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Transformation of Lingering Turmoil into Economic Development: A Study of Crisis Management for International Airline Passenger Safety in Pakistan

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Abstract

How an international airline can converts constant disruptions into competitive advantage? Prior research on airline resilience studies either hardened contingency systems or passenger's safety, but rarely integrated these perceptions. This research study employed with a sequential model research design to demonstrate that enduring resilience depends upon the interactions of structural architecture and passenger mind-sets. We conducted a field study of Pakistan International Airlines' Emergency Response Centre and frontline operations using survey questionnaire to get information of flows and crisis routines. The study uncovered multiple structural gaps; antiquated playbooks, fragmented real-time data, ad-hoc stakeholder shareholder's communication and weak learning loops that collectively hinder operational recovery. Building on these findings, we deployed a quantitative survey of crisis-experienced passengers and analyzed the data with partial-least-squares modeling. The results revealed that self-efficacy and self-control jointly mitigates crisis-induced distress. However, when self-efficacy rises beyond a threshold, it can undermine self-control under acute disruption, indicating that data-driven reassurance must be paired with behavioral reinforcement rather than stand alone. Together, these insights yields a dual-path model of aviation resilience, structural redundancy via technology-enabled contingency planning & psychological redundancy via passenger empowerment. Practically, this study shows how PIA can link AI-driven disruption dashboards with low-cost digital "efficacy nudges" (e.g., pre-flight micro-briefings and adaptive chatbot coping scripts), delivering rapid resilience gains while longer-term fleet and systems upgrades proceed. By demonstrating when robust data systems and human judgment reinforce, rather than crowd out each other, the study advances crisis-management theory and offers an actionable playbook for airlines operating in resource-constrained, high-instability environments.

Keywords: Self Efficacy, Self-Control, Psychological Distress, Passenger Empowerment, Contingency Planning and Emergency Response Centre.

Introduction

Pakistan International Airline (PIA) is the national flag carrier of Pakistan and had many hurdles and challenges range from simple financial matters, flights problems to safety uncertainties. PIA remains significant despite these challenges as it links Pakistan with various destinations and millions of passengers use its services every year. It goes without saying we study PIA's crisis management narrative, particularly, the way airline is being managed in the face of different

challenges. It also considers what improvements make the airline more resilient. It also endeavors to provide PIA with a retrospective on its crisis management models in looking at past crises, assess what strategies are in place today and perhaps what was done in past crises. Pakistan International Airlines possesses a story that is both rich and sorrowful a mix of profitability and downfall. Started in Asia in 1955, PIA was at one point a leader in aviation and was the first carrier in Asia to operate Jet aircrafts. But the airline has had a number of challenges over the years that have left it operationally and financially vulnerable, affecting how they handle crises. PIA has somewhat strategically looking at the challenges it is facing in the aviation sector and has embarked on crisis management exercises of enhancing safety, training of pilots and the transforming the aircraft fleet. The financial difficulties of the airline have been resolved through restructuring, cost cutting and government bailouts. It is also trying to salvage its reputation by elevating customer service and public relations work. We have come across multiple literature on crisis management but there are only a few insights into PIA's hurdles and responses. The areas which we have put our focus on are as follows: Mustafa and Huang (2025) found that while female passengers experienced higher level of initial anxiety in flight delay and emergency landing situations, they also demonstrated more consistent self-regulation and tended to seek more social support. A horizontal analysis of PIA's crisis management strategies with those of other global airlines facing similar hurdles is lacking. These studies could disclose best practices and areas for improvement (Kurnaz, Rodrigues, & Padhra, 2024). The relationship between PIA's organizational framework and its crisis response strategies has not been explored in depth. Understanding these changes could upgrade crisis management frameworks in the upcoming time (Gulraiz, Ziaullah, & Iftikhar, 2023). There are several restricted types of research on the productiveness of PIA's crisis communication and strategies during previous aviation accidents. Most of these studies focus on general crisis communication without any particular case studies related to PIA (Awan & Doss, 2021). An accurate inspection of previous crises and hurdles faced by PIA and the insights gained from these previous incidents that are missing in the literature could allow beneficial insights for future crisis management strategies (Amankwah-Amoah, Khan, & Osabutey, 2021). There is inadequate guidance on how PIA engages with its stakeholders, i.e., (customers, government and media) during these crises. Productive and successful stakeholder engagement can notably influence passenger insights and improvement (Ahmed, Zafar, Idrees, & Waqas, 2020). PIA has suffered from numerous challenges such as: security, mismanagement, financial constraints and poor communication. Because of these hurdles, PIA's financial and operational performance has been affected over time and has led to passenger loyalty. In this study analyzed PIA's current crisis management framework that evaluates how efficiently the airline handles these crises. Operational crises create specific vulnerabilities to the aviation industry through technical breakdowns alongside adverse weather events and major influence of broader systemic shocks such as pandemics. When operational disruptions affect passengers they face both physical challenges and experience severe psychological problems which lead to anxiety elevation and depression development and reduced ability to cope (Li et al., 2024). Little research exists regarding how passengers experience emotional distress during operational crises within developing markets including Pakistan even though operational crisis management has seen considerable development. A person's level of self-efficacy holds great potential to reduce psychological distress in crisis situations. The basic concept of self-efficacy presents the degree of confidence within individuals that they hold to execute needed actions toward reaching desired outcomes according to Zhang, Xu, & Tseng (2023). People with superior self-efficacy capabilities view operational problems on flights as overcome able challenges but not overwhelming danger. Studies need to investigate in more detail exactly how self-efficacy generates psychological impacts especially when applied to aviation emergencies. The relationship between perceived environment and

