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Relationship between Psychological Capital and Organizational Performance Mediated by Organizational Resilience: A Study in District Nowshera, Pakistan

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Abstract: Climate change induced disasters have increased in frequency and intensity threatening economic wellbeing of businesses and communities. Micro, small and medium enterprises (MSME) being integral part of communities makes bulk (90%) of the economic activities around the globe, 96% in Asia and 99% of in Pakistan. In disaster context, survival, recovery and resilience of MSMEs are central to realization of community's survival, recovery and wellbeing. Small businesses are marred by liability of smallness characterized by limited resources, informal structure and unity of its ownership and management. SMEs are mostly dependent on entrepreneur's capabilities and resources for management, survival and growth. Some scholar suggest that in MSME context, among other factors entrepreneur's competencies, psychological and social capitals play a pivotal role in enabling organizational resilience and their disaster performance. Recently few studies have emerged focusing on investigating the impact of various entrepreneurial specific capabilities, resources and mechanisms either on firm resilience or firm performance separately in natural disaster and pandemic context. However, investigating the impact of these on MSME disaster recovery performance in an integrated model seems to be still missing. To address the gap, a study was designed to examine the relationship between entrepreneur's psychological capital, organizational resilience and MSME disaster recovery performance (MSME-DRP). An empirical quantitative study, grounded in multi-theory perspective, the propositions were explored by collecting data through questionnaire survey from 225 valid responses from flood effected District of Nowshera, Pakistan. Findings revealed that PsyCap significantly and positively impact MSME's disaster recovery performance. Results further highlighted significant partial mediation by organizational resilience, while it having significantly positive effect on recovery as direct mechanism as well. The paper contributes to the existing stream of research on organizational resilience and organizational disaster performance in broader strategic management literature.

Keywords: Psychological capital, Organizational resilience, Organizational Performance, Disaster Recovery, Micro, Small and Medium Enterprises.

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INTRODUCTION

Towards the close of second millennia, studies started emerging focusing on small business vulnerability, preparedness, response and recovery in disaster and crisis situations. These studies covered areas of business vulnerability to lifeline disruptions (Tierney, 1993; Tierney & Nigg, 1995) damages and closure of SMEs and reasons of closure (Kroll, Landis, Shen, & Stryker, 1990), impacts and losses of disasters, preparedness and recovery (Tierney & Dahlhamer, 1997) and lifeline services interruptions (Dahlhamer & Tierney, 1998). A new stream of empirical research appeared examining organizational preparedness and recovery from organizational resilience perspective (McManus et al., Seville, Vargo, & Brunsdon, 2008; Lee et al., Vargo, & Seville, 2011; Whitman, Kachali, Roger, Vargo, & Seville, 2013; Prayag, Chowdhury, Spector, & Orchiston, 2018). Following on observation by few researcher s about lack of systematic research on understanding of micro level processes and mechanisms such as owner's decision making processes and their mindset during and post disaster (Alesch, Holly, Mittler, & Nagy, 2001; Corey & Deitch, 2011), scholars examined the antecedents of organizational resilience from entrepreneur's capitals perspective (Pathak & Joshi, 2020; Tanner, Prayag & Kuntz, 2022; Grozinger, Wolff, Julian Ruf, Audretsch & Moog, 2023). In the of MSME and disaster context, these studies have examined the relationships such as resilience and financial performance (Prayag et al., 2018), psychological capital and resilience (Pathak &

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Joshi, 2020), and most recently social capital, psychological capitals and organizational resilience (Tanner, Prayag & Kuntz, 2022). Although these studies are useful in furthering the understanding of processes and mechanisms operating at micro level, but fail to establish linkages between entrepreneurial capitals and MSMEs post disaster recovery performance. Addressing this gap, this research was designed to investigate the role of entrepreneur's psychological capital in achieving organizational resilience and further small businesses post-disaster recovery performance in flood disaster in developing economy of Pakistan.

MSMEs are the backbone of economies around the globe (Eggers, 2020) and are major drivers of wellbeing, economic growth, innovation and competitiveness (United Nations Development Programme [UNDP], 2013). Globally MSMEs form around 90% of all businesses and 50% employment and 40% of national GDPs (World Bank [WB], 2019). In Pakistan, MSMEs makes about 99% of estimated 5.2 million economic establishments, employing 78% to non-agricultural labour and contributing 40% to GDP (Asgary et al, 2012; Small and Medium Enterprises Development Authority [SMEDA], 2021). European commission (EC) define MSMEs as having less than 10 employees as micro, 11-50 employees as small, 51 - 250 as medium enterprises (European Commission [EC], 2003). In Pakistan, small and medium enterprise authority (SMEDA) has defined SMEs as having less than 250 employee. In terms of annual sales turnover up to PKR 150 million for small enterprise (SE) and upto PKR 800 million for medium enterprise (ME). SMEs up to 5 years of age are considered start-ups (Small and Medium Enterprise Development Authority [SMEDA], 2021). However, this study adopts widely used definition of MSMEs in terms of number of employees as micro (1-9), small (10-50), medium (51-250) and large beyond 250 employees.

Climate changed induces disasters are intensifying in frequency, intensity and impacts (United Nations Office for Disaster Risk Reduction [UNDRR], 2022). In 2022 alone, 387 disasters were reported, 185 million people effected and USD 223.8 billion economic losses occurred (Centre for Research on the Epidemiology of Disasters [CRED], 2023). Global warming will surpass 1.5oC above pre industrial level due to greenhouse gas emissions, and constantly rising temperature thereby will increase risk and undermining resilience (United Nations Office for Disaster Risk Reduction [UNDRR], 2023). All countries especially developing countries, where the mortality and economic losses from disasters are already disproportionately higher, are faced with increasing challenges. However, the impacts of disasters on MSMEs and the consequences of these impacts on economic and social recovery of the affected communities is one of the least explored area (United Nation Development Programme [UNDP], 2013). Increased climate and extreme weather events are threatening very survival of corporate enterprises. Business organizations are needed to build on capabilities to plan, prepare, adapt and recover with grace and be stronger in the face of multiple challenges and enhanced uncertainties. Organizational resilience is one such capability, which has attracted attention of researchers from various disciplines and entities. However, little research has focused on the MSME resilience and disaster recovery performance in the context of developing countries, which is perhaps surprising given the contribution made by these businesses in such a setting (Saad, Hagelaar, Velde, & Omta, 2021). Resilience is mainly considered ability to survive and thrive in contemporary complex and uncertain environment. Scholars have linked resilience with community recovery, competitive advantage, survival and growth (McManus, 2008; Lee et al., 2013; Hillman and Guenther, 2021). Organizational resilience and community resilience are interrelated and interdependent (Lee et al., 2013). McManus (2008) argue that resilience of business organizations directly contribute to the speed and success of community recovery (McManus, 2008). Holling (1973) defined ecological resilience as "ability of systems to absorb change and disturbance and still maintain the same relationships between state variables" (Holling, 1973). Others define resilience as the capacity of the firm to survive, grow and adapt despite natural hazards and crisis (Dahles & Susilowati, 2015), and resistance to shocks, renewal, and recovery or bounce back from shocks (Saad et al., 2021). Organizational resilience is defined as ability to plan for, respond to, and recover from emergencies and crises (Lee et al., 2013). Few scholars have however advocated inclusion of anticipation, sensemaking and awareness of environment, risks and exploitation of new opportunities (McManus, 2008; Duchek, 2020). This study however adopts definition given by McManus (2008), defining organization resilience as a function of an organization's awareness of the overall situation, management of keystone vulnerabilities, and ability to adapt in a complex, dynamic, and interdependent environment (McManus, 2008). It has been measured with two dimensions of adaptive capacities and planning strategies (Lee et al., 2013; Whiteman et al., 2013).

