin, & Liu, 2022; Liu, You, Ying, Li, & Shi, 2020; Mesurado et al., 2018).

In this study RESE is anticipated to moderate the association between experienced compassion and state optimism. In this perspective, AET (Weiss & Cropanzano, 1996) suggests that positive events trigger positive emotional reactions, to which employees' personalities predispose them to respond with greater or lesser intensity. Hence it is argued that experienced compassion at workplace will translate into higher level of state optimism for nurses who are high in RESE. It implies that the positivity inherent in a positive workplace event i.e., experienced compassion and higher level of RESE will interact and translate into higher level of state optimism in nurses who are the victims of supervisor undermining. Following the above discussion, and in continuation of the affective event theory framework, the current study will theoretically and empirically examines the moderating role of regulatory emotional self-efficacy in the relationship between experienced compassion and state optimism.

1.1.4 Gap Analyses – Prosocial Behavior as an Outcome of State Optimism

AET (Weiss & Cropanzano, 1996) further proposes that affective experiences in response to workplace events, influence affect-driven behaviors and work attitudes. Following the leads of this theory, it is presumed that state optimism of nurses in response to experienced compassion at the workplace will trigger prosocial behavior (an affect-driven behavior) among them. This is likely to happen because when employees experience state optimism in response to experienced compassion at the workplace, it may outweigh the effects of chronic tendencies to influence work attitudes and behaviors. The justification for the association between state optimism and prosocial behavior resides in the self-regulatory mechanism inherent in optimism (Kluemper et al., 2009; Meli et al., 2020; Urzúa et al., 2016). Individual having higher levels of state optimism believe that they have the abilities and skills to influence positive outcomes hence they are more likely to exhibit prosocial

behavior (Adolphs & Tusche, 2017; Bolino & Grant, 2016; Kluemper et al., 2009; van Doorn, Zeelenberg, & Breugelmans, 2019).

Prosocial behavior is defined as a particular behavior which protects, promotes, and contributes to the welfare of others (Grant, 2007). It is conceptualized as a broad category of actions or behaviors which are generally beneficial to others and include behaviors such as helping, cooperating, volunteering, sharing, and donating (Berman & Silver, 2022; Haller et al., 2021; Penner, Dovidio, Piliavin, & Schroeder, 2005; Pfattheicher, Nielsen, & Thielmann, 2022). In organizational context, prosocial behavior captures how members of an organization help and cooperate with one another, in addition to how they help and cooperate with other stakeholders residing within as well as outside the organization. Prosocial behaviors are central to what it means to be human and many cultures and religions highlight the significance of the golden rule “treat others well if you wish to be treated well” (Nowak & Highfield, 2011). However, only recently increased interest in exploring the antecedents and consequences of prosocial behavior is seen in the researchers community (Esteve, Urbig, Van Witteloostuijn, & Boyne, 2016; Grueneisen & Warneken, 2022; Hellmann et al., 2021; Kamas & Preston, 2021; Wu et al., 2022; van Doorn et al., 2019). The research on prosocial behavior is promising owing to serious need of prosocial behaviors particularly in hospital settings where nurses are facing a lot of problem and stressful situations (Cortese et al., 2010; Kahn, 1990; Keller et al., 2018; Khowaja, 2009; Malik et al., 2020).

There are many explanations of why employees demonstrate prosocial behavior. From the perspective of social exchange theory (Blau, 1964), people try to reciprocate others who benefit them in any way. Hence, this study argues that nurses experiencing compassionate acts at the workplace will try to reciprocate by exhibiting more prosocial behavior. Studies in support of this line of thought had established that task characteristics, cognitions about one’s job, and leader fairness influence employees satisfaction with the job and prosocial behavior (Adolphs & Tusche, 2017; Farh, Podsakoff, & Organ, 1990; Williams & Anderson, 1991). The second approach which is based upon social psychological processes maintain that employees having positive mood states are more prone to exhibit prosocial

behavior (Berkowitz, 1972; Layous, Nelson, Kurtz, & Lyubomirsky, 2017). Thus state optimism which partially captures an individual's positive mood state is supposed to influence prosocial behavior. Hence it is very likely that nurses having state optimism in response to experienced compassion at the workplace will engage in prosocial behavior. The supportive evidence of approach is found in existing studies (Erreygers, Vandebosch, Vranjes, Baillien, & De Witte, 2019; Knol & Van Linge, 2009; Lilius et al., 2008; Baranik & Eby, 2016; Puffer, 1987) So the fourth contribution of this study is the introduction of prosocial behavior as an outcome of state optimism.

1.1.5 Gap Analyses – Mediating Role of State Optimism

There are many justifications for why one helps others without expecting the same in return. One possible reason is that prosocial behaviors are instrumentally used to secure an existing positive mood (Carlson, Charlin, & Miller, 1988). Some observational studies (George & Brief, 1992) and experimental studies (Isen, Clark, & Schwartz, 1976) have pointed out that an increase in positive mood increases prosocial or helping behavior popularly known as “feel-good, do-good effect”. Doing good to others results in making one feel good, as certain longitudinal research studies elaborated that helping behaviors predict positive feelings for the actors (Alden & Trew, 2013; Kahana, Bhatta, Lovegreen, Kahana, & Midlarsky, 2013). Similarly, other recent studies on prosocial behaviors also suggested that positive emotional states trigger helping behaviors that help actors to prolong their current state of being positive (Berman & Silver, 2022; Haller et al., 2021; Kuppens, Allen, & Sheeber, 2010; Pfattheicher et al., 2022; Wan, Carlson, Quade, & Kacmar, 2021; Wichers, 2014).

State optimism encompasses the optimism that may change depending upon the context or situational factors as opposed to trait optimism which denotes steady individual variations in the level of experienced optimism (Kluemper et al., 2009; Luthans, 2002a; Ragsdale & Beehr, 2016). As state optimism is predicted by situational or contextual factors (Kluemper et al., 2009; Luthans, 2002a; Ragsdale & Beehr, 2016), and in turn predict positive work related attitudes and behaviors

(Kluemper et al., 2009), hence it is argued that state optimism of nurses triggered by experienced compassion at the workplace may activate prosocial behavior in them. In this vein, AET (Weiss & Cropanzano, 1996), also maintains that positive emotions mediate the relation between workplace events and affect driven behaviors.

As prosocial behavior is considered as a type of affect driven behavior (Michie, 2009), hence, it is posited that the nurses experiencing state optimism owing to experienced compassion at the workplace will try to reciprocate this by being more prosocial. Based on previous discussion and following the leads of AET (Weiss & Cropanzano, 1996), it is presumed that state optimism will mediate the relation between experienced compassion and prosocial behavior. So the fifth contribution of this study is the theoretical and empirical analysis of the mediating role of state optimism in the relationship between experienced compassion and prosocial behavior.

1.1.6 Gap Analyses – Job Engagement as an Outcome of State Optimism

Furthermore, in continuation of AET (Weiss & Cropanzano, 1996), it is presumed that state optimism of nurses due to experienced compassion at workplace will increase their job engagement (a work attitude). Job engagement was initially defined as “harnessing of organization’s members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (Kahn, 1990). It is a state of mind which is positive, fulfilling and represented through dedication, absorption and vigor (Schaufeli, Salanova, González-Romá, & Bakker, 2002). In this perspective Christian, Garza, and Slaughter (2011) maintained that definitions of job engagement seems different in various studies, however, a common theme encompassing job engagement is that it depicts higher degree of personal involvement in the job tasks performed by an individual. This study used the definition given by Kahn (1990) who defined job engagement as “the simultaneous employment and expression of a person’s preferred self in job tasks that promote connections to work and to

others, personal presence (physical, cognitive, and emotional), and active full role performances”.

[Kahn \(1990\)](#) highlighted that social interactions at the workplace characterized by respect, dignity, and appreciation from others, can trigger job engagement. He suggested that employees’ individual characteristics and their perceptions of the work context foster psychological conditions that increase their job engagement. Furthermore, [\(Tyler & Blader, 2003\)](#) maintained that job engagement refers to identification with one’s organization, where employees invest their physical, emotional and cognitive energies or resources to meet demands of the job.

Health care institutions are striving to increase the job engagement of their nursing staff because it is linked with higher performance and other desired outcomes [\(De Los Santos & Labrague, 2021; Lestari & Margaretha, 2021; Nadim & Zafar, 2021; Shin, Kim, Choi, & Lee, 2016; Tengah, 2022; Weiss & Zacher, 2022; Zhong, Wayne, & Liden, 2016\)](#). Furthermore, health care institutions are seriously confronting the challenge of shortage of registered nurses all over the world especially in developing countries like Pakistan [\(Younas & Sundus, 2018; Khowaja, 2009; Park & Lee, 2018\)](#). Prior research in nursing domain has highlighted that hospitals’ work environment is the major factor behind the shortage of nurses [\(Keller et al., 2018; Park & Lee, 2018\)](#). So one way to deal with the issue of shortage of nurses is through increasing their job engagement [\(Park & Lee, 2018\)](#). Job engagement is a concept which signifies high level of energy on the part of nurses, a feeling of strong belongingness with their job, and staying focused on their job roles [\(Iqbal, Deng, & Shen, 2022; Lestari & Margaretha, 2021; Schaufeli et al., 2002; Sung, Yoon, & Han, 2022; Tengah, 2022; Weiss & Zacher, 2022\)](#). But the research on job engagement in the context of nursing is rare [\(Park & Lee, 2018\)](#) and predominantly focused on negative workplace variables like turnover intentions and burnout [\(Boamah & Laschinger, 2016; Kim & Kim, 2011\)](#).

Existing research has illuminated that nurses’ job engagement is influenced by various factors especially at three levels: (i) person-level factors like work experience, educational background and age [\(Bamford, Wong, & Laschinger, 2013; Lawrence, 2011\)](#), (ii) task-level factors like workload, control over one’s job, and autonomy

(Bamford et al., 2013; Laschinger, Grau, Finegan, & Wilk, 2012; Laschinger et al., 2012; Palmer, Griffin, Reed, & Fitzpatrick, 2010), and (iii) organizational-level factors such as practice environment, authentic and transformational leadership, structural empowerment and fairness (Bamford et al., 2013; Hayati, Charkhabi, & Naami, 2014; Laschinger et al., 2012). However, due to limited research on job engagement and their inconsistent results (De Los Santos & Labrague, 2021; Rivera, Fitzpatrick, & Boyle, 2011; Sullivan Havens, Warshawsky, & Vasey, 2013; Sumaneeva, Karadas, & Avci, 2021), more research investigations are required to highlight the predictors of nurses' job engagement (Wan, Zhou, Li, Shang, & Yu, 2018).

One of the important predictors and drivers of within-individual variations of job engagement is personal resources of an individual (Llorens, Schaufeli, Bakker, & Salanova, 2007; Bakker & Demerouti, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009) which stimulate them to achieve their objectives (Bakker & Demerouti, 2008). Studies have illuminated that personal resources like optimism, contribute significantly in predicting of the job engagement (Xanthopoulou et al., 2009; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2012; Bakker & Xanthopoulou, 2013). In addition to this Kluemper et al. (2009) suggested that state optimism of individuals assists in reducing their emotional exhaustion as they become positive with reference to their future and consequences of their job related efforts (Kluemper et al., 2009). In sum, the cognitive, affective and motivational properties of state optimism have the tendency to increase job engagement (Ragsdale & Beehr, 2016).

Finally, engagement theory (Kahn, 1990, 1993) suggests that employees need to feel safe, must have resources available and must have meanings in their jobs in order to make them more engaged in their jobs. It is argued in this study that nurses experiencing compassion at workplace will feel more safe (physically and psychologically) and have more resources available due to state optimism associated with experienced compassion and thereby have more tendency to be engaged in their jobs. Hence the sixth contribution of this study is the theoretical and empirical examination of nurses' job engagement as an outcome of state optimism.

1.1.7 Gap Analyses - Creative Performance as an Outcome of Job Engagement

Finally, AET framework (Weiss & Cropanzano, 1996), proposes that work attitudes ultimately influence judgment-driven behaviors. Judgment-driven behaviors go through a cognitive evaluation of an individual's job via job attitudes. As opposed to affect-driven behaviors which are immediate response of affective reactions, judgment-driven behavior take a two-step process and is considered more deliberate because it is influenced by both emotions and cognitions.

This study proposes nurses' creative performance as an outcome of their job engagement. Creative performance is defined as "the amount of new ideas generated and novel behaviors exhibited by the person in performing his or her job activities" (Wang & Netemeyer, 2004). In the context of nursing, creative performance represents exploring new and creative ideas for patient care which are simple yet more useful, efficient, practical, and safe as compare to old methods. Creative performance on the part of nurses influence quality of patient care by extending more cooperation, better communication, and more facilitation of patients which ultimately improve the patient satisfaction and objectives of the healthcare.

Employees' creative performance is considered as a critical factor for organizational success (Abukhait, Shamsudin, Bani-Melhem, & Al-Hawari, 2022; An et al., 2016; Chang, Chen, Yu, Chu, & Chien, 2017; Nwanzu & Babalola, 2022; Lestari & Margaretha, 2021), and researchers have identified many factors which influence employees' creative performance at the workplace. These factors include leadership support, coworker characteristics, task design and organizational climate (Cho et al., 2006; Kim et al., 2009) psychological capital (Sweetman et al., 2011) mood, and personality (Ding et al., 2015; Li et al., 2017) creative self-efficacy (Tierney et al., 1999), and recognition and rewards (Malik et al., 2020).

Creative performance plays a crucial role in the current technologically advanced and highly competitive world (Ashkanasy & Dorris, 2017). Similarly, health-care institutions are highly dependent on engagement and creative performance of their nursing staff (Brown, Zijlstra, & Lyons, 2006; Chang & Liu, 2008; Feather,

McGillis Hall, Trbovich, & Baker, 2018). Creative performance of nurses who are dealing directly with the patients, is of vital importance, in achieving hospitals' objectives, and in a broader perspective, the objectives of healthcare (Chang & Liu, 2008; Kim & Park, 2015; Knol & Van Linge, 2009; Malik et al., 2020). Hence it is of immense significance to explore the antecedents of creative performance of nurses (Knol & Van Linge, 2009).

Since highly engaged staff exhibits higher level of energy, show more resilience, higher involvement in work, and show great enthusiasm, challenge and significance (Christian, Garza, & Slaughter, 2011; Haynie, Mossholder, & Harris, 2016; Kahn, 1990; Rich, Lepine, & Crawford, 2010), so they are more likely to exhibit creative performance (Chang et al., 2017; Karatepe, 2016; Li et al., 2017). Although creative performance is considered as an important outcome of job engagement in the extant literature (Karatepe, 2012; Salanova, Agut, & Peiró, 2005), but very few studies have explored its link with job engagement (Chang et al., 2017; Karatepe, 2016; Li et al., 2017). Therefore, this study has seventh theoretical contribution to empirically examine the nurses' creative performance as an outcome of their job engagement.

1.1.8 Gap Analyses – Contextual Significance

This study is conducted in the unique context of public sector hospitals and that too in a developing country i.e. Pakistan. This study argues that the specific context of public sector hospitals in Pakistan is well suited to explore the integrated model of this study. This is so because prior research had focused primarily on western countries, while little is known about this particular phenomenon in Asian countries, like Pakistan (Khowaja, 2009). In addition to this, public sector hospitals in Pakistan have remained the target of severe criticism in the last few years (Khowaja, 2009; Younas & Sundus, 2018). This is in part due to inefficiency of public sector hospitals in Pakistan (Younas & Sundus, 2018) which ultimately leads towards poor performance and lack of patients' satisfaction. In addition, the existence of red tape in governance results in unnecessary delay in the delivery of services to the patients. Another important concern is the bureaucratic structure

which is being followed in these hospitals. Though, bureaucratic structure has remained very effective during the colonial rule; when it was originally developed. The administrators and policy makers opted to continue the same system even after the inception of Pakistan in 1947. This system had badly failed in the delivery of service to the general public in Pakistan (Shafqat, 1999). The reasons of this issue are still unknown owing to the dearth of research in Pakistan generally and public sectors hospitals particularly as highlighted by Aycan et al. (2000) asserting that Pakistan is one among the under researched countries of the world.

It is an established fact that nurses play an important role in the delivery of health care services owing to front end dealing with the patients (Garrosa, Moreno-Jiménez, Rodríguez-Muñoz, & Rodríguez-Carvajal, 2011; Keller et al., 2018; Antoinette Bargagliotti, 2012). Moreover, prosocial behavior and creative performance on the part of nurses is necessary for effective delivery of health care services (Ellis, Volk, Gonzalez, & Embry, 2016; Feather et al., 2018; Kim & Park, 2015). But performing a nursing job encompasses multiple challenges especially in a developing country like Pakistan. These include lower compensation, job insecurity, workplace incivility, unethical behavior, lower nurse to patient ratio, workplace hazards and injuries (Keller et al., 2018; Younas & Sundus, 2018). This situation can be further intensified and fueled up if nurses also face supervisor undermining at the workplace. However, experienced compassion at the workplace can turn the entire situation upside down by triggering state optimism in nurses which can further influence their job engagement, prosocial behavior and creative performance.

1.2 Problem Statement

Supervisors need to treat their subordinates in kind and caring ways in order to build effective working relationships. But unfortunately, supervisor undermining and other forms of mistreatment behaviors are on the rise (Fatima, Majeed, & Jahanzeb, 2020; Ng & Yim, 2015; Syed, Naseer, & Khan, 2018). Such behaviors on the part of supervisor are causing stress, depression, lack of trust on supervisors,

decreased job involvement, and poor performance – ultimately translating into losses of billions of dollars for the organizations (Eissa et al., 2017; Greenbaum et al., 2015). This situation can be intensified, and fueled up when we talk about public sector hospitals in the context of developing countries like Pakistan. Public sector hospitals in Pakistan are experiencing inefficiency, poor performance, and lack of patient satisfaction (Younas & Sundus, 2018). In such a working environment, supervisor undermining experienced by nurses may have more severe consequences particularly through potential compromise on patients safety. However, experienced compassion at workplace can turn the entire situation upside down by triggering state optimism in the victims of supervisor undermining which is likely to result in positive attitudes and behaviors in them.

From theoretical perspective, although research on experienced compassion at workplace had identified various antecedents and consequences (Chu, 2016; Dutton, Workman, & Hardin, 2014; Subba & Rao, 2017), yet a number of theoretically significant associations still needs to be explored. For instance, the explanatory path in the relationship between experienced compassion and employee's creative performance through the mechanism of state optimism and job engagement is rarely investigated.

Similarly, the mediating mechanism in the relationship between experienced compassion and prosocial behavior is also not clear. So, it is yet to be identified how and when employees experiencing compassion at the workplace can be more creative and will exhibit prosocial behavior. Furthermore, the moderating role of RESE in the relationship between experienced compassion and state optimism may be of immense significance. However, it is unclear what effect this variable may have on the relationship between experienced compassion and state optimism.

1.3 Research Questions

The key purpose of the current study is to test an integrated model of nurses' creative performance and prosocial behavior in response to experienced compassion at the workplace by using the lens of AET (Weiss & Cropanzano, 1996),

1996). The challenging contextual environment of public sector hospitals of Pakistan characterized by supervisor undermining is deeply focused. However, more specifically, an effort is made to seek answers of the following research questions:

Research Question 1:

Does supervisor undermining act triggers experienced compassion at the workplace?

Research Question 2:

Does experienced compassion at the workplace is related with state optimism, prosocial behavior and job engagement?

Research Question 3:

Does RESE moderate the relationship between experienced compassion and state optimism?

Research Question 4:

Does state optimism predict prosocial behavior?

Research Question 5:

Does state optimism mediate the relationship between experienced compassion and prosocial behavior?

Research Question 6:

Does state optimism is related with job engagement?

Research Question 7:

Does state optimism mediate the relationship between experienced compassion and job engagement?

Research Question 8:

Does state optimism is related with creative performance?

Research Question 9:

Does job engagement influence creative performance?

Research Question 10:

Does job engagement mediate the relationship between state optimism and creative performance?

1.4 Research Objectives

The overall objective of this study is to test an integrated model of nurses' creative performance and prosocial behavior in response to experienced compassion at the workplace by using the lens of affective event theory (Weiss & Cropanzano, 1996). However, specific objectives of this study are the followings:

1. To find out whether supervisor undermining act triggers experienced compassion at the workplace.
2. To find out whether experienced compassion at the workplace is related with state optimism, prosocial behavior and job engagement.
3. To find out whether RESE moderates the relationship between experienced compassion and state optimism.
4. To find out whether state optimism predict prosocial behavior.
5. To find out whether state optimism mediates the relationship between experienced compassion and prosocial behavior.
6. To find out whether state optimism is related with job engagement.
7. To find out whether state optimism mediates the relationship between experienced compassion and job engagement.
8. To find out whether state optimism is related with creative performance.
9. To find out whether job engagement influence creative performance.
10. To find out whether job engagement mediates the relationship between state optimism and creative performance.

1.5 Significance of the Study

1.5.1 Theoretical Significance

Researchers have attempted to explore the attitudinal and behavioral outcomes of compassion at the workplace (Lilius et al., 2008; Simpson, Clegg, & Pina e Cunha, 2013; Subba & Rao, 2017) but very few studies have been conducted to identify the work environmental factors which trigger compassion at the workplace. In this perspective, Worline et al. (2017) emphasized the need to identify the work environmental factors which stimulate compassion at the workplace. Hence, the first theoretically contribution of this study is that it has explored the predictive powers of supervisor undermining for awakening compassion at the workplace.

Secondly, prior studies have examined the antecedents and consequences of positive emotions at the workplace (Fredrickson, 2013; Gloria & Steinhardt, 2017; Michie, 2009). However, recently positive organizational behavior (POB) researchers have suggested to study positive states of employees with reference to work outcomes (Kluemper et al., 2009; Luthans & Youssef, 2007). Following this line of thought, this study has examined the mediating role of state optimism in the relationship between experienced compassion and job engagement as well as between experienced compassion and prosocial behavior.

Thirdly, affective event theory (Weiss & Cropanzano, 1996) have highlighted the importance of personal dispositions in strengthening or weakening the emotional reactions in response to workplace events. According to Mesurado et al. (2018) very few studies have explored the moderating role of regulatory emotional self-efficacy (RESE), and virtually less has been done to examine the moderating role of RESE on the relationship between experienced compassion and state optimism. So this study has theoretically contributed through testing RESE as a moderator between experienced compassion and state optimism.

Fourthly, this study has also contributed theoretically to the existing body of knowledge by exploring nurses' creative performance as an outcome of job engagement as well as the mediating role of job engagement between state optimism and creative performance.

Finally, this study has examined an integrated model by using the lens of AET (Weiss & Cropanzano, 1996) and that too in a novel setting i.e. public sector hospital in Pakistan. Healthcare is considered as the much demanding profession requiring a lot of efforts, commitment and dedication especially on the part of nurses (Antoinette Bargagliotti, 2012). Though upper level management enjoys a lot of benefits and the elite status owing to bureaucratic system in public sector organizations in Pakistan, but there is a strong feeling of frustration and hopelessness at the lower level such as nursing staff (Shafqat, 1999). Hence the findings of this study will also be a unique contextual contribution to the existing body of knowledge.

1.5.2 Practical Significance

Current study shed light on the importance of experienced compassion at workplace in influencing positive attitudes and behaviors among nurses. Hence administrators of public sector hospitals may benefit from this finding by articulating compassion into their vision, mission, goals and strategies.

Secondly by exploring state optimism as the underlying mediating mechanism between experienced compassion and job engagement as well as between experienced compassion prosocial behaviors, this study provides a more nuanced view of how compassion at workplace translate into nurses' positive attitudes and behaviors. This understanding may be useful for administrators of public sector hospitals in Pakistan to focus on nurturing state optimism in nurses by encouraging and promoting positive social interactions at the workplace.

Finally, since nurses with high level of regulatory emotional self-efficacy (RESE) are better able to manage their negative emotions and express positive emotions, this indicates the significance of RESE. Hence, recruitment and selection process of public sector hospitals in Pakistan may focus on this particular dispositional variable while hiring nurses.

1.6 Definitions of Key Words

1.6.1 Supervisor Undermining

Supervisor undermining is defined as “supervisor’s behavior intended to hinder, over time, the subordinate’s ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation” (Duffy et al., 2002).

1.6.2 Experienced Compassion

Experienced compassion signifies compassion received from others at the time of sufferings in one’s life (Dutton et al., 2014). In organizational context compassion may be experienced from one’s social circle like colleagues or group members at workplace.

1.6.3 State Optimism

State optimism is defined as “the optimism that may change depending upon the situation or contextual factors” (Kluemper et al., 2009).

1.6.4 Regulatory Emotional Self-Efficacy (RESE)

RESE is defined as “the self-efficacy beliefs of an individual in managing his/her negative emotions as well as expressing positive emotions” (Caprara et al., 2008).

1.6.5 Job Engagement

Job engagement is defined as “harnessing of organization’s members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (Kahn, 1990).

1.6.6 Prosocial Behavior

Prosocial behavior is defined as “a particular behavior which protects, promotes, and contributes to the welfare of others” ([Grant, 2007](#)).

1.6.7 Creative Performance

Creative performance is defined as “the amount of new ideas generated and novel behaviors exhibited by the person in performing his or her job activities” ([Wang & Netemeyer, 2004](#)).

Chapter 2

Literature Review

This chapter focused on reviewing the relevant literature to develop a thorough understanding of the phenomenon under investigation. The underpinning theory of the proposed model and its adaptation for the proposed model of the study is discussed. The key concepts and variables of the study are explored and their interrelationships are discussed in detail. This discussion helps to identify the gaps in the existing body of literature which leads towards the development of hypotheses of the study. Finally, this chapter depicted the research model of the study and ends with a list of hypotheses.

2.1 Supporting Theory

2.1.1 Affective Event Theory (AET)

AET ([Weiss & Cropanzano, 1996](#)) provides the basic framework for this study. This theory stressed the role of different events at the workplace as proximal causes of employees' reactions. The thesis of AET is that employees react emotionally to the various events that happen at the workplace and their emotional reaction affect their job satisfaction and performance. Environmental factors as well as workplace events in the shape of daily hassles and daily uplifts trigger various positive or negative emotions in employees which affect their attitude and behaviors. The

theory further highlights the importance of personal dispositions in strengthening or weakening the emotional reactions in response to workplace events.

Affective event theory provides a strong theoretical justification for the proposed model of this study. Environmental factor in the shape of supervisor undermining is proposed to trigger work event i.e. experienced compassion at workplace. This is so because experienced compassion is considered as a specific form of responsiveness which occurs in the face of suffering in employees' life. Hence, nurses who are the victims of supervisor undermining are proposed to receive compassion from their colleagues at the workplace.

In this perspective [Lilius et al. \(2008\)](#) suggested that experienced compassion is a salient work event which generate positive emotions in employees and ultimately increase their affective commitment. Hence experienced compassion is adapted and reframed into the AET framework as a positive work event. AET further theorize that positive work events elicit positive emotions, which ultimately translate into positive attitudes and behaviors among employees.

Following the lens of this theory, a positive work event i.e. experienced compassion is proposed to elicit positive emotion of state optimism which in turn is proposed to translate into prosocial behavior, job engagement and creative performance (positive attitudes and behaviors). AET also suggests that emotions mediate the relationship between work events and employees' attitudes and behaviors. Accordingly, we propose that state optimism will mediate the relation between experienced compassion and job engagement (a work attitude) as well as between experienced compassion and prosocial behavior (an affect driven behavior).

In addition to this, AET further theorize that work attitudes ultimately translate into judgment-driven behaviors. Following the leads of this theory, job engagement (a work attitude) is proposed to translate into creative performance (judgment-driven behavior). Finally, AET suggests that work events trigger positive or negative emotions, to which employees' personalities predispose them to respond with greater or lesser intensity. Accordingly, a personal dispositional factor i.e., RESE is proposed to moderate the relationship between experienced compassion and state optimism.

2.1.2 Affective Event Theory Original Framework

AET is considered as one of the key theories explaining the significance of emotions in terms of explaining employees' attitudes and behaviors. Essentially this theory elaborates the role of events happening at the workplace in triggering affective reactions in employees which subsequently influences their attitudes and behaviors. The notion of AET lies particularly in the features of work environment which initiate affective episodes or events. The workplace events charged with emotions are the principal reason for affective reactions of employees. These affective reactions (positive or negative emotions depending upon the nature of a workplace event) subsequently act as mediators activating workplace attitudes and behaviors.

Furthermore, [Cropanzano et al. \(2017\)](#) describe this framework as the association between internal influences and reactions to external incidents. They elaborate that internal influences are cognitions, emotions as well as mental states which ultimately influence work attitudes and behaviors (e.g., job satisfaction, commitment and performance etc.) Hence, this theory postulates that affect - driven behaviors are influenced by employees' emotions and mood states, while judgment - driven behaviors are based upon employees' cognitions. In addition to this, AET highlights that positive inducing and negative inducing (uplifts/hassles) workplace events are distinct in nature and have a substantial impact on performance and job satisfaction of employees ([Weiss & Beal, 2005](#)).