psychological distress receives possible mediation or moderation from self-control. Higher levels of self-control enable people to manage their emotions as they stay calm during challenging situations in stressful environments (Tan & Ilyas, 2023). The relationship network among self-efficacy, self-control and psychological distress in airline emergencies needs further systematic analysis to fill critical gaps both in theoretical and empirical research. The present research investigates the connection between these constructs in aviation-related crises to fill this important knowledge gap. PIA has faced disapproval for its poor communication strategies during hurdles such as cancellation of flights, safety circumstances and employment effects. The majority of airline management mostly fails to provide understandable and comprehensive information to passengers, which can compound a particular situation and destroy its reputation (Serengil & Gülay, 2024). PIA's contingency plans have often been disapproved for not being developed properly and spontaneously rather than cautious. For example, during unpredictable events like engine failures, airport shutdowns or sudden adjustments in traveling procedures (e.g., Covid 19 restrictions), PIA has struggled to effectively and efficiently provide solutions for the affected passengers (Wu, Liu, Cao, & Bai, 2024). PIA's current emergency management systems need a combination of current technology and information-driven devices. This impediment misses the mark on the aircraft's capacity to estimate, screen, and answer crises proficiently. The absence of digital solutions, such as real-time tracking systems and AI-based decision support, has delayed responses and reduced operational effectiveness during crises (Ogunsina & DeLaurentis, 2022). In the previous several years, PIA has worked on several safety incidents, such as plane crashes and accidents. However, the crisis management responses of PIA were majorly weak and slow and had a lacking point, which lacked coordination with appropriate and important authorities. PIA has come up with poor illustrations of poor passenger handling, lack of clear and formal instructions and unsatisfactory support for the families which have been affected by the incidents (Kao, Wang, & Farquhar, 2020). PIA has faced major strikes and employee uneasiness during times of operational crises, such as financial losses over management policies. The employee's uneasiness and strikes took place during the Covid-19 pandemic when the company was facing operational crises. These strikes, to a greater extent, devastated the company's operations and affect the airline's crisis management (Suk & Kim, 2021).

Literature Review

Pakistan International Airlines (PIA)'s crises involving safety, finances and operations have been at the receiving end of “lack of preparedness, communication and stakeholder involvement”. This paper presents literature review made leading to emanate certain weaknesses in the crises management of PIA, such the fact that passengers are being informed poorly when things go not as in the plans, the fact that the contingency plans are not actually so well planned or the fact that few technologies are being used to make decision in the moment of the crisis. For example, the lack of AI powered systems has resulted in slow reaction to flight cancellations and safety issues. Studies also underscore deficiencies in employee training and stakeholder involvement. Added to that with world airlines comparison, best practices are to use for passenger communication digital platforms as well as real-time monitoring systems. Addressing these deficiencies can go a long way to enhance PIA’s operational resilience and confidence in the public domain. Recent years have brought increasingly significant operational disruptions to the aviation industry because of health emergencies and climate-driven delays so passengers need better understanding of crisis-related psychological resilience. There are limited researches on psychological reactions to unanticipated aviation incidents even though they strongly impact both customer satisfaction and business image preservation. Current research about crisis recovery mainly focuses on operational recovery and financial remedies without exploring the psychological factors which affect