Empirical research on organizational resilience and disaster performance is still in exploratory stage and to date studies have yielded mixed conclusions (Chen, Xie, & Liu, 2021). Such studies are mostly limited to tourism and

hospitality sector. In a study examining the relationship between organization resilience and financial performance in tourism sector and major earthquakes context, found insignificant effect between organizational resilience (planned and adaptive) and financial performance (Prayag et al., 2018). Whereas. another study in COVID-19 context, found direct, positive, and significant influences of organizational resilience (planned and adaptive) on performance of small tourism enterprises (Sobaih, Elshaer, Hasanein, & Abdelaziz, 2021).

Dynamic perspective of disaster recovery suggest recovery as a multistage, ordered and interdependent dynamic process (Marshal & Shrank, 2014). Dynamic view of small business disaster recovery suggest a dynamic interactions between multiple factors both in external and internal environments of business. Recovery can be measured subjectively and objectively. As there is not much difference in subjective and objective form of measurement (Vij & Bedi, 2016). In this study, MSME resilience and disaster recovery performance has been measured with owner's perceived recovery time or speed of recovery, recovered or not recovered and overall performance (better off, same or worst off) (Tierney, 1997; Dahlhamer & Tierney, 1998; Corey & Deitch, 2011; Asgary et al., 2012; Khan & Sayem, 2013) on six dimensions in terms of employees, customers, profitability, debt, sales and overall performance.

Organizational resilience literature has underscored the usefulness of psychological capital (Prayag et al., 2018, Pathak & Joshi, 2020; Tanner et al., 2020; Grozinger et al., 2023). Grounded in positive psychological behaviours domain, PsyCap is basically is an individual levels construct but extrapolates to team and organization levels across many cultures and found stable (Luthan & Youssef-Morgan, 2017). Empirical research have shown significantly positive relationship of both individual PsyCap and organizational PsyCap and organizational outcomes such as creative performance (Sweetman, Luthans, Avey, & Luthans 2010), innovation and overall SME performance during crisis (Grozinger et al., 2023). PsyCap is defined as an individual's positive psychological state of development, characterized by four constituent capacities; self-efficacy, optimism, hope and resilience. PsyCap is higher order construct based on the commonalities of the four first-order constructs (Luthans, Youssef –Morgan & Avolio, 2015, pp2). In terms of commonalities, four constituent constructs share a sense of control, intentional control and goal pursuit (Luthan & Youssef-Morgan, 2017). Meaning that owner with more positive mindset will be more likely to plan for disaster and motivate employees will be motivated to ensure implementation as well, thereby increasing the chances of disaster recovery.

The study attempts to extend existing research on investigating impacts of organizational resilience on its performance but extending it further by integrating the role entrepreneurial capital into the model to address an existing theoretical gap. As a first attempt, this novel research framework under multiple theoretical perspective has enabled linking various variables from different domains of studies across multiple levels. The research has investigated disaster recovery and performance of MSMEs in developing economies context in flood disaster scenario. Such empirical studies lack in developing economies context, thereby addressing this contextual gap as well. Paper contributes to the existing stream of research on organisational resilience and performance (Kachali, Stevenson, Whitman, Seville, & Wilson, 2012; Sydnor et al., 2017; Prayag et al., 2018; Pathak & Joshi, 2020; Tanner, Prayag, & Kuntz, 2022).

The study is quantitative, cross sectional and structured interview mode field study with long term recovery perspective investigating empirically the role of psychological capital and organizational resilience in SME disaster recovery performance. Data was collected from 225 respondents (owners as proxy), selected through three staged purposive sampling technique. SPSS version 21 with Process Micros was deployed for analyses (Hayes, 2018; 2023). In the final analysis, it was found that PsyCap and resilience significantly and positively predict the MSMEs long term disaster recovery.

Succeeding sections will be discussing salient features of research as section two will briefly provides theoretical framework and develop hypotheses; section three will offer an overview of study area, state of SMEs in Pakistan and impacts of Super Flood -2010; section four will introduce research methodology; section five will elucidate findings and discussion, whereas significance, implications and future research directions will be presented before closing.

Theoretical Framework

When an external crisis jeopardizes markets, SMEs are hit with great force. Their so-called liability of smallness (Freeman, Carroll, & Hannan, 1983) and a lack of resources worsens the situation (Eggers, 2020). MSMEs are

limited by human and financial resources, capabilities and external structured support (Tanner et al., 2022). Henry Mintzberg (1979: 306) characterized the small business as: 'Typically, it had little or no techno-structure, few support staffers, a loose division of labour, minimal differentiation among its units, and a small managerial hierarchy. Little of its behaviour is formalized, and it makes minimal use of planning, training, and liaison devices. It is above all, organic' (Mintzberg, 1979: p 306), making it more vulnerable to internal and external disruptive events as compared to larger firms (Eggers, 2020). Considering these limitations, small business are likely to rely more on owner's personal financial, social and psychological capitals, and be dependent on customers, employees and suppliers.

This study view business enterprise and its relationship with external environment from open system perspective and ground this research in resource based perspective (Wernerfelt, 1984; Barney, 1991) based herringbone model of resilience (Gibson and Tarrant, 2010; Tanner et al., 2022), along with insights from social learning theory (Barunda, 1976) to understand transfer mechanism and explain the relationship among PsyCap, OR and organizational disaster performance. Considered an extension of RBV, herringbone Model of organizational resilience (HMOR) mainly integrates entrepreneurial tendencies, organizational operational capacities with resilience through dynamic interaction of various characteristics, capabilities and activities (Tanner et al., 2022). These capabilities and characteristics are proficient in ordinary times as well as with proper reconfiguration will significantly affect its performance during the times stress as well (Gibson & Tarrant, 2010; Tanner et al., 2022). The novelty of the Model is adding dynamic interaction of various entrepreneurial characteristics and emphasis on risk management as fundamental basis of the disaster resilience. Some of the capabilities that comes handy to help organization to better operate in non-routine environment, are acuity (being aware of past, present and future), ambiguity tolerance, creativity (generating novel ideas), agility (avoiding collision), stress coping and learnability. Herringbone Model here is considered as linchpin theoretical perspective between RBV, entrepreneurial agency and organizational resilience and consequently firm's disaster recovery performance. Few studies have used this to understand the relationship between organization resilience and its financial performance (Tanner et al., 2022).