Prior research has provided empirical support to the basic tenets of AET by indicating that emotional states explain how different workplace events translate into workplace attitudes and behaviors. In this perspective, [Martocchio and Jimeno \(2003\)](#) documented that stress inducing situations result in negative mood states for employees which ultimately translate into absenteeism, stress, and poor performance. However, they also maintained that this relationship between negative workplace events and behaviors depends upon the type of personality of the individual. For instance, the persons high in conscientiousness may take the absence from work to their benefit (i.e. to recharge and change negative mood state), resulting in low stress and high performance. On the contrary, the persons high in

neuroticism may take absence from work to their disadvantage resulting in increase in negative mood which ultimately translate into excessive stress and poor performance. Employing AET framework [Rosen, Chang, Johnson, and Levy \(2009\)](#) maintained that employees' perceptions of politics and justice are associated with evaluation of breach of psychological contract which ultimately influence their job satisfaction and affective commitment, and organizational citizenship behavior.

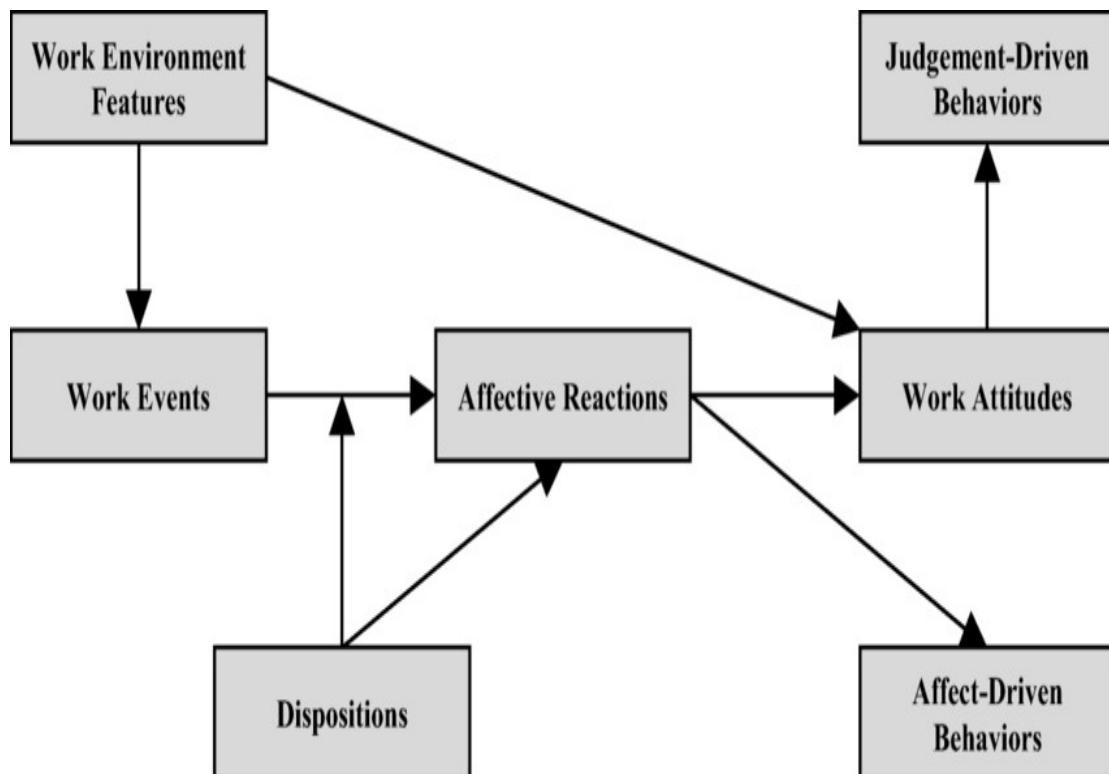


FIGURE 2.1: Weiss and Cropanzano's Affective Events Theory

2.2 Adaptation of AET Variables

2.2.1 Work Environment

The role of features of work environment cannot be ignored since it has the propensity to trigger workplace events and cultivate affective reactions in employees. Different work environments have different characteristics which becomes the basis for initiating various workplace events ([Weiss & Beal, 2005](#)). The work environment is defined by Management Dictionary as “the surrounding conditions in which employees work and that can affect their productivity including when, where, and how

they work”. These surroundings may be social surroundings, physical surrounding, or they may be the temporal perspectives. In this study work environment is the public sector hospitals of Pakistan and the specific feature of work environment which is investigated to trigger workplace event is the supervisor undermining act. Pakistani culture is characterized as a high power distance, representing excessive disparities of wealth and power (Hofstede, 2011). Furthermore, high rate of unemployment coupled with less availability of alternative job opportunities (Arain, Bukhari, Khan, & Hameed, 2020; Arain et al., 2020) make these working people (e.g., the nursing staff) more vulnerable to supervisor undermining.

2.2.2 Workplace Event

Within affective event theory an event is defined as “any change in the environmental circumstances which elicit affective reactions”. The AET further highlights that positive events trigger positive emotions while negative events trigger negative emotions. Using this conceptualization, compassion experienced by nurses from their colleagues at the workplace is proposed as a positive workplace event. In this perspective Lilius et al. (2008) has also suggested that experienced compassion is a salient positive workplace event which generate positive emotions in employees. Hence experienced compassion is adapted and reframed into the AET framework as a positive workplace event.

This study proposes that nurses who are the victims of supervisor undermining act will receive compassion from their colleagues at the workplace since experienced compassion is considered as a specific form of responsiveness which occurs at the time of suffering in one’s life. In addition, it is also proposed that experienced compassion will trigger positive emotion of state optimism in the victims of supervisor undermining, and state optimism will in turn influence positive attitudes and behaviors at workplace.

2.2.3 Affective Reactions

AET framework (Weiss & Cropanzano, 1996) maintained that workplace events translate into affective reactions, which is manifested in the form of workers experiencing emotions. According to Stephens and Gwinner (1998) emotional process has three phases. The first one is the physical response which involves change in body temperature and heart beat rate, palpitation and perspiration. The second phase is evaluative one labeled as primary appraisal. In this phase initial assessment of the situation is started and one becomes aware of the feelings (positive or negative emotions). Lastly, being expressive about the feeling is the part of secondary appraisal process. This study considers state optimism as a secondary appraisal process in response to a positive workplace event i.e. experienced compassion. Since state optimism is predicted by situational or contextual factors, we argue that experienced compassion at workplace may trigger state optimism in nurses. This is likely to happen because acts of compassion from the colleagues will give a ray of hope to the nurses who are working in an otherwise negative work environment characterized by supervisor undermining.

2.2.4 Affect-Driven Behavior

Affect – driven behavior is the fourth variable in the AET. It refers to the behavior which results in response to one's emotions. Current study proposes prosocial behavior as an affect – driven behavior. As social psychological processes maintain that employees with positive mood most probably demonstrate prosocial behavior (Berkowitz, 1972). Hence, state optimism which partially represents a person's positive mood state (Kluemper et al., 2009) is supposed to influence prosocial behavior.

2.2.5 Job Attitude

Job attitude is the fifth variable in the AET. Job attitude represents evaluation by an employee about his/her job which is based upon beliefs and emotions related to one's job. The most widely discussed job attitudes include commitment, job

satisfaction, work involvement, and job engagement. The current study uses job engagement as a job attitude.

2.2.6 Judgment – Driven Behavior

This is the sixth variable in the AET framework. As opposed to affect – driven behavior which is an almost automatic emotional reaction, Judgment – driven behavior take a longer route. It is influenced by affect through its impact on cognitions and attitudes. Hence this behavior is considered as a more deliberate response to the workplace events. The current study used creative performance as a judgment – driven behavior.

2.2.7 Personal Dispositions

This is the final variable in the AET framework. AET suggests that the relation between workplace events and affective reactions (positive or negative emotions) is dependent upon the type of an individual's personality. This study has identified RESE as a personal disposition to moderate the relation between experienced compassion and state optimism.

2.3 Supervisor Undermining

Vinokur and Van Ryn (1993) originally coined the construct of “social undermining”. Social undermining refers to “those behaviors which are directed towards a target and display (a) negative affect; (b) negative evaluation of the targets' efforts, actions and attributes and or (c) actions that hinder the attainment of instrumental goals” (Vinokur, Price, & Caplan, 1996). The American heritage dictionary (1993) defines undermining as the behavior that “weakens, injures or impairs often by degrees or imperceptivity”. In organizational context, social undermining refers to “behavior intended to hinder, over time, the ability to establish and maintain positive interpersonal relationships, work-related success, and favorable reputation” (Duffy et al., 2002). Example of such behavior include, not giving

colleagues important job related information and taking credit for the work performed by others. [Duffy et al. \(2002\)](#) highlighted three factors which distinguish undermining from other types of ill-treatments at the workplace, such as incivility, bullying, abusive supervision, aggression and violence etc.

First behavior will not be considered as undermining if it is not considered as deliberately intended to harm others ([Duffy et al., 2002](#)). It means, though certain behaviors are thought harmful by the targets, they are considered as undermining only if these behaviors are perceived as intentional. Therefore, undermining is different from the construct of incivility, wherein intention to harm is unclear ([Andersson & Pearson, 1999](#)). For example if an employee thinks that a coworker is not providing needed information or not doing promised task owing to a great deal of personal problems or stress, the employee would not perceive the coworker as engaged in undermining.

Second, undermining behaviors does not result in instant harm, but they weaken gradually and are destructive over time for the targets ([Duffy et al., 2002](#)). Hence, overt types of aggression such as physical assault, homicide or violence, are not labeled as undermining because such behaviors cause instant harm to the targets. For instance, physical assault which results in serious injury to the target may harm one's relationship with the instigator, but it is obvious and conspicuous act with instant high magnitude effects, and hence is not undermining. On the other hand, undermining behaviors are those if undertaken once or twice, they would not essentially ruin relationship, destroy individual reputation, or damage the ability to achieve work related success. If they did, then many friendships and even marriages would not survive for a long. Rather, this type of behaviors, may well be forgiven, if occur infrequently, with no everlasting damage to the relationship. However, if such behaviors occur repeatedly over time, they will influence instrumental outcomes ([Crossley, 2005](#)).

Lastly, though undermining behavior is intentional by nature, yet the perpetrator and the target may have dissimilar views concerning intent of behavior ([Duffy et al., 2002](#)). Clearly, instigators and the targets of undermining behaviors will not agree on the intent behind it. In this perspective, undermining is akin to other negative behaviors at the workplace such as sexual harassment. However, this

study is focused on targets' perceptions of undermining behavior and its resultant outcomes.

Social undermining has various forms which can damage the targets' reputation and ability to attain work related success in multiple ways. Considering [Buss \(1961\)](#) typology of deviant behaviors at the workplace, dimensions of social undermining may be in the form of direct/indirect, active/passive, and verbal/physical. Direct form of undermining may be threatening or demeaning the target, while indirect form may be in the way of withholding important work related information. In terms of verbal undermining, it may be in the form rumors, or insulting remarks, or talking behind the targets' back. On the other hand, physical undermining behavior may be in the form of sabotaging equipment, or giving dirty looks or rude gestures. Active undermining may be in the form of transmitting misleading or wrong information, while passive undermining may be in the way of intentionally working slow to harm the target.

Although the construct of social undermining share wide similarities with other forms of mistreatment behaviors at the workplace yet significant conceptual differences can be made ([Andersson & Pearson, 1999](#); [Duffy et al., 2002](#); [Pearson et al., 2001](#)). For instance, antisocial behavior depicts a wide range of behaviors intended to damage the organization as well as its members ([Giacalone & Greenberg, 1997](#)), but in social undermining targets are only the members of an organization ([Crossley, 2005](#)). Likewise, undermining is considered a type of workplace aggression because both constructs are composed of behaviors which are intended to harm the other person ([Crossley, 2005](#); [Fatima et al., 2020, 2020](#)), but as opposed to social undermining, aggression includes more intense behaviors such a physical violence ([Pearson et al., 2001](#)).

On the other hand, although bullying ([Rayner & Hoel, 1997](#)) is similar and related to the construct of social undermining because it is also a mildly intense behavior with detrimental and accumulative outcomes over a period of time, yet bullying is a narrower construct as compared to social undermining because it only represent those cases where mistreatment is initiated by the person who hold higher position and power in the organization like one's supervisor or manager. Additionally, bullying is not defined by a clear intent to harm the other person as opposed to

social undermining (Duffy et al., 2002; Greenbaum et al., 2015; Rayner & Hoel, 1997).

Incivility, a specific form of interpersonal deviance, is considered as the most closely related construct with social undermining. But incivility is a mild deviant behavior, violating the norms of mutual respect at the workplace, and having ambiguous intent to damage the target. In accordance with incivility, social undermining also represents low intensity behaviors that can be discourteous or rude in nature but social undermining encompasses a clear intent to harm the other person, though it may or may not violate work-group and organizational norms (Andersson & Pearson, 1999; Syed et al., 2018).

Political behavior represents informal and disruptive behavior with the sole objective of maximizing self-interest and benefits (Abbas, Raja, Darr, & Bouckenoghe, 2014; Vigoda & Cohen, 2002; Poon, 2003). Such self-serving behaviors normally come at the cost of others. However, some types of political behavior and social undermining overlap, for instance, disregarding the target, or withholding important work related information for getting advantage for the self. Yet other political behaviors may not harm other's ability to perform their work such as doing some favor for one's supervisor or boss. Similarly, a person may undermine another person due to envy or spite without any expectation of personal gain or self-serving outcomes (Sârbescu et al., 2017). Thus, both constructs clearly overlap, yet one construct is not subsumed by the other, nor is political behavior always harmful and deviant (Abbas et al., 2014; Poon, 2003).

Existing research on social undermining has suggested two different sources of undermining: supervisors and coworkers (Duffy et al., 2002; Duffy, Ganster, Shaw, Johnson, & Pagon, 2006). Although, both sources of undermining influence substantially various negative attitudes and behaviors (Crossley, 2005; Duffy et al., 2002, 2006; Frazier & Bowler, 2015; Vinokur & Van Ryn, 1993; Ng & Yim, 2015), the focus of this study will be on supervisor's undermining. There are three important reasons for examining supervisor undermining in this study. First, employees' perceptions, attitudes and behaviors are influenced by social context of the organizations which is shaped by coworkers, supervisors and the organization itself but supervisors play a central role in shaping social context of the organization

(Greenbaum et al., 2015; Salancik & Pfeffer, 1978). Secondly, supervisor undermining and related behaviors costs U.S corporations about billions of dollars in terms of absence from work, health related costs, and low performance (Tepper et al., 2006). The same issue can also be faced by organizations in a developing country like Pakistan which warrants exploration of this phenomenon. Thirdly, nurses perform an important role in the provision of health care services owing to front end dealing with patients. But performing a nursing job encompasses multiple challenges especially in a developing country like Pakistan. These include lower compensation, job insecurity, workplace incivility, unethical behavior, lower nurse to patient ratio, workplace hazards and injuries (Keller et al., 2018; Khowaja, 2009; Younas & Sundus, 2018; Malik et al., 2020). This situation can be further intensified and fueled up if nurses also face supervisor undermining at the workplace. So the construct of supervisor undermining is worthy of exploration owing to significant problems caused by this variable at the workplace.

2.4 Experienced Compassion

Experienced compassion is defined as a relational process of noticing another person's suffering, empathically feeling his or her pain, and behaving in some way to ease the suffering (Dutton et al., 2006; Miller, 2007). Compassion is mainly of two types: self-compassion and experienced compassion. Self-compassion refers to being kind and sympathetic to one-self when confronting personal problems, failures, or setbacks in one's life. On the other hand, experienced compassion signifies compassion received from others at the time of sufferings in one's life (Dutton et al., 2014). In organizational context compassion may be experienced from one's social circle like colleagues or group members at workplace. According to Eldor and Shoshani (2016) being compassionate to others involves a deep understanding of others problems and feelings and showing openness, friendliness and accessibility. Conceptually, experienced compassion differs from other related concepts like perceived social support (PSS). PSS basically depicts that others care and if something wrong will happen they will help (Russell, Altmaier, & Van Velzen, 1987). Therefore, social support is considered as a reactive attitude (Knobloch

& Whittington, 2002) while compassion is proactive in nature (Sprecher & Fehr, 2005). Thus compassion denotes actions and behaviors with a clear motivation of concern for others who are experiencing suffering and pain without expecting any benefit in return. It is triggered at the workplace when someone is confronted with personal or organizational problems (Straughair, Clarke, & Machin, 2019). It can take many different forms like gestures of emotional support, tenderness, kindness, offering work flexibility and granting time off. It is considered as a routinely ongoing phenomenon at the workplace (Dutton et al., 2014; Roeser et al., 2018; Simpson, Farr-Wharton, & Reddy, 2020; Simpson et al., 2020).

Nevertheless, experienced compassion at work is still in its infancy as a topic of research. Only recently researchers in the field of organizational behavior and psychology have started to study antecedents and positive effects of experienced compassion at the workplace (Chu, 2016; Dutton et al., 2014; Eldor & Shoshani, 2016; Hur et al., 2016; Miller, 2007; Rhee, Hur, & Kim, 2017; Simpson et al., 2020; Subba & Rao, 2017; Simpson et al., 2020). However, while research on experienced compassion is scarce and predominantly theoretical in nature, there is substantial evidence of its significance for employees' well-being and organizational effectiveness (Dutton et al., 2002, 2014; Eldor & Shoshani, 2016; Frost et al., 2000; Hur et al., 2016).

Additionally, studies on compassion had maintained that compassion is associated with more satisfying interpersonal and intergroup relations as well as better health and well-being (Mongrain, Chin, & Shapira, 2011). Furthermore, by systematically incorporating compassion into organizational values, norms and routines, members of the organization respond collectively and effectively to alleviate the suffering and pain of others (Dutton et al., 2006; Kanov et al., 2004; Miller, 2007). Employees showing compassion offer support to those facing hardships in organizations and helps to balance their work and family life (Chu, 2016; Subba & Rao, 2017).

The effects of compassion were initially revealed in studies in which employee elaborated how socially connected and valued they felt when they received compassionate responses from others in their organizations (Dutton et al., 2002; Frost et al., 2000). Through the use of an in-depth case study to explore the occurrence of compassionate responses, Dutton et al. (2006) highlighted that the activation

and mobilization of compassion depends upon the social architecture and management of the organization. Experienced compassion is considered a beneficial for the employees and organizations owing to its inherent ability to alleviate the suffering.

2.4.1 Supervisor Undermining and Experienced Compassion

Supervisor undermining and its effects are examined at both individual and group level in the existing research studies (Eissa et al., 2017; Frazier & Bowler, 2015; Ng & Yim, 2015). (Duffy et al., 2002) maintained that supervisor undermining is negatively linked with subordinate's commitment with organization and self-efficacy believes. They further explored that supervisor undermining is positively related with counterproductive behaviors and increased health related issues for the subordinates. Duffy et al. (2006) claimed that undermining by one's supervisor negatively predicted job satisfaction and positively influenced depression and intention to quit of the subordinates. These were the initial studies on supervisor undermining and empirical evidence suggested the negative and costly outcomes at the workplace.

Similarly, (Ng & Yim, 2015) found that supervisor undermining is negatively related with innovation related work behavior. Likewise, in a study conduct by Greenbaum et al. (2015) supervisor undermining is found to predict leader hypocrisy in an environment where subordinates have interpersonal justice perceptions on the part of leader which subsequently leads to turnover intentions. In a similar vein, supervisor undermining is found predicting salespersons' deviant behavior and emotional exhaustion mediated the relationship between these two constructs (Yoo, n.d.).

Furthermore, in a recent study conducted by (Ng & Yim, 2015) an increase in supervisor undermining is found predicting subordinate's subsequent career dissatisfaction. They also maintained that decrease in organizational trust mediate this relationship. Similarly, supervisor undermining is found predicting driving errors for truck drivers and this relationship is mediated through burnout (Sărbescu

et al., 2017). In addition to this, supervisor undermining is found to adversely influence target's creativity and this relationship is mediated through self-esteem (Eissa et al., 2017).

At the group level of analysis, supervisor undermining predicted negative attitudinal and behavioral aftermaths. For example, Duffy et al. (2006) explored that at group level, supervisor undermining perceptions negatively influenced job satisfaction of employees. Furthermore, supervisor undermining negatively predicted perceptions of groups regarding voice climate which in turn influenced group voice behavior and negatively affected group performance (Frazier & Bowler, 2015).

Although the extant research on supervisor undermining have highlighted a plethora of negative outcomes (Crossley, 2005; Duffy et al., 2002, 2006; Eissa et al., 2017; Frazier & Bowler, 2015; Sârbescu et al., 2017; Frazier & Bowler, 2015; Greenbaum et al., 2015; Ng & Yim, 2015; Sârbescu et al., 2017), but there is dearth of research studying the role of supervisor undermining for awakening experienced compassion at workplace. In this perspective, Miner, Settles, PRATT-HYATT, and Brady (2012) conducted two studies and found that the targets of incivility stated superior outcomes when they felt organizationally and emotionally supported. Furthermore, Duffy et al. (2002) posited that there could be cross-domain buffering effects functioning in such a manner that receiving substantial social support from one domain could buffer the negative effects from other domain.

Since, sufferings and pain at today's workplace is an inescapable phenomenon which signifies unpleasant subjective feelings including psychological distress, and physical and emotional harm (Lilius, Kanov, Dutton, Worline, & Maitlis, 2011). Suffering at workplace results from inappropriate organizational policies and practices, workplace bullying, toxic interactions with colleagues and inappropriate attitudes and behaviors of supervisors (Frost et al., 2000; Frost, 2003; Simpson et al., 2013; Straughair, 2016; Subba & Rao, 2016; Worline et al., 2017; A. Simpson & Farr-Wharton, 2017). These psychologically painful episodes severely and drastically harm employees and the organizations (Lilius et al., 2011). Hence organizations need to develop proper mechanisms for controlling such painful experiences. Although firms have tried to solve such issues through implementing formal policies and programs like employees assistance programs (Pollack, Austin,

& Grisso, 2010) or family-friendly policies (Cortese et al., 2010). Taking a different perspective Lilius et al. (2008) pointed out that experienced compassion at workplace from colleagues or group members, can assist employees to recover from work and non-work sufferings and setbacks such as supervisor undermining.

Compassion exists in a variety of organizations owing to the fact that it is a response to the inescapable and inevitable pain of human existence (Frost et al., 2006; Frost, 2003; Roeser et al., 2018; Runyan et al., 2019). Considering the above findings, it is logical to argue that nurses who are the victims of supervisor undermining will experience compassion from their colleagues and group members at the workplace.

So, it is argued in this study that one form of work environmental factor which has the propensity to trigger compassionate response at the workplace is supervisor undermining. This is likely to happen due to the very nature of compassion being a specific form of responsiveness which occurs in the face of another person's suffering and pain (Dutton et al., 2014; Marshall, Ciarrochi, Parker, & Sahdra, 2020; Straughair, 2016; Marshall et al., 2020; Simpson et al., 2020; Straughair, 2016). Compassion is considered a desirable human behavior because it attempts to alleviate the sufferings of others (Ko et al., 2021). Finally, (Lim & DeSteno, 2016) concluded that suffering is a trigger that ignites compassion so suffering must precede compassion from the observer. Considering the above findings, it is hypothesize that:

H1: Supervisor undermining act is significantly positive related with experienced compassion at the workplace.

2.5 State Optimism

State optimism refers to the optimism that may change depending upon the situation or contextual factors (Kluemper et al., 2009; Luthans, 2002b; Ragsdale & Beehr, 2016). Existing research on optimisms have generally focused on trait optimism and its association with various physical and psychological outcomes and have illuminated that persons who believe that something good will happen to

them in the days to come, benefit from this particular thinking (Luthans & Youssef, 2007; Sweetman et al., 2011). For example, individuals with high optimism speedily recover from surgery and report a high quality of their life post-operatively (Trunzo & Pinto, 2003). Furthermore, individual with trait optimism generally have better health and wellbeing (Peterson, 2000). So the association between trait optimism and health and well-being is substantially supported (Jensen, Luthans, Lebsack, & Lebsack, 2007; Peterson, 2000; Scheier & Carver, 1985, 1992; Seligman, Abramson, Semmel, & Von Bayer, 1998), though this is the point where studies on trait optimism have predominantly stopped (Kluemper et al., 2009). This is owing to the fact that positive psychology movement extended into organizational research in the shape of positive organizational behavior (POB) (Luthans, 2002a), so the studies on optimism should follow (Kluemper et al., 2009).

POB research had stressed the exploration of positively oriented strengths of human resources which can be measured, developed, and managed for the purpose of improving performance at the workplace (Luthans, 2002a, 2002b; Luthans & Youssef, 2007; Wright, 2003; Nelson, 2007; Wright, 2003). POB researchers specifically, (Luthans, 2002a) suggested to study positive states of employees with reference to work outcomes, as these states of individuals are measurable, changeable and have substantial real-world repercussions for managers. This recent stream of research diverted attention towards a rarely explored area in the existing literature on optimism i.e., investigating optimism as an adaptable and measurable construct (popularly known as state optimism) and its upshots in terms of workplace attitudes and behaviors (Kluemper et al., 2009; Luthans, 2002a). This is an important area of research owing to both theoretical and practical significance and a number of POB researchers have emphasized and called for further research examining the influence of state measures of optimism on important organizational outcomes (Cameron & Caza, 2004; Wright, 2003, 2007; Wright, A, Cropanzano, & Meyer, 2004; Cameron & Dutton, 2003).

State optimism depends upon and changes based upon the situation or context (Kluemper et al., 2009; Ragsdale & Beehr, 2016). For example, positive remarks from one's supervisor can cause a subordinate to experience high level of optimism which is known as state optimism (Kluemper et al., 2009). It is positive evaluation

of events that will happen in the future and the belief that favorable outcomes are always the result of one's own behavior and fate, and this positive outlook ultimately helps individuals to work for achieving future goals (Scheier & Carver, 1985; Seligman et al., 1998). This construct is substantially different from another construct which is labeled as 'Trait Optimism'. Trait optimism denotes the steady individual variations in experienced optimism. On the contrary, state optimism is specifically originated from contextual factors (Kluemper et al., 2009; Ragsdale & Beehr, 2016).

2.5.1 Experienced Compassion and State Optimism

Researchers have found that when employees receive compassion at the workplace, it results in producing a variety of positive emotions in them (Dutton et al., 2014, 2006; Folkman & Moskowitz, 2000; Frost, 2003; Kahn, 1993). In addition to this, caring and generosity inherent in the very nature of experienced compassion is found to build interpersonal resources in employees which ultimately help to cope with harmful effects of demanding situations (Brotheridge & Grandey, 2002; Dutton et al., 2014; Frost et al., 2000; Kahn, 1993).

Furthermore, AET (Weiss & Cropanzano, 1996) proposes that affective workplace events trigger corresponding emotional states in the targets which ultimately influence their work attitudes and behaviors. This theory is widely tested in different laboratory and field studies and findings remain consistent (Hu, Zhan, Yao, & Garden, 2017; Kaufmann & Wagner, 2017; Lam & Chen, 2012; Lewis et al., 2017; McColl-Kennedy et al., 2017; Shropshire & Kadlec, 2012; Wegge, Dick, Fisher, West, & Dawson, 2006).

Similarly, a most recent study by (Cropanzano & Wright, 2001) maintained that high quality LMX (Leader-Member Exchange) evolve via three stage process viz. role taking, role making and finally through role routinization stage. In support of the AET, this study indicated that positive affective states play an integral role at each stage of relationship formation. Furthermore, (Bono, Glomb, Shen, Kim, & Koch, 2013) conducted a field study with experimental intervention of positive reflection to observe the relationship between daily work events and employees'

stress and health. The results of this study also highlighted that positive events occurring at the workplace are associated with positive emotions, lower level of stress and improved health. Several other researches have also demonstrated a positive link between affective events and affective positive states of employees (Dutton et al., 2006; Folkman & Moskowitz, 2000; Kahn, 1993; Lilius et al., 2008).

Considering the above discussion and following the leads of AET, it is expected that the experienced compassion at workplace will cultivate state optimism (a positive affective state) among nurses who are the victims of supervisor undermining. This is so because experienced compassion is understood as an affective event happening at the workplace (Lilius et al., 2008; Weiss & Cropanzano, 1996), as giving and receiving of compassion may trigger positive affective states among the targets. In support of this argument (Miller, 2007) maintained that experience compassion at the workplace increases feelings of connectedness among employees which ultimately produce a variety of positive feelings. Based upon the above findings and discussion it can now logically be inferred that the experienced compassion at the workplace will trigger state optimism in the nurses who the victims of supervisor undermining. So it is hypothesized that:

H2: Experienced compassion at the workplace is significantly positive related with state optimism.

2.6 Prosocial Behavior

Prosocial behavior refers to a particular behavior which protects, promotes, and contributes to the welfare of others (Grant, 2007). The purpose of such behaviors might be to benefit the colleagues, clients, groups or other stakeholders and ultimately the organization itself. (Brief & Motowidlo, 1986) defined prosocial behavior as that is “(a) performed by a member of an organization, (b) directed toward an individual, group, or organization with whom he or she interacts while carrying out his or her organizational role, and (c) performed with the intention of promoting the welfare of the individual, group, or organization toward which it

is directed.” From that time scholars in the area of organizational behavior had identified various constructs which are akin to prosocial behavior because they are directed to benefit others (Bolino & Grant, 2016). For instance, organizational citizenship behavior (OCBs), knowledge sharing, mentoring, and brokering introductions are considered as typical prosocial behaviors (Bolino & Grant, 2016).