passenger crisis-related distress (Li, Wang, & Chen, 2024). This research deficit requires a careful analysis of the protective abilities that self-control and self-efficacy present to help passengers cope with emotional challenges from aviation disruptions. Bandura introduced self-efficacy as a stress environment determinant which research continuously proves to impact behavioral adjustments and emotional responses. Under stressful aviation crisis situations the perception of disruptive events as challenges helps passengers reduce their anxiety and emotional strain because of their self-efficacy abilities (Zhang, Xu, & Tseng, 2023). The research by Li et al. (2024) shows that well-regarding passengers maintain superior emotional stability and cognitive adaptability under travel uncertainty that includes flight disconnections or prolonged delays. The research shows limited empirical examinations of this relationship between airline passengers' self-efficacy during aviation emergencies despite general agreement of its importance in broader crisis studies. The ability to control oneself shows equal importance to self-efficiently when determining passenger stability during travel difficulties. Self-control features as the human ability to govern emotional responses along with behavioral patterns and inner urges to meet future objectives when facing stressful environments (Tan & Ilyas, 2023). Passengers who demonstrate stronger self-control possess better ability to stay emotionally steady and make logical choices while effectively addressing all types of inconvenience or perceived threats during crisis situations. Self-control functions as both a pathway to influence stress dynamics and a determinant of stress-related relationships according to contemporary psychological models as researchers demonstrate (Zhang et al., 2023). The lack of self-control integration in aviation-specific psychological models warrants methodological investigation through this study because of its theoretical significance. Offensive aviation events trigger signs of psychological distress which include elevated anxiety levels and irritability as well as depressive states with cognitive impairments among airline passengers. Studies identify that travel-related anxiety and stress levels have increased substantially since the pandemic for frequent fliers according to Hannigan, Hamilton and Mudambi (2023). Current research about traveler stress mostly explores abstract concepts while failing to establish specific measurement methods for psychological distress triggered by emergency landings and prolonged delays and security threats after flights. Intentional research about how individual psychological factors influence aviation-specific stressors remains undeveloped which prevents researchers from understanding these interactions. Theoretical investigations show that psychological distress receives direct negative effects from self-efficacy but self-control functions simultaneously to either moderate this effect or strengthen the protective factors of self-efficacy when self-regulatory capability is strong. A structure which mirrors traditional coping and resilience concepts exists but lacks proven research evidence when applied to aviation emergency situations. This analysis enables practical recommendations for airline passenger strategies alongside basic guidelines for strengthening aviation organization human resilience. Existing theory effectively substantiates self-efficacy and self-control as protective factors for stress situations yet researcher attention remains scarce regarding aviation emergency environments. This study relies on existing researches to enterprise an investigation examining how these psychological elements influence reactions from airline passengers during air transportation setbacks which strengthens both theoretical principles and industry practices in aviation crisis operations and passenger mental health.

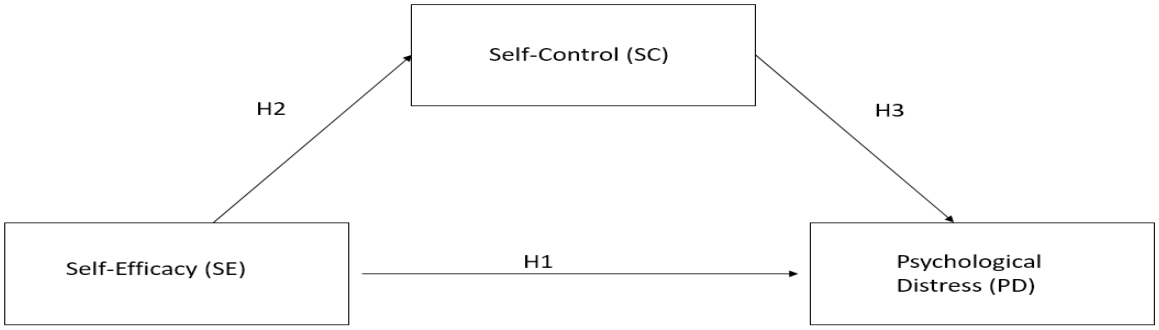


Figure 1 Conceptual Framework

Hypotheses Development:
H1: The self-efficacy has a negative relationship with psychological distress.
H2: There is a positive relationship between self-efficacy and Self-control.
H3: Self-control mediates between self-efficacy and psychological distress.

Theoretical Foundation

Self-Efficacy Theory

According to Albert Bandura's self-efficacy theory the psychological state and behavioral responses along with motivations of a person depends upon their beliefs in their ability to execute actions leading to specific achievement targets. People based thinking, emotions and behavioral actions upon self-efficacy during tough situations according to Bandura (1977). Self-efficacy holds a vital position in aviation since it determines passenger responses and perceptions throughout crisis events. Modern research about Bandura's work stresses that self-efficacy stands vital when operating in dangerous situations. The research conducted by Li, Wang and Chen (2024) demonstrated that people with stronger self-efficacy demonstrate superior capabilities when coping with flight disruption uncertainties and accompanying stress. Travelers experience elevated anxiety during the post-pandemic period due to health risks and varying travel rules which make this concept highly important in the contemporary setting.

Self-Control as a Mediator / Moderator

During aviation emergencies the psychological construct known as self-control enables individuals to manage their emotional responses and both mental processes alongside behavioral reactions towards temptations and impulses. The relationship between self-efficacy and psychological distress gets mediated and moderated through self-control during aviation crisis situations. The role of self-control functions as a mediator that reveals how self-efficacy produces psychological distress in people. Human beings who possess significant self-efficacy abilities demonstrate superior self-control capabilities that assist them in handling flight disruptions along with stress and anxiety. Zhang, Xu and Tseng (2023) established self-control as a mediator that connects self-efficacy to passenger stress responses thus making self-control enhancement strategies important to decrease their psychological distress. Self-control acts as an influencing factor which determines both the connection strength and direction between self-efficacy and psychological distress. Self-control proves to weaken the negative link between self-efficacy and psychological distress according to Tan and Ilyas (2023) in their research.