The transfer mechanisms of PsyCap to organizational performance are viewed through the process of social learning (Bandura, 1977), where learning occurs through observation, imitation, and modelling thus making transfer of entrepreneur's positive psychological behaviours to followers possible and lastly owners/managers of small businesses can instil hope and optimism in the employees and can help them to accept the reality and prepare for future contingencies (Pathak & Joshi, 2020). The positive nature of PsyCap can trigger positive affective states that can facilitate broadening one's thought-action repertoires, leading to higher creativity (Sweetman, Luthans, Avey & Luthans, 2011) and a broader range of pathways (Luthans et al., 2017). Empirical research has shown positively association of PsyCap with work satisfaction, productivity, relationships, health, wellbeing, and positive behaviours, and creative performance (Sweetman et al., 2010). At organizational level, empirical results support the notion that psychological capital positively influences creative innovation of SMEs and thus performance during crises (Grozinger et al., 2022). In another study on how PsyCap of SME leaders had influenced the performance of their companies, during the COVID-19 pandemic, found that SME leaders' high PsyCap positively influenced the performance of SMEs (Grozinger et al., 2023).

LITERATURE REVIEW

Psychological Capital (PsyCap)

Psychological Capital (PsyCap) is a multidimensional higher order reflective construct, referring to an individual's positive psychological state, comprising of four dimensions; self – efficacy, hope, optimism and resilience (Luthans, Youssef & Avoio, 2007). Individuals higher in PsyCap are positively related with organizational performance (Newman, Cbazaran, Zhu & Hirst, 2014). Self-efficacy is about having conviction in one's ability to succeed at challenging tasks in any given context (Bandura, 1982). Self-efficacy denotes an individual's confidence in his ability to mobilize his motivation, cognitive resources and inventory of action in order to achieve high levels of performance (Luthan' Luthans & Luthans, 2004). Individuals with high self-efficacy generally have a stronger belief in their ability to control outcomes and succeed in difficult situations. Optimism is a positive disposition about succeeding now and in the future. Optimism underlines the expectancy of individual of positive outcomes. Those with high optimism generally build positive expectancies that motivate them to pursue their goals and deal

with difficult situations. A positive motivational state (hope) is based on interaction of goal-oriented energy (agency) and planning to achieve goals (pathways) (Luthan et al., 2004). Whereas agency refers to an individual's motivation to succeed at a specific task in a set context, pathways refer to the way or means by which that task may be accomplished. Individuals with high levels of hope show greater goal-directed energy and are more likely to exhibit the capacity to develop alternative pathways to accomplish their goals (Luthans et al., 2007; Luthans et al., 2008). Finally, resilience is the capacity to "bounce back" from adversity, sustaining and even beyond to attain success (Luthan' Luthans& Luthans, 2004; Luthans, Avolio & Youssef, 2007,pp3; Luthans, Youssef-Morgan & Avolio, 2015,pp2; Luthans & Youssef-Morgan, 2017). Resilience in this context refers to the capability of an individual to bounce back from adversity and adapt to changing situations. Individuals high in resilience tend to be better at adapting in the face of negative experiences and changes in the external environment (Luthans et al, 2007; Luthans et al., 2015; Newman et al, 2014; Sweetman, Avey, Luthans, & Luthans, 2011). Thus, it is important to identify and understand key theoretical mechanisms through which PsyCap operates. To date, agentic conation, cognitive appraisals and positive emotions are recognized for PsyCap (Youssef & Luthans 2013; Luthan & Youssef-Morgan, 2017). Agentic conation is defined as "intentional, goal-oriented, or striving component of motivation, the proactive aspect of behaviour. Conation facilitates goal-directed energy, which can trigger the motivation and resource deployment necessary for goal pursuit, and promote a positive, rather than negative, reaction when obstacles are encountered. Positive cognitive appraisals are mental processes of reframing and reinterpretation of an event in a more positive light, render challenging goals more appealing and worthy of time, energy, and resource investment and promoting perseverance, rather than giving up, when faced with obstacles and setbacks (Youssef & Luthans 2013).

Psychological capital (PsyCap) is a core individual resource that leaders leverage in crisis (Milosevic, Bassb & Milosevic, 2017). Leaders strong in four psychological resources instil hope and optimism in employees through motivation and positive work environment which in turn build organizational resilience and assist in speedy recovery (Pathak & Joshi, 2020). In an empirical study in the COVIS 19 context, Pathak and Joshi (2020) found that despite the adversities, the owners and managers of budget hotels make efforts to overcome negativities and try to get back to normal. Research has shown that employees' outcomes may transit to more aggregated levels of team and organization outcomes such as financial, economic, creativity and innovative performances (Grozinger et al., 2023), commitment and citizenship behaviours (Da, Zhu, Cen, Gong, & Siu, 2021) resultantly contributing to firm competitive advantage (Luthans and Youseff, 2004). These combined positive psychological behaviours could be explained from social learning perspective (Bandura, 1977).

Organizational Resilience (OR)

Organizational resilience (OR) is a strategic response to surprises, disruptive events, turbulence and discontinuities (Burnard & Bhamra, 2011; Hillman and Guenther, 2021) including crisis, disaster, change and shocks (Rahi, 2019). Disruptive event is an event that has a negative impact on organizations operations and causes an interruption in its normal workflow (McManus et al., 2008). In other words, it is an event that prevents an organization from continuing its normal operations and subsequently failing to accomplish its mission and objectives. Organizational resilience could be well concluded by the ability of organisation to survive and thrive in face of uncertainties and changes (Vargo and Seville, 2011) and adversity and turbulence (Bhamra, Dani, Burnard, 2011; Hillman, 2021; Chen et al., 2021).