OCBs consist of behaviors like assisting, protecting one’s organization at the time when someone criticizes it (loyalty), bearing bad patch and troubles at workplace (sportsmanship), following rules of the organization (compliance), dedication to common welfare of organization and community (civic virtue), undertaking extra duties (individual initiative), and suggesting improvement and change (voice) (Organ, 2009). However, in this framework assisting is more prosocial in nature as compared to compliance. Knowledge sharing is a good exemplar of prosocial behavior in that it concentrate on sharing information which aid in problem solving. Mentoring refers to a role in the development of one’s protégé; therefore it also qualifies as a prosocial behavior. Similarly, brokering introductions involves enabling employees to assist coworkers in expanding their perspectives and networks. (Bolino & Grant, 2016; Dutton et al., 2002; Kahn, 1993; Wang & Netemeyer, 2004).

In organizational context, prosocial behavior can be either role-specific or discretionary and may be with or without any rewards for engaging in such behaviors (Feather et al., 2018; Organ, 2009; van Doorn et al., 2019). Since competition in the markets is tremendous, hence management today is not only confronted with retaining their top performing employees, but in cultivating a culture that encourages their employees not to restrict themselves on their job related duties but go beyond and engage in prosocial behavior which is necessary for effective functioning of the organizations (Bolino & Grant, 2016; Esteve et al., 2016; Kline, 2005; Ugwu & Igbende, 2017).

Substantial research has highlighted the positive outcomes of engaging in prosocial behavior for individuals, groups and organizations. In a meta-analysis comprising 168 research investigations involving above 51000 workers, citizenship behavior of employees is found valuable with respect to their performance evaluations and promotions (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Beyond literature on

OCB, there is substantial indication that other prosocial acts of employees significantly positively influence performance evaluations. For instance, the employees who are engaged in knowledge sharing, they get much better performance evaluations (Bolino & Grant, 2016). Similarly, meta-analytic findings in the literature on mentoring support that mentoring has many benefits including subjective assessment of performance, job satisfaction, organizational commitment and career success (Ghosh & Reio Jr, 2013).

2.6.1 Experienced Compassion and Prosocial Behavior

Compassion was originally defined as ‘the heart’s response to sorrow’ (Dutton et al., 2002). It is considered as a relational process of noticing another person’s suffering, empathically feeling his or her pain, and behaving in some way to ease the suffering (Dutton et al., 2006; Miller, 2007). Compassion is a multidimensional process encompassing three elements: noticing the sufferings of another person, empathically feeling the pain of that person, and acting or behaving in a way to reduce its effects (Dutton et al., 2006; Miller, 2007). These three elements are essential for complete understanding of compassion. Essentially, compassion goes a step further from just feeling empathetic to entail action, that is considered a compassionate reaction irrespective of the fact that whether it effectively relieves the suffering (Hur et al., 2016; Kanov et al., 2004).

Specifically compassion is shown by being sympathetic to the persons who are highly depressed and experiencing sufferings. It is considered as a reaction to the pain, sorrow or misery of others. Employees demonstrate compassion at the workplace both through communication and by exhibiting appropriate behaviors. In this way compassion unites employees in times of need and brings closeness among them which ultimately develop positive relations among them and foster positive attitudes and behaviors at the workplace (Chu, 2016; Eldor & Shoshani, 2016; Subba & Rao, 2017).

Research on compassion is promising owing to substantial evidence of positive association between compassion at workplace and strengthening of social bonds

among employees and increasing their productivity (Eldor & Shoshani, 2016; Hur et al., 2016; Subba & Rao, 2017). Furthermore, researchers have elucidated that receiving compassion from colleagues at the workplace helps workers to consider their coworkers as more caring and their organizations as more supportive (Lilius et al., 2008; Luengo Kanacri et al., 2017). Finally experienced compassion is found to be predominantly noticeable and fruitful in those organizations where employees are engaged in caregiving jobs (such as nursing) and they regularly come across emotionally exhausted situations (Kahn, 1993; Keller et al., 2018; O'Donohoe & Turley, 2006).

On the other hand, extant research on prosocial behavior had identified dispositional, attitudinal as well as context specific antecedents of prosocial behaviors (Adolphs & Tusche, 2017; Bolino & Grant, 2016; Esteve et al., 2016; Kline, Bankert, Levitan, & Kraft, 2019; Lin, Zlatev, & Miller, 2017; Martin-Raugh et al., 2016). For instance, personality trait of individuals like agreeableness, is found to be associated with prosocial behavior (Podsakoff et al., 2000). Similarly, by using the data from 15 studies consisting of 2500 individual observations (Kline et al., 2019) found a significant positive link between openness to experience and agreeableness dimensions of personality and prosocial behavior. On the other hand, (Esteve et al., 2016), observed a positive relation between prosocial motivation and prosocial behavior. They further maintained that the association between prosocial motivation and prosocial behavior is moderated by the prosocial behavior of their group members. It means high prosocial motivation individuals exhibit even more prosocial behavior when their group members also show prosocial behavior. On the contrary they are not likely to behave prosocially if their group members do not exhibit prosocial behavior (Esteve et al., 2016).

Work attitudes like commitment with one's organization and job satisfaction were found to influence helping others, and prosocial behaviors (Podsakoff et al., 2000). Likewise, some context specific variables were also found to influence prosocial behavior at workplace. Specifically, employees with enriched jobs were found demonstrating helping behaviors (Piccolo & Colquitt, 2006). On the contrary, citizenship and extra role behaviors are less common when employees were doing the routine jobs and facing role conflict or vagueness (Podsakoff et al., 2000).

There are many explanations of why employees exhibit prosocial behavior. From the perspective of social exchange theory (Blau, 1964), individuals try to reciprocate those who benefit them in any way. Hence, this study argues that nurses experiencing compassionate acts at the workplace will try to reciprocate by demonstrating more prosocial behavior. Studies in support of this approach established that task characteristics and cognitions about one's job influence employees satisfaction with job and trigger prosocial behavior (Adolphs & Tusche, 2017; Baumsteiger, 2019; Erreygers et al., 2019; Farh et al., 1990; Luengo Kanacri et al., 2017; Williams & Anderson, 1991; van Doorn et al., 2019). Accordingly it is hypothesized that:

H3: Experienced compassion at workplace is significantly positive related with prosocial behavior.

2.7 Job Engagement

Job engagement was initially defined by (Kahn, 1990) as “harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” . It refers to positive state of mind, which is fulfilling and represented through dedication, absorption and vigor (Schaufeli et al., 2002). Bakker and Arnold (2008) elaborated that vigor is represented through high level of energy as well as mental resilience during while doing work. Absorption is characterized by high level of concentration while on work, with feeling difficulty in separating oneself from work and time passing quickly. Dedication signifies high level of involvement in the job and feeling pride, enthusiasm, inspiration and challenge. Vigor denotes putting high level of effort and showing persistence while facing difficulties on job.

Organizations are striving to increase job engagement of their employees because it is linked with innovation, increased productivity, and other desired positive outcomes (Alessandri et al., 2018; Hallberg & Schaufeli, 2006; Kwon & Yoon, 2015; Yan et al., 2019). On the contrary, dissatisfied and disengaged employees have low level of organizational commitment and higher absenteeism in an attempt

to cope with or escape from high job demands (Rothman, 2000). In addition to this, firms with a disengaged employees generally face various financial problems and lose competitive advantage in the market (Du Plessis & Boshoff, 2018). Hence it is imperative for managers/administrators to find ways through which they could make employees feel more devoted, committed, energetic, and engaged in work related activities (Du Plessis & Boshoff, 2018; Mostert & Rathbone, 2007). Accordingly, the research studies on job engagement has increased tremendously in the last few years (Bakker & Albrecht, 2018; Gloria & Steinhardt, 2017; Sheehan et al., 2019).

In the context of organizations, engagement is an essential characteristic of employees for top performance improvement (Bakker, Demerouti, & Sanz-Vergel, 2014). Although job engagement of over a million of worker in various work domains has been investigated (Antoinette Bargagliotti, 2012), yet it is still an important concern for organizations pursuing high employees' productivity (Gallup, 2013). This is so because job engagement not only influence important organizational upshots, it also has substantial desirable effects on employees' psychological well-being (Robertson & Cooper, 2010). Accordingly, recent interest and growth in positive psychology where the focus is on human strengths, happiness and optimum functioning (Seligman & ME, 2003), stimulated researchers' interest in exploring the antecedents and consequences of employees' engagement (Du Plessis & Boshoff, 2018).

2.7.1 Experienced Compassion and Job Engagement

The health care sector is seriously confronting the challenge of shortage of registered nurses all over the world especially in developing countries like Pakistan (Khowaja, 2009; Park & Lee, 2018; Younas & Sundus, 2018). The research in nursing world has highlighted that nurses' work environment is the major factor behind the shortage of nurses (Keller et al., 2018; Park & Lee, 2018). So one way to deal with the issue of shortage of nurses is through increasing their job engagement (Park, Seomun, Lim, & Kim, 2006). Job engagement is a concept

which signifies high level of energy on the part of nurses, a feeling of strong belongingness with their jobs, and staying focused on their roles (Schaufeli et al., 2002). Furthermore, job engagement ultimately reduce turnover intentions (Kwon & Yoon, 2015) because it enables nurses to absorb themselves in their work roles and they act aggressively to showcase their abilities and skills (Kim, 2014). So keeping in view the results of existing studies, it may be anticipated that exploring the factors which increase nurses' job engagement will help in resolving the problems of shortage of nurses. But the research on job engagement in the context of nursing is rare (Park & Lee, 2018) and predominantly focused on negative workplace constructs like turnover intentions and burnout (Boamah & Laschinger, 2016; Kim & Kim, 2011).

Existing literature has documented a positive association between job engagement and employees' performance (Cameron & Spreitzer, 2012). Job engagement is also found predicting OCB (Rich et al., 2010), job satisfaction, increased performance level and lower level of turnover intentions (Bakker & Arnold, 2008). With respect to predictors of job engagement, prior research has demonstrated that authentic leadership is linked with higher job engagement (Giallonardo, Wong, & Iwasiw, 2010). Furthermore, research has also pointed out that job engagement is predicted by various factors especially personal-level factors like work experience, academic background and age (Bamford et al., 2013; Lawrence, 2011; Palmer et al., 2010), (ii) task-related factors like workload, job control, and autonomy (Laschinger et al., 2012; Palmer et al., 2010), and (iii) organizational-level factors such as practice environment, authentic and transformational leadership, structural empowerment and fairness (Bamford et al., 2013; Hayati et al., 2014; Laschinger et al., 2012).

In this line of thought, Lilius et al. (2008) asserts that organizational commitment of employees increases when they receive compassionate support from their colleagues during critical incidents. They also emphasized that compassionate support results in better quality relationships among co-workers, increases their citizenship behavior and reduce the level of absenteeism and turnover. Similarly, the feelings of belongingness, trust and being cared that result from compassion is found to be associated with enhanced individual and organizational performance, social cohesion, increased commitment and lower turnover (Madden, Duchon,

Madden, & Plowman, 2012; Roeser et al., 2018; Simpson et al., 2020; Straughair et al., 2019; Subba & Rao, 2017). Furthermore, engagement theory (Kahn, 1990, 1993) suggests that employees need to feel safe, must have resources available and must have meanings in their jobs in order to make them more engaged in their jobs. Hence it is argued in this study that nurses experiencing compassion at workplace will feel more safe (physically and psychologically) and have more resources (affective, psychological and motivational) available and thereby more likely to be engaged in their jobs. Consequently it is hypothesized that:

H4: Experienced compassion at workplace is significantly positive related with job engagement.

2.8 Regulatory Emotional Self-Efficacy (RESE) as a Moderator between Experienced Compassion and State Optimism

RESE is defined as the self-efficacy beliefs of an individual in managing his/her negative emotions and expressing positive emotions (Caprara et al., 2008). It signifies self-appraisal of an individual about his/her capability in emotion regulation (Pan et al., 2016). Managing negative emotions signifies beliefs about one's emotional competence to deteriorate negative emotions (e.g., sadness, discouragement, frustration and anger) that arouse due to adversity or annoying events in one's life. On the contrary, managing positive emotions represents beliefs in one's own capability to express positive emotions (e.g., pride, gratitude, inspired, happiness and optimism) originating from pleasant events or successes in one's life (Caprara et al., 2008).

An effective emotion regulation constitutes control over one's emotions. Individuals who are able to manage their negative emotions and express positive emotions, generally have more personal resources to deal with negative situations and exhibit positive attitudes and behaviors (Caprara, Alessandri, Di Giunta, Panerai, & Eisenberg, 2010). Furthermore, positive emotions are related with good physical

and psychological health and social relationships (Gunzenhauser et al., 2013). On the contrary, difficulty in dealing with negative emotions in response to negative events and stressful situations may influence negative interpersonal attitudes and behaviors (Gunzenhauser et al., 2013).

Individuals vary with respect to their capability to manage emotions. This is not owing to differences in their abilities, but due to difference in their perceived capability of emotion regulations (Mesurado et al., 2018). However, it is quite possible for an individual to perceive a high capability to manage his/her emotions in response to stressful events or situations, while they may not be able to actually do so in reality. But it is perhaps very unlikely for individuals to manage their emotions if they perceive that they are not able to do so. Consequently, perception about one's capability of emotion regulation is a necessary condition for effective emotion regulation (Gunzenhauser et al., 2013; Mesurado et al., 2018).

Existing research on RESE had highlighted that positive emotional self-efficacy is related with increased well-being, helping behavior and empathy (Caprara & Steca, 2005; Caprara et al., 2006) while negative emotional self-efficacy is found to be related with shyness, depression and anxiety (Bandura et al., 2003; Gerhart & Fang, 2015; Caprara et al., 2008). Furthermore, (Caprara, Caprara, & Steca, 2003) explored the gender and age differences in RESE in a sample from Italian population. In this study, men were found to enter the adulthood with strong sense of negative emotional self-efficacy as opposed to women; however, they had shown a weaker sense of negative emotional self-efficacy at older ages. On the contrary, negative self-efficacy beliefs of women improved from adulthood to older ages. Sense of positive emotional self-efficacy, however, deteriorated across age groups for both men and women. Since then a number of research studies have attested the prevalence of gender variances in RESE beliefs (Caprara et al., 2010; Caprara, Alessandri, Barbaranelli, & Vecchione, 2013; Caprara et al., 2003; Caprara & Steca, 2005).

Existing research has also documented the pervasive impact of RESE on the course of individuals' personal and organizational life and their effective functioning (Mesurado et al., 2018; Wang et al., 2018). A person's actions and behaviors

are based upon the beliefs he/she holds about his/her own capabilities in a specific situation. Thus the perceptions and feelings individual have about their RESE to control events in their life have an impact over the level of motivation, effort, and the choices they make, and the kind of behavior they exhibit (Alessandri, Caprara, Eisenberg, & Steca, 2009; Galicia-Moyeda, Sánchez-Velasco, & Robles-Ojeda, 2013). Hence, employees who believe that they can attain the desired goals are more dedicated to perform activities intended to achieve those goals, and show more resilience while facing problems and failures. Consequently, RESE as a personal disposition can influence an individual's attitudes and behaviors (Mesurado et al., 2018). In addition to this, individuals who are more stable emotionally, are found to be more capable in controlling their emotions (Caprara et al., 2013).

In addition to this, (Extremera & Rey, 2015) revealed the moderating role of emotion regulation disposition in the relation between stress and depression. They concluded that males with perceptions of high level of stress but also having high score in emotion regulation, scored low in depression symptoms and high in subjective happiness as compared to those individuals who were low in emotion regulation. The finding of this study implies that training in emotion regulation may be more beneficial for males as compared to female employees. Moreover, Zahniser (2016) also found the moderation effect of emotion regulation in the relationship between stress and mental health of college students. In the similar vein, (San Too & Butterworth, 2018), found that emotion regulation moderated the link between psychosocial job stressors and mental health. They concluded that individual variances in the level of emotion regulation must be considered for proper management of mental health of employees facing adverse job conditions.

In this study RESE is anticipated to moderate the association between experienced compassion and state optimism. In this perspective, AET (Weiss & Cropanzano, 1996) suggests that positive events trigger positive emotional reactions, to which employees' personalities predispose them to respond with greater or lesser intensity. Hence it is argued that experienced compassion at workplace will translate into higher level of state optimism for nurses who are high in RESE. It implies that the positivity inherent in a positive workplace event i.e., experienced compassion

and higher level of RESE will interact and translate into higher level of state optimism in nurses who are the victims of supervisor undermining. On the contrary, lower level of RESE will translate into lower level of state optimism. Following the above discussion, it is hypothesized that:

H5: Regulatory emotional self-efficacy (RESE) moderates the relationship between experienced compassion and state optimism such that the relationship is stronger at higher values of RESE.

2.9 State Optimism and Prosocial Behavior

State optimism refers to the optimism that may change depending upon the situation or contextual factors (Kluemper et al., 2009). On the other hand, prosocial behavior refers to a particular behavior which protects, promotes, and contributes to the welfare of others (Grant, 2007). Over the past few years substantial research studies have highlighted the significance and power of optimism in influencing positive outcomes (Hilary, Hsu, Segal, & Wang, 2016; Jensen et al., 2007; Kluemper et al., 2009; Luthans & Youssef, 2007; Peterson, 2000; Renaud, Barker, Hendricks, Putnick, & Bornstein, 2019; Seligman & EP, 2006). It is so, in part at least, due to positive psychology movement which emphasized to explore the human strengths which can substantially impact individual and organizational outcomes (Seligman et al., 1998; Seligman & ME, 2003). Followers of this particular movement have stressed to focus research on positive constructs such as optimism because early studies have predominantly focused on negative human traits and weaknesses (Luthans & Youssef, 2007). Resultantly, a plethora of research has been conducted on optimism and other positive constructs (Peterson, 2000; Prola & Stern, 1984; Renaud et al., 2019; Scheier & Carver, 1985; Sweetman et al., 2011).

Existing literature on optimism had clearly highlighted that optimism is linked with a variety of desirable outcomes ranging from coping and recovery to better health and well-being (Peterson, 2000; Scheier & Carver, 1985, 1992; Seligman & ME, 2003). Furthermore, research has documented that state optimism can

fluctuate across days as a result of various events like recovery activities (Ragsdale & Beehr, 2016; Xanthopoulou et al., 2009, 2012). Refilling of state optimism in individuals will depend upon how they explain the reasons of workplace events and the way they manage their emotions (Xanthopoulou et al., 2009), which has implications for well-being, commitment, satisfaction and work motivation (Ragsdale & Beehr, 2016; Xanthopoulou et al., 2009, 2012).

Specifically pertinent to insertion of optimism in POB literature is its consistent positive association with performance in numerous fields, especially at the workplace (Luthans, Luthans, & Luthans, 2004; Luthans, 2002a; Peterson, 2000; Prola & Stern, 1984; Seligman et al., 1998). So this study is undertaken to explore the effect of state optimism on important organizational outcomes. Specifically current study will examine the impact of state optimism on prosocial behavior, job engagement and creative performance of nurses. The research in this area is promising owing to serious need of prosocial behaviors and creative performance particularly in hospital settings where nurses are facing a lot of problem and stressful situations (Cortese et al., 2010; Kahn, 1993; Keller et al., 2018; Khowaja, 2009; Malik et al., 2020).

In this perspective, social psychological processes approach maintain that employees with positive mood are more prone to exhibit prosocial behavior (Berkowitz, 1972). Hence state optimism which partly captures a person's positive mood state is supposed to influence prosocial behavior. Hence it is very likely that nurses having state optimism in response to experienced compassion at the workplace will engage in prosocial behavior. The supportive evidence of this approach is found in existing studies (Lilius et al., 2008; Smith, Organ, & Near, 1983).

In the context of health, persons with positive mood reported greater willingness to fight will illness and high self-efficacy in managing illness as compared to the individuals with negative mood (Schuettler & Kiviniemi, 2006). Hence, positive emotions direct and signal to individuals that they are capable of exerting higher level of effort to deal with difficult and challenging tasks, and that their efforts will eventually pay them off. Plausibly, if positive mood and emotions can help to direct effort towards challenging tasks like managing illness and problem solving,

they could also initiate and help in stimulating prosocial behavior (Layous et al., 2017).

Secondly, (Rothman, 2000) maintained that behavior of individuals hinges on their satisfaction with the outcomes of behavior i.e., how they think their act of kindness will be received by others. Hence people with positive states are more likely to optimistically interpret the events in their life (Dickerhoof, 2007; Lyubomirsky, 2001), consequently they are more likely to construe the outcomes of their behavior in a positive way. Individuals generally receive a boost in the level of their happiness after they perform the kind acts (Dunn, Aknin, & Norton, 2008; Lyubomirsky, Sheldon, & Schkade, 2005), which ultimately help to cultivate and reinforce the kind behavior such as prosocial acts of kindness in a positive feedback loop (Layous et al., 2017). Thirdly, even a temporary surge in an individual's positive emotions can stimulate durable relational outcomes (Fredrickson, 1998, 2001, 2004, 2013), thereby stimulating prosocial behavior (Bolino & Grant, 2016; Grant, 2007; Layous et al., 2017).

In addition to this, many observational studies (e.g., George & Brief, 1992) and experimental studies (e.g., Isen et al., 1976) have pointed out that an increase in positive mood increases prosocial or helping behavior popularly known as “feel-good, do-good effect”. Similarly, recent studies on prosocial behaviors also suggested that affective states trigger helping behaviors (Wen, Yuan, Ma, Xu, & Yuan, n.d.; van Doorn et al., 2019). Likewise, broaden and build theory (Fredrickson, 1998, 2001), proposes that the experience of positive emotions broadens an individual's mindset, build individual's resources and thought action repertoires. Similarly, AET (Weiss & Cropanzano, 1996) postulates that positive emotions in response to affective workplace events trigger affect driven behavior. Hence, it is reasonable to argue that nurses who are the victims of supervisor undermining, their state optimism originating from experienced compassion at the workplace, will trigger prosocial behavior in them. Following the above discussion and the leads of AET, it is hypothesized that:

H6: State Optimism is significantly positive related with prosocial behavior.

2.10 Mediating Role of State Optimism in Experienced Compassion and Prosocial Behavior Relationship

Experienced compassion is defined as a relational process of observing another individual's suffering, empathically feeling his or her pain, and behaving in some way to ease the suffering (Dutton et al., 2006; Miller, 2007). Compassion is shown by being sympathetic to the persons who are highly depressed and experiencing sufferings. It is considered as a reaction to the pain, sorrow or misery of others. Employees demonstrate compassion at the workplace both and by exhibiting appropriate behaviors. In this way compassion unites employees in times of need and brings closeness among them which ultimately develop positive emotions, attitudes and behaviors at the workplace (Chu, 2016; Eldor & Shoshani, 2016; Subba & Rao, 2016, 2017).

Miller (2007) maintained that compassion helps to bring closeness among employees who are the targets and initiators of compassion, and help them to develop positive emotions (Folkman & Moskowitz, 2000; Fredrickson, 2004, 2013). Substantial evidence support the association of positive emotions and employees health and well-being (Fredrickson, 2013; Hu et al., 2017; Junça-Silva, Caetano, & Lopes, 2017; Kahana et al., 2013; Pan et al., 2016; Scheier & Carver, 1992). This is so because positive emotions actually helps to broaden thinking and build psychological resources like resilience and flourishing (Fredrickson, 2013). For instance, in a study conducted by (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009) positive emotions were found to be strongly linked with life satisfaction and resilience. Likewise, in another study conducted by (Liu, Wang, & Lü, 2013) frequent experience of positive emotion accounted for the relation between resilience and satisfaction with life. Furthermore, another investigation concluded that prosocial spending leads to subjective happiness with the mediating role of positive emotions (Aknin, Dunn, Whillans, Grant, & Norton, 2013). Despite limited evidence, experienced compassion at the workplace is found to be related with frequent inducement of positive emotions (Dutton et al., 2006; Folkman & Moskowitz, 2000; Lilius et al.,

2008). Furthermore, Miller (2007) argued that experience of compassion at the workplace increases feelings of connectedness among employees which help in provoking a variety of affective reactions. Likewise, state optimism have been found predicting commitment, satisfaction, job performance, resource recovery mechanisms and work engagement (Kluemper et al., 2009; Ragsdale & Beehr, 2016; Urzúa et al., 2016).

Moreover, broaden and build theory advocates that positive affective states broadens an individual's mindset, build individual's resources and thought action repertoires which in turn stimulates creative and novel ideas, social bonds and actions, ultimately helping to build that person's physical, intellectual, social and psychological resources (Fredrickson, 2004). So it can be argued that nurses experiencing state optimism (an affective state) in response to experienced compassion at the workplace are likely to exhibit prosocial behavior. This argument is reinforced by the recommendation of many observational (e.g., (George & Brief, 1992) and experimental studies (e.g., (Isen et al., 1976), which suggested that an increase in positive affective states increases prosocial or helping behaviors.

Carver and Scheier (1981) conducted an experimental study and found that optimism impact outcome variables due to its self-regulatory nature. They further elaborated that a person's behavior can be considered with reference to goals and theorize that when a person feels a discrepancy between actual and desired state of affairs, an assessment process is automatically initiated. Now if he/she thinks that the contradiction can be minimized and desirable goals can be attained, he/she will carry on to put efforts to achieve those targets. But if, on the contrary, the person feels that desired goals cannot be attained, he/she will reduce the level of efforts. From this self-regulatory nature of optimism, it can be expected that individuals high in their level of state optimism will continue to work hard while those low in the level of optimism give up (Carver, Scheier, & Weintraub, 1989; Lee, Ashford, & Jamieson, 1993; Scheier & Carver, 1985). This positive explanatory mechanism enables individuals to handle setbacks and undesirable circumstances they are confronting in life. In essence, optimism encompasses cognitive and emotional components (Seligman et al., 1998) in addition to motivation (Scheier & Carver, 1985, 1992) which enable individuals to display a variety of positive attitudes and

behaviors (Kluemper et al., 2009; Layous et al., 2017; Luthans & Youssef, 2007; Scheier & Carver, 1992).

Existing literature on antecedents of prosocial behavior has elaborated the significance of affect and positive emotions in influencing helping behavior, signifying that individuals who feel good, actually do good (Adolphs & Tusche, 2017; Bolino & Grant, 2016; George & Brief, 1992). Furthermore, Martin-Raugh et al. (2016) demonstrated that an individual's cognitions play a central role in influencing prosocial behavior. They posited that a person's beliefs about the importance of behaving prosocially are effective predictors of actual prosocial behavior. Hence, individuals who hold strong believe that prosocial behavior is effective they are more prone to behave prosaically as compared to those individuals who do not think so.

In addition to this, broaden and build theory maintained that positive emotions at the workplace broadens an individual's mindset, build individual's resources and thought action repertoires (Fredrickson, 1998, 2001), which increases their consideration, openness and sensitivity at the workplace (Cropanzano & Wright, 2001; Fredrickson & Losada, 2005). Hence nurses state optimism being a type of positive emotional state (Kluemper et al., 2009) resulting from experienced compassion at the workplace may influence nurses' positive attitudes and behavior like prosocial behavior (Layous et al., 2017; McNeely & Meglino, 1994).

As state optimism is predicted by situational and contextual factors (Kluemper et al., 2009; Luthans, 2002a; Ragsdale & Beehr, 2016), and in turn predict positive work related attitudes and behaviors (Kluemper et al., 2009), hence it is argued that state optimism triggered by experienced compassion at the workplace may stimulate prosocial behavior in nurses. Furthermore, AET suggests that positive emotions mediate the relationship between affective workplace events and affect driven behaviors. As prosocial behavior is considered as a type of affect driven behavior (Michie, 2009), hence, it is posited that the nurses experiencing state optimism owing to experienced compassion at the workplace will try to reciprocate this by being more prosocial. Therefore, following the leads of AET (Weiss & Cropanzano, 1996), current study proposes that state optimism will mediate the

relation between experienced compassion at workplace and prosocial behavior of nurses. Keeping in view the above discussion, it is hypothesized that:

H7: State Optimism mediates the relationship between experienced compassion and prosocial behavior at workplace.

2.11 State Optimism and Job Engagement

State optimism refers to the optimism that may change depending upon the situation or contextual factors (Kluemper et al., 2009; Luthans, 2002b; Ragsdale & Beehr, 2016). On the other hand, job engagement is defined as “the simultaneous employment and expression of a person’s preferred self in job tasks that promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active, full role performances” (Kahn, 1990).

Nurses deliver health services from a holistic perspective, approaching from biological to psychological and social spheres of life. They provide services in various care settings ranging from emergency and continued attention to end-of-life palliative care (Laschinger, Finegan, & Wilk, 2009). In health care profession, nurses are the ones’ who devote most of their time in direct care of patients (Regan, Laschinger, & Wong, 2016). For all the above said reasons, nurses are required to play a prominent role in facing the challenges stemming from chronic illnesses and their complications. Furthermore, high job engagement on the part of nurses is essential for meeting the challenges of this profession since scientific literature on nursing shows that job engagement on the part of nurses make their services more effective (Laschinger et al., 2009; Morsiani, Bagnasco, & Sasso, 2017), has profound influence on their OCB (Salanova, Lorente, Chambel, & Martínez, 2011), and on positive health care consequences (Van Bogaert, Wouters, Willems, Mondelaers, & Clarke, 2013). Therefore, nurses job engagement is essential for pursuing optimal health care outcomes and to deal with work stress and high job demands (Morsiani et al., 2017).