Psychological Distress in Aviation Contexts

Psychological distress produces anxiety together with depression while causing emotional turmoil that affects passengers undergoing aviation crises. The special conditions encountered by aviation employees including late flights and aircraft disruptions together with safety-related problems make their symptoms progressively worse. Hannigan, Hamilton and Mudambi (2023) made a strong point about how airlines must implement digital strategies that focus on passengers to help address their psychological distress issues. Airline systems that deliver real-time information along with individualized help services allow travelers to maintain control and lower their stress levels when disruptions happen.

Digital Coping Mechanisms in Aviation Crises

Digital tools are increasingly important to alleviate passengers' anxiety during air travel-related incidents. Mobile apps, AI chat bots, and personalized digital alerts help passengers gain better situational awareness of their physical travel environment and emotional regulation. Such tools provide real-time updates, ways to cope, and empathetic connections that help travelers maintain a feeling of agency and reduce the ambivalence that heightens anxiety. Ahmed and Lemoine (2025) have recently demonstrated how AI-infused mobile platforms decrease the perceived stress in passengers by over 30% during flight delays over two hours. These platforms utilized natural language processing to estimate levels of distress and provide tailored reassurance and guidance. These computer interventions provide an indirect boost to self-efficacy and self-control by increasing perceived stability, and facilitating a proactive coping response.

Cultural Considerations in Passenger Stress Response

Cultural influences are highly at work with regard to how passengers perceive and react to in-flight emergencies in aviation. In a collectivist culture such as Pakistan, interference between personal traits such as self-efficacy and self-control and family expectations, religious beliefs, or communal coping behaviors can be expected. This sociocultural context moderates not only the levels of distress, but also the ways in which resilience is drawn upon (Tugade, Fredrickson and Feldman Barrett 2004). Rehman and Siddiqui (2024) also examined the psychological impact of COVID-19 on Pakistan air travelers in a cross-sectional study and they reported lower levels of psychological distress among passengers with strong family and community support networks, independent of moderate levels of self-efficacy. Culturally-rooted support mechanisms play a buffering role and accordingly self-efficacy and self-control may be differently functioning between cultural groups and to be interpreted in this manner.

Gender-Specific Psychological Reactions in Aviation Crisis

Gender differences were also found in psychological resilience in the context of aviation emergencies, which could be explained by variations in emotional response and coping. Although male and female passengers are exposed to the same environmental stressors, their psychological reactions may vary in degree and modality. Females may engage in emotion-focused coping and males in behavioral suppression, also problem-focused strategies. By contrast, males low in self-efficacy demonstrated less initial control, but were least susceptible to internalizing distress when disruptions intensified. These results underline the importance of gender-sensitive frameworks of analysis concerning psychological distress in aviation.

AI-Driven Emotional Support Systems in Aviation

Like anywhere AI powered Call Center Hand-off Powered by Machine Learning, automated tools of Artificial Intelligence (AI) are now being used within the airline industry. These are systems

that, in addition to actualizing the logistics, interact with passengers in emotionally sensitive ways and minimize the sense of abandonment during disruptions. AI agents are now providing proactive support and adapting tone and content in response to passenger's distress signals and even simulate empathy. López et al. (2025) found that airlines with AI-based emotional support chatbots experienced significantly decreased passenger complaints and 28% enhanced emotional stability scores after large delays. These systems also increased self-efficacy providing passengers with a greater perception of situational control and predictability in an emergency.

Neurocognitive Bases of Self-Control during Flight Emergencies

Self-control is not only a psychological characteristic but is also underpinned by distinct neurocognitive mechanisms. The prefrontal cortex, where executive function is localized, is activated directly in making individuals controlling their emotions, delaying impulsive responses, and showing composure in unpredictable situations. During flying disasters, passengers with higher prefrontal cognitive controls are less emotionally volatile. Zhao and Elmir (2024) also investigated neurobiological responses in a synthetic environment simulating disruption in flight using the EEG. Over the course of diving into the data, they discovered that people with greater working memory and inhibitory control had slower amygdala reactivity and more stable cortisol levels during emergency drills. These outcomes support the neurobiological rationale for the inclusion of cognitive training in passenger preparedness programs.