Strategic perspective consider resilience as a developable quality through developing relevant capabilities and investing in related resources (Hillman, 2021). Despite conceptual and definitional complexity, theoretical ambiguity (Linnenluecke; 2015), common theme of what resilience addresses is 'survival' (Ruiz-Martin et al., 2018) and thriving in face of disaster (Hillman & Guenther,2021). To have a further deeper look at the concept, readers are encouraged to refer to various works (Bhamra, 2011; Rahi, 2019; Hillman, 2021; Hillman & Guenther, 2021; Chen et al., 2021). Survival oriented perspective is (bouncing back to the state before the perturbation) based resilience research is led by the ecosystem perspective, defined resilience as the amount of perturbation a system can sustain before changes occur in system's control and structure (Holling1973). In the bouncing back perspective organizational resilience is defined as an ability to plan for, respond to, and recover from emergencies and crises (Lee et al., 2013), and resistance to shocks, renewal, and recovery and/or bounce back from shocks (Saad et al., 2021). Disasters are accompanied with change and bounce back does not capture changed reality or

new possibilities wrought by disaster (Alesch et al., 2001). Growth oriented perspective underlined by notion of bouncing forward to new and better state and emerging more strengthened and resourceful after the disruptive event. This perspective focuses on developing capabilities to successfully overcome future challenges and emerge from crisis stronger than before (Duchek, 2020). Organizational resilience in this perspective is normally defined as the capacity of firm to survive, grow and adapt despite natural hazards and crisis (Dahles & Susilowati, 2015). This study adopts definition by McManus (2008), defining organization resilience as a function of an organization's awareness of the overall situation, its management of critical weaknesses, and its ability to adapt in a complex, dynamic, and interdependent environment (McManus, 2008). It has been measured with two dimensions of adaptive capacities and planning strategies (McManus, 2008, Lee et al., 2013; Whiteman et al., 2013). Situation awareness is defined as a measure of organization's overall understanding and perception of it whole operating environment and various stakeholders (McManus, 2008). McManus (2008) define the management of key stone vulnerabilities as the failure of those critical capacities and capabilities existing in the system may have near fatally threatening potential for the system as a whole. The adaptive capacities can be conceptualized as opposite side of the key stone vulnerabilities to some extent. Organization as system can adapt in different ways by applying suite of responses in various ways; either by applying existing responses to the problem in hand, and/or apply existing capabilities in novel ways to the new problem and/or develop novel response capabilities to apply these to the encountered problems (Dalziell and McManus 2004).

MSMEs Disaster Performance

Studies focusing on small businesses recovery started appearing around 1990s, to identify factors that facilitate or imped small businesses disaster recovery in Coalinga Earthquake (Tierney & Dahlhamer, 1995). Kroll et al., 1990 observed that smaller firms suffered proportionally greater losses during Loma Prieta EQ, 1983 (Kroll et al., 1990; Tierney, 1995). Disaster recovery is complex and multidimensional process deeply ingrained in the context enabled by various endogenous and exogenous factors. Factors endogenous to firm include type, size, age and whether premise is owned or rented (Kroll et al., 1990; Dahlhamer and Tierney, 1998; Corey &, Deitch, 2011), owners characteristics like gender, education, experience of managing business and management strategies like disaster preparedness, recovery planning and disaster risk perception (Tierney & Dahlhamer, 1998; Webb, Tierney & Dahlhamer, 2000; Rodriguez et al., 2007). Exogenous factors stemming from the environments beyond the control of the management including broader economic conditions, business interruptions due to losses and damages caused by disaster and disruption of lifeline services (Tierney, 1995, Dahlhamer & Tierney, 1998). Kroll et al., (1990) observe that impacts to businesses stemmed from damages to buildings and damages in broader external environment. Further studies found physical damages, disaster impacts, business size and neighbourhood damage as important predictors of disaster recovery (Tierney & Dahlhamer, 1995; Tierney & Nigg, 1995; Dahlhamer and Tierney, 1998). Physical damage was found to be a much weaker predictor of loss. Webb, Tierney & Dahlhamer, (2000) found that previous disaster experience and level of disaster preparedness did not have any significantly affect the long-term economic viability of businesses (Webb, Tierney, Dahlhamer, 2000). Complications arising from extreme population dislocation, specifically loss of customer base and staffing issues, had the greatest impact on organizational performance (Corey & Dietch, 2011). Another study with unique sample, comprising both of operating and demised SMEs, both business characteristics and owner demographics were used as control variables. Business characteristics like age, size, sector and pre-Katrina revenues; owner's demographics like gender, education, industry experience; and disaster impacts like disaster damages and disruptions were found significant predictors of operating status. There was no statistical difference between male and female owners in businesses which closed after Katrina. Pre- Katrina revenue as proxy for pre-disaster business condition, was a positive and statistically significant predictor for small businesses closed after Katrina. Post-disaster impacts and catastrophic physical damage show a statistically significant effect on operating status. However, results demonstrated that damages may have a short-term effect on operating status. It was associated with immediate demise but had much less effect on longer-term recovery. Other types of losses, specifically loss of employees, suppliers, customers/sales, and lifeline loss (utilities) were found significant predictors of operating status. Businesses that never reopened reported higher levels of damage, a greater variety of losses (both physical and nonphysical) and longer periods of closure because of utilities (Sydnor et al., 2017). Although the long-term effects of disasters and the factors that affect the ability to recover have received increasing attention from social science researchers, however, little

systematic research has been conducted on the processes and outcomes associated with business disaster recovery (Dahlhamer & Tierney, 1998). It was also observed that various models tested so far explained little variance organisation disaster recovery. It may be because other types of factors were not taken into account, such as the behaviour and decision making processes of business owners, suggesting new studies to improve upon these approaches (Webb, Tierney & Dahlhamer, 2000).

Disaster recovery has been viewed from static and dynamic perspective and measured with owner perceived recovery time or speed of recovery, recovered or not recovered and overall performance (better off, same or worst off) (Tierney, 1997; Dahlhamer & Tierney, 1998; Webb et al., 2003; Corey & Dietch, 2011; Asgary et al., 2012; Khan & Sayem, 2013). Marshal & Shrank (2014) suggest a dynamic perspective of disaster recovery as a multistage, ordered and interdependent dynamic process. They also postulate that recovery is a process spread overtime with varying quantifiable magnitudes of recoveries. The process first identify the operating and demised businesses through verifiable and valid source(s). The business in operation might be in one of the survival, recovery or resilience state. Survival is defined as operating but below the pre-disaster level of performance measured by comparing baseline or benchmark state with the state at the time of survey. Recovery is achieving pre-disaster levels of performance and resilience is performing beyond the pre-disaster level of performance baseline measured in terms of both financial and non-financial indicators (Marshall & Schrank, 2014; Stevenson, Brown, Seville, & Vargo, 2018).

Hypotheses and Research Framework

The above theoretical framework and overview of literature leads us to the following hypotheses and research framework (figure 1):

$\mathbf{H}_1$: PsyCap positively and significantly predict MSMEs–LTDR

$\mathbf{H}_2$: PsyCap positively and significantly predict organizational resilience

$\mathbf{H}_3$: OR has positive and significant relationship with MSMEs– LTDR

$\mathbf{H}_4$: OR mediates the relationship between psychological capital and MSMEs– LTDR

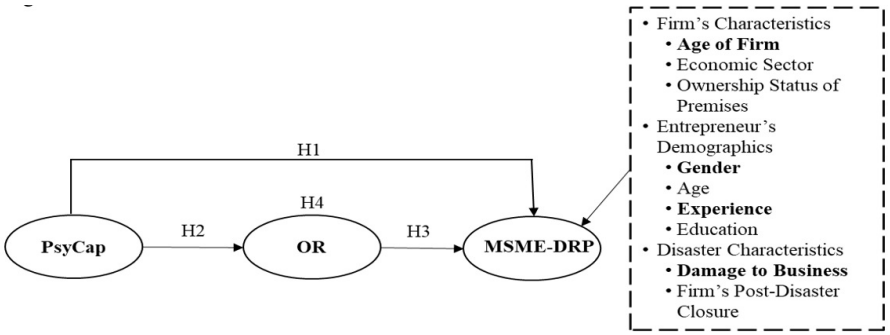

Figure 1: Research framework Note. Confounding variables having significant effect are given in bold.