Some recent studies on job engagement highlighted that positive emotions trigger job engagement of employees beyond the influence of supervisor’s support

and work meaningfulness (Gloria & Steinhardt, 2017; Junça-Silva et al., 2017); Grossenbacher, 2016. Moreover, (Bakker & Demerouti, 2007) posited that positive emotions reinforce the association between employees' thoughts and actions, and that a healthy physique enables employees to actively use their psychological and physical resources like knowledge, abilities, and skills. They also reasoned that if employees create personalized work resources, they are more likely to attain their goals. However, they finally concluded that organizational performance hinges on employees' collective efforts and hence, cultivating a team-wide culture of job engagement is necessary to achieve high organizational performance.

Existing studies have also highlighted that personal resources such as optimism (Xanthopoulou, Bakker, & Fischbach, 2013) and resilience (Bakker & Arnold, 2008) are significant predictors of job engagement. Similarly (Du Plessis & Boshoff, 2018) maintained that psychological capital (PsyCap) is an essential antecedent of job engagement. This positive relation between dimensions of PsyCap and job engagement is also validated in other studies (Kahn, 1990; Luthans & Youssef, 2007; Simons & Buitendach, 2013). Hence personal resources help engaged employees to manage and influence their environment in a positive way (Alessandri et al., 2018; Luthans, 2002a). In a recent study conducted by (Haynie et al., 2016), organizational justice is found to predict job engagement. They maintained that employees invest their energies willingly in their jobs when they experience positive things happening at the workplace.

Nurses are considered as an important staff of health-care institutions owing to front end dealing with the patients. Job engagement on the part of nurses significantly impact their service quality and hospitals' performance (Park & Lee, 2018). Prior research has illuminated that nurses' job engagement is triggered by various factors especially at three levels: (i) person-level factors like work experience, academic background and age (Bamford et al., 2013; Lawrence, 2011; Palmer et al., 2010), (ii) task-level factors like workload, control over one's job, and autonomy (Bamford et al., 2013; Laschinger et al., 2012; Palmer et al., 2010), and (iii) organizational-level factors such as practice environment, authentic and transformational leadership, structural empowerment and fairness (Bamford et al., 2013; Hayati et al., 2014; Laschinger et al., 2012). However, owing to limit

of research on job engagement and their inconsistent findings (Rivera et al., 2011; Sullivan Havens et al., 2013), more research is required to highlight the predictors of job engagement of nurses (Park & Lee, 2018). In addition to this, prior research had focused primarily on western countries, while little is known about this particular phenomenon in Asian countries, like Pakistan (Khowaja, 2009; Park & Lee, 2018).

One of the important predictors and drivers of within-individual variations of job engagement is personal resources of an individual (Llorens et al., 2007; Xanthopoulou et al., 2009, 2013) which encourage them to achieve their targets (Bakker & Arnold, 2008). Hence, recovery process through the utilization of personal resources assist in increasing job engagement (Sonnentag, Niessen, & Neff, 2012). Similarly, within the workplace context, conservation of resource theory (Hobfoll, 1989) posited that personal resources assist in performing work related tasks effectively and increase job engagement (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). Moreover, studies have illuminated that personal resources like optimism, contribute significantly in predicting job engagement (Xanthopoulou et al., 2009, 2012). This is so because optimism can help individuals to maintain their level of dedication as they become less depressed by suffering, difficulties and setback. In addition to this (Kluemper et al., 2009) suggested that state optimism of individuals assists in reducing their emotional exhaustion as they become more positive with reference to their future and consequences of their job related efforts. In sum, the cognitive, affective and motivational properties of state optimism have the tendency to increase job engagement (Ragsdale & Beehr, 2016). Likewise, state optimism have been found predicting commitment, satisfaction with job, performance, resource recovery mechanisms and work engagement (Kluemper et al., 2009; Ragsdale & Beehr, 2016; Urzúa et al., 2016). Thus, in continuation of AET framework (Weiss & Cropanzano, 1996), which postulates that affective reactions (i.e., positive or negative emotions) in response to workplace events influence affect-driven behaviors as well as work attitudes, we predict that state optimism of nurses in response to experienced compassion at workplace will trigger job engagement (a work-related attitude). So based upon the above discussion, it is hypothesized that:

H8: State optimism is significantly positive related with job engagement.

2.12 Mediating Role of State Optimism in the relation between Experienced Compassion and Job Engagement

Experienced compassion at workplace provides a context for healing and meaning after a stressful and painful events in one's personal or organizational life (Dutton et al., 2002; Kanov et al., 2004). Benefits of experienced compassion documented in the existing literature include increased positive relational and emotional capital (Dutton et al., 2006), improved job performance (Sutton, 2010), positive individual and organizational identity (Frost et al., 2006), readiness for change (Kohlrieser, Goldsworthy, & Coombe, 2012), and increase in employees' organizational commitment (Dutton et al., 2006).

Likewise, job engagement is found to influence a wide variety of important personal and organizational upshots (Christian et al., 2011; Karatepe, 2016; Kwon & Yoon, 2015; Palmer et al., 2010; Rothman, 2000). This is owing to the fact that individuals who are highly engaged in their jobs are not, in essence, addicted to it; rather they are filled with high level of passion and enthusiasm for their jobs (Xanthopoulou et al., 2013), and they put higher level of efforts in their work because doing work is fun for them (Bakker & Arnold, 2008).

However, the extent of job engagement is found to be different in magnitude in various professions, and nursing sector is important in this perspective (Fiabane, Giorgi, Sguazzin, & Argentero, 2013). Highly engaged nurses are considered as an important asset for the health care institutions (Enwereuzor, Ugwu, & Eze, 2018). Although, numerous studies have done in nursing profession (Garrosa et al., 2011; Kim & Kim, 2011; Lawrence, 2011; Palmer et al., 2010; Regan et al., 2016; Simpson & Michelle, 2009; Van Bogaert et al., 2013), there is dearth of literature on nurses' job engagement in developing countries (Enwereuzor et al.,

2018), especially in Pakistan that is currently facing economic downturn (Khowaja, 2009; Malik et al., 2020; Younas & Sundus, 2018).

Existing research in nursing profession has pointed out some individual level factors which have the propensity to influence job engagement such as self-efficacy (Salanova et al., 2011), and optimism (Garrosa et al., 2011), though some organizational factors were also found as important predictors of job engagement in nursing. For instance, organizational support (Brunetto et al., 2013) and structural empowerment (Cho et al., 2006) were found predicting job engagement of nurses. Furthermore, Schaufeli and Bakker (2004) conducted research in four occupational samples and revealed a significant positive link between job resources (viz. social support, performance feedback and coaching) and employees' job engagement. Furthermore, Bakker and Demerouti (2007) also found a positive relation between job resources (viz. appreciation, climate, information innovativeness, supervisor support) and work engagement. Moreover, rewards, values and control were also found predicting job engagement of female bank managers (Koyuncu, Burke, & Fiksenbaum, 2006).

Nurses play a pivotal role in the delivery of health service. However, nursing job entails high stress level and excessive workloads (Garrosa et al., 2011; Kim & Kim, 2011). Recent research has pointed out that nurses are performing their job with less job autonomy, inadequate career development prospects, and limited opportunities for change in career (Aiken et al., 2001). Furthermore, they are more prone to work-related injuries, sufferings, physical and emotional labor, insecurity from physical and emotional harm, inadequate staff, low remuneration, ethical dilemmas, work shifts, administrative procedures and bottlenecks, workplace incivility, and high expectations (Boamah & Laschinger, 2016; Cho et al., 2006; Garrosa et al., 2011; Khowaja, 2009; Laschinger et al., 2012, 2009; Muncer, Taylor, Green, & McManus, 2001; Park & Lee, 2018). However, since nurses play an important role in provision of health care services, so it is crucial that they stay engaged their jobs (Enwereuzor et al., 2018). So keeping in view the daunting challenges faced by nurses, and the importance of their work engagement, it seems crucial to examine the role of experienced compassion at workplace in increasing their job engagement and the mediating mechanism through which this occurs.

Several studies have found a positive linkage between experienced compassion and positive emotions (Dutton, 2003; Folkman & Moskowitz, 2000; Hallowell, 1999; Kahn, 1990, 1993; Lilius et al., 2008). This is owing to the fact that compassionate acts may be considered as affective events at the workplace which in turn trigger positive emotions (Weiss & Cropanzano, 1996). Employees receiving compassion from their supervisors or colleagues at the workplace experience feelings of connectedness among them, which helps in producing a variety of positive emotions in them (Folkman & Moskowitz, 2000; Miller, 2007). This increase in positive emotions is found to predict good relationships among employees (Sprecher & Fehr, 2005), increases their happiness and self-esteem (Mongrain et al., 2011), positive mood (Chu, 2016), affective organizational commitment (Lilius et al., 2008), identification with employing organization (Subba & Rao, 2017), and work engagement (Gloria & Steinhardt, 2017; Junça-Silva et al., 2017; Kwon & Yoon, 2015).

However, positive organizational behavior researchers have emphasized and called for research examining the influence of state measures of optimism on important organizational outcomes (Cameron & Caza, 2004; Urzúa et al., 2016; Wright, 2007; Wright et al., 2004). State optimism refers to the optimism that may change depending upon the situation or context (Kluemper et al., 2009; Luthans, 2002a; Ragsdale & Beehr, 2016). Existing literature on optimism clearly highlights that optimism is linked with a wide variety of positive outcomes ranging from coping and recovery to better health and well-being (Peterson, 2000; Scheier & Carver, 1985, 1992; Seligman & ME, 2003). Moreover, Urzúa et al. (2016) found a positive relation between state optimism and quality of life. They further explored a partial association between optimism and quality of life but state optimism was strongly associated. Furthermore, research has documented that state optimism can fluctuate across days as a result of various events like recovery activities (Ragsdale & Beehr, 2016; Xanthopoulou et al., 2009, 2012). Refilling of state optimism in individuals will depend upon how they explain the reasons of workplace events and the way they control their actions (Xanthopoulou et al., 2009), which has implications for well-being, commitment and satisfaction, work motivation and engagement (Ragsdale & Beehr, 2016; Xanthopoulou et al., 2009, 2012).

In the extant literature, there is dearth of investigations which examined the impact of state optimism on work related consequences (Kluemper et al., 2009; Urzúa et al., 2016). In essence, existing research has predominantly focused on trait optimism and its impact on work-related outcomes. While the implications of both trait and state optimism are markedly distinct in nature. If job related outcomes are linked with trait optimism, which remains relatively stable across time, then administrators should consider measuring optimism of employee during selection process. On the contrary, if state optimism is more strongly associated with work-related outcomes, as is proposed in this study, then administrators should cultivate such environments at the workplace which allow employees to feel more optimistic at job. Since the implications of state optimism are distinct in nature, thus it is essential to understand the role of state optimism in predicting work attitudes like job engagement (Kluemper et al., 2009; Urzúa et al., 2016).

Since state optimism is influenced by contextual factors (Kluemper et al., 2009; Luthans, 2002a; Ragsdale & Beehr, 2016), and in turn influence positive attitudes and behaviors (Kluemper et al., 2009; Urzúa et al., 2016) hence, it is argued in this study that state optimism will mediate the relation between experienced compassion and job engagement. Furthermore, AET (Weiss & Cropanzano, 1996), also maintains that positive emotions mediate the relation between affective workplace event and work attitudes. Therefore, following the above discussion and taking the leads of affective events theory (Weiss & Cropanzano, 1996), current study proposes state optimism as a mediator in the relationship between experienced compassion and job engagement. Consequently, it is hypothesized that:

H9: State Optimism mediates the relationship between experienced compassion and job engagement.

2.13 Creative Performance

The last few years have witnessed a dramatic change in the nature of work owing to a massive change in technology, global competition, flattening organizational structures, and job redesigns. This situation has necessitated creative performance

on the part of employees at all levels and in diverse types of professions, including those that traditionally have not required employees to be creative (An et al., 2016; Eissa et al., 2017; Eschleman, Madsen, Alarcon, & Barelka, 2014; Shalley, Gilson, & Blum, 2009). Creative employees develop useful and novel ideas, processes, products or services (Amabile, 1996; Kalyar & Kalyar, 2018; Shalley & Perry-Smith, 2001; Shalley et al., 2009). Innovation is considered as the successful implementation of creative ideas in the organization (Toyama & Mauno, 2017). Hence it is necessary for some or potentially all employees to be creative so as to provide the vital raw material required for innovation and change (Amabile, 1988; Eschleman et al., 2014; Scott & Bruce, 1994; Simonton, 2014; Volmer, Spurk, & Niessen, 2012).

Creativity and creative performance has been variously defined in the literature. Embracing the most familiar definition (Amabile, 1988; Oldham & Cummings, 1996) creativity is defined as the generation of original ideas that are relevant or useful, and creative performance as the behavioral manifestation of creativity. So creativity has been labeled as the process of “coming up with fresh ideas for changing products, services, and processes so as to better achieve the organization’s goals” (Amabile, Barsade, Mueller, & Staw, 2005) while the behaviors through which one’s creative potential is manifested is labeled as creative performance (Amabile et al., 2005; Chang et al., 2017). This definition is product oriented instead of process oriented because it concentrates on the extent to which an outcome i.e. behavioral manifestation is creative versus the mental process through which it comes into existence. Furthermore, both the originality of an outcome and the usefulness of an outcome are the prerequisites for an outcome to be deemed creative. If any one of these conditions is not fulfilled, an idea, a product or a process would not be considered creative (Amabile et al., 2005; Gong et al., 2009).

Encouraging creative performance among employees of an organization is essential to pursue consistent adaptation with the continuously changing environment (Shin et al., 2016). Being core employees of healthcare organizations, nurses are considered important service providers due to front end dealing with the patients. Additionally, they also play a critical role in building and maintaining hospital’s

image and customer satisfaction (Park et al., 2006). Hence, hospitals can have better functioning if nurses are able to exhibit creative performance (Hughes, 2006; Malik et al., 2020; Moody, 2004).

2.13.1 State Optimism and Creative Performance

Understanding the dynamics of employees' creative performance is imperative to continuously innovate organizational products, processes and systems (Chang & Birkett, 2004; Eschleman et al., 2014). Existing research on creative performance revolves around various predictors of employees' creative performance especially workplace characteristics such as leadership support, coworker characteristics, task design and organizational climate (Cho et al., 2006; Kim et al., 2009; Tierney et al., 1999) psychological capital (Sweetman et al., 2011) affect (Amabile et al., 2005) employee learning goal orientation (Gong et al., 2009) social-psychological factors (Shalley & Perry-Smith, 2001) change-oriented OCB (Cho et al., 2006) mood and personality (Ding et al., 2015) creative self-efficacy (Tierney et al., 1999) intrinsic rewards (Malik et al., 2020) and divergent thinking (An et al., 2016).

A recent review conducted by (Zhou & Hoever, 2014) had pointed out two different approaches in creativity research. The first approach labeled as actor-centered approach emphasizes on personality traits and the interaction of personality traits with numerous within-individual factors like self-confidence and self-efficacy etc. The second approach labeled as context-centered approach had mainly stressed the role of social contextual interplay like social support and social relationships. However, the modern research in creativity and creative performance stresses the role of considering both perspectives simultaneously. This is so because in reality personal and situational factors often interact to influence creative performance (Zhou & Hoever, 2014).

In this perspective, (Oldham, 2003) argued that positive emotions of individuals can influence their creative performance. Likewise, broaden and build theory also provide a theoretical justification for linking positive affective states with creative performance. According to this theory, positive affect produces patterns of thoughts which are flexible, unusual, creative, and open to new experiences

(Isen, Daubman, & Nowicki, 1987). In this line of thought, existing studies also attest the association of state optimism with affective commitment, satisfaction with the job, task and contextual performance (Kluemper et al., 2009; Ragsdale & Beehr, 2016). Hence nurses' state optimism being a type of positive emotional state (Kluemper et al., 2009) resulting from experienced compassion at the workplace may influence nurses' positive behavior like creative performance (Chang et al., 2017; Christian et al., 2011; Kluemper et al., 2009; Sweetman et al., 2011; Urzúa et al., 2016). Thus it is hypothesized that:

H10: State Optimism is significantly positive related with creative performance.

2.13.2 Job Engagement and Creative Performance

Creative performance is defined as “the amount of new ideas generated and novel behaviors exhibited by the person in performing his or her job activities” (Wang & Netemeyer, 2004). Creative performance plays a crucial role in today's technologically advanced and extremely competitive environment (Ashkanasy & Dorris, 2017). Organizations build and maintain competitive edge in the market through creative performance of their employees (Chen et al., 2012). Similarly, hospitals are highly reliant on engagement and creative performance of their nursing staff (Brown et al., 2006; Chang & Liu, 2008). Creative performance of nurses who are dealing directly with the patients, is of vital importance, in achieving hospitals' objectives and, in a broader context, the objectives of healthcare (Chang & Liu, 2008; Knol & Van Linge, 2009). Hence it is of immense significance to explore the predictors of creative performance of nurses (Knobloch & Whittington, 2002).

Considering the significance of creative performance, there seems a great interest in research in the recent years to explore the individual and contextual factors which help in increasing employees' creative performance in diverse settings (Chang et al., 2017; Kalyar & Kalyar, 2018; Karatepe, 2016; Li et al., 2017; Malik et al., 2020). This study is undertaken to add to this literature by focusing particularly on nurses working in public healthcare sector of Pakistan. The significance of this study can be judged from the fact that creative performance on the part of nurses

may translate in cost-effective, more appropriate, and more effective treatments for healthcare consumers, and hence can ultimately improve the functioning of healthcare institutions (Herzlinger, 2006; Malik et al., 2020).

Up till now, very few research studies have observed the association between job engagement and creative performance (Toyama & Mauno, 2017). For instance, (Bakker & Xanthopoulou, 2013) had suggested that high level of personal and job resources significantly predicted job engagement of school principals, which, in turn, influenced their creative performance. Likewise, Salanova et al. (2011) conducted research in nursing sector and demonstrated that self-efficacy influenced nurses' performance and job engagement mediated this relation. Furthermore, job engagement which signifies a positive state of mind characterized by high energy, enthusiasm, and concentration (Schaufeli, Bakker, & Van Rhenen, 2009), can also influence creative performance (Toyama & Mauno, 2017). Particularly, intrinsic motivation and positive emotions, which form the essence of job engagement (Schaufeli et al., 2009), are more central in this relationship (Toyama & Mauno, 2017).

Today's healthcare institutions are pursuing innovation and change by introducing new management strategies owing to changes in the market like increased competition, the emergence of consumerism, and the expansion in patients' rights (Kim & Park, 2015). Consequently, it is imperative for healthcare providers, particularly, nurses to stay engaged in their jobs and perform creatively (Kim et al., 2009; Malik et al., 2020; Salanova et al., 2011; Zhou & Hoever, 2014).

Though creative performance is considered as an important outcome of job engagement in the extant literature (Karatepe, 2012; Salanova et al., 2005), but very few studies have examined the link between job engagement and creative performance (Chang et al., 2017; Karatepe, 2012, 2016; Li et al., 2017). It is argued in this study that since highly engaged nurses exhibits higher level of energy, show more resilience, depicts greater dedication and involvement in their job, and experience a strong sense of enthusiasm, challenge and significance (Christian et al., 2011; Haynie et al., 2016; Kahn, 1990; Rich et al., 2010), hence they are more likely to exhibit creative performance (Chang et al., 2017; Karatepe, 2016; Li et al., 2017).

Keeping in view the above discussion and following the leads of affective event theory, it is hypothesized that:

H11: Job engagement is significantly positive related with creative performance.

2.13.3 Mediating Role of Job Engagement in the relation between State Optimism and Creative Performance

State optimism refers to the optimism that may change depending upon the situation or contextual factors (Kluemper et al., 2009; Ragsdale & Beehr, 2016). This construct is substantially different from another construct which is labeled as 'Trait Optimism'. Trait optimism denotes the steady individual variations in the level of experienced optimism while state optimism is specifically originated from contextual factors (Kluemper et al., 2009; Ragsdale & Beehr, 2016). Optimism refers to positive evaluation of events that will happen in the future and the belief that favorable outcomes are always the result of a person's actions and behaviors. This positive outlook ultimately helps individuals to work hard for achieving objectives (Scheier & Carver, 1985; Seligman et al., 1998; Straughair, 2016).

State optimism have been found predicting commitment with organization, satisfaction with job, higher performance, resource recovery mechanisms and work engagement (Kluemper et al., 2009; Ragsdale & Beehr, 2016). Hence nurses state optimism being a type of positive emotional state (Kluemper et al., 2009) resulting from experienced compassion at the workplace may influence nurses' positive attitudes and behavior such as job engagement and creative performance (Christian et al., 2011; Kluemper et al., 2009; Sweetman et al., 2011).

Despite limited evidence, existing research has convincingly highlighted that positive emotions influence employee's creative performance (Bledow, Rosing, & Frese, 2013; Davy, 2017; Isen et al., 1987). The conceptual foundation of this relationship is based upon cognitive tuning model (Schwarz, 1990), and broaden and build theory (Fredrickson, 1998, 2001). According to cognitive tuning model (Schwarz, 1990), when employees experience positive affective states, they recognize their

present state as free from any harms. Such perception of being safe allows them to use unusual and risky options, which ultimately results creative performance at job (Schwarz, 2002). Similarly, broaden and build theory (Fredrickson, 1998, 2001) also provide a theoretical justification for linking positive affective states with creative performance. According to this theory, positive affect produces patterns of thoughts which are flexible, unusual, creative, and open to new experiences (Isen et al., 1987).

A recent research conducted by (Malik et al., 2020) highlighted that knowledge sharing mediated the relation between authentic leadership and creative performance of nurses. Furthermore, (Karatepe, 2016) maintained that job embeddedness mediates the relation between coworker and family support and creative performance. In addition to this, (Jung & Yoon, 2016) explored the mediating role of job engagement in the relation between meaningful work and employees' commitment with the organization. Moreover, job engagement is found mediating the relation between high performance work practices and performance of hotel employees (Karatepe, 2013). However, (Bakker & Xanthopoulou, 2013) had suggested that high level of personal resources (e.g. positive states) significantly influence job engagement, which, in turn, predicted their creative performance. Similarly, a recent research conducted in nursing sector had demonstrated that self-efficacy influenced nurses' performance through the mediating role of job engagement (Salanova et al., 2011).

Furthermore, recent studies on job engagement highlighted that positive affective states increase the level of employees' job engagement (Gloria & Steinhardt, 2017; Junça-Silva et al., 2017) Grossenbacher, 2016. The conceptual foundation of this association is found in engagement theory (Kahn, 1990, 1993) which suggests that employees need to feel safe, must have resources available and must have meanings in their jobs in order to make them more engaged in their jobs. It is argued in this study, that state optimism in response to experienced compassion at workplace, can provide psychological safety, and resources (cognitive, psychological and emotional) to employees which can make them more engaged in their jobs.

On the other hand, job engagement is considered as an important antecedent of creative performance in the extant literature (Karatepe, 2012; Salanova et al., 2005). This is likely to happen because engaged employees exert more dedication, energy, enthusiasm and absorption in their jobs (Christian et al., 2011; Haynie et al., 2016; Kahn, 1990; Rich et al., 2010) which may results in creative solutions to problems (Karatepe, 2012, 2016; Li et al., 2017; Salanova et al., 2005). Hence it is hypothesized that:

H12: Job engagement mediates the relationship between state optimism and creative performance.

2.14 Research Model

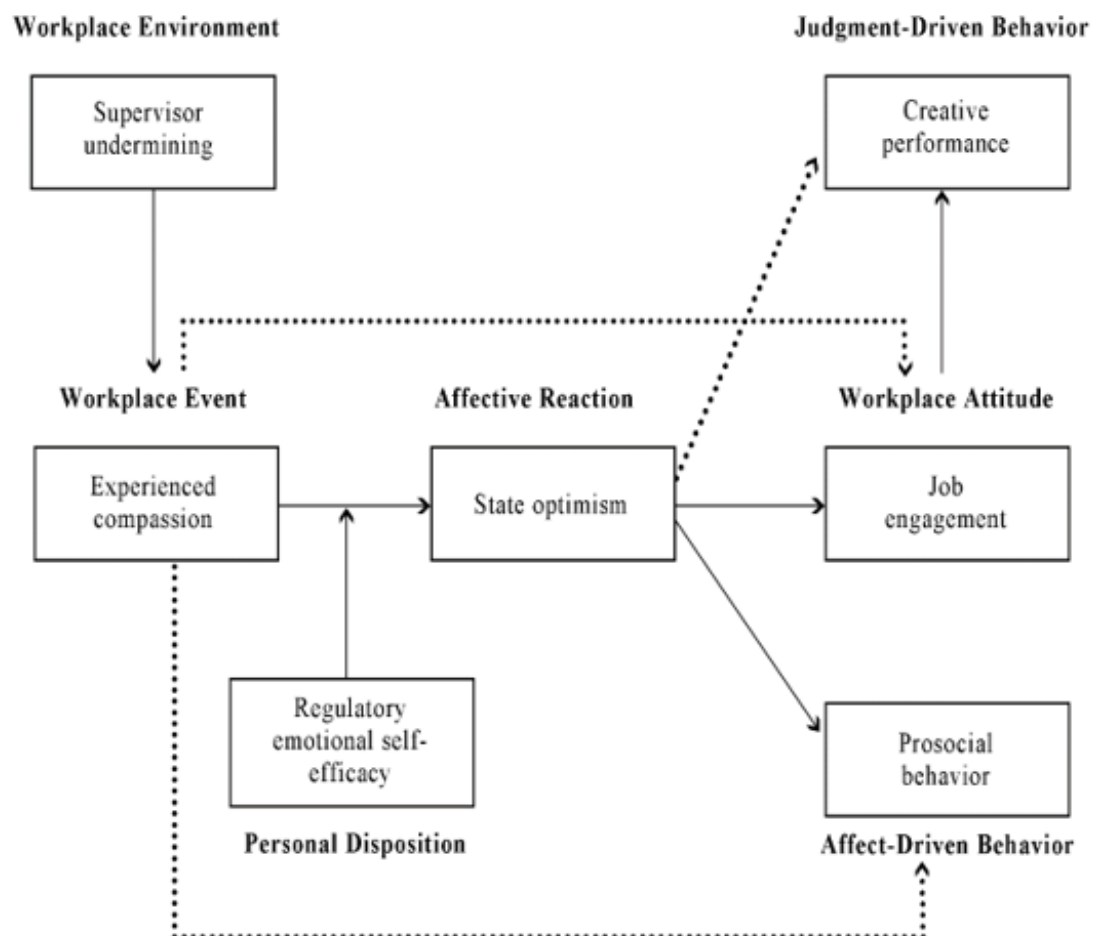


FIGURE 2.2: Evaluation of Nurses' Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory

2.15 Research Hypotheses

H₁: Supervisor undermining is significantly positive related with experienced compassion at the workplace.

H₂: Experienced compassion at the workplace is significantly positive related with state optimism.

H₃: Experienced compassion at the workplace is significantly positive related with prosocial behavior.

H₄: Experienced compassion at the workplace is significantly positive related job engagement.

H₅: Regulatory emotional self-efficacy (RESE) moderates the relationship between experienced compassion and state optimism such that the relationship is stronger at higher values of RESE.

H₆: State Optimism is significantly positive related with prosocial behavior.

H₇: State Optimism mediates the relationship between experienced compassion and prosocial behavior at workplace.

H₈: State optimism is significantly positive related with job engagement.

H₉: State Optimism mediates the relationship between experienced compassion and job engagement.

H₁₀: State optimism is significantly positive related with creative performance

H₁₁: Job engagement is significantly positive related with creative performance.

H₁₂: Job engagement mediates the relationship between state optimism and creative performance.

Chapter 3

Research Methodology

This chapter elaborated the specific methodology which has been used to examine the proposed relationships between different variables of the study. Specifically this chapter highlighted the research methods followed for conducting the research. It also provided details of the research design employed for seeking answers to the research questions. In addition to this, it highlighted population of the study, sampling technique, and sample size. Furthermore, the data collection procedure is discussed in detail and various measures or scales used for data collection are elaborated. Finally, the upshots of pilot testing are discussed and the steps followed for the purpose of data analysis are illustrated.

3.1 Research Methods

There are various methods and philosophical approaches for conducting scientific inquiry in social sciences popularly known as “paradigms”. It is defined as, “the basic belief system or world view that guides the investigation” (Guba, Lincoln, et al., 1994). Bazeley (2003) maintained that the choice of a particular paradigm eventually effect the choice of data collection method as well as the way collected data is analyzed and interpreted. Guba (1990) maintained that ontology explores “reality” (as it is visualized by the researchers’). On the other hand, epistemology examines the association between what is studied and the person who is actually conducting the research. However, positivism philosophy of research advocates

that only ‘factual’ knowledge gathered via observation and measurement is reliable and trustworthy. In studies which follow positivism philosophy of research, the role of investigator or researcher is limited to data collection and objective interpretation of the data. In other words, researcher remains objective and separates himself from personal opinions or values in conducting the research. Moreover, (Crowther & Lancaster, 2008) argue that positivist research usually follow deductive approach to research in which hypotheses are made based upon a theory and literature. Then statistical analysis is undertaken to accept or reject the hypotheses. Hence positivism relies on quantitative data which leads to statistical analysis and interpretation in objective way. This philosophy of research has remained dominant in social sciences research for decades (Crowther & Lancaster, 2008; Bell, Bryman, & Harley, 2022).