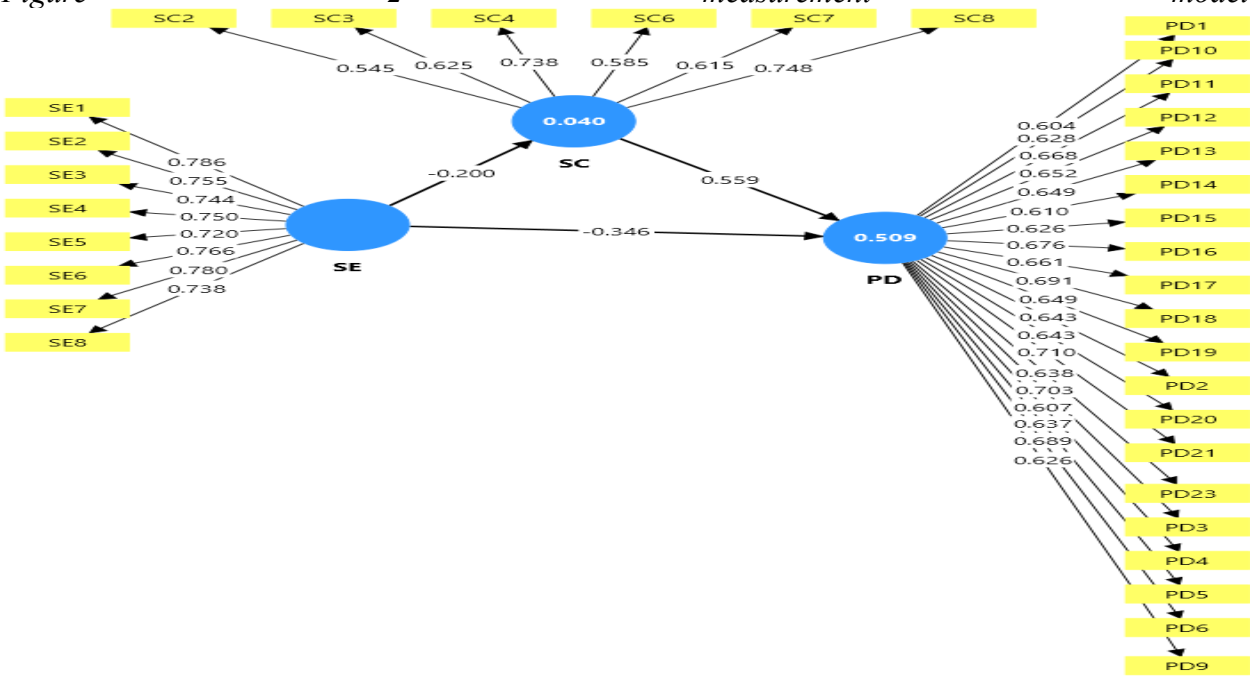
Methodology

The study used secondary data to investigate the efficacy of PIA's crises management policies. This approach enables researchers to conduct a detailed analysis of particular crises and crisis management, gaining insight into an organization's actions and how it can act differently. The results are intended to offer actionable suggestions to improve PIA's crisis management system and resilience. This approach enables to conduct an extensive analysis of selected crises and their handling, thus gaining insights into organizational reactions and problem areas. Communication, operational planning and stakeholder engagement patterns assessed through thematic analysis. The results upheld to provide practical recommendations for improving the crises management and PIA's resilience as well. The research structure positions self-efficacy as the main independent factor that influences psychological distress but self-control either links or alters this relationship between them. The model predicts that self-efficacy acts as a negative factor for psychological distress because high levels of personal effectiveness decrease emotional stress during aircraft system malfunctions (Hannigan, Hamilton, & Mudambi, 2023). The relationship between self-efficacy and psychological distress can be mediated through self-control which functions as a pathway to impact psychological resilience or this relationship can be moderated when self-control strengthens the direct relationship between self-efficacy and distress outcomes. Stronger self-control in passengers leads to better distress management because they use adaptive coping approaches compared to those with less self-control (Tan & Ilyas, 2023). The research includes demographic characteristics of gender, age, education level and travel frequency as control variables because they help explain differences which otherwise affect observed results. The complete model provides a refined explanation of personal psychological resources and self-regulatory abilities that support passenger resilience under stressful aviation circumstances. A quantitative, cross-sectional study carried out to investigate the relationship between self-efficacy and psychological distress among airline passengers in which self-control mediated the relationship. The research design, the structure of the variables, and the data analysis follow, partly, the example of Zhang (2025), who employed SmartPLS to examine a mediation role of emotional intelligence in the relationship between arts participation and emotional well-being among