Overview of Study Area, Super Flood -2010 and State of MSMEs

Overview of SMEs in Pakistan :In Pakistan, census of economic establishments was conducted in 2005 (Pakistan Bureau of Statistics [PBS], 2005). The census covered about 3.25 million economic establishments. Based on the 2005 census, latest estimated enterprises are 5.2 million (SMEDA, 2021). The Census revealed that businesses employing 1 – 10 employees were 2.93 million (99%) and with 11+ employees were only 0.028 million (1.42%). Sectoral distribution of the businesses was 1.57% agriculture, 78.64 services and 19.79% industries. On top were wholesale, retail, hotels and restaurants businesses with 52.96%; followed by community, social and personal services with 22.3% and then manufacturing with 19.72%. It was reported that 6.58 million people were employed by these establishments, of these 0.456 million (7% of total employed) were female. In KPK, surveyed SMEs were 0.481 million (about 14.21% of all the establishments). Wholesale & retail trade; and restaurants & hotels form 14.6%, community, social & personal services 11.3% and manufacturing 15.9% of the total businesses covered here. Almost 95% of the businesses were owned and operated by individuals (PBS, 2005; Asgary et al., 2012). Among the paid workers 93% were male and 7% female (PBS, 2005).

Study area- District Nowshera, KPK, Pakistan :The study was conducted in Super Flood (2010) affected area of District Nowshera, Khyber Pukhtunkhwa (KPK), Pakistan. District Nowshera is located between latitude 330 42, to 340 09', longitude 710 41' to 720 15', consist of 03 tehsils and 47 Union councils covering an area of 1748 sq km (675 sq mi). As per estimates of 2010, population of the District was 1.22 million (figure 2).

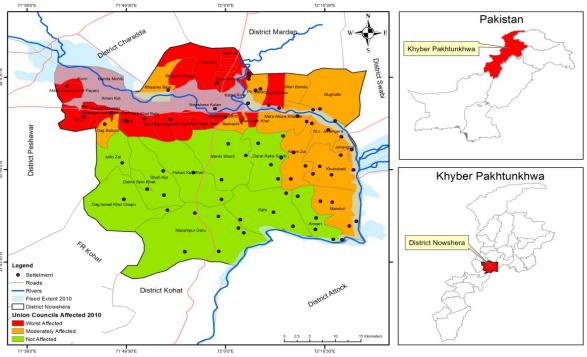

Figure 2: Location of District Nowshera, KPK, Pakistan

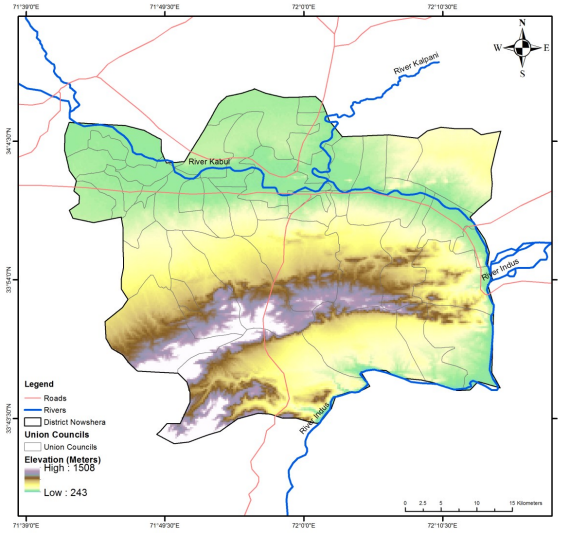

Figure 3: Hydrogeomorphology of District Nowshera, KPK, Pakistan

Super Flood – 2010 with focus on MSMEs in study area :Floods are reoccurring natural disasters in Pakistan accounting for 47% of natural disasters (Asgary, 2012). Super Flood- 2010 was one of the largest natural disaster of 20th century in Pakistan, which lasted for two months, destroyed one third of the country, affecting 25 million inhabitants and causing more than US $ 18 Billion losses to the exchequer (Azam, Yussof & Khan, 2012) effecting 78 out of 141 districts, 29 districts were severely affected. The unprecedented four days rainfall (Jul, 27- 30) over Himalaya and Karakorum, catchment areas of almost all the rivers of Pakistan, coupled with cloud burst and enormous melting of snow resulted in the century's worst flood in terms of nature and magnitude (Rehman & Khan, 2013). The flood nicknamed "Super Flood" affected more than half of the country, 78 districts (55.32% of total districts) out of Pakistan's 141 districts (National Disaster Management Authority [NDMA], 2011). Super Flood-2010 destroyed one third of the country, resulting in 1980 deaths and 2946 injuries affecting 20 million people and causing more US $ 10 billion as estimated by World Bank and Asian Development Bank (National Disaster Management Authority (NDMA, 2011). As per early damage and need assessment the losses estimated were about US $ 18 billion (Azam et al, 2012). Damaged 1.6 million houses and business facilities were destroyed (NDMA, 2011). The flood also adversely affected large number of small and medium enterprises (Asgary et al., 2012).

In KPK's 24 district (96%) out of 25 districts and about 3.8 million people were affected. The Province suffered most deaths 1070 (almost 54% of total deaths) and injured 1056 (about 34% of total injured). In total about 4 million (22.55%) people were directly affected in the province (Rehman & Khan, 2013) out of 17.74 million (Pakistan Bureau of Statistics [PBS], 1998). In KPK, Districts Nowshera and Charsada, were the worst hit districts. This study is conducted in the flood devastated District Nowshera, KPK, Pakistan. In District Nowshera, the Flood left behind all 47 union councils (UCs), basic unit of local government, affected. Although separate damage assessment of MSMEs was not conducted in the area but from the magnitude of devastation points towards overall impact on MSMEs in study area.

METHODOLOGY

The study is quantitative, cross sectional and structured interview mode field study with long term recovery perspective investigating empirically the role of social, psychological capitals and organizational resilience in SME disaster recovery. Unit of analysis is individual SMEs. Data was collected from 225 respondents (owners), selected through three staged stratified sampling technique. SPSS version 21 was used for statistical analysis. In the final analysis, it was found that resilience, SoCap and PsyCap have positive and significant association with MSMEs' long term disaster recovery (LTBR).