In this perspective, Neuman (2006) also maintained that social sciences researchers more often adopt positivist viewpoint and prefer quantitative research methods for conducting research inquiry. Quantitative research methods entails knowledge growth by the use of specific theories, research design, collection of numeric data, testing of hypotheses, and making inferences based upon results of data analysis. Here the researcher or investigator detach himself from the observed phenomenon so that he/she can remain as ‘objective’ as possible and hence strives hard to avoid biases which ultimately influence findings of the study. Therefore, this study used positivist research philosophy, followed the deductive approach and employed quantitative methods.

3.2 Research Design

Research design basically provides assistance to researchers in seeking answers of the research questions on the basis of scientific evidence. The most dominant research design which is being used by social sciences’ researchers since nineteenth century is “quantitative research design”, because it provides reliable and valid data by using more sophisticated tools and techniques (De Vaus, 2001). This design describes observable facts in numeric form which can be used to discover the associations as well as cause and effect relationships among the study variables

(Wiersma, 2000). Therefore, current study can also be categorized as a quantitative and empirical in nature because it also used quantitative data to explore the relationships among study variables.

Survey was conducted to obtain feedback of respondents by using questionnaires. There are various methods for collecting data through questionnaires for example, self-administered questionnaires, survey through email, online surveys, phone surveys etc. In this study data is gathered from the respondents through self-administered questionnaires by the researcher himself with the help of lead contacts since this method takes comparatively less time for reliable data collection. Furthermore, any queries and doubts in the minds of respondents can be clarified on the spot and they feel more comfortable in responding due to personal interaction. Feedback of the respondents was used to explore the nature of relationship among study variables i.e. supervisor undermining, experienced compassion, regulatory emotional self-efficacy, state optimism, job engagement prosocial behavior, and creative performance.

3.2.1 Type of Study

This study is primarily causal in nature because we tested the cause and effect relationship among study variables through directional hypotheses. Causal investigations can better seek answers to research questions and for testing hypothesis.

3.2.2 Study Setting

This study is conducted in the natural environment and respondents filled the questionnaires independently without any interference of the researcher. Hence study setting was non-contrived since data is gathered in the routine environment without any manipulation by the researcher.

3.2.3 Research Philosophy and Approach

This study followed positivism philosophy of research which advocates that only 'factual' knowledge gathered via observation and measurement is reliable and

trustworthy. We used deductive reasoning approach because hypotheses were developed based on theory and existing literature. Then statistical analysis was undertaken to accept or reject the hypotheses. Furthermore, this study is quantitative and empirical in nature since we used quantitative data for testing the proposed relationships.

3.2.4 Unit of Analysis

Unit of analysis refers to the major entity that is being analyzed in the research. It varies from individual, dyads, groups, divisions, industry, and country etc. This study is undertaken at individual level since all the variables of this study were of individual nature.

3.2.5 Time Horizon

This investigation used time – lagged data since data is collected at five different time intervals from February to July 2019.

3.3 Population of the Study

Population denotes the total number of persons being considered for data collection and to explore the phenomenon under investigation (Van Blerkom, 2008). Population of this study comprises the nurses working in various public sector hospitals of Pakistan. Health delivery system in Pakistan consists of various private and public sector hospitals. The public sector health facilities are being delivered at federal and provincial level. This system is working through a coordinated network of Tehsil and District Headquarter Hospitals, rural health centers, various dispensaries, basic health units and allied medical professionals.

Although public sector health facilities in Pakistan have continuously increased over the years in terms of physical infrastructure, number of doctors, nurses, lady health workers, paramedical staff etc., but there is also a tremendous increase in the population as well. Resultantly, the doctor to population ratio stands at

1:997, nurses to population ratio 1:2217, dentist to population ratio 1:10658, and hospital beds to population ratio stands at 1:1584. These ratios are significantly lower than the international health standards (World Health Organization, 2017). Furthermore, there are 1201 public sector hospitals, 195896 registered doctors, 99228 registered nurses, 5518 basic health units (BHUs), 683 rural health centers (RHCs), 5802 Dispensaries, 731 Maternity and child health centers, 347 TB centers and total beds in these health centers are 1,23,394 (Pakistan Bureau of Statistics, 2017).

Despite such an extensive health care infrastructure, the delivery of health services in Pakistan is facing some key issues and challenges. These issues stem from inadequate health budget, lower doctor to patient and nurses to patient ratio, uneven deployment of health professionals, rapid population growth, political orientations and environmental factors (World Health Organization, 2017). In addition, the dynamics of public sector hospitals are entirely different as compare to private sector hospitals. For example, public hospitals are usually considered the first choice for emergencies and acute health issues, the waiting period for elective surgery is also longer in public sector hospitals, and there is more pressure of patients in public sector hospitals. Hence this study is limited to the public sector hospital of Pakistan.

It is an established fact that nurses play a critical role in the delivery of health care services owing to front end dealing with patients. Furthermore, prosocial behavior and creative performance on the part of nurses is necessary for effective delivery of health care services. But performing a nursing job encompasses multiple challenges especially in a developing country like Pakistan. These include lower compensation, job insecurity, workplace incivility, unethical behavior, lower nurse to patient ratio, workplace hazards and injuries (Keller et al., 2018; Khowaja, 2009; Malik et al., 2020; Younas & Sundus, 2018). This situation can be further intensified and fueled up if nurses also face supervisor undermining at the workplace. However, experienced compassion by nurses at the workplace can turn the entire situation upside down by triggering state optimism in nurses which can further influence their job engagement, prosocial behavior and creative performance.

So the borderline of this study is restricted to public sector hospital of Pakistan and the target population of this study comprises the nurses and their peers/coworkers, working in public sector hospitals of Pakistan. For this purpose, following public sector hospitals spread geographically in different regions of Pakistan were selected for data collection.

1. Mayo Hospital, Lahore
2. Civil Hospital, Gujranwala.
3. DHQ Hospital , Layyah
4. DHQ Hospital, Jhelum
5. Jinnah Hospital Lahore.
6. Nishtar Hospital, Nishtar Road, Multan.
7. Civil Hospital, Gujrat
8. DHQ Teaching Hospital, Sargodha
9. Aziz Bhatti Shaheed Hospital (DHQ), Bhimber Road, Gujrat
10. Pakistan Institute of Medical Sciences, Islamabad.
11. Benazir Bhutto Hospital, Rawalpindi.
12. Allama Iqbal Memorial Hospital, Sialkot
13. Sir Ganga Ram Hospital, 17-Queen's Road, Lahore.

3.4 Sampling Technique and Sample Size

Sampling refers to the procedure by which a subset of respondents or cases is selected which ultimately helps in drawing conclusions about the entire population (Dixon, Singleton, & Straits, 2016). Sampling is extremely desired since it is very

difficult, time consuming and costly to consider the entire population for conducting research. So in practice, a representative sample of the target population is chosen that aid in generalizing the results to the entire population.

Although it is argued that probability sampling technique, in which all the members of the population have known and equal chances of selection as a sample subject, is a better technique as compared to non-probability sampling (Wiersma, 2000). However, if the entire population of the study could not be accessed then it is not feasible to pursue probability sampling technique. Therefore, in this case non-probability sampling technique is used. (Dixon et al., 2016). Despite many issues related to its feasibility, non-probability sampling is still utilized to select the sample. Hence this study also pursued non-probability sampling technique for sample selection. Since, it was not possible to take a random sample of all the nurses working 1201 public sector hospitals of Pakistan.

One of the most widely used forms of non-probability sampling is convenient sampling in which data is collected from those members of the population who are conveniently accessible. In this study convenient sampling technique is used for data gathering. The main reasons behind the use of this technique are; 1) time and resource constraints, 2) wide dispersion of the public sector hospitals across Pakistan, and 3) time lag design for data collection.

Following the recommendations of Krejcie and Morgan (1970), regarding the sample size for different population sizes, a sample of 384 was sufficient for the current study. Krejcie and Morgan (1970) maintained that if population of the study exceeds 75000 but not exceeds 1000000 then a sample of 384 respondents is enough to draw conclusions about the entire population. Furthermore, Hair, Black, Babin, Anderson, and Tatham (2010) recommended that for using SEM for data analysis one must have at least 300 sample size. According to the most recent estimates of Pakistan Bureau of Statistics (2017), 99228 registered nurses are working in all the public sector hospitals of Pakistan. Hence a sample of 384 nurses was sufficient for the purpose of this study. However, in anticipation of a targeted sample size of 384 respondents, a total of 650 questionnaires were distributed among the study population. This study has 406 collected responses which adequately meet the sample size requirements highlighted by above-mentioned criteria.

3.5 Data Collection Procedures

For the purpose of data gathering, personally administered questionnaire survey is most frequently used data collection methods. (Bell et al., 2022) asserted that this form of questionnaire survey is more useful than online and postal surveys. This is owing to the fact that any concerns or doubts in the respondents mind about the questionnaire can be easily clarified and they feel more comfortable in responding due to personal interaction. Similarly, (Sekaran & Bougie, 2016) claimed that if the questionnaire is administered personally it established rapport and respondents are motivated to respond. Furthermore, this method is inexpensive and ensures anonymity of respondents and increases the response rate. In this study data is gathered from the respondents through self-administered questionnaires by the researcher himself with the help of lead contact persons since this method takes comparatively less time for reliable data collection.

Data were collected by using questionnaire survey from nurses working in various public sector hospitals of Pakistan. Questionnaires were administered in English language as it is the official language of Pakistan. Moreover, nurses working in these hospitals can easily read and understand English language. Furthermore, past researchers had not experienced any language related problems while collecting data from nurses in Pakistan (Khowaja, 2009; Malik et al., 2020; Younas & Sundus, 2018).

To recruit participants, and to avoid the social desirability bias, the researcher contacted the hospital administrator/medical superintendents (MS) and briefed about the purpose of the study and scope of data collection. They were also told that the data will be gathered from both the nurses and their peers and participation in the survey is voluntary and responses will be kept confidential. After getting their consent, the head nurses were taken on board to get access to nurses working in their respective wards for the purpose of data collection.

Furthermore, a cover letter was also attached with the questionnaire indicating that the researchers did not know any of the respondents and there is no means whatsoever to identify any of the participants. The cover letter also included statement of confidentiality and requested the respondents to read the instructions

carefully before filling out the questionnaires. In addition to this, respondents were clarified that there are no right or wrong answers of these questions, hence your openness is strongly encouraged. Finally, they were assured that the responses will be kept anonymous and will only be reported in aggregate. The researcher also supplied all the participants with unmarked envelopes and requested them to place their filled questionnaires in those envelopes. They were also instructed to put the envelopes in a sealed box kept in their ward by the researcher.

Time lag data collection technique was adopted in this study. This technique of data collection is appropriate to avoid the problem of common method bias that usually arises in cross sectional data collection techniques. In this study, data were collected in 5 time lags, with every time lag of minimum 3 weeks. The time lag is defined as the period of time between a cause and effect. Multiple meta-analyses concluded that the effects erode if the time lag between two measurements increase (Atkinson et al., 2000; Griffeth, Hom, & Gaertner, 2000; Hulin, Henry, & Noon, 1990). Although existing research provides no solid conclusion in this regard, however, it is believed that effects deteriorate if the time lag increases (Dormann & Griffin, 2015).

At time 1, respondents were requested to create a key comprising first alphabet of their first and last names followed by the name of the month of their birth. The purpose of this key was to match the responses at different time lags besides maintaining confidentiality. The respondents were again asked to enter the same key which was created at time 1 while filling the questionnaire at time 2 through time 4. Furthermore, at time 4 respondents were also requested to nominate any three colleagues/coworkers who have been working with them for a minimum of last six months. At time 5 we handed over the questionnaire (which already contained the distinctive key of the respondent) to his/her peer /coworker. This particular technique made it easier for us to match the coworker responses with the responses of the relevant respondents.

A lead contact person in each hospital was approached to help the researcher in distributing and collecting the questionnaires from the nurses who volunteered to participate in the survey. This lead contact person also assisted the coworkers for identification of the main respondent. In this way it become much easier for

the coworker to rate the prosocial behavior and creative performance of the main respondent. This technique of data collection and peer rating is also employed in the past studies (Fatima et al., 2020). The chief reason of peer rating is that since peers work with each other more frequently, hence they are more likely to understand each other's working style, behavior, and performance better as compare to their bosses who usually give feedback based on end results.

3.6 Data Collection in Five Time Lags

Time Lag 1: Initially, 650 questionnaires were distributed among the nurses of different public sector hospitals of Pakistan at time 1 for collecting data on an independent variable i.e. supervisor undermining, 574 questionnaires were received back at time 1.

Time Lag 2: These 574 respondents were contacted after three weeks i.e. at time 2 to fill the questionnaires of experienced compassion and RESE. Experienced compassion is the proposed effect of supervisor undermining and RESE is a moderator. Both were measured by using self-reported questionnaires which were filled by nurses. 541 respondents filled and returned the questionnaires at time 2.

Time Lag 3: These 541 respondents were contacted after three week i.e. at time 3 to fill the questionnaire of state optimism. State optimism is the proposed effect of experienced compassion. This variable was measured by using self-reported questionnaire which was also filled by nurses. 512 respondents completed and returned back the questionnaires at time 3.

Time Lag 4: These 512 respondents were contacted after three weeks i.e. at time 4 to fill the questionnaire of job engagement. Job engagement is the proposed effect of state optimism and it was measured by using a self-reported questionnaire which was filled by nurses. Out of these 512 respondents, only 466 respondents completed and returned the questionnaires at time 4.

Time Lag 5: Consequently, peers/coworkers of these 466 respondents were contacted after a gap of three weeks i.e. at time 5 to fill the questionnaires of final outcome variables of prosocial behavior and creative performance. 430 coworkers

filled the questionnaires and submitted their responses. After removing missing values and unengaged responses, 406 questionnaires were left for final data analysis with a response rate of 62%. Such a high response rate is very common in self-administered surveys conducted in Asian contexts (Abbas et al., 2014; Raja, Johns, & Ntalianis, 2004). All the questionnaires were self-reported except the questionnaire of nurse's creative performance and prosocial behavior which were filled by nurses' peers/coworkers.

3.7 Demographic of Respondents

This study included four demographic variables as possible control variables. These include gender, age, marital status and working tenure. Existing literature on job engagement and creative performance has found these demographic variable as significant controls (Enwereuzor et al., 2018; Xanthopoulou et al., 2009). Consequently, these demographic variables are taken as the proposed control variables. The distinguishing characteristics of the sample of this study are highlighted below.

3.7.1 Gender

Table 3.1 highlighted that females are dominated in the nursing profession in Pakistan since 371 respondents were female representing 91.4% of the sample size, and only 35 respondents were male which constituted 8.6% of the sample size. Hence traditionally feminine occupation of nursing is also established in the current study.

TABLE 3.1: Gender of Respondents

Gender	Frequency	Valid Percent	Cumulative Percent
Male	35	8.6	8.6
Female	371	91.4	100

3.7.2 Age

Table 3.2 depicted the distribution of sample with respect to different age groups. According to our sample 93 nurses are in the age group of up to 24 years representing 22.9% of the sample, 184 respondents belong to age group of 25-31 years of age constituting 45.3% of the sample. Furthermore, 83 respondents fall in the age group of 32-38 years of age representing 20.4% of the sample, and only 46 respondents fall in the age group of 39 years & above which constituted 11.3% of the sample. Hence majority of nurses belong to 25 to 31 years of age while the age group of 39 years and above had the least number of respondents.

TABLE 3.2: Age of Respondents

Age	Frequency	Valid Percent	Cumulative Percent
≤24 Years	93	22.9	22.9
25-31 Years	184	45.3	68.2
32-38 Years	83	20.4	88.7
39 & Above	46	11.3	100

3.7.3 Marital Status

Nurses were asked about their marital status to investigate whether it had any impact on their prosocial behavior and creative performance. Table 3.3 demonstrated that 71.7% of respondents were married, while only 28.3% were single. Hence majority of nurses were married which highlighted that they have to devote their time and attention to manage their family affairs as well.

TABLE 3.3: Marital Status of Respondents

Marital Status	Frequency	Valid Percent	Cumulative Percent
Single	115	28.3	28.3
Married	291	71.7	100

3.7.4 Tenure/Experience

Table 3.4 revealed that majority of respondents has up to 10 years of experience. In essence, 37.2% respondents have the minimum level of experience of 1-5 years. 42.5% respondents have 6-10 years of tenure. While 15.3% respondents have 11-15 years of experience, and only 5.4% respondents have more than 15 years of experience.

TABLE 3.4: Tenure of Respondents

Tenure	Frequency	Valid Percent	Cumulative Percent
1-5 Years	151	37.2	37.2
6-10 Years	171	42.1	79.3
11-15 Years	62	15.3	94.6
16 & Above	22	5.4	100

3.8 Measures

In social sciences research, it is considered essential to follow a robust selection criterion while deciding about the inclusion of a particular item in the questionnaire. First of all, the questions included in a particular questionnaire should consistently measure the same concept. This can be checked by computing the value of Cronbach's Alpha (a measure of inter-questions consistency propounded by Cronbach).

Cronbach suggested that the higher the coefficients value of Cronbach's Alpha, the better the measuring instrument will be considered. Furthermore, [Andrew, Pedersen, and McEvoy \(2019\)](#) proposed that the range for the value of Cronbach's Alpha is '0' to '1' but a value greater than 0.70 will be considered acceptable. The second criterion suggests that scores awarded to the questions in a questionnaire should remain reasonably same (stable) over a period of time.

The third criterion establishes that questions which are included in a particular questionnaire should reasonably correlate with each other. The fourth criterion

requires that the questions included in the questionnaire should have strong conceptual and theoretical foundation. Finally, fifth criterion illuminates that there must be at least three questions in a questionnaire.

The questionnaire which is used for this study comprises 8 parts containing 81 questions (see appendix I). It basically consists of a series of already established and validated questionnaires. Hence all the scales used in this study are adopted from previous studies and there is no modification in the questions. Part one consists of 4 questions of demographic characteristics comprising gender, marital status, age and working tenure; part two comprises 13 questions to tap supervisor undermining; part three includes three questions to measure experienced compassion; part four contains 12 questions to measure regulatory emotional self-efficacy; part five comprises 8 questions to measure state optimism; part six consists of 18 questions to measure job engagement; part seven includes 20 questions to assess prosocial behavior, and finally part eight contains 3 questions to measure nurses' creative job performance.

For quantifying respondents' perceptions and opinions a five point Likert scale was used. A Likert type scale, allows respondents to answer the questions in a degree of agreement. It also provides a neutral option to accommodate the respondents' opinion and a single numeric value denotes the participant's response. In addition, it is efficient, inexpensive and quick way of collecting the field data.

3.9 Pilot Testing

Pilot testing refers to the preliminary/ startup investigation conducted to test the feasibility of the various measures used in the study. In addition to this, it helps in exploring the time, cost, and reliability as well as the suitability of not only the instruments but the entire study. Furthermore, the issues and inadequacies in the measures can be traced and dealt with to improve their effectiveness. In essence, the unreliable items can be highlighted and removed from the questionnaire. (Sekaran & Bougie, 2016) suggested conducting the pilot investigation to highlight the deficiencies in the items of the scales before conducting the detailed

study and analysis. In addition to this, (Neuman, 2006) also emphasized the significance of pilot study prior the start of main study to provide authentic and reliable upshots.

Considering the significance of pilot study, a total of 150 respondents were initially targeted to get their feedback through questionnaire survey. After consistent effort and follow-ups a total of 115 questionnaires were finally received, yielding a response rate of 76.67%. The reliabilities upshots in the form of Cronbach's Alpha of pilot testing are depicted in **Table 3.5**.

TABLE 3.5: Reliabilities from Pilot Testing

Variables	Source	No. of Items	Reliability
Supervisor Undermining	Duffy, Ganster, and Pagon (2002)	13	0.89
Experienced Compassion	Lilius et al. (2008)	3	0.74
State Optimism	Scheier & Carver, (1985)	8	0.77
Regulatory Emotional	Caprara et al. (2008)	12	0.92
Self- Efficacy			
Job Engagement	Rich et al. (2010)	18	0.95
Prosocial Behavior	McNeely & Meglino (1994)	20	0.84
Creative Performance	Oldham and Cummings (1996)	3	0.75

3.10 Measures Used

First part of the questionnaire was designed to collect demographic facts of the respondents which included gender (male/female), marital status (single/married), employee ID (comprising first alphabets of first and last name followed by month of their birth), age (in years), working experience (in years spent in job), hospital's name and ward number. The detail of various measured used in this study is given below.

3.10.1 Supervisor Undermining

Supervisor undermining was measured by using 13 items from the social undermining scale developed by [Duffy et al. \(2002\)](#). This scale have 26 items on coworker and supervisor undermining, each consisting of 13 items. [Duffy et al. \(2006\)](#) reported internal consistency reliability of supervisor undermining measure as .92 and for coworker undermining scale as .90. They also provided evidence of unidimensionality of each of these measures. So in this study only the 13 items of supervisor undermining were used. The nurses were asked to consider the past 4 weeks and answer the questions with response categories ranging from 1=never, 2 =once or twice, 3=several times a week, 4=almost every day, and 5=every day. Sample items include: “(1) How often has your supervisor intentionally hurt your feelings? (2) How often has your supervisor intentionally put you down when you questioned work procedures? (3) How often has your supervisor intentionally undermined your effort to be successful on the job?” The reliability and validity of this scale is well established and proven in previous research studies ([Duffy et al., 2006](#); [Frazier & Bowler, 2015](#); [Ng & Yim, 2015](#)). In this study, alpha reliability of this scale was $\alpha=.87$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.2 Experienced Compassion

Experienced compassion was measured by using [Lilius et al. \(2008\)](#) 3 items scale. Nurses were asked to consider the last 3 weeks and indicate on a five point likert type scale about how frequently they experienced compassion at the workplace. The range of response categories was 1 representing “never” to 5 representing “always”. A higher score on the measure indicates a higher level of experienced compassion. [Lilius et al. \(2008\)](#) conducted a factor analysis of these three items scale and confirmed unidimensionality of this measure with factor loading greater than 0.80 and with 70% of variance explained. They also reported reliability of this measure as 0.79. Sample items include: “(1) In the last month, how frequently you experienced compassion on the job (2) In the last month, how frequently you experienced compassion from your co-workers”. The reliability and validity of this

scale is also well established and proven in previous research studies (Lilius et al., 2008; Rhee et al., 2017; Subba & Rao, 2016, 2017). In this study, alpha reliability of this scale was $\alpha=.73$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.3 State Optimism

State optimism was measured by using original Life Orientation Test (LOT) by (Scheier & Carver, 1985). This scale has eight items and is used by Kluemper et al. (2009) and (Ragsdale & Beehr, 2016). In both of these studies the items were modified to indicate the current state of optimism with statements such as “currently, while at work, I’m optimistic about my future”, using a 5-point likert type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items include: “(1) Currently, while at work, I usually expect the best. (2) Currently, while at work, I look on the bright side of things. (3) Currently, while at work, I hardly expect things to go my way. Three questions in this scale were negatively worded. Reverse coding was applied on these questions in SPSS before final analysis. The reliability and validity of this scale is well established in previous research studies (Kluemper et al., 2009; Ragsdale & Beehr, 2016). In this study, alpha reliability of this scale was $\alpha=.75$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.4 Regulatory Emotional Self-Efficacy (RESE)

To measure the level of nurses’ RESE, 12 items scale devised by Caprara et al. (2008), was used. Nurses were asked to indicate the extent to which each of the 12 statements are relevant to them in managing their emotional life using a five point likert-scale with 1 (Not well at all) to 5 (Extremely well). This self-report scale consists of two subscales: POS (4 items) which depicts the self-efficacy beliefs of an individual in expressing positive emotions and NEG (8 items) which represents self-efficacy beliefs in managing his/her negative emotions (Caprara et al., 2008). Sample items include: “(1) How well can you rejoice over your successes? (2) How well can you keep from getting discouraged in the face of difficulties? (3) How

well can you avoid getting upset when others keep giving you a hard time?" The reliability and validity of this scale is proven in previous studies (Caprara et al., 2008; Mesurado et al., 2018; Pan et al., 2016; Wang et al., 2018; Zhao, You, & Peng, 2013). In this study, alpha reliability of this scale was $\alpha=.92$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.5 Job Engagement

Job engagement was measured by using the 18 items scale developed by Rich et al. (2010). This questionnaire measures the degree to which respondents agree with the items representing physical, cognitive and emotional energies invested into their jobs (i.e., three facets of job engagement). The reason for using this questionnaire is that other questionnaires have been widely criticized for not appropriately reflecting the Kahn (1990) three-facets of job engagement. Nurses were asked to indicate the extent to which they agree or disagree with a statement on a five point likert-scale with 1 (strongly disagree) to 5 (strongly agree). Sample items include: "(1) I devote a lot of energy to my job (2) I feel positive about my job (3) At work, I am absorbed by my job". The reliability and validity of this scale is proven in previous studies (Alfes, Shantz, Truss, & Soane, 2013; Chen, Yen, & Tsai, 2014; Christian et al., 2011; Haynie et al., 2016; Owens, Baker, Sumpter, & Cameron, 2016; Zhong et al., 2016). In this study, alpha reliability of this scale was $\alpha=.96$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.6 Prosocial Behavior

Prosocial behavior of nurses was measured by using the McNeely and Meglino (1994), 20 items scale. Mcneely and Meglino (1994) factor analyzed and confirmed the reliability and validity of this scale. In the current study, coworkers/peers of nurses were asked to rate nurses on the extent to which they performed each of the 20 behaviors at workplace. Coworkers' rating technique is used to avoid social desirability bias. The coworkers' rating method is widely used by extant

researchers (Bourdage, Lee, Lee, & Shin, 2012; Fatima et al., 2020; Trougakos, Hideg, Cheng, & Beal, 2014; Venz & Sonnentag, 2015) A 5-point likert scale was used with response categories ranging from 1 “never” to 5 “always”. A higher score on the measure indicates a higher level of prosocial behavior. Sample items include: “(1) How frequently your coworker does a personal favor for someone. (2) How frequently your coworker assists co-workers with personal problems. (3) How frequently your coworker speaks favorably about the organization to outsiders”. In this study, alpha reliability of this scale was $\alpha=.82$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.10.7 Creative Performance

Nurses' creative performance was measured by using the three items' creative performance scale developed by Oldham and Cummings (1996). Coworker/ peers of nurses were asked to rate their colleagues on each of the three statements by using a five point likert scale ranging from 1 “Very little extent” to 5 “very great extent”. Coworkers' rating technique is used to avoid social desirability bias. The coworkers' rating method is widely used by extant researchers (Bourdage et al., 2012; Fatima et al., 2020; Harvey & Abusive, n.d.; Trougakos et al., 2014; Venz & Sonnentag, 2015). Sample items include: “(1) How creative is this person's work? (2) How adaptive and practical is this person's work?”. The reliability and validity of this scale is well established in previous research studies (Kalyar & Kalyar, 2018; Madjar, Oldham, & Pratt, 2002; Shin et al., 2016). In this study, alpha reliability of this scale was $\alpha=.71$. Since the Cronbach's Alpha value is greater than the threshold level of .70, hence reliability of this scale is established.

3.11 Data Analysis

For the purpose of data analysis, different statistical techniques were used by using SPSS and AMOS 21st Package. SPSS is used for descriptive statistics, correlation, and reliabilities tests etc. However, confirmatory factor analysis (CFA), regression

analysis, mediation and moderation analysis is performed by using AMOS. We checked the model fitness by using the standard measures as recommended by (Hair et al., 2010). Model fitness measures help us to understand the degree to which our data is consistent with proposed model of the study. Model is considered to be a good fit if χ^2/df is less than 3; root mean square error of approximation (RMSEA) is significant i.e. less than 0.05, Comparative fit index (CFI), Tucker-Lewis index (TLI) and incremental fit index (IFI) close to 0.90.

In the first phase of data analysis, we calculated and reported the descriptive statistics of four demographic variables of the study. These include gender, age, marital status and working tenure. Then correlation analysis was performed to assess the association among variables of the study i.e. supervisor undermining, experienced compassion, state optimism, job engagement, prosocial behavior and creative performance. In the second phase confirmatory factor analysis (CFA) and reliability tests were conducted for all the scales used in the study. In the third phase causal relationship among study variables, as well as mediating and moderating effects were examined. In the third phase causal relationship among study variables, as well as mediating and moderating effects were examined.

Chapter 4

Results of Data Analysis

This chapter highlights the upshots of data analysis. In the first section, descriptive statistics of all the study variables are presented. In the second section, correlation among all the theoretical variables is reported. In the third section, confirmatory factor analysis (CFA), convergent and discriminant analysis and comparison of study's hypothesized model with the competing models is done. In the fourth section, all the hypotheses of the study are tested including mediation and moderation analysis. Finally, this chapter concludes with a summary of the accepted/rejected hypotheses.

Structural equation modeling (SEM) is employed for estimating and testing the causal relationships. SEM consists of two steps process. In the first step, CFA is done, where validity of the measurement model is established. In the second step, regression analysis is performed ([Hair et al., 2010](#)). CFA is performed to check the discriminant validity of the scales; subsequently the proposed model is compared with different competing models. Furthermore, to examine the association and casual relationship among the study variables, descriptive statistics, correlation analysis, and path analysis are performed.