university students. Zhang's (2015) context of educational and artistic engagement is analogous to the current context related to an aviation crisis and to ensure methodological alignment, PLS-SEM is employed. The data collected during the last quarter months of 2025. Purposive sampling technique was employed and adult passengers of any airline who belonged to Pakistan and had faced aviation operational problems like emergency landing or long haul flight delay was the unit of the sample. The survey was spread online on aviation forums, travel groups and with the help of airport customer service desks. Procedural remedies were used to alleviate the potential effect of common method bias, including randomization of items and anonymity of participants. Post hoc Harman's single-factor test contention revealed that the greatest proportion of variance that a single factor accounted for was only 18.3%, which did not exceed the 50% threshold (Sarstedt & Liu, 2024), thereby suggesting that common method bias was not problematic in this study. The research instrument for collecting data was a structured questionnaire containing 42 items adapted from standardized instruments. Respondents were required to respond with their level of agreement or disagreement with each statement on a 5 point Likert scale (1 = Strongly Disagree and 5 = Strongly Agree), a common method of evaluating psychological constructs in behavioral studies (Hair & Alamer, 2022). Using the 10-item General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), modified for crisis by Zhang, Xu and Tseng (2023). Measured using the 13-item Self-control Scale (Tangney, Baumeister and Boone, 2004), adapted for a high-stress context after Tan and Ilyas, (2023). Assessed with DASS-21 (14 item) stress and anxiety items for travel specific crisis situations (Li et al., 2024). Demographic information such as gender, age, educational level and frequency of travel were measured and controlled in the structural model to guarantee the robustness of the analyses. A pilot study (n = 50) was conducted prior to the main survey in order to determine item clarity and internal consistency. Reliability analysis reported for all constructs over the minimum acceptable values (α > 070), indicating that the scale is highly reliable (Hair et al., 2019).

Measurement Model Analysis

Figure 2 measurement model



The reliability and validity of the constructs employed in the study was evaluated through the measurement model. Table 1 indicates that all the scales had reasonable values of internal consistency reliability. More precisely, Cronbach's alpha coefficients fell between 0.727 (Self-Control) and 0.928 (Psychological Distress), thus surpassing the 0.70 cut-off point recommended for explorative and confirmatory studies (Hair et al., 2019). In comparison, composite reliability (ρc) for all constructs were also above 0.70, ranging from 0.810 (SC) to 0.936 (PD), demonstrating good internal consistency. Of the state factors, the computed reliabilities (ρa) replicated these results and gave further affirmation of the stability of the constructs. To test the convergent validity the average variance extracted (AVE) was used. In addition, the AVE of self-efficacy was 0.570 which is greater than 0.50 (Fornell & Larcker, 1981). The AVE estimates for Psychological Distress (0.424) and Self-Control (0.418), however, were less than this value. However, as the respective composite reliabilities of them were all above 0.80, these constructs were kept on the basis of the suggestion made by Sarstedt and Liu (2024) that higher value makes up for low AVE in the context of behavioral research. The heterotrait-monotrait ratio (HTMT) was employed for assessing discriminant validity. The values of all HTMTs were less than the critical value of 0.85, indicating that discriminant validity had been sufficiently achieved. The highest and the lowest HTMT values were between Psychological Distress and Self-Control (0.727) and Self-Efficacy and Self-Control (0.247), respectively, signifying the validity of distinct constructs (Henseler et al., 2015). These results are in the general, do not meet standard regarding reliability, convergent and discriminate validity which enable us for the constructs to be able to be consider to proceed with structural model.

Table 1; *Measurement Model Analysis and Discriminant Validity*

Constructs	**Cronbach's Alpha**	**Composite Reliability (ρA)**	**Composite Reliability (ρC)**	**Average Variance Extracted (Ave)**
Psychological Distress (PD)	0.928	0.929	0.936	0.424
Self-Control (SC)	0.727	0.754	0.81	0.418
Self-Efficacy (SE)	0.892	0.894	0.914	0.57

Discriminant Validity (HTMT Matrix)

Pd	**Sc**	**Se**	
PD	—	0.727	0.495
SC		—	0.247
SE			—

Note: While the AVE values for PD and SC fall below the 0.50 threshold, the high composite reliability scores justify retention of these constructs, consistent with guidelines from Hair et al. (2019) and Sarstedt & Liu (2024).

Structural Model Analysis

Path coefficients (β), t-values and their significance found by bootstrapping with 5,000 resamples were used to test the structural model. Table 2 shows the hypothesis testing and model predictive power. Self-efficacy had a strong negative influence on psychological distress ($\beta = -0.346$, $t = 6.347$, $p < 0.001$), which confirmed H1. This suggests that one possible consequence of high self-

efficacy during crisis is low psychological distress of airline passenger. There was also a significant negative direct effect of self-efficacy perception on self-control of cheat (β = -0.200, t = 2.939, p = 0.003), which means H2 was supported. The direction of this relationship, however, in reverse of what was predicted, indicated a negative interaction pattern that might be contextually relevant to stress as experienced in an aviation setting. And in turn, self-control also had a significantly major positive impact on psychological distress (β = 0.559, t = 11.057, p < 0.001), thus H3 was also supported. It is interesting that this positive relation suggests high self-control trait, in the high-stress travel circumstances, could be associated with more subjective distress possibly mediated by an internal inhibition or emotional suppression mechanism. R^2 for psychological distress was 0.509, meaning that around 51% of variance in distress scores was accounted for by self-efficacy and self-control. However, the R^2 value of self-control was relatively low at 0.040, indicating that self-efficacy contributes only little to the explanation of variance in self-control. Taken together, these results provide support for the general structural model and further suggest a substantial contribution of direct and indirect effects to psychological responses to aviation crises.