Sample

Target population was MSMEs, affected by Super Flood – 2010 in District Nowshera, KPK, Pakistan. Sample was selected through three stages stratified sampling technique. In stage one, list of 74 most effected districts was obtained NDMA and verified by UNOCHA data and a most effected district (Nowshera) was selected considering the extent of inundation. In stage 2, most effected union councils (UCs) were identified by the local government, out of which four most effected UCs were selected for data collection. Four most effected UCs were Nowshera Kalan, Nowshera Cantonment, Khaishgi Bala and Khaishgi Payan. In stage three, MSMEs were selected from these four UCs by enumerators and survey forms filled accordingly. In absence of sample frames, respondents in each UC were selected by the enumerators while ensuring maximum possible inclusion of all economic sectors, business types, age groups and women entrepreneurs. Locations of sample UCs along with number of responses from each UC are given at figure 4.

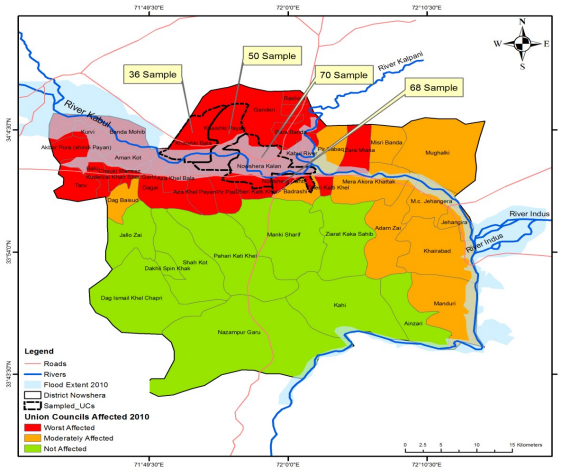

Figure 4: Sample union councils in District Nowshera, KPK, Pakistan

Measurements

The measurement comprised three main sections; general information in section one, categorical items regarding demographics and confounding variables in section two and metric predictor and predicted variables in section three. Using five points Likert Scale from 1- strongly disagree to 5- strongly agree. Valid and reliable measurements (for details refer to table 1) were adapted from the previous studies.

Table 1: : Measurements of main variables of the study

Measurement	Reference	Dimensions	Items	Cronbach's Alpha
Psychological Capital Questionnaire (PCQ)	Luthans, Youssef & Avoio,2007; Mind Garden (mindgarden.org, 1994)	4	12	0.87
Organizational Resilience	McManus, 2008; Lee et al., 2013 and Whitman et al., 2013	2	13	0.76
MSMEs –LTDR	Webb et al., 2002; Webb et al., 2000; Tierney, 2007; Kachali et al., 2012	1	6	0.88

Data Collection and Analysis

The unit of analysis was micro and small enterprises (MSEs) with owner as proxy for such business. Data was collected on spot from owners of 250 micro and small enterprises through trained enumerators. Questionnaires having 10% missing, ambiguous or ineligible responses were excluded from the analysis. After scrutiny process, 225 responses were considered eligible for inclusion in the final analysis. For this study, regression based approach was adopted as suggested by Darlington and Hayes (2016) and Hayes (2018) using statistical package social sciences (SPSS) version 21 with Process Macros (ver 4.2). Internal consistency of scales using reliability coefficient (Cronbach's alpha) was well within the acceptable range of > 0.7 (Hinkin, 1998; Hair, Black, Babin and Anderson, 2019). Descriptive statistics and internal consistency results are given in table 2.

Table 2: : Psychometric Properties and Internal Consistency of the Major Study Variables

	N	Mean	SD	Skewness	Kurtosis	Cronbach's Alpha
Bznz_Age	225	3.658	2.28	1.071	0.718	_
Gender	225	1.111	0.315	2.492	4.245	_
Education	225	3.151	2.708	2.506	6.757	_
Entrep_Age	225	3.142	0.817	-0.466	-0.075	_
Entrep_Exp	225	2.849	1.23	1.962	6.255	_
Eco_SubSec	225	11.889	3.581	0.644	1.439	_
Eco_Sec	225	2.898	0.304	-2.644	5.034	_
Damage	225	2.089	1.363	1.118	-0.099	_
Closure	225	4.756	2.476	1.355	1.515	_
Premises	225	1.862	0.345	-2.116	2.5	_
PsyCap	225	3.142	0.575	0.693	0.287	0.717
SoCap	225	2.946	0.582	0.951	1.377	0.761
OR	225	2.979	0.583	0.702	0.431	0.743
MSME-LTDR	225	3.018	0.671	0.545	0.053	0.719

RESULTS

Sample Profile

All the respondents were owners of MSMEs, which were operational before Super Flood-2010. Majority of the respondents were male (88.9%) and 11.1% were female owners, corresponding to the Economic Census -2005, reporting 7% female business owners in Pakistan. Majority of the respondents lay between the ages of 31 – 40 years (44.9%) followed by 41 – 50 years (34.2%). Results are aligned with the previous studies having reported on active entrepreneurial in the age groups of 30-40 years. More than half of the respondents (56.5%) had education between middle (pre-O) till higher secondary (A levels) along with about 11% graduates and 5.3%

with no education. Literacy rate in Pakistan is less than 60% (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2019). Bulk of the owners (88.4%), had experience of managing their businesses from 6 – 20 years. As far as age of the business was concerned, little more than half of the businesses fell in the age group between 6 – 20 years (56.8%), 16% business having less than 5 years and 3.1% beyond the age of 45 years. Almost all sectors and sub sectors less agriculture are represented in the sample. Services sector comprised almost 90% followed by industrial sector with 10% share. Respondents are 76.9% from wholesale, retail, food and accommodation, about 4% from community, social and personal services and 8% from manufacturing (industry).

SMEs Disaster Recovery Profile

Businesses opening within six months (short timeframe) were 88.4%, scaling up to 94.2% in one year and 97.8% in 2 years. Whereas, 1.8% businesses remained closed for 3 – 4 years and 0.4% beyond 4 years'. Owner's gender, experience of managing business and damages caused to buildings by disaster where business was operating were found significantly associated with disaster recovery. Approximately 24% businesses were extensively damaged (more than 50% damage), 29.8% with medium damage (31 – 50% of damage) and sustaining light damages (1 – 30% of damage) were 46.2%. Businesses operating from rented premises were 86.2% and owned premises were 13.8%. Finding are consistent with previous research indicating that majority of the MSMEs (88.4%) displayed resilience in terms of recovery within six months period (Asgary, 2012). For sample profile refer to table 3 and 4.

Table 3: : Sample profile

Items	Cat	Freq	%	Items	Cat	Freq	%	Items	Cat	Freq	%
Age	15- 20	7	3.1	Age of Business (years)	< 5	36	16		Arts and Entertainment	4	1.8
	21-30	37	16.4		10-Jun	46	20.4		Others	2	0.9
	31 - 40	101	44.9		15-Nov	43	19.1	Ownership Status of Premises	Owned	31	13.8
	41- 50	77	34.2		16-20	39	17.3		Rented	194	86.2
	51- 60	3	1.3		21-25	20	8.9	Damage	Light	104	46.2
Education	Primary	62	27.6		26-30	17	7.6		Medium	67	29.8
	Middle	45	20		31-35	5	2.2		Severe	9	4
	Secondary	53	23.6		36-40	5	2.2		Extensive	20	8.9
	Higher Secondary	29	12.9		41-45	7	3.1		No Damage	25	11.1
	Graduation	18	8		Above 45	7	3.1	Post-Flood Closure	1-7 Days	2	0.9
	Masters	6	2.7	Eco Sector	Industry	23	10.2		1-2 Weeks	30	13.3
	No Education	12	5.3		Services	202	89.8		3-4 Weeks	45	20

Table 4: : Cont...