4.1 Descriptive Statistics

Table 4.1 depicted the descriptive statistics (minimum, maximum values, means, and standard deviations) of all the theoretical variables i.e. supervisor undermining, experienced compassion, RESE, state optimism, job engagement, prosocial behavior and creative performance. If the value of mean is on the higher side, it shows respondents' inclination towards agreement with the questions asked. On the contrary, lower mean value indicates disagreement with the statements or questions asked. In **Table 4.1**, the mean value of our independent variable supervisor undermining is (mean=3.2, S.D=.71). It represents that nurses are working in those work settings where supervisor undermining prevails. The mean value of experienced compassion (mean=3.3, S.D=.89) demonstrates that nurses experience compassionate response at workplace. The mean value of RESE (mean=3.2, S.D=.82) signifies that nurses are good at managing their negative emotions and expressing positive emotions. The mean value of state optimism (mean=3.4, S.D=.74) highlights that nurses are having higher level of state optimism. The mean value of job engagement (mean=3.1, S.D=.91) substantiates higher level of job engagement of nurses working in public sector hospital of Pakistan. The mean value of prosocial behavior (mean=3.4, S.D=.63) shows that nurses demonstrate prosocial behavior at work place. Finally, the mean value of creative performance (mean=3.4, S.D=.89) signifies that nurses show creative performance at the workplace.

TABLE 4.1: Descriptive Statistics

Variables	Min.	Max.	Mean	Standard Dev.
Supervisor undermining	1.58	4.92	3.20	0.71
Experienced compassion	1.00	5.00	3.30	0.89
Regulatory emotional self-efficacy	1.42	4.50	3.20	0.82
State optimism	1.43	4.71	3.40	0.74
Job engagement	1.44	4.67	3.10	0.91
Prosocial behavior	1.69	4.56	3.40	0.63
Creative performance	1.00	5.00	3.40	0.89

4.2 Correlation Analysis

Results of correlation analysis among all the study variables are highlighted in table 4.2. Supervisor undermining was positively and significantly correlated with experienced compassion at workplace ($r=.290$, $p<.01$), state optimism ($r=.321$, $p<.01$), prosocial behavior ($r=.224$, $p<.01$), job engagement ($r=.144$, $p<.01$), RESE ($r=.203$, $p<.01$), and significantly negatively correlated with age ($r=-.126$, $p<.05$), and experience ($r=.128$, $p<.01$), however, it is insignificantly related with creative performance ($r=.021$, $p>.05$), gender ($r=-.064$, $p>.05$), and marital status ($r=-.081$, $p>.05$).

Experienced compassion was significantly positively related with state optimism ($r=.353$, $p<.01$), prosocial behavior ($r=.229$, $p<.01$), job engagement ($r=.278$, $p<.01$), creative performance ($r=.104$, $p<.05$), RESE ($r=.151$, $p<.01$), significantly negatively correlated with age ($r=-.126$, $p<.05$), while it is insignificantly related with gender ($r=-.025$, $p>.05$), marital status ($r=-.028$, $p>.05$), and experience ($r=-.049$, $p>.05$).

The correlation of state optimism was significant and positive with prosocial behavior ($r=.270$, $p<.01$), job engagement ($r=.446$, $p<.01$), RESE ($r=.303$, $p<.01$) but negative and significant with age ($r=-.132$, $p<.01$), while insignificant with creative performance ($r=.066$, $p>.05$), gender ($r=.024$, $p>.05$), marital status ($r=.014$, $p>.05$), and experience ($r=-.049$, $p>.05$).

Prosocial behavior was significantly positively correlated with creative performance ($r=.245$, $p<.01$) but significantly negative related with age ($r=-.517$, $p<.01$), experience ($r=-.326$, $p<.01$), while insignificantly related with job engagement ($r=.086$, $p>.05$), RESE ($r=.058$, $p>.05$), gender ($r=.060$, $p>.05$), and marital status ($r=.044$, $p>.05$).

Job engagement was significantly positively related with RESE ($r=.299$, $p<.01$), while it is insignificantly related with creative performance ($r=.011$, $p>.05$), gender ($r=-.058$, $p>.05$), age ($r=-.062$, $p>.05$), marital status ($r=.032$, $p>.05$), and experience ($r=-.028$, $p>.05$).

Creative performance was significantly positively related with gender ($r=.138$, $p<.01$), significantly negatively related with age ($r=-.127$, $p<.05$), but insignificantly related with RESE ($r=-.049$, $p>.05$), marital status ($r=-.018$, $p>.05$), and experience ($r=-.067$, $p>.05$). RESE was insignificantly related with gender ($r=-.079$, $p>.05$), age ($r=-.092$, $p>.05$), marital status ($r=.082$, $p>.05$), and experience ($r=-.039$, $p>.05$). The results of correlation are presented in table 4.2.

TABLE 4.2: Correlation Analyses

Variables	SU	EC	SO	PB	JE	CP	RESE	GEN	AGE	MS	EXP
1.SU	1										
2.EC	.290**	1									
3.SO	.321**	.353**	1								
4.PB	.224**	.229**	.270**	1							
5.JE	.144**	.278**	.446**	0.086	1						
6.CP	0.021	.104*	0.066	.245**	0.011	1					
7.RESE	.203**	.151**	.303**	0.058	.299**	-0.049	1				
8.GEN	-0.064	-0.025	0.024	0.06	-0.058	.138**	-0.079	1			
9.AGE	-.126*	-.126*	-.132**	-.517**	-0.062	-.127*	-0.092	-0.085	1		
10.MS	-0.081	-0.028	0.014	0.044	0.032	-0.018	0.082	.119*	.138**	1	
11.EXP	-.128**	-0.049	-0.077	-.326**	-0.028	-0.067	-0.039	-0.04	.737**	0.232	1

* $p<.05$, ** $p<.01$, SU=Supervisor Undermining, EC=Experienced Compassion, SO=State Optimism, PB=Prosocial Behavior, JE=Job Engagement, CP=Creative Performance, RESE= Regulatory Emotional Self-Efficacy, GEN=Gender, AGE=Age, MS=Marital Status, EXP=Experience.

4.3 Validity and Reliability of the Scales

For testing the reliability of the scales we calculated the values of Cronbach's Alpha and for establishing validity of the scales CFA was performed. The detail is appended below.

4.3.1 Reliability of the Scales

We tested the reliability of the scales by using Cronbach's Alpha. For each construct, we run a separate analysis to get alpha statistics. Cronbach's alpha measures the internal reliability. Internal reliability is calculated by taking inter-item correlation between each of the factors extracted. The factors with Cronbach's alpha value of 0.6 or more are said to be reliable as well as useful for further analysis (Hair et al., 2010). In this study the values of Cronbach's alpha ranges from .71 to .96, which established the internal reliability of the measures used in this study. The results of reliability tests are presented in **Table: 4.3**.

TABLE 4.3: Details of Instruments and their Reliabilities

Variables	Source	No. of Items	Reliability
Supervisor Under-mining	Duffy et al. (2002)	13	0.87
Experienced Com-passion	Lilius et al. (2008)	3	0.73
State Optimism	Scheier and Carver (1985)	8	0.75
Regulatory Emo-tional	Caprara et al. (2008)	12	0.92
Self- Efficacy			
Job Engagement	Rich et al. (2010)	18	0.96
Prosocial Behavior	McNeely and Meglino (1994)	20	0.82
Creative Perfor-mance	Oldham and Cum-mings (1996)	3	0.71

4.3.2 Confirmatory Factor Analysis (CFA)

To ensure validity of the scales used in the study and to justify the measurement model, CFA was performed. AMOS 21st software package was used for conducting CFA and multiple measures have been used for assessing model fitness. These measurements include: chi-square, root mean square error of approximation (RMSEA), incremental fit index (IFI), normed fit index (NFI), Tucker-Lewis index (TLI), comparative fit index (CFI), and Goodness of fit index (GFI). The value of chi-square is sensitive to the sample size and is supplemented with degree of freedom to give a robust measurement. Hence, model fitness is indicated by the ratio of chi-square to degrees of freedom with a value less than 3 and ideally less than 2 (Hair et al., 2010). The value of RMSEA should be significant or less than 0.05. However, the value of IFI, TLI and CFI should be more than .90 for a good model fit (Hair et al., 2010; Hu & Bentler, 1999; Kline, 2005). However, the value of GFI above .80 is acceptable for good model fit (Kline, 2005). Our hypothesized model consists of seven variables. However while performing CFA one item from supervisor undermining, one item from state optimism and four items from prosocial behavior were suppressed due to lower factor loading.

TABLE 4.4: Confirmatory Factor Analysis of the Measurement Model

Model	χ^2	Df	χ^2/df	RMSEA	IFI	TLI	CFI	GFI
Initial model	3603.222	2393	1.506	0.035	0.898	0.893	0.897	0.815
Modified Model	2854.984	2388	1.196	0.022	0.961	0.959	0.96	0.842

In table 4.4 the CFA of seven factor model indicated a good fit. Most of the values are substantially meeting the standard criteria of good fitted models ($\chi^2=3603.222$, $\text{df}=2393$, $\chi^2/\text{df}=1.506$, $p<.000$ RMSEA=.035, IFI=.898, TLI=.893, CFI=.897, and GFI=.815). Although our initial model was somehow fulfilling the minimum criteria of good model fit. However, the values of IFI, TLI, and CFI are slightly lower than threshold level of .90. Consequently, a few modifications were made

through modification indices to achieve a better fitness of the model. Our modified model is showing better fitness to the data as all the values are fulfilling the threshold criteria proposed by [Hair et al. \(2010\)](#) and [Kline \(2005\)](#). The values of IFI=.961, TLI=.959, CFI=.960, and GFI=.842 are all above their threshold levels. Furthermore, the value of RMSEA=.022 which is less than the threshold level of 0.05. Hence, our modified model represents a good model fit.

4.3.3 Convergent and Discriminant Analysis

For perfect fitness of measurement model, it must meet the threshold levels of reliability, validity as well as model fitness indices. Validity or more specifically construct validity establishes whether the scale is measuring the concept what we suppose it to measure. It usually involves face validity, convergent validity and discriminant validity. Face validity refers to whether the items or questions asked in the questionnaire, do, on the face of it, are consistent with the definition of the construct i.e. how likely they measure the concept ([Sekaran & Bougie, 2016](#)).

Face validity is not measured numerically rather; it is established by carefully reading and linking the items of the questionnaire with the definition of the construct. Furthermore, if the scale is adopted, and it also has acceptable reliability in published research, it also provides some evidence of its face validity. Convergent validity is established if two similar constructs (based upon theory) are actually found to be empirically related with each other (i.e. they both have high correlation coefficient). It must be noted that not only should a construct empirically correlate with the similar construct but it should not correlate with unrelated or dissimilar constructs. In CFA, if latent variable is well explained by its observed variables or items of the scale, then we have convergent validity. Statistically, if AVE (Average variance explained) is greater than 0.5, it establishes convergent validity ([Nuechterlein et al., 2008](#)). In table 4.5, the values of AVE are greater than .5 for all the variables of the study, hence convergent validity is proved.

Discriminant validity signifies the extent to which theoretically different factors are empirically found to be uncorrelated or distinct. The rule of thumb is that the observed variables (i.e., items of the scale) should correlate more strongly with

their respective latent variable and not with other latent variables. Statistically, if the value of AVE is greater than MSV (Maximum Shared Squared Variance), it establishes discriminant validity (Nuechterlein et al., 2008). For our data, the values of AVE are greater than MSV, hence discriminant validity is also proved.

Composite reliability (CR), also known as Construct reliability is a measure of internal consistency in the items of the scale. Hence it is much like Cronbach's alpha. Alternatively it represents shared variance among observed variables of a latent factor (Fornell & Larcker, 1981). The value of CR should be greater than 0.70 for establishing composite reliability. In this study, the values of CR are greater than .70 for all the variables, hence composite reliability is also proved.

Table 4.5 depicts the results of convergent and discriminant validity as well as composite reliability of all the measures used in this study.

TABLE 4.5: Convergent and Discriminant Validity

Constructs	C.R	AVE	MSV
Supervisor undermining	0.876	0.601	0.154
Experienced compassion	0.731	0.69	0.219
State optimism	0.755	0.512	0.27
Prosocial behavior	0.828	0.515	0.123
Job engagement	0.956	0.556	0.271
Creative performance	0.71	0.765	0.114
Regulatory emotional self-efficacy	0.918	0.692	0.128

Notes. C.R=Composite Reliability, AVE=Average Variance Explained, MSV=Maximum Shared Squared Variance.

4.3.4 Competing Models

Table 4.6 depicted that, our hypothesized 7 factor measurement model was better fit than 6 factor,5,4,3,2 and 1 factor competing model with ($\chi^2=2854$, $df=2388$, $\chi^2/df=1.196$ $p<.000$; CFI=.960, TLI=.959, IFI=.961 RMSEA=.022), which justify our hypothesized 7 factor model has the best fit according to threshold values.

Alternatively, 6 factor model by combining state optimism and creative performance was less fit than 7 factor model with ($\chi^2=3849$, $df=2399$, $\chi^2/df=1.605$ $p<.000$; CFI=.877, TLI=.872, IFI=.878 RMSEA=.039). Change in chi-square was 995 and change in degree of freedom was 11. **Table 4.6** also highlights another 6 factor model by combining prosocial behavior and experienced compassion. Although this model shows a good fit but less than our hypothesized 7 factor model with ($\chi^2=3879$, $df=2399$, $\chi^2/df=1.617$ $p<.000$; CFI=.874, TLI=.870, IFI=.875 RMSEA=.039). Change in chi-square and degree of freedom was recorded to be 1025 and 11 respectively.

Furthermore, we tested the 5 factor model by combining experienced compassion, state optimism and creative performance. This competing model was also found less fit than our hypothesized 7 factor model with values ($\chi^2=4019$, $df=2404$, $\chi^2/df=1.672$ $p<.000$; CFI=.863, TLI=.858, IFI=.864 RMSEA=.041). Change in chi-square and degree of freedom were recorded to be 1165 and 16 respectively. Another 5 factor model was also created and tested. This model was formed by combining job engagement, regulatory emotional self-efficacy and supervisor undermining. This model was also found to be less fit as compared to 7 factor model with values ($\chi^2=7002$, $df=2404$, $\chi^2/df=2.913$ $p<.000$; CFI=.609, TLI=.596, IFI=.612 RMSEA=.069). Change in chi-square and degree of freedom were 4148 and 16 respectively.

In addition to this, 4 factor model by combining supervisor undermining, prosocial behavior, experienced compassion and state optimism was also found to be less fit as compared to original 7 factor model with values ($\chi^2=5139$, $df=2408$, $\chi^2/df=2.134$ $p<.000$; CFI=.768, TLI=.761, IFI=.770 RMSEA=.053). Change in chi-square and degree of freedom were 2285 and 20 respectively. Another 4 factor model by combining prosocial behavior, experienced compassion, state optimism and creative performance was also found less fit with values ($\chi^2=4546$, $df=2408$, $\chi^2/df=1.888$ $p<.000$; CFI=.818, TLI=.813, IFI=.820 RMSEA=.047). Change in chi-square and degree of freedom were 1692 and 20 respectively.

A 3 factor model by combining supervisor undermining, prosocial behavior, experienced compassion, state optimism, and creative performance was also found less fit as compared to hypothesized 7 factor model with values ($\chi^2=5359$, $df=2411$,

$\chi^2/df=2.223$ $p<.000$; CFI=.750, TLI=.742, IFI=.751 RMSEA=.055). Change in chi-square and degree of freedom were 2505 and 23 respectively.

A 2 factor model by combining regulatory emotional self-efficacy, supervisor undermining, prosocial behavior, experienced compassion, state optimism and creative performance was also found less fit as compared to hypothesized 7 factor model with values ($\chi^2=6947$, $df=2413$, $\chi^2/df=2.879$ $p<.000$; CFI=.615, TLI=.603, IFI=.617, RMSEA=.068). Change in chi-square and degree of freedom were 4093 and 25 respectively.

A 1 factor model by combining all the items of seven variables was created. This one factor model represented the worst fit with values ($\chi^2= 8821$, $df=2414$, $\chi^2/df=3.654$ $p<.000$; CFI=.456, TLI=.440, IFI=.459, RMSEA=.081). Change in chi-square and degree of freedom were 5967 and 26 respectively. Consequently our hypothesized 7 factor model was better fit than 6 factor,5,4,3,2 and 1 factor competing models. The results are displayed in table 4.6.

Additionally, one and two factors models of regulatory emotional self-efficacy were compared based on model fitness criteria. For two factor model, four items were loaded on factor 1, and 8 items were loaded on factor 2. The one-factor model of regulatory emotional self-efficacy yielded better fit indices with values ($\chi^2=60.137$, $df=54$, $\chi^2/df=1.11$ $p<.000$; CFI=.99, TLI=.99, IFI=.99, RMSEA=.02) than two factor model of regulatory emotional self-efficacy ($\chi^2=59.490$, $df=53$, $\chi^2/df=1.02$ $p>.05$; CFI=.97, TLI=.97, IFI=.97, RMSEA=.03). Thus one-factor model yielded considered better fit than two factors model of regulatory emotional self-efficacy.

TABLE 4.6: Hypothesized 7 Factor Measurement Model and Competing Models

Model	χ^2	df	χ^2/df	$\Delta\chi^2$	Δdf	CFI	TLI	IFI	RMSEA
Hypothesized 7 Factor Measurement Model	2854.984	2388	1.196	-	-	0.96	0.959	0.961	0.022
Competing Model 1: SO and CP (6 factor model)	3849.907	2399	1.605	995	11	0.877	0.872	0.878	0.039
Competing Model 2: PB and EC (6 factor model)	3879.909	2399	1.617	1025	11	0.874	0.87	0.875	0.039
Competing Model 3: EC, SO and CP (5 factor model)	4019.046	2404	1.672	1165	16	0.863	0.858	0.864	0.041
Competing Model 4: JE, RESE, and SU (5 factor model)	7002.975	2404	2.913	4148	16	0.609	0.596	0.612	0.069
Competing Model 5: SU, PB, EC and SO (4 factor model)	5139.269	2408	2.134	2285	20	0.768	0.761	0.77	0.053
Competing Model 6: PB, EC, SO and CP (4 factor model)	4546.394	2408	1.888	1692	20	0.818	0.813	0.82	0.047
Competing Model 7: SU, PB, EC,SO,CP (3 factor)	5359.883	2411	2.223	2505	23	0.75	0.742	0.751	0.055
Competing Model 8: RESE,SU,PB,EC,SO,CP (2 factor)	6947.62	2413	2.879	4093	25	0.615	0.603	0.617	0.068
Competing Model 9: All items Combined (1 factor)	8821.584	2414	3.654	5967	26	0.456	0.44	0.459	0.081

Note: $n=406$, *SU*=Supervisor undermining, *EC*=Experienced compassion, *RESE*=Regulatory emotional self-efficacy, *SO*=State optimism, *JE*=Job engagement, *CR*=Creative performance, *PB*=Prosocial behavior. Values are differences in each of the competing measurement models with the hypothesized model.

4.4 Hypotheses Testing

4.4.1 Control Variables

Though, demographic variables (for instance, gender, age, marital status and working experience) provide information about sample characteristics, they also have the propensity to influence the proposed associations among variables. Researchers have recommended controlling for the effects of such variables while analyzing the hypothesized relationships in a research study (Allworth & Hesketh, 1999). The demographic dissimilarities of respondents owing to their belongingness to different cultures, age groups, gender, situations, belief and values are likely to influence their opinions about a particular phenomenon (Hunter & Hunter, 1984). Hence controlling such variables is necessary to get unbiased results.

Prior research on nursing surveys suggested controlling for the effects of demographic variables (Collins & Henderson, 1991; Malik et al., 2020). Consequently, nurses' responses utilized in this research regarding their perceptions about different variables of the study were obtained by controlling their demographics viz. gender, age, marital status and working experience. To analyze the effect of control variables, we used the statistical test called one-way analysis of variance (ANOVA). One way ANOVA is used to check "whether there are any significant differences between the means of two or more independent (dissimilar) groups" (Hair et al., 2010). The results of ANOVA are depicted in table 4.7 and discussed below with F statistics and P value.

TABLE 4.7: Results of One way Analysis of Variance (ANOVA)

Control Variable	Dependent Variables	F Statistics	P value
Gender	CP	7.866	.005
	PB	1.446	.230
Marital Status	CP	0.124	.725
	PB	0.786	.376
Age	CP	2.323	.075
	PB	48.765	.000
Working Experience	CP	0.975	.406
	PB	17.318	.000

Note: n=406, CP= Creative performance, PB= Prosocial behavior.

Results depicted significant difference in creative performance for gender ($F=7.866$, $P<0.05$), insignificant for marital status ($F=.124$, $P>0.05$), age ($F=2.323$, $P>0.05$), and working experience ($F=.975$, $P>0.05$).

Results showed insignificant difference in prosocial behavior for gender ($F=1.446$, $P>0.05$), and marital status ($F=.786$, $P>0.05$), significant for age ($F=48.765$, $P<0.05$), and working experience ($F=17.318$, $P<0.05$).

Hence gender was controlled for creative performance, while age and working experience were controlled for prosocial behavior.

4.5 Test of Hypothesis 1, 2, 3, 4, 6, 8, 10, and 11

H1: Supervisor undermining is significantly positive related with experienced compassion at the workplace.

H2: Experienced compassion at the workplace is significantly positive related with state optimism.

H3: Experienced compassion at the workplace is significantly positive related with prosocial behavior.

H4: Experienced compassion at the workplace is significantly positive related job engagement.

H6: State Optimism is significantly positive related with prosocial behavior.

H8: State optimism is significantly positive related with job engagement.

H10: State optimism is significantly positive related with creative performance

H11: Job engagement is significantly positive related with creative performance.

TABLE 4.8: Standardized Coefficients for Structural Paths – Direct Effects

Structural Path	β	B	S.E	C.R	P-value
SU \rightarrow EC	0.290	0.360	0.059	6.098	0.000
E.C \rightarrow SO	0.315	0.260	0.037	7.081	0.000
E.C \rightarrow PB	0.106	0.073	0.030	2.401	0.016
E.C \rightarrow JE	0.138	0.140	0.047	2.957	0.003
S.O \rightarrow PB	0.169	0.143	0.037	3.850	0.000
S.O \rightarrow JE	0.395	0.485	0.057	8.443	0.000
S.O \rightarrow CP	0.067	0.082	0.067	1.228	0.219
J.E \rightarrow CP	0.012	0.011	0.054	0.211	0.833

*SU=Supervisor Undermining, EC=Experienced Compassion, SO=State Optimism, PB= Prosocial Behavior, JE= Job Engagement, CP= Creative Performance S.E=Standard Error, C.R=Critical Ratio * $p < .05$, ** $p < .01$, *** $p < .000$, $N=406$.*

Table 4.8 depicted the standardized regression coefficients (β), the unstandardized regression coefficients (B), and the associated standard errors as well as P-values of the structural paths. The decision for acceptance or rejection of hypothesis was made on the basis of these statistical values. The detail is appended below

H1: Supervisor undermining is significantly positive related with experienced compassion at the workplace.

According to statistical findings, supervisor undermining is significantly and positively related with experienced compassion ($\beta=0.290$, $p < 0.000$). Consequently, hypothesis 1 which indicated that supervisor undermining is significantly and positively associated with experienced compassion at workplace is accepted. Results are shown in table 4.8.

H2: Experienced compassion at the workplace is significantly positive related with state optimism

According to statistical findings, experienced compassion is significantly and positively associated with state optimism ($\beta=0.315$, $p < 0.000$). Hence, hypothesis

2 i.e., experienced compassion at the workplace is significantly positively related with state optimism is accepted. Results are shown in table 4.8

H3: Experienced compassion at the workplace is significantly positive related with prosocial behavior.

According to statistical facts, experienced compassion is significantly and positively associated with prosocial behavior ($\beta=0.106$, $p<0.05$). Hence, hypothesis 3 i.e., experienced compassion at the workplace is significantly positively related with prosocial behavior.is accepted. Results are shown in table 4.8.

H4: Experienced compassion at the workplace is significantly positive related job engagement.

According to statistical facts, experienced compassion is significantly and positively associated with job engagement ($\beta=0.138$, $p<0.01$). Hence, hypothesis 4 i.e., experienced compassion at the workplace is significantly positively related with job engagement is accepted. Results are shown in table 4.8.

H6: State Optimism is significantly positive related with prosocial behavior.

According to statistical facts, state optimism is significantly and positively associated with prosocial behavior ($\beta=0.169$, $p<0.000$). Hence, hypothesis 6 which indicated that state optimism is significantly positively related with prosocial behavior is accepted. Results are shown in table 4.8.

H8: State optimism is significantly positive related with job engagement.

According to statistical findings, state optimism is significantly and positively associated with job engagement ($\beta=0.395$, $p<0.001$). Hence, hypothesis 8 i.e., state optimism is significantly and positively associated with job engagement is accepted. Results are shown in table 4.8.

H10: State optimism is significantly positive related with creative performance

According to statistical facts, state optimism is not significantly positively associated with creative performance ($\beta=0.067$, $p.0.05$). Hence, hypothesis 10 i.e., state optimism is significantly positively related with creative performance is rejected. Results are shown in table 4.8.

H11: Job engagement is significantly positive related with creative performance.

According to statistical findings, job engagement is not significantly positively associated with creative performance ($\beta=0.012$, $p>0.05$). Hence, hypothesis 11 i.e., job engagement is significantly positively related with creative performance is also rejected. Results are shown in table 4.8.

4.6 Test of Hypothesis 5

H5: Regulatory emotional self-efficacy (RESE) moderates the relationship between experienced compassion and state optimism such that the relationship is stronger at higher values of RESE.

TABLE 4.9: Moderation Analysis

Structural Path	β	B	S.E	C.R	P-value
E.C \rightarrow SO	0.315	0.26	0.037	7.081	.000
RESE \rightarrow SO	0.263	0.234	0.040	5.890	.000
INT (RESE \times EC) \rightarrow SO	0.153	0.149	0.043	3.432	.000

Note: $n=406$, EC=Experienced Compassion, SO=State Optimism, RESE=Regulatory Emotional Self-Efficacy, S.E=Standard Error, $*p<.05$, $**p<.01$, $***p<.001$

The moderating role of regulatory emotional self-efficacy (RESE) was proposed in hypothesis 5. It was posited that the association of experienced compassion and state optimism will be stronger with nurses' high level of RESE. To test this hypothesis, we centered the independent and moderating variables. Then we created the interaction term of RESE and experienced compassion to test the moderation effect. Results of moderation analysis supported the proposed moderation effect of RESE as depicted by interaction term ($\beta=0.153$, $p<.001$). Results of moderation analysis are presented in table 4.9.

The moderation effect and its direction are also substantiated through upward slope of the simple slope analysis as shown in **Figure 4.1**. The results of simple slope analysis depicted that the positive relationship between experienced compassion and state optimism is stronger at a higher values of RESE ($\beta=0.408$, $p<.001$), and when RESE becomes low, the association between experienced compassion

and state optimism became weaker and even become non-significant ($\beta=0.111$, $p>.001$). Accordingly, it can be inferred that an increase in RESE tends to strengthen the positive association between experienced compassion and state optimism. Hence, Hypothesis 5 is supported.

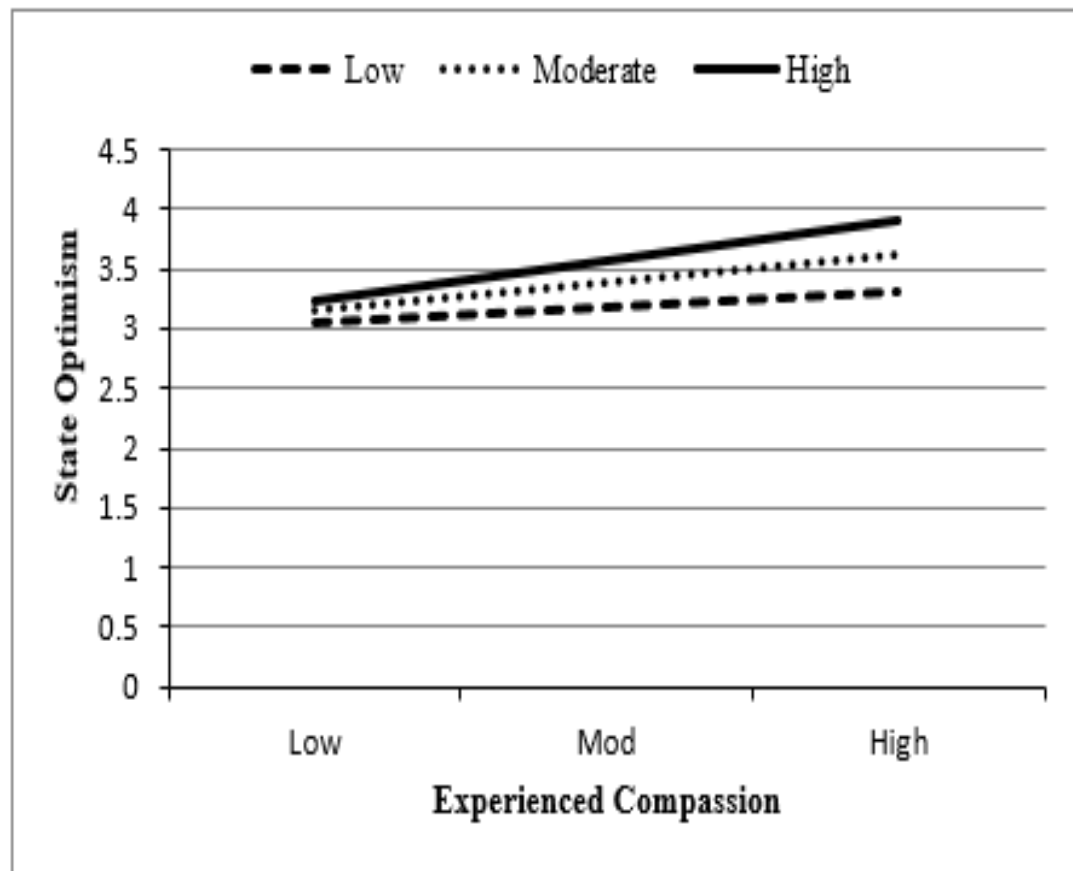


FIGURE 4.1: Simple Slope Analysis of RESE

4.7 Test of Hypothesis 7, 9 and 12

H7: State Optimism mediates the relationship between experienced compassion and prosocial behavior at workplace.