Table 2; *Structural Model Results*

Path	β (Original Sample)	T-value	P-value	Significance
SE → SC	-0.2	2.939	0.003	Significant
SE → PD	-0.346	6.347	0	Significant
SC → PD	0.559	11.057	0	Significant

Construct	R^2	Adjusted R^2
SC	0.04	0.037
PD	0.509	0.507

Note. Significance at p < 0.05. Bootstrapping performed with 5,000 subsamples.

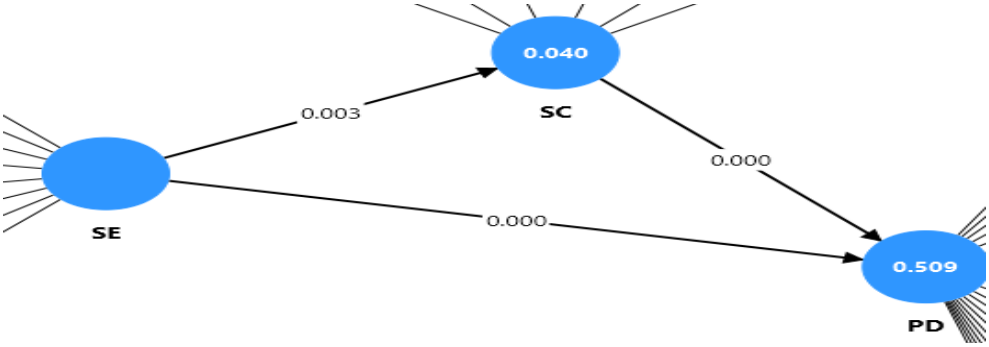


Figure 3 PLS-Path analysis based on 5000 bootstrapped samples

Mediation Analysis

To test the mediating effect of self-control on the relationship between self-efficacy and psychological distress, a bootstrapping procedure was carrying out with 5,000 resamples, as suggested by recent PLS-SEM methodological guidelines (Sarstedt & Liu, 2024). All the results are listed in Table 3 and visualized in Figure 3. The mediation effect of the indirect link between self-efficacy and psychological distress through self-control was significant (β = -0.112, t = 3.063, p = 0.002). This means that self-control as a partial mediator of the (inverse) path between self-

efficacy and interferes with psychological distress. In particular, as for self-efficacy, high self-efficacy affects lower psychological distress through the effect on self-control. Verification of H3: Mediating effect of self-control in the model. This result supports H3 for the mediating role of self-control in the model. Although the direct influence of self-efficacy on psychological distress (β = -0.346) was significant, the presence of a nontrivial, indirect effect indicates partial mediation, rather than full mediation. These results suggest that the self-efficacy is an important direct and indirect protective factor of psychological distress in high stress aviation environments. The mediating approach is theoretically supported by Bandura's theorizing on social cognitive theory, which suggests that the belief in one's ability (self-efficacy) contributes to the shaping of internal regulatory mechanism (self-control), which in turn alleviates the risk against stress-related outcomes.

Table 3; *Mediation Analysis: Indirect Effects via Self-Control*

Indirect Path	β (Original Sample)	T-value	P-value	Significance
SE → SC → PD	-0.112	3.063	0.002	Significant

Note. Significance at $p < 0.05$; bootstrapping with 5,000 subsamples.

Results and Discussion

The purpose of the current study was to provide a test of the effects of self-efficacy on the psychological distress on airline travelers, with self-control as a mediator. Bandura's social cognitive theory and extended previous empirical studies (Zhang, 2025) and this study adopted PLS-SEM technique to examine three hypotheses in the context of travel crisis. In line with H1, self-efficacy had a negative relationship on psychological distress (β = -0.346, $p < 0.001$), indicating that those with a sense of higher control available to them are less likely to generate an emotional breakdown in case of flight disruption. This finding supports previous outcomes in stress psychology that high self-efficacy is linked with adaptive coping and resilience during emergency situations (Li et al., 2024; Hair & Alamer, 2022). Ironically, though H2 was also supported statistically, the relationship between self-efficacy and self-control was positive (β = -0.200, $p = 0.003$), as hypothesized. In high-profile aviation incidents, passengers higher in self-efficacy may not take the time for regulatory means (e.g., self-restraint) but rather engage in proactive behaviors (e.g., challenging authority, making demands). It is possible, however, that the mode effect revealed in this case depends on the specific context, bringing to decision the role of moderators such as urgency, uncertainty, or cultural behavioral norms. H3 was also supported and self-control mediated the relationship between self-efficacy and psychological distress markedly (β = −0.112, $p = 0.002$). This partial mediation implies that self-efficacy has an effect directly and indirectly through self-control. These results expand the theoretical approach by showing how personal (regulatory) resources may act as buffers in psychologically aversive travel situations. Furthermore, the structural model accounted for 50.9% of the variance in psychological distress, which 807 Huang et al., represents strong explanatory ability. Nonetheless, the relatively low R^2 for self-control (4%) indicates that further causes, as for instance emotional intelligence, perceived control or cognitive appraisals, might explain this variable with more power in future studies. In general, this research extends in developing literature on passenger psychology after aviation crises by testing a model which pools self-belief, emotional regulation and stress consequences. The present findings are also particularly salient within Pakistan, as there have been a few studies in the region that have investigated behavioral responses to airline crisis situations and cultural aspects may affect coping strategies differently as compared to western populations. This study

explored the relationship between self-efficacy and psychological distress among airline passengers during crisis events, with self-control analyzed as a mediating variable. Using SmartPLS 4 and a cross-sectional dataset collected in Pakistan, the findings revealed that self-efficacy significantly reduces psychological distress both directly and indirectly through self-control. While self-efficacy was expected to enhance self-control, the inverse relationship found suggests a context-specific behavioral mechanism under high-stress travel conditions. Theoretically, the study contributes to the ongoing refinement of Bandura's social cognitive framework by demonstrating how belief in one's capabilities can influence both regulatory processes and emotional outcomes in non-clinical, real-world scenarios such as flight disruptions. It also provides empirical validation for mediation pathways in passenger psychology, thereby enriching the growing literature on emotional regulation in transportation settings. From a practical standpoint, the findings highlight the importance of integrating psychological insights into airline crisis management strategies. Interventions such as digital self-help prompts, in-flight emotional support programs, or pre-travel stress-preparation tools could be developed to enhance passengers' self-efficacy. Airline staff training can also incorporate behavioral cues to better recognize distress levels among passengers and provide responsive communication. For policymakers and aviation service providers in Pakistan and similar developing regions, the study underscores the need to move beyond logistical efficiency and toward psychological preparedness in managing passenger experience during emergencies. However, there are still limitations in these studies. Causal inferences are limited due to the cross-sectional design and given the modest R^2 value for self-control, other variables like personality traits or perceived social support should be considered in future studies. Finally, the reproducibility of the findings across other cultural and geographical settings could be confirmed if this study could be replicated. In summary, the current research contributes to the literature by further confirming the importance of self-efficacy and internal mechanisms of control in managing the psychological aspects of air crises, with substantial theoretical and applied implications for more emotionally intelligent management of air travel. This research has taken a critical look at the crisis handling techniques of Pakistan International Airlines (PIA), particularly its operational problems, communication challenges and technological constraints. By exploring these gaps and examining best practice globally, this research highlights significant shortfalls in holistic crises preparedness, technology embedding, and stakeholder partnerships to successfully strengthen PIA's operational resiliency. The results indicate that, although PIA has experienced gradual improvement in improving safety and resolving operational disruptions, substantial enhancements are still needed in the areas of contingency planning, staff training and the application of real time communication protocols.

Conclusion

Finally, this study offers actionable tips for PIA and for the commercial aviation sector in Pakistan at large, stressing the need for forward thinking crisis management as a building block not only for passenger safety and security, where's the survival of the organization as well, but also for its global competitiveness. Through the execution of these strategies, PIA has an opportunity to restore its reputation, rebuild stakeholder and shareholder's confidence after privatization. This study examines PIA's crisis management strategies, with a focus on enhancing operational excellence, passenger safety and organizational resilience. PIA has to face persistent challenges, including financial instability, inadequate communication, limited technological integration and a history of safety incidents / accidents. The problems have been compounded by disgruntled employees and an erratic approach to crisis management. It reveals gaps in PIA's crisis management policies and practices, including an absence of horizontal comparison with global airlines, inadequate stakeholder / shareholder's engagement and non-actionable lessons learned

from previous crises. Recommendations for action, suggested by the study are, better communication in the systems; further integration of advanced professional practice; enhanced planning for emergencies and the development of staff training and involvement. It also suggested to align with international standards and to promote stakeholder / shareholder's cooperation to establish trust and achieve operational resilience. This research also highlighted the need for global best practices, active risk management and efficient use of resources to be considered in the regulatory approach. These measures would allow PIA to deal with long-term structural challenges, strengthen crisis response and re-inspire public faith in its operations. To acknowledge the productiveness of Pakistan International Airlines (PIA) crisis communication strategies during previous aviation accidents, a complete and broad research dynamism should be implemented. This dynamism should involve some case studies analyzing these particular crises faced by PIA and is still facing, i.e., (failures in its operations, multiple crashes and accidents) to acknowledge these responses that have been occupied during these hurdles. To acknowledge the horizontal analysis of PIA's crisis management strategies with other domestic airlines, a well-uniformed and structured research project should be commenced, which focuses on identifying particular case studies of crisis incidents / accidents faced by multiple airlines. This research should involve selecting a wide range of airlines that have faced similar hurdles, such as disruptions in the airline's operations, safety incidents and passenger loyalty and relation crises. By creating a successful framework that focuses majorly on crisis management, such