Items	Cat	Freq	%	Items	Cat	Freq	%	Items	Cat	Freq	%
Experience (years)	Below 5	13	5.8	Eco Sub-Sector	Manufacturing	8	8		5-8 Weeks	41	18.2
	10-Jun	81	36		Construction	5	2.2		9 – 12 Weeks	60	26.7
	15-Nov	91	40.4		Electricity and Gas	1	0.4		13-16 Weeks	12	5.3
	16-20	27	12		Wholesale	15	6.7		17-20 Weeks	5	2.2
	21-25	3	1.3		Retail	20	53.3		21 – 24 Weeks	6	2.7
	26-30	5	2.2		Transportation and Storage	1	0.4		7 - 9 Months	5	2.2
	31-35	1	0.4		Information & Communication	6	2.7		10-12 Months	6	2.7
	36-40	3	1.3		Hospitality	38	16.9		13-24 Months	8	3.6
	41-45	1	0.4		Professional	8	3.6		3 - 4 Years	4	1.8
Gender	Male	200	88.9		Health	5	2.2		5-6 Years	1	0.4
	Female	25	11.1		Education	2	0.9				

Correlation Analysis

Three groups of confounding variables were tested for their influence on MSMEs-LTDR (predicted variable). Group one comprised variables relating to respondent (entrepreneurs) i.e gender, education, age and experience of managing business; group two was regarding MSMEs characteristics i.e economic sector, age and size in terms of employees, and status of premises either rented or owned and lastly group three was about disaster impacts on business mainly damage caused to business and period for which business remained closed after the Super Flood - 2010. Bivariate Pearson Correlation (table 5) was performed to check association between main variables and variable of interest (MSME-LTDR). While controlling for confounding variables Analysis found business age (r = -.469, $p < .01$), gender (r = .533, $p < .01$), entrepreneur's experience (r = .418, $p < .01$) and damage caused to business (r = .346, $p < .01$) had significantly positive association with MSMEs' disaster recovery. Surprisingly, business age (r = -0.469, $p < .01$) had significant but negatively associated with outcome variable. Main independent variables like PsyCap (r = .624, $p < .01$), and OR (r = .645, $p < .01$) had significantly positive association with MSME-LTDR.

Table 5: : Correlation matrix

	Bznz_Age	Gender	Edn	Ent_Age	Ent_Exp	Eco_Sec	Damage	Closure	Premises	OR	PsyCap	LTDR
Bznz_Age	1											
Gender	-0.407**	1										
Edn	0.066	0.064	1									
Ent_Age	-0.079	-0.01	0.045	1								
Ent_Exp	-0.233**	0.481**	0.05	-0.178**	1							
Eco_Sec	-0.206**	-0.021	-0.068	-0.031	0.042	1						
Damage	-0.306**	0.476**	.266**	0.029	0.205**	-0.086	1					
Closure	-0.126	0.092	-0.007	0	0.036	0.085	0.211**	1				
Premises	0.07	0.1	-0.054	-0.025	0.108	-0.05	-0.107	-0.128	1			
OR	-0.313**	0.351**	.139*	-0.063	0.278**	0.039	0.337**	0.007	-0.003	1		
PsyCap	-0.355**	0.393**	0.041	-0.187**	0.231**	-0.036	0.219**	-.137*	0.048	.457**	1	
LTDR	-0.469**	0.533**	0.055	-0.076	0.418**	-0.017	0.346**	0.042	0.014	.645**	.624**	1

*. Pearson Correlation is significant at the 0.05 level (2-tailed) Bzn_Age= Age of Business; Edn=Education; Ent_Age= Entrepreneur's Age; Ent_Exp=entrepreneur's experience; Eco_Sec= Economic Sector; OR=organizational resilience; PsyCap=psychological capital; LTDR= MSME-LTDR

Regression Analysis

All the important assumptions of regression were tested and found sufficiently robust. Hierarchical Regression Analysis with Process Micros (Model 4) indicated direct effects of independent variable on dependent variable (MSMEs-LTDR). In first step, control variables were introduced for examining the direct impact. In model 2 variables of interest were introduced. The resultant values were (R_2=0.646, $p < 0.000$) means the model significantly explain 64% variance in dependent variable. Details are given in table 6. Findings revealed that among the confounding variables, age of the firm have negative 15% (β-.150, $p < .003$), explaining 15% reciprocal variance. Whereas, gender (β.147, p<.009), and entrepreneur's experience (β.144, $p < .003$), were significant, explaining about 15% and 14% variances respectively. PsyCap (β.324, $p < .000$) and OR (β.367, $p < .000$) have significantly positive impact, while explaining about 32% and 37% variances in outcome variable respectively.

Table 6: : Regression analysis: predicting micro, small and medium enterprises' long term disaster recovery

Variable	Model 1	Model 2	95% CI		Beta
	B	B	LL	UL	
Constant	1.039	0.514	-0.366	1.395	
Bznz_Age	-0.054	-0.044	-0.073	-0.015	-0.150**
Gender	0.34	0.314	0.078	0. 549	0.147**
Entrep_Exp	0.103	0.078	0.027	0.13	0.144**
PsyCap	0.525	0.378	0.26	0.495	0.324***
OR		0.423	0.312	0.534	0.367***
R_2 0.646					
F 35.274***					
R_2 Change 0.094					
F Change 56.473***					

Note. N=225; *p < .10; **p < .05; ***p < .001; Outcome variable = MSME-LTDR CI= confidence interval; LL=lower limit; UL= upper limit; Bzn_Age= Age of Business; Ent_Exp=entrepreneur's experience; OR=organizational resilience; PsyCap=psychological capital

Hypothesis Testing

Using hierarchical regression analysis, the dependent variable (MSME-LTDR) was regressed on independent variables entrepreneur's psychological capital and organizational resilience to test the laid out hypothesis. H1 evaluates whether PsyCap is positively related to MSME- LTDR. The results revealed that EL has a significant impact (total effect) on outcome variable (β= 0.324, t = 6.317, p < 0.001). Hence, H_1 was supported. H_2 evaluates whether PsyCap has a significant impact on OR. The results show that PsyCap has a significant impact on OR (β= 0.345, t = 5.101, p < 0.001). Consequently, H_2 was supported. H3 evaluates whether OR is positively related to disaster recovery. The results revealed that OR has a significant impact on recovery (β=0.367, t = 7.515, p < 0.001). Consequently, H_3 is accepted. The results are presented in Table 7.