H9: State Optimism mediates the relationship between experienced compassion and job engagement.

H12: Job engagement mediates the relationship between state optimism and creative performance.

TABLE 4.10: Results of Mediation Analysis

Bootstrap Results for Direct Effects					
Path	β	SE	BC 95% CI (LL) BC 95% CI (UL)		P-value
EC \rightarrow SO	0.315	0.037	0.218	0.410	0.000
SO \rightarrow PB	0.169	0.036	0.067	0.272	0.003
EC \rightarrow PB	0.106	0.030	0.013	0.197	0.027
EC \rightarrow SO	0.315	0.037	0.218	0.410	0.000
SO \rightarrow JE	0.395	0.057	0.289	0.501	0.000
EC \rightarrow JE	0.138	0.047	0.040	0.236	0.005
SO \rightarrow JE	0.395	0.057	0.289	0.501	0.000
JE \rightarrow CP	0.012	0.054	-0.109	0.093	0.810
SO \rightarrow CP	0.067	0.067	-0.038	0.174	0.203
Bootstrap Results for Indirect Effects					
Indirect path	Indirect Effect	S.E	BC 95% CI (LL) BC 95% CI (UL)		P-value
E.C \rightarrow SO \rightarrow PB	.053**	0.021	0.019	0.099	0.002
E.C \rightarrow SO \rightarrow JE	.125***	0.026	0.078	0.183	0.000
S.O \rightarrow J.E \rightarrow C.P	0.005	0.021	-0.045	0.037	0.811

Note: $N=406$, Bootstrap Sample size=5000, EC=Experienced Compassion, SO=State Optimism, PB=Prosocial Behavior, JE= Job Engagement, CP= Creative Performance, BC 95% CI=Bootstrap Confidence Intervals, β = Standardized regression coefficients * $p<.05$, ** $p<.01$, *** $p<.001$

H7: State Optimism mediates the relationship between experienced compassion and prosocial behavior at workplace.

The mediating role of state optimism in the relationship between experienced compassion and prosocial behavior was examined in Hypothesis 7. To test the mediation, step tests for mediation were performed using bootstrap 95% CI. Path a (EC to SO) is found significant ($\beta=.315$, $p<.000$). Similarly, path b (SO to PB) is found significant ($\beta=.169$, $p<.05$). Furthermore, direct path of EC on PB is found to be significant ($\beta=.106$, $p<.05$). On the other hand, indirect effect of experienced compassion on prosocial behavior was also found significant ($\beta=0.053$, $p<0.01$). In essence, indirect effect via state optimism fell between .019 and .099. Since zero was not present between the lower and upper limits of bootstrapped 95% confidence interval, so the effect of experienced compassion on prosocial behavior was mediated through state optimism. Consequently, hypothesis 7 was accepted. The results are shown in table 4.10.

H9: State Optimism mediates the relationship between experienced compassion and job engagement.

The mediating role of state optimism in the relation between experienced compassion and job engagement was proposed and tested in Hypothesis 9. To test the mediation, step tests for mediation were performed using bootstrap 95% CI. Path a (EC to SO) is found significant ($\beta=.315$, $p<.000$). Similarly, path b (SO to JE) is found significant ($\beta=.395$, $p<.000$). Furthermore, direct path of EC on JE is found to be significant ($\beta=.138$, $p<.05$). On the other hand, indirect effect of experienced compassion on job engagement was found significant ($\beta=0.125$, $p<0.000$). In essence, indirect effect via state optimism fell between .078 and .183. Since zero was not present between the lower and upper limits of bootstrapped 95% confidence interval, so the effect of experienced compassion on job engagement was mediated through state optimism. Consequently, hypothesis 9 was accepted. The results are shown in table 4.10.

H12: Job engagement mediates the relationship between state optimism and creative performance.

The indirect effect of state optimism on creative performance via job engagement was proposed and tested in Hypothesis 12. To test the mediation, step tests for mediation were performed using bootstrap 95% CI. Path a (SO to JE) is found significant ($\beta=.395$, $p<.000$). However, path b (JE to CP) is found to be insignificant ($\beta=.012$, $p>.05$). Similarly, direct path of SO to CP is also found to be insignificant ($\beta=.067$, $p>.05$). On the other hand, indirect effect of state optimism on creative performance via job engagement was also found to be insignificant ($\beta=0.005$, $p>0.05$). In essence, indirect effect via state optimism fell between $-.045$ and $.037$. Since zero was present between the lower and upper limits of bootstrapped 95% confidence interval, so the effect of state optimism on creative performance was not mediated through job engagement. Consequently, hypothesis 12 was rejected. The results are shown in table 4.10.

4.8 Summary of Accepted / Rejected Hypotheses

TABLE 4.11: Summary of Hypotheses

Hypotheses	Statements	Results
H1	Supervisor undermining is significantly positive related with experienced compassion at the workplace.	Accepted
H2	Experienced compassion at the workplace is significantly positive related with state optimism.	Accepted
H3	Experienced compassion at the workplace is significantly positive related with prosocial behavior	Accepted
H4	Experienced compassion is significantly positive related with job engagement.	Accepted

Continued Table 4.11 Summary of Hypotheses

Hypotheses	Statements	Results
H5	Regulatory emotional self-efficacy (RESE) moderates the relationship between experienced compassion and state optimism such that the relationship is stronger at higher values of RESE.	Accepted
H6	State optimism is significantly positive related with prosocial behavior.	Accepted
H7	State Optimism mediates the relationship between experienced compassion and prosocial behavior at workplace.	Accepted
H8	State optimism is significantly positive related with job engagement.	Accepted
H9	State Optimism mediates the relationship between experienced compassion and job engagement.	Accepted
H10	State optimism is significantly positive related with creative performance.	Rejected
H11	Job engagement is significantly positive related with creative performance.	Rejected
H12	Job engagement mediates the relationship between state optimism and creative performance.	Rejected

Total Hypotheses: 12

Accepted: 09

Rejected: 03

Chapter 5

Discussion, Implications, Limitation, Future Research Directions, and Conclusion

The overall objective of this study was to examine an integrated model of Nurses' creative performance and prosocial behavior in response to experienced compassion at workplace by using the lens of affective event theory. This chapter includes discussion of various research questions and hypotheses of the study. Discussion is made keeping in view the previous literature and results of data analysis. In addition to this, implications for theory and practice are highlighted. Limitations, directions for future research and conclusion are also included.

5.1 Research Question 1

Does supervisor undermining act triggers experienced compassion at the workplace?

5.1.1 Summary of Results

To answer the first research question of this study, hypothesis 1 was formulated which posited that supervisor undermining is significantly positively related with

experienced compassion at the workplace. According to statistical findings H1 is accepted.

5.1.2 Discussion

The findings of this study suggests supervisor undermining as a salient work environment factor which triggers experienced compassion at workplace. There was little evidence of a statistically significant association between supervisor undermining and experienced compassion at workplace. Nonetheless, there was a clear trend of the significance of various workplace hazards and sufferings in awakening compassionate response at workplace (Kanov et al., 2004; Lilius et al., 2008; Lim & DeSteno, 2016; Straughair, 2019). Organizations have an obvious interest in cultivating experienced compassion at workplace since it is likely to mitigate the harmful effects of negative workplace stressors or sufferings such as supervisor undermining, and in turn translate into positive attitudes and behaviors in them (Hur et al., 2016; Madden et al., 2012; Worline et al., 2017).

The finding that supervisor undermining can lead to compassion at workplace from one's colleagues or social network is unique. Drawing on AET (Weiss & Cropanzano, 1996), our results have confirmed the role of supervisor undermining as a work environment factor to trigger experienced compassion at workplace (a work event). One may question the underlying reason why supervisor undermining triggers experienced compassion at workplace. One possibility is that experienced compassion is a specific form of responsiveness which occurs at the time of suffering and pain in employees' life. Prior research had also established the association of sufferings and experienced compassion at workplace (Lilius et al., 2008; Lim & DeSteno, 2016; Simons & Buitendach, 2013). Extending this line of thought, our study suggests supervisor undermining as a specific type of suffering which triggers experienced compassion at workplace. Alternatively, owing to a relatively collectivist culture, Pakistani society is often labeled as more relationship oriented (Hofstede, 2001), hence employees may also exhibit compassionate response since it is believed to translate into higher quality relationships among them. Another

possible explanation might be the social exchange perspective or norm of reciprocity (Blau, 1964) which suggests that individuals repay in kind what others have done with them. Accordingly, it can be inferred that employees may exhibit compassion in an expectation of same response from others over a period of time. Supervisor undermining is considered a type of suffering at workplace since it hinders the subordinates' ability to establish and maintain positive interpersonal relationships, achieve work-related success, and maintain favorable reputation (Duffy et al., 2002). Furthermore, research had revealed that targets of supervisor undermining experience more depression, stress, turnover intentions, lower level of trust in supervisors, decreased self-esteem and performance (Duffy et al., 2006; Eissa et al., 2017; Ng & Yim, 2015). However, supervisor undermining may become more dangerous when it is experienced in health care jobs such as nursing. This is so because owing to front end dealing with the patients, supervisor undermining experienced by a nurse may have more severe implications on human life particularly through potential compromise on patients' safety. This study has highlighted that compassion functions as an antidote to workplace stressors like supervisor undermining. Therefore, administrators of public sector hospitals must show serious interest in preventing supervisor undermining to avoid its potential negative consequences. In addition, they also need to cultivate such working environments in which employees respond compassionately.

5.2 Research Question 2

Does experienced compassion at the workplace is related with state optimism, prosocial behavior and job engagement?

5.2.1 Summary of Results

To investigate the second research question three hypotheses were formulated which posited that experienced compassion at workplace is significantly positively related with state optimism, prosocial behavior and job engagement. According to statistical findings, hypotheses H2, H3, H4 are accepted.

5.2.2 Discussion

To investigate the association of experienced compassion with state optimism, prosocial behavior, and job engagement three hypotheses were formulated. The findings of this study indicated that experienced compassion at workplace is significantly positively associated with state optimism, prosocial behavior, and job engagement. The findings of this study are in line with previous studies which suggested that experienced compassion at workplace triggers positive emotions in the recipients of compassion, and develop positive attitudes and behaviors (Chierchia & Singer, 2017; Chu, 2016; Lilius et al., 2008; Lim & DeSteno, 2016).

However, it is worth mentioning that some people may experience negative emotions when they receive compassion from others. This is likely because some people don't like sympathetic acts from others rather they are irritated from such gestures. Consequently, they may experience negative emotions instead of being more optimistic while experiencing compassion at workplace. So there is a need to explore the possibility of this phenomenon in future studies.

More specifically Lilius et al. (2008) suggest that experienced compassion results in producing positive emotions in the targets which eventually lead towards their affective commitment. In addition to this, affective event theory (Weiss & Cropanzano, 1996), also suggests that affective workplace events in the form of daily hassles and uplifts results in affective reactions in employees which consequently trigger corresponding attitudes and behaviors in them. Albeit, our finding that experienced compassion triggers state optimism in the victims of supervisor undermining is unique. One possible reason of this association may be that the victims of supervisor undermining may become more optimistic owing to experience of compassion at workplace. It means the acts of compassion from colleagues or group members at workplace may stand out as a salient positive work event that will make the victims of supervisor undermining more optimistic with reference to their future. This finding is consistent with other studies which postulate that state optimism is influenced by situational or contextual factors (Kluemper et al., 2009; Urzúa et al., 2016).

The other possible explanation for the acceptance of our hypotheses may be the affective nature of experienced compassion. In essence, experienced compassion unites people in the face of sufferings (Simons & Buitendach, 2013), help them find positive meanings in an otherwise painful environment, increases their feelings of connectedness with one another (Dutton et al., 2014)(Dutton et al., 2014), and ultimately results in producing positive emotions, attitudes and behaviors in them (Miller, 2007). On the other hand, nurses experiencing compassion at workplace may feel more safe (psychologically) and have more resources (affective, psychological and motivational) available and thereby are more likely to be engaged in their jobs. The theoretical rationale for this association is provided in engagement theory (Kahn, 1990, 1993) which suggests that employees need to feel safe, must have resources available and must have meanings in their jobs in order to make them more engaged in their jobs. Furthermore, nurses experiencing compassionate acts at the workplace may try to reciprocate this by exhibiting more prosocial behavior. The support of this explanation is found in social exchange theory (Blau, 1964), which postulates that individuals try to reciprocate those who benefit them in any way. Hence administrators or managers of public sector hospitals in Pakistan should focus on fostering positive emotions of their nursing staff by encouraging and promoting positive social interactions at workplace. In doing so, they can increase job engagement and prosocial behaviors of their nursing staff which may help to increase the quality of healthcare services offered to patients and ultimately improve the functioning of healthcare institutions.

5.3 Research Question 3

Does RESE moderate the relationship between experienced compassion and state optimism?

5.3.1 Summary of Results

To answer the third research question hypothesis 5 was formulated which posited that RESE moderate the relationship between experienced compassion and state

optimism such that the relationship is stronger at higher values of RESE. According to statistical upshots, hypothesis 5 is accepted.

5.3.2 Discussion

To investigate the above mentioned research question, hypothesis five was formulated. The findings of this study indicated that RESE moderates the relationship between experienced compassion and state optimism such that the relationship is stronger at higher values of RESE. The acceptance of the moderating role of RESE is in line with the findings of existing studies which suggests that RESE moderates the relationship between adverse life events like stress and employees' health and wellbeing (Caprara et al., 2010; Extremera & Rey, 2015; Mesurado et al., 2018).

One possible explanation of the acceptance of this hypothesis may be that individuals differ in the degree to manage their emotions. This is not due to differences in their abilities, but due to differences in their perceived capability of emotion regulation (Mesurado et al., 2018). However, it is quite possible for an individual to perceive a high capability to manage his/her emotions in response to stressful events or situations, while he may not be able to actually do so in reality. But it is very difficult for an individual to manage his emotions if he perceives that he is not able to do so. Consequently, perception about one's capability of emotion regulation is a necessary condition for effective emotion regulation (Gunzenhauser et al., 2013; Mesurado et al., 2018). Hence nurses' higher level of RESE predisposes them to respond with higher level of state optimism.

Alternatively, since state optimism is predicted by situational or contextual factors (Kluemper et al., 2009), experienced compassion at workplace may translate into higher state optimism particularly for nurses who are high in RESE. This is so because individuals high in RESE hold strong beliefs about their emotional competence to overcome negative emotions associated with sufferings such as supervisor undermining. In addition to this, they also hold strong beliefs about their capability to express positive emotions like state optimism in response to pleasant

work event such as experienced compassion at workplace. Consequently, administrators of public sector hospitals in Pakistan must consider this factor while hiring nurses. Furthermore, training practices may also focus on nurturing RESE to enable nurses to better manage their emotions at workplace.

5.4 Research Question 4

Does state optimism predict prosocial behavior?

5.4.1 Summary of Results

To answer the fourth research question hypothesis 6 was formulated which posited that state optimism is significantly positively related with prosocial behavior. According to statistical results, hypothesis 6 is accepted.

5.4.2 Discussion

The findings of this study indicated that state optimism is significantly positively associated with prosocial behavior. This finding is consistent with the framework of affective event theory (Weiss & Cropanzano, 1996), which postulate that positive emotions in response to pleasant events at workplace trigger affect driven behaviors. There is extensive research in support of the association between workplace events, and corresponding emotions, attitudes and behaviors relationship (Ashkanasy & Dorris, 2017; Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017; Khan, Quratulain, & Crawshaw, 2013; Lam & Chen, 2012). Our findings indicate that state optimism of nurses in response to positive workplace event like experienced compassion will translate into effect-driven behavior such as prosocial behavior.

One possible explanation of the relationship between state optimism and affect driven behavior of prosocial behavior lies in the self-regulatory mechanism inherent in optimism. Individuals with higher levels of state optimism believe that they have the abilities and resources needed to influence positive outcomes. Thus, when

optimistic individuals feel as though they can make an impact, they are more likely to exhibit helping behaviors like prosocial behavior. Existing literature on antecedents of prosocial behavior has also shown the significance of affect and positive emotions in influencing helping behaviors, signifying that individuals who feel good, actually do good (Adolphs & Tusche, 2017; George & Brief, 1992).

Alternatively, social psychological processes approach maintained that employees are more prone to exhibit prosocial behavior when they are in positive mood (Berkowitz, 1972). Thus state optimism which partially captures an individual's positive mood state may also influence prosocial behavior. Likewise, broaden and build theory (Fredrickson, 1998, 2001), also suggests that the experience of positive emotions broaden a person's momentary thought-action repertoire which in turn stimulates creative ideas, social bonds and actions. Hence state optimism of nurses owing to experienced compassion at workplace may also triggers prosocial behavior in a positive feedback loop. Exhibiting prosocial behavior is considered important particularly in hospital settings where nurses are facing a lot of problems and stressful situations (Keller et al., 2018; Khowaja, 2009; Malik et al., 2020). Hence administrators of public sector hospital in Pakistan should focus on fostering positive emotions like state optimism by encouraging and promoting positive social interactions at workplace. In doing so, they can increase prosocial behavior of their nursing staff which may help in achieving the objectives of healthcare institutions in a better way.

5.5 Research Question 5

Does state optimism mediate the relationship between experienced compassion and prosocial behavior?

5.5.1 Summary of Results

To answer the fifth research question hypothesis 7 was formulated which postulated that state optimism mediates the relation between experienced compassion at

workplace and prosocial behavior. According to statistical findings, hypothesis 7 is accepted.

5.5.2 Discussion

The findings of this study suggest that state optimism mediates the relation between experienced compassion and prosocial behavior. Experienced compassion at workplace may provide the personal resources like optimism to nurses facing supervisor undermining in public sector hospitals of Pakistan. These personal resources help them to recover from negativity inherent in supervisor undermining and help them to control and impact their work environment in a positive way (Alessandri et al., 2018). Existing literature on optimism clearly highlights that optimism is associated with a wide range of positive outcomes ranging from coping and recovery to physical and psychological health and well-being (Peterson, 2000; Scheier & Carver, 1985, 1992; Seligman & ME, 2003). In essence, optimism encompasses cognitive, emotional (Seligman et al., 1998) as well as motivational components (Scheier & Carver, 1985, 1992), which may enable nurses to display a variety of positive attitudes and behaviors like prosocial behavior (Kluemper et al., 2009; Layous et al., 2017).

Alternatively, affective event theory also provides the theoretical justification for the mediating role of state optimism in the relation between experienced compassion and prosocial behavior. Extant research has confirmed the mediating role of positive emotions in the relation between positive workplace events and affect-driven behavior (Khan et al., 2013; Lam & Chen, 2012; Lilius et al., 2008). Since prosocial behavior is also considered as a type of affect-driven behavior (Michie, 2009), hence, it may be possible that the nurses experiencing state optimism owing to experienced compassion at the workplace will try to reciprocate this by being more prosocial. Existing literature on antecedents of prosocial behavior has also identified the significance of positive emotions in influencing helping behavior, signifying that individuals who feel good, actually do good (Adolphs & Tusche, 2017; Bolino & Grant, 2016; George & Brief, 1992). Accordingly, practioners must

focus on nurturing state optimism by encouraging and promoting positive social interactions at workplace.

5.6 Research Question 6

Does state optimism is related with job engagement?

5.6.1 Summary of Results

To answer the sixth research question hypothesis 8 was formulated which posited that state optimism is significantly positively related with job engagement. According to statistical findings, hypothesis 8 is accepted.

5.6.2 Discussion

The findings of this study suggest that state optimism is significantly positively associated with job engagement. This finding is in line with existing researches which also found a positive association between positive emotions and job attitudes such as job engagement (Gloria & Steinhardt, 2017; Junça-Silva et al., 2017). However, our finding that discrete positive emotion of state optimism increases job engagement of nurses is unique. One possible explanation of the relationship between state optimism and job engagement may be that employees invest their energies willingly in their jobs when they experience positive things happening at the workplace. In essence, personal resources inherent in state optimism originating from experienced compassion at workplace may help nurses to control and impact their environment in a positive way (Alessandri et al., 2018; Luthans, 2002a). Hence, recovery process through the utilization of personal resources like state optimism may assist nurses in increasing their job engagement.

Alternatively, state optimism may help nurses to maintain their level of dedication in job as they become less depressed by sufferings and become more positive with reference to their future and consequences of their job related efforts. Hence, cognitive, affective and motivational properties of state optimism have the tendency to

increase job engagement (Ragsdale & Beehr, 2016). Furthermore, affective event theory (Weiss & Cropanzano, 1996), also provide the theoretical reason of association between state optimism and job engagement. AET postulates that affective reactions (i.e., positive or negative emotions) in response to workplace events influence affect-driven behaviors as well as work attitudes. Since job engagement is considered a particular type of job attitudes (Bakker & Demerouti, 2007), hence it may also be influenced by state optimism. Since nurses are considered as an important staff of health-care institutions owing to front end dealing with the patients. Job engagement on the part of nurses significantly impact their service quality and hospitals' performance (Park & Lee, 2018). Therefore, administrators in public sector hospitals of Pakistan should cultivate such working environments which increase the level of optimism of nurses and consequently make them more engaged in their jobs.

5.7 Research Question 7

Does state optimism mediate the relation between experienced compassion and job engagement?

5.7.1 Summary of Results

To answer the seventh research question hypothesis 9 was formulated which posited that state optimism mediates the relation between experienced compassion and job engagement. According to statistical results, hypothesis 9 is accepted.

5.7.2 Discussion

The findings of this study suggest that state optimism mediates the relation between experienced compassion and job engagement. This finding is consistent with the framework of affective event theory which maintained that affective reactions (positive or negative emotions) mediate the relationship between workplace

events and job attitudes. Since job engagement is considered a major job attitude (Rich et al., 2010), hence it may also be influenced by experienced compassion. This finding is consistent with other studies which observed the mediating role of emotions in the relation between experienced compassion and job attitudes (Chu, 2016; Lilius et al., 2008; Lim & DeSteno, 2016).

Our finding contributes to the existing literature in a unique way in that it has identified the specific type of positive emotion i.e. state optimism as a mediator. One possible explanation of state optimism as a mediator may be that experienced compassion at workplace may provide the personal resources to combat the negativity inherent in supervisor undermining. This is so because compassion unites people in times of need and cultivates positive relations among them which help in diluting negative effects of workplace sufferings such as supervisor undermining. In addition to this, acts of compassion may also make nurses more positive and optimistic since they are supported and cared for by their social circle at workplace. Furthermore, the cognitive, affective and motivational properties of state optimism may also enhance the nurses' level of job engagement. Existing research has also found state optimism predicting affective commitment, job satisfaction, task and contextual performance, resource recovery mechanisms and work engagement (Kluemper et al., 2009; Ragsdale & Beehr, 2016; Urzúa et al., 2016). Accordingly, HR practices must focus on nurturing state optimism of nurses which has implications for influencing positive attitudes at workplace.

5.8 Research Question 8

Does state optimism is related with creative performance?

5.8.1 Summary of Results

To answer the eighth research question hypothesis 10 was formulated which posited that state optimism is significantly positively related with creative performance. According to statistical findings, hypothesis 10 is rejected.

5.8.2 Discussion

The findings of this study indicated that state optimism is not significantly positively associated with nurses' creative performance in public sector hospital of Pakistan. Our finding is at odds with the dominant conception that optimism triggers creative and novel idea, thoughts, actions and performance (Icekson, Roskes, & Moran, 2014; Sweetman et al., 2011; Taştan, 2016). The high workload and time pressure may be one of the contingency factor which restrain nurses from engaging in creative performance in public sector hospitals of Pakistan. This is so because in Pakistan nurse to patient ratio is significantly lower than the international health standards (World Health Organization, 2017). Creative performance takes a lot of time, hard work and tireless mental energy (Shalley et al., 2009). One needs to explore different perspectives and play with ideas but when workload is high it becomes a hurdle in the way of creative performance (Sacchetti & Tortia, 2013).

Alternatively, lack of supportive work climate for creativity may be another factor which hinders nurses from engaging in creative performance in public sector hospitals of Pakistan. Creativity requires tolerance for diversity, safeguard for interruptions, and provision of sufficient support as well as resources (Amabile, 1996, 1988; Scott & Bruce, 1994). It means a supportive climate for creative performance is one where nurses perceive that their environment recognizes, respects, encourages, and rewards those who show creative performance (Shalley et al., 2009). But in public sector hospitals of Pakistan, there are enormous time and resource constraints (Malik et al., 2020), and lack of obvious rewards for engaging in creative performance (Younas & Sundus, 2018) which may restrict nurses from exhibiting creative performance.

Another possible explanation may be the high uncertainty avoidance culture of Pakistan (Hofstede, 2001). Uncertainty avoidance depicts the tendency among individuals to avoid ambiguous and uncertain situations (Hofstede, 2011) which restricts them to take risk. Employees in high uncertainty avoidance cultures try to follow organizational policies, rules and regulations as well as seek approval and help from their supervisors while performing their work activities (Dorfman & Howell, 1988). Since Pakistani society is characterized as high in uncertainty

avoidance (Hofstede, 2001), hence nurses working in public sector hospitals of Pakistan may have more inclination towards following standard procedure instead of engaging in creative performance. In addition, unfavorable economic situation of Pakistan characterized by high unemployment, lack of alternative job opportunities and contract appointments may also restrict nurses to follow unconventional ways of doing their jobs. This is so because nurses may fear that they are risking more than they expect to gain. Hence, nurses' psychological resource (i.e., state optimism) is not enough to influence their creative performance. Instead, other factors like leadership support (Afsar et al., 2017), favorable organizational climate (Shalley et al., 2009) as well as rewards and recognition for engaging in creative performance (Gerhart & Fang, 2015; Scott & Bruce, 1994) may be necessary for active display of creative performance. Hence administrators of public sector hospitals in Pakistan must focus on these factors to influence creative performance of nurses.

5.9 Research Question 9

Does job engagement influence creative performance?

5.9.1 Summary of Results

To answer the ninth research question hypothesis 11 was formulated which posited that job engagement is significantly positive related with creative performance. According to statistical findings, hypothesis 11 is rejected.

5.9.2 Discussion

The findings of this study indicated that job engagement is not significantly positively associated with creative performance of nurses in public sector hospitals of Pakistan. This finding is contrary to our expectations. It means state optimism of nurses may increase their level of job engagement but may not result in their

creative performance. The possible explanation of this finding may be that engagement in routine job tasks may translate into higher task performance but not necessarily leads towards creative performance. This is so because creative performance requires a specific environment as well as it require employees to explore unconventional and unique ways of doing their jobs (Byron & Khazanchi, 2012; Chang et al., 2017; Simonton, 2014).

Alternatively, nurses in public sector hospitals of Pakistan are not socially and culturally prepared to take risk (Harnar, Amarsi, Herberg, & Miller, 1992; Afsar et al., 2017). Managers or supervisors of nurses can be instrumental here by providing necessary support and environment that stimulates creative performance. For instance, supervisors may personally demonstrate and guide their subordinate nurses for performing their jobs in creative ways. These activities should provide hands – on opportunities to apply the skills while performing their job. Such activities may enhance nurses’ enacted mastery and creative self-efficacy which may ultimately results in creative performance (Sacchetti & Tortia, 2013; Shalley et al., 2009).

In addition, by offering support and encouragement, supervisors can relieve nurses’ anxiety and fear that may arise from uncertainty of creative activities and thereby help in influencing creative performance. Furthermore, hospital administrators may also play an important role in this process. They should provide a safe and creative climate based upon trust in nurses. This will enable nurses to openly discuss their ideas, share good experiences as well as mistakes, sensitive information and problems with their supervisors. All of this may aid in exhibiting creative performance at workplace (Afsar et al., 2017).

5.10 Research Question 10

Does job engagement mediate the relationship between state optimism and creative performance?

5.10.1 Summary of Results

To answer the tenth research question hypothesis 12 was formulated which posited that job engagement mediate the relationship between state optimism and creative performance. According to statistical findings, hypothesis 12 is rejected.

5.10.2 Discussion

The findings of this study indicated that job engagement does not mediate the relationship between state optimism and creative performance of nurses in public sector hospitals of Pakistan. This finding is contrary to our expectations. It means, although state optimism of nurses helps to increase their engagement in job tasks but it may not influence their creative performance. There are many explanations of this finding. Firstly, this is so because creative performance requires creative thinking as well as a specific type of supervisory and environmental support (Cho et al., 2006). Secondly, rewards and compensation package also play a role to encourage nurses to exhibit creative performance (Malik et al., 2020; Cho et al., 2006). Thirdly, personality traits are also considered instrumental in influencing creative performance (Karatepe, 2013; Sung et al., 2022). Hence there are many individual, contextual and instrumental resources which may play a role in influencing creative performance of nurses.

Alternatively, although state optimism of nurses is found to increase their job engagement but there may be some other mediating mechanisms through which state optimism may translate into creative performance of nurses. One such mediating mechanism may be the creative process engagement that may translate into creative performance of nurses. In this perspective, Zhang and Bartol (2010) as well as (Toyama & Mauno, 2017) suggested that creative process engagement leads to creative performance. In addition to this, hospital administrators should also develop strategies and action plans for influencing creative performance of nurses which is necessary for effective functioning of health care institutions. For instance, reconsidering the compensation package to focus on creative performance and cultivating the environment for creative performance.

5.11 Theoretical and Practical Implications

5.11.1 Theoretical Implications

This study makes important theoretical contribution by embedding experienced compassion in to the affective event theory framework. Specifically, this study has highlighted the propensity of supervisor undermining for awakening experienced compassion at workplace. In addition, this study has also elaborated how events happening at workplace like experienced compassion leads to positive work attitudes and behaviors among nurses viz. job engagement, and prosocial behavior. Furthermore, the potential of state optimism and job engagement as predictors of creative performance of nurses in public sector hospitals of Pakistan is also examined.

Albeit, our theoretical reasoning is in line with earlier studies which maintain that experienced compassion at workplace triggers positive emotions in employees which ultimately translate into positive attitudes and behaviors (Dutton et al., 2014; Lilius et al., 2008; Worline et al., 2017), the identification of distinct positive emotional state i.e., state optimism as a mediator is a novel theoretical contribution of this study.

This study has also introduced the moderating role of regulatory emotional self-efficacy on the relationship between experienced compassion and state optimism. According to Mesurado et al. (2018) very few studies have explored the moderating role of regulatory emotional self-efficacy (RESE), and virtually less has been done to examine the moderating role of RESE on the relationship between experienced compassion and state optimism. So this study has theoretically contributed through testing RESE as a moderator between experienced compassion and state optimism. This study also adds to the literature on experienced compassion from the non-western culture. Since the dominant focus of earlier studies employing affective event theory framework has been the western culture; while testing this framework in Pakistani cultural context is a unique contextual contribution of this study.

We anticipate, this study will stimulate new impactful studies on the role of compassion in alleviating the effects of workplace stressors, and in influencing positive attitudes and behaviors and thus will support the (Frost, 2003) assertion that experienced compassion indeed matters.

5.11.2 Practical Implications

This study brings together the dark (sufferings) and the light (compassion) sides of employees' experiences at workplace. Our finding that experienced compassion at workplace functions as an antidote to workplace stressors like supervisor undermining, and also triggers positive emotions, attitudes and behaviors at workplace is of significant importance. This study has the following implications for administrators of public sector hospitals in Pakistan.

- The results of this study imply that administrators of public sector hospitals in Pakistan must realize that supervisor undermining may have detrimental effects on the delivery of healthcare services as well as the functioning of healthcare institutions. Hence, they must consider ways to reduce its harmful effects. One of the ways can be to foster experienced compassion at the workplace.
- The findings of this study also imply that administrators would be wise to consider the role of experienced compassion at workplace as a positive event which may translates into positive emotions, attitudes, and behaviors. Hence, efforts must be made to promote such practices which encourage experienced compassion at workplace. For instance, socialization, and training practices, employees support practices, and similar other practices which encourage and foster experienced compassion at workplace.
- Since individuals with higher level of emotion regulation can effectively cope with job stressors, therefore, the importance of nurturing regulatory emotional self-efficacy becomes paramount.
- Managerial interventions should also focus on fostering positive emotions by encouraging and promoting positive social interactions at workplace. In

doing so, they can increase job engagement and prosocial behavior of their nursing staff which may result in less-expensive, more-convenient, and more-effective treatments for patients.

- Since state optimism, and job engagement is not found to influence creative performance of nurses, hence managerial interventions may focus on developing alternative strategies and action plans for influencing creative performance of nurses which is essential for effective functioning of healthcare institutions. Such plans may include supportive work climate, appropriate leadership style, as well as recognition and rewards for exhibiting creative performance.
- Above all, cultivating a climate of compassion at workplace requires leaders to clearly articulate compassion into their vision, goals and strategies. Develop effective means of offering support to employees who are experiencing sufferings, and mutual relations based upon care and concern for others throughout the organization.

5.12 Strengths, Limitations and Future Research Directions

The strength of our study lies in the methodological design which increases confidence in our findings. Firstly, we collected data in five time lags with every time lag of minimum three weeks. Secondly, we collected responses from different sources: data on supervisor undermining, experienced compassion, state optimism, regulatory emotional self-efficacy and job engagement were collected from nurses, while the data on prosocial behavior and creative performance were gathered from their colleagues. This particular technique reduces the potential effects of single source and common method bias.

Although, our study has some persuasive findings and adopted a strong methodological approach yet some limitations deserve attention. First, we conducted this

study in public health care sector. A detailed comparative investigation of public and private sector is needed to be done for more robust findings. Second, we conducted this study in Pakistani cultural context; future researchers may explore this framework in a different cultural context to increase its external validity and generalizability. Third, we followed convenience sampling technique for data gathering while to obtain more robust findings diverse sample needed to be considered by using random sampling technique.

Fourth, this study could not incorporate a range of other variables which may affect the proposed relationships among study variables for instance, the role of leadership and national culture. Hence future researchers may incorporate these variables to get more insightful findings. Fifth, other industries like IT and manufacturing industries employees also face high occupational stress and suffering due to high workload and time pressures. Therefore, such industries may also be considered by future research. Sixth, getting support and encouragement from others in one's social circle may also reduce the harmful effects of job stressors like supervisor undermining (Sun et al., 2022; San Too & Butterworth, 2018) hence, future researchers may also consider some of these resources of support like family support or social support from colleagues etc. Seven, we examined the mediating role of state optimism between experienced compassion and job engagement as well as between experienced compassion and prosocial behavior.

However, other mediating variables may also be considered in future studies. For instance, future researchers may explore the role of other distinct positive emotions such as hopefulness, and gratitude etc. (Erreygers et al., 2019; van Doorn et al., 2019). Eighth, some people may not like compassionate or sympathetic acts from others rather they are irritated from such gestures. Consequently, they may experience negative emotions instead of being more optimistic. So there is a need to explore the possibility of this phenomenon in future studies. Finally, a wide range of workplace stressors may also be explored by future researchers for their potential to trigger compassion at workplace such as organizational injustice, abusive supervision, incivility, and harassment which are highly pervasive and strongly embedded in the public sector organizations of Pakistan.

5.13 Conclusion

The overall objective of this study was to examine an integrated model of nurses' creative performance and prosocial behavior in response to experienced compassion at workplace by using the lens of AET (Weiss & Cropanzano, 1996). Overall, our findings supported the proposed model of this study since most of the hypotheses are accepted. Results of the current study suggest that supervisor undermining triggers compassion at workplace. This finding is consistent with the previous studies which demonstrated that compassion occurs at the time of suffering in employees' life (Dutton et al., 2014; Hur et al., 2016). Since organizations have an obvious interest in both preventing supervisor undermining from occurring and in decreasing its potential negative consequences. This study suggests that acts of compassion at workplace may stand out as a salient event at workplace which has the propensity to mitigate the negative consequences of workplace sufferings such as supervisor undermining. Hence by promoting and cultivating compassion at workplace, managers or administrator of public sector hospital of Pakistan can counter the effects of workplace stressors.

The results of the current study also supported the positive association between experienced compassion and state optimism. This is consistent with the framework of AET (Weiss & Cropanzano, 1996) which suggests that affective workplace events trigger corresponding affective reactions (positive or negative emotions) in employees. Hence state optimism is identified as a salient discrete emotion which is triggered by acts of compassion at workplace. It means acts of compassion at workplace provide nurses the necessary psychological resources to cope with workplace stressors like supervisor undermining and make them more optimistic with reference to their future. Hence awakening compassion at workplace can be of significant importance for the employees as well the organizations.

The RESE as a moderator in the relation between experienced compassion and state optimism is also examined. The results of this study have shown that RESE moderates the proposed relationship in such a way that the relationship between experienced compassion and state optimism will be stronger at higher level of RESE. This is consistent with the framework of AET (Weiss & Cropanzano, 1996)

which suggests that depositional factors moderate the relationship between workplace events and affective reactions. This suggests that people with higher level of RESE if hired can benefit not only to themselves but to their organization as well. Thus using rigorous selection and training practices can be useful in order to ensure person-job fit.

The association of experienced compassion with job engagement and prosocial behavior is also investigated in the current study. The results confirmed the positive relationship between experienced compassion and job engagement. Moreover, a positive relationship between is also observed between experienced compassion and prosocial behavior. These results are reinforced by social exchange theory (Blau, 1964) and norm of reciprocity (Alvin, 1960) where favor is returned with positive attitudes and behaviors.

In addition to this, the mediating role of state optimism in the relation between experienced compassion and job engagement as well as between experienced compassion and prosocial behavior is also examined. As per obtained results, state optimism is found to mediate in both the relationships. This finding is in congruence with the dominate framework of AET (Weiss & Cropanzano, 1996) which suggests that affective reactions mediate the relationship between workplace events and job attitudes and behaviors. These finding confirmed that experienced compassion at workplace plays a central role in triggering optimism in nurses which ultimately ensue positive attitudes and behaviors.

Finally, this study examined the direct association between state optimism and creative performance as well as the indirect association via job engagement. Contrary to expectations, state optimism is not found to trigger creative performance directly as well as indirectly. However, a positive association between state optimism and job engagement is observed. This suggests that although state optimism of nurses helps them to engage in their work but not necessarily translate into their creative performance. Hence there could be a number of other factors which are necessary for creative performance of nurses in public sector hospitals of Pakistan. These factor may be supportive work climate (Shalley et al., 2009), appropriate leadership style (Afsar et al., 2017), supervisor support in the creative process (Zhang & Bartol, 2010), as well the recognition and rewards (Byron & Khazanchi,

2012) for exhibiting creative performance. Hence administrators or managers of public sector hospitals should focus on these factors in order to cultivate an environment where nurses could exhibit creative performance.

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Appendix-1

Time 1

Respected Participants

I am a doctoral student at Capital University of Science & Technology, Islamabad and conducting research on “**Evaluation of Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory**”. This research is purely of academic nature and your anonymity will be maintained at the highest level. I therefore, need your precious time to fill out the following questionnaire. Thank you so much for your cooperation and precious time.

Regards,

Muhammad Nadim,

PhD Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1: Demographics

Section 1

Your gender (Tick Relevant Box) 1. Male= 2. Female=
Marital Status (Tick Relevant Box) 1. Single= 2. Married=
Participant's ID..... (Please generate ID by writing first alpha- bets of your first and last name followed by month of your birth)
Your age (in years like 27 years, 31 years)
Work experience: (in years like 1 years, 5 years):
Hospital's Name
Ward Number

Instructions: Please consider the past 4 weeks and answer the following questions with the response categories given below:

1	2	3	4	5
Never	About once a week	Several times a week	Almost every- day	Everyday

Supervisor Undermining

T1	How often has your supervisor intentionally:					
1	Hurt your feelings?	1	2	3	4	5
2	Put you down when you questioned work proce- dures?	1	2	3	4	5
3	Undermined your effort to be successful on the job?	1	2	3	4	5
4	Let you know they did not like you or something about you?	1	2	3	4	5
5	Talked bad about you behind your back?	1	2	3	4	5
6	Insulted you?	1	2	3	4	5
7	Belittled you or your ideas?	1	2	3	4	5
8	Spread rumors about you?	1	2	3	4	5

9	Made you feel incompetent?	1	2	3	4	5
10	Delayed work to make you look bad or slow you down?	1	2	3	4	5
11	Talked down to you?	1	2	3	4	5
12	Gave you the silent treatment?	1	2	3	4	5
13	Did not defend you when people spoke poorly of you?	1	2	3	4	5

Time 2

Respected Participants

I am a doctoral student at Capital University of Science & Technology, Islamabad and conducting research on “**Evaluation of Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory**”. This research is purely of academic nature and your anonymity will be maintained at the highest level. I therefore, need your precious time to fill out the following questionnaire. Thank you so much for your cooperation and precious time.

Regards,

Muhammad Nadim,

PhD Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1

Your gender (Tick Relevant Box) 1. Male= 2. Female=
Marital Status (Tick Relevant Box) 1. Single= 2. Married=
Participant's ID_____ (Please generate ID by writing first alpha-bets of your first and last name followed by month of your birth)
Your age (in years like 27 years, 31 years)
Work experience: (in years like 1 years, 5 years):
Hospital's Name
Ward Number

Instructions: Please indicate how frequently you have experienced compassion in the last month using a five point likert scale ranging from 1 “never” to 5 “always”.

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

T2	Experienced Compassion					
1	In the last month, how frequently you experienced the compassion on the job?	1	2	3	4	5
2	In the last month, how frequently you experienced the compassion from your in-group members?	1	2	3	4	5
3	In the last month, how frequently you experienced the compassion from your co-workers?	1	2	3	4	5

T2	Regulatory Emotional Self-Efficacy					
1	How well can you express joy when good things happen to you?	1	2	3	4	5
2	How well can you feel gratified over achieving what you set out to do?	1	2	3	4	5
3	How well can you rejoice over your successes?	1	2	3	4	5

4	How well can you express enjoyment freely at parties?	1	2	3	4	5
5	How well can you keep from getting dejected when you are lonely?	1	2	3	4	5
6	How well can you keep from getting discouraged by strong criticism?	1	2	3	4	5
7	How well can you reduce your upset when you don't get the appreciation you feel you deserve?	1	2	3	4	5
8	How well can you keep from getting discouraged in the face of difficulties?	1	2	3	4	5
9	How well can you manage negative feelings when reprimanded by your parents or significant others?	1	2	3	4	5
10	How well can you avoid getting upset when others keep giving you a hard time?	1	2	3	4	5
11	How well can you get over irritation quickly for wrongs you have experienced?	1	2	3	4	5
12	How well can you avoid flying off the handle when you get angry?	1	2	3	4	5

Instructions: Please indicate the extent to which following statements are relevant to you in managing your emotional life using a five point likert-scale with 1 (Not well at all) to 5 (Extremely well).

1	2	3	4	5
Not well at all	Slightly well	Moderately well	Very well	Extremely well

Time 3

Respected Participants

I am a doctoral student at Capital University of Science & Technology, Islamabad and conducting research on “**Evaluation of Creative Performance and**

Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory". This research is purely of academic nature and your anonymity will be maintained at the highest level. I therefore, need your precious time to fill out the following questionnaire. Thank you so much for your cooperation and precious time.

Regards,

Muhammad Nadim,

PhD Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1

Your gender (Tick Relevant Box) 1. Male= 2. Female=
Marital Status (Tick Relevant Box) 1. Single= 2. Married=
Participant's ID_____ (Please generate ID by writing first alphabets of your first and last name followed by month of your birth)
Your age (in years like 27 years, 31 years)
Work experience: (in years like 1 years, 5 years):
Hospital's Name
Ward Number

Instructions: Using the 1–5 scale below, indicate the extent to which you agree or disagree on the following statements.

1	2	3	4	5
Disagree	Disagree	Neither agree	Agree	Agree
Strongly	a little	nor disagree	a little	Strongly

T3	State Optimism					
1	Currently, while at work, I usually expect the best.	1	2	3	4	5
2	Currently, while at work, If something can go wrong for me, it will.	1	2	3	4	5

3	Currently, while at work, I look on the bright side of things.	1	2	3	4	5
4	Currently, while at work, I'm optimistic about my future.	1	2	3	4	5
5	Currently, while at work, I hardly expect things to go my way. (R)	1	2	3	4	5
6	Currently, while at work, Things never work out the way I want them to. (R)	1	2	3	4	5
7	Currently, while at work, I'm a believer in the idea that "every cloud has a silver lining".	1	2	3	4	5
8	Currently, while at work, I rarely count on (anticipate) good things happening to me. (R)	1	2	3	4	5

Time 4

Respected Participants

I am a doctoral student at Capital University of Science & Technology, Islamabad and conducting research on "**Evaluation of Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory**". This research is purely of academic nature and your anonymity will be maintained at the highest level. I therefore, need your precious time to fill out the following questionnaire. Thank you so much for your cooperation and precious time.

Regards,

Muhammad Nadim,

PhD Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1

Your gender (Tick Relevant Box) 1. Male= 2. Female=
Marital Status (Tick Relevant Box) 1. Single= 2. Married=
Participant's ID..... (Please generate ID by writing first alpha- bets of your first and last name followed by month of your birth)
Your age (in years like 27 years, 31 years)
Work experience: (in years like 1 years, 5 years):
Hospital's Name
Ward Number

Instructions: Please indicate the extent to which you agree or disagree with each of the following statements using a five point likert-scale with 1 (strongly disagree) to 5 (strongly agree).

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree	Agree	Strongly
	a little	nor disagree	a little	Agree

T4	Job Engagement					
1	I work with intensity on my job	1	2	3	4	5
2	I exert my full effort to my job	1	2	3	4	5
3	I devote a lot of energy to my job	1	2	3	4	5
4	I try my hardest to perform well on my job	1	2	3	4	5
5	I strive as hard as I can to complete my job	1	2	3	4	5
6	I exert a lot of energy on my job	1	2	3	4	5
7	I am enthusiastic in my job	1	2	3	4	5
8	I feel energetic at my job	1	2	3	4	5
9	I am interested in my job	1	2	3	4	5
10	I am proud of my job	1	2	3	4	5
11	I feel positive about my job	1	2	3	4	5
12	I am excited about my job	1	2	3	4	5

13	At work, my mind is focused on my job	1	2	3	4	5
14	At work, I pay a lot of attention to my job	1	2	3	4	5
15	At work, I focus a great deal of attention on my job.	1	2	3	4	5
16	At work, I am absorbed by my job.	1	2	3	4	5
17	At work, I concentrate on my job.	1	2	3	4	5
18	At work, I devote a lot of attention to my job	1	2	3	4	5

Time 5

Respected Participants

I am a doctoral student at Capital University of Science & Technology, Islamabad and conducting research on “**Evaluation of Creative Performance and Prosocial Behavior as Outcomes of Experienced Compassion at Workplace: An Application of Affective Events Theory**”. This research is purely of academic nature and your anonymity will be maintained at the highest level. I therefore, need your precious time to fill out the following questionnaire. Thank you so much for your cooperation and precious time.

Regards,

Muhammad Nadim,

PhD Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1

Your gender (Tick Relevant Box) 1. Male= 2. Female=
Marital Status (Tick Relevant Box) 1. Single= 2. Married=
Participant's ID_____ (Please generate ID by writing first alphabets of your first and last name followed by month of your birth)
Your age (in years like 27 years, 31 years)
Work experience: (in years like 1 years, 5 years):

Hospital's Name
Ward Number

Instructions: Please indicate how frequently your coworker has shown each of the following behaviors in the last month using a five point likert scale ranging from 1 “never” to 5 “always”.

1	2	3	4	5
Never	Rarely	Sometimes	Very often	Always

T5	Prosocial Behavior					
1	Speaks favorably about the organization to outsiders.	1	2	3	4	5
2	Is receptive to new ideas.	1	2	3	4	5
3	Tolerates temporary inconveniences without complaint.	1	2	3	4	5
4	Offers ideas to improve the functioning of the department.	1	2	3	4	5
5	Expresses loyalty toward the organization.	1	2	3	4	5
6	Takes action to protect the organization from potential problems.	1	2	3	4	5
7	Uses tact when dealing with others.	1	2	3	4	5
8	Arrives at work on time.	1	2	3	4	5
9	Assigns work to student workers fairly.	1	2	3	4	5
10	Gives advance notice if unable to attend work.	1	2	3	4	5
11	Uses resources without unnecessary waste.	1	2	3	4	5
12	Uses work time wisely.	1	2	3	4	5
13	Completes work requested as soon as possible.	1	2	3	4	5
14	Complies with organizational policies and procedures.	1	2	3	4	5
15	Sends birthday greetings to co-workers in the office.	1	2	3	4	5

16	Collects money for flowers for sick co-workers or funerals.	1	2	3	4	5
17	Brings in food to share with co-workers	1	2	3	4	5
18	Coordinates department get-togethers.	1	2	3	4	5
19	Assists co-workers with personal problems.	1	2	3	4	5
20	Does a personal favor for someone.	1	2	3	4	5

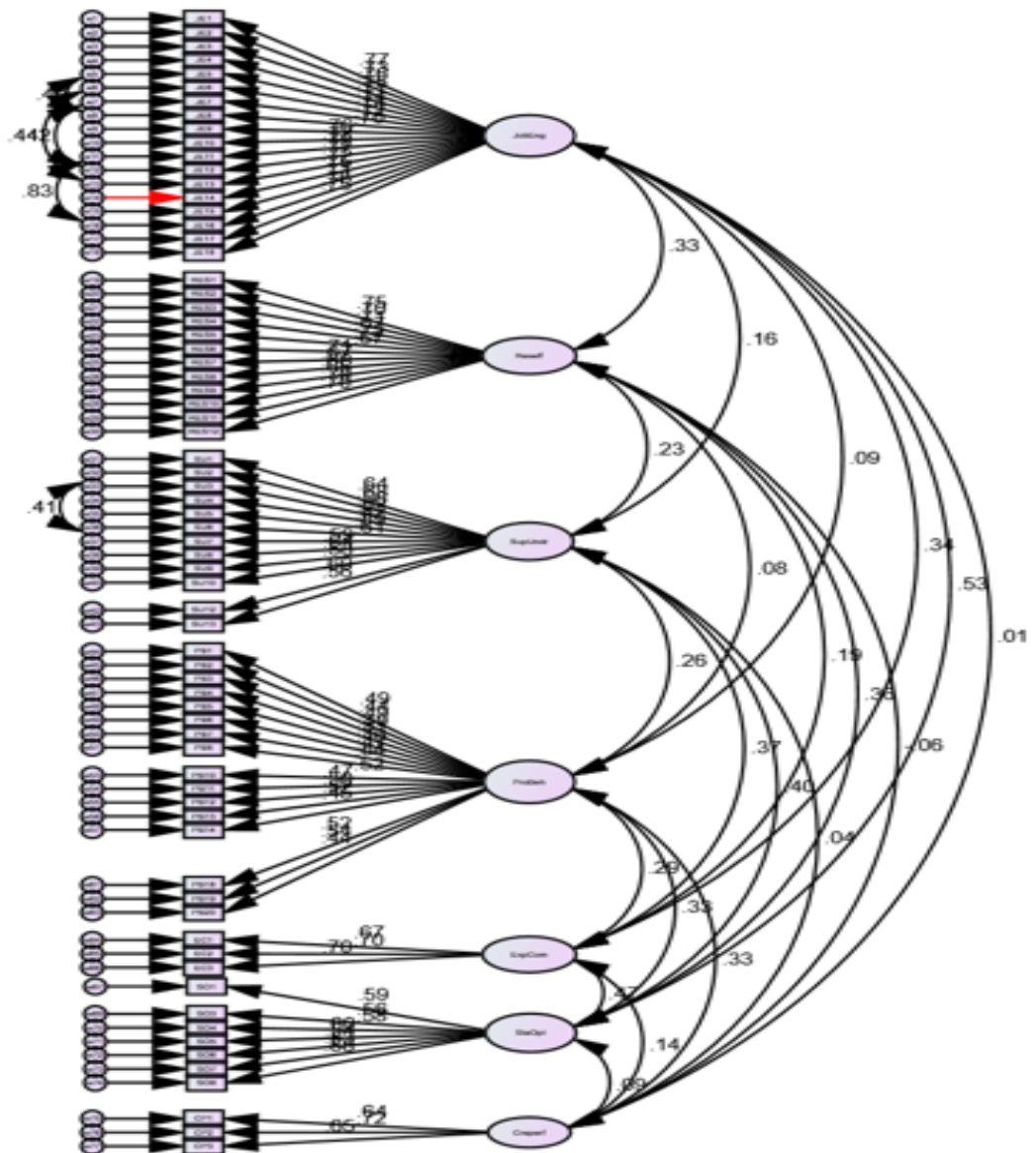
Instructions: Please rate your coworker on each of the following statements using a five point likert scale ranging from 1 “Very little extent” to 5 “very great extent”.

1	2	3	4	5
Very little extent	Little extent	Some extent	Great Extent	Very great extent

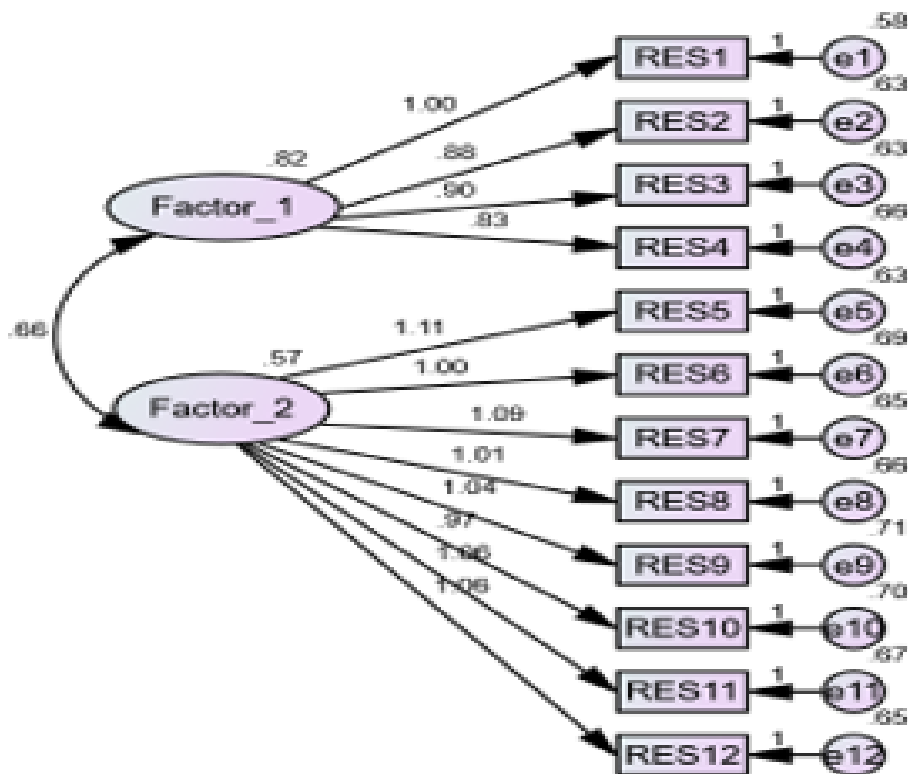
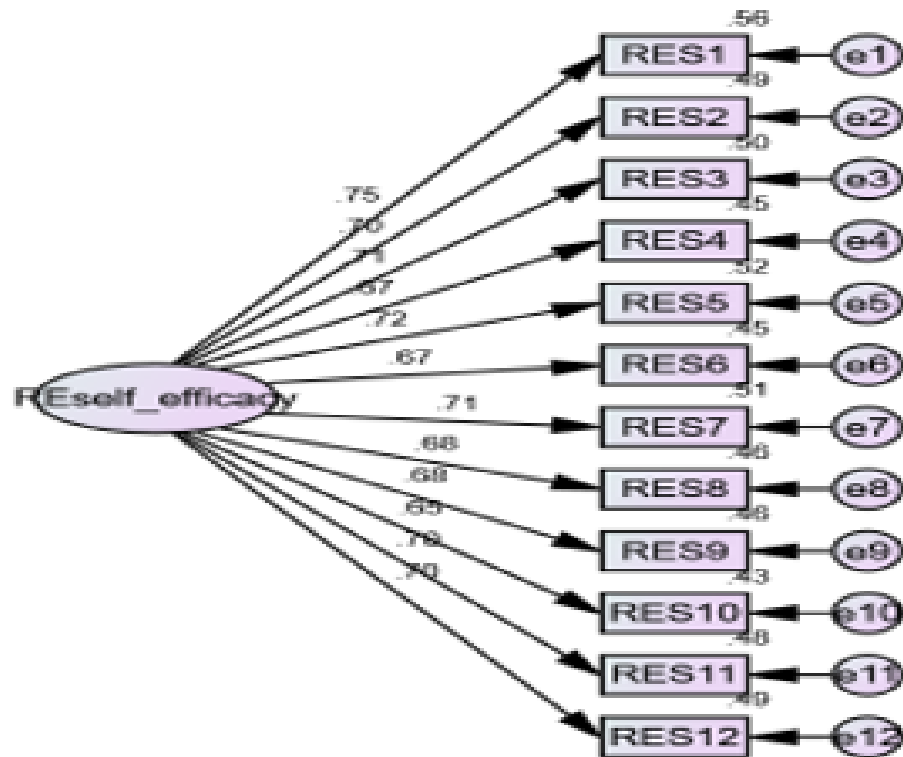
T5	Creative Performance					
1	How ORIGINAL and PRACTICAL is this person’s work.	1	2	3	4	5
2	How ADAPTIVE and PRACTICAL is this person’s work?	1	2	3	4	5
3	How CREATIVE is this person’s work?	1	2	3	4	5

Appendix 2

A: Confirmatory Factor Analysis



B. CFAs of Multi-Dimensional Construct of RESE



C: Structural Path Diagram