Table 7: : Hypotheses Testing

Hyp	Path	Beta	t	p	Result
H_1	PsyCap -> LTDR	0.324	6.317	0	Supported
H_2	PsyCap -> OR	0.345	5.101	0	Supported
H_3	OR –> LTDR	0.367	7.515	0	Supported

R_2 – 0.646 F - 35.274*** Note. N=225, ***p < .001, **p < .01, *p < .05 Hyp = hypothesis; PsyCap = psychological capital; OR = organizational resilience; LTDR = MSMEs Long Term Disaster Recovery

Mediation Analysis

To study mediation by organizational resilience, Process Macros (ver 4.2) in SPSS was used (Hayes & Rockwood, 2016). Mediation analysis strategy suggested by Preacher and Hayes was adopted (Preacher & Hayes, 2008). H4 evaluates whether OR mediates the relationship between PsyCap and MSME-LTDR. The results show that the total effect was found positive and significant (effect = 0.525, t = 8.297, p < 0.000), the direct relationship was found significant (effect = 0.378, t = 6.317, p < 0.000) while the indirect effect was found significant (effect = 0.148, Boot SE = 0.047, Boot LLCI= 0.0604, Boot ULCI= 0.2100). Hence, the results reveal a partial mediation. This shows that the effect of PsyCap on MSME-LTDR passes partially through OR. Consequently, H_4 is accepted (see Table 8).

Table 8: : Mediation analysis

Hyp	Label	Effect	SE	*t*	*p*	95% CI		Conclusion
						lower	Upper	
H_4 PsyCap →OR →LTDR*								
	Total Effect	0.525	0.063	8.297	0			Significant
	Direct Effect	0.378	0.06	6.325	0			Significant
	Indirect Effect	0.148	0.047			0.0604	0.21	Significant

*Partial and complementary mediation exist

DISCUSSION

The study was designed to investigate the relationship entrepreneur's psychological capital, and MSMEs long term disaster recovery with mediation mechanism through organizational resilience. All the performance outcomes were compared with pre-disaster performance levels (benchmark). Disaster recovery performance was captured through five dimensions of sales, profits, number of customers and employees, and overall business performance measured through owner's opinion. Secondly, resilience in terms of time taken to open business post-disaster was also measured. The opposite of opening being closure.

Several confounding variables, studied in previous studies, were included in the study to segregate the effect of these contextual factors on the one hand and also get insight of their association with variables of interests on the other hand. Most of all, damage to the business by Super Flood – 2010 was positively associated ($r = 0.221$; $p > .001$) with closure period, and put another way time taken to survive (open) business. More than half of the businesses (54%) sustained up to 50% of damages from Super Flood- 2010 but still majority of the businesses (88.4%) recovered within six months, which may give subjective insight about the existence of resilience capacity in MSMEs in Pakistan. Although time taken to survive (open) after disaster may hint towards existence of some measure of resilience which could not be objectively measured pre-disaster. Measuring existence of pre-disaster resilience pose numerous challenges (Linnenluecke, 2015, Hillman & Guenther, 2021).

Resilience is the ability of a system to sustain, absorb and bounce back to original or new form to perform more efficiently. The results of this study are in line with existing literature, which claimed that resilience has positive impact on business recovery (Asgary et al., 2012; Khan & Sayem, 2012). The study was set out to investigate the relationship between PsyCap, OR and MSME-LTDR. The study found a significant impact of PsyCap on MSME-LTDR. The outcomes affirm this recommendation and are aligned with the discoveries of the past examinations where the positive relationship between PsyCap and organizational performance outcomes were found (Grozinger, 2023). This shows that owner's PsyCap characterized by hope, positive evaluation of his abilities to recover (self-efficacy), resilience to bounce back, and positive attitude of looking towards opportunities in crisis (optimism) will have a higher propensity for a successful survival and growth. This further strengthens the assertion that post disaster positive outcome can benefit from organizational resilience capabilities in highly turbulent and competitive environment (McManus, 2008; Lee et al., 2013). Hence, an entrepreneur with positive psychology can make provision for the initiation of response, recovery and resilience measures in both pre, during and post disaster enabling other members and business to face disastrous situations with success and display resilience. The PsyCap is the positive state of mind, which leads to positive attitude which enable any individual to bounce back and recover. Individuals higher on PsyCap are positively related with higher performance (Newman et al, 2014; Luthans et al., 2007; Sweetman et al., 2011). This research found a significant and positive relation of PsyCap with MSMEs-LTDR. The results validated this hypotheses. Grozinger et al., (2023) argues that in SMEs, executives perform a central role that influences strategic responses and success of their companies. They note that which factors influence the strategic choices are still not much known. However, research suggests that positive psychological factors, may play a crucial role in providing a strategic advantage for firms (Grozinger et al., 2023). This shows that entrepreneur's positive psychological attributes enables strategic measures, quick decision making and reconfiguring resources to respond and recover in the face of flood disaster.

SIGNIFICANCE, LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

In Pakistan, 96.65% of businesses are owned by individual owners (PBS, 2005). Personal dimensions of owner, including psycho-social aspects, in the recovery of MSMEs are a neglected domain in research so far (Tanner et al., 2022). Highlighting the role of personal dimensions of the business owner in the recovery process of MSMEs is a significant contribution. Again, integrating the findings from the multi-theory perspective of resource based view herringbone model of resilience and behavioural psychology areas into resilience and disaster recovery is a worth attempting venture. Furthermore, the significance of this research is quadruple. First, it will further our understanding of various antecedents of MSMEs long term disaster recovery in developing economies context. Secondly, the study will divert focus towards the role of owner's personality in resilience and recovery studies. Thirdly, by enhancing resilience of small businesses, overall community's resilience will be enhanced. Fourth, a major concern of international community and one of the root causes of vulnerability; poverty and hunger (Wisner, Blaikie, Cannon & Davis, 1994) will be addressed through enhancing resilience and thereby successful recovery of MSMEs. Insufficient size of the sample, absence of direct representation from agriculture sector, limited geographic spread of sample, use of foreign language (English) in the instrument and cross sectional nature of the study are some of the weak areas of methodology. These may introduce limitations of reduced accuracy and generalizability issues. Introduction of fading memory bias cannot be over ruled due to time elapsed between Super Flood- 2010 and data collection. To make the findings more robust and draw sound inferences, this research should be replicated with large randomly selected sample, expanding geographic spread by including more affected districts and all economic sectors and divisions of Pakistan. Future researchers are advised to expand the scope by including other factors of the studied variables and variables like human and cultural capitals. The study could be replicated in other geographical, disasters and economies contexts as well. Household economic establishments differ in operational dynamics then the conventional ones. Major difference is inseparability of management, employees from family members and finances. Replication of this study for household economic establishments separately is also suggested.

CONFLICT OF INTEREST

The project is not funded by any person, group, society or institutions. The authors declare that they have no conflict of interest.

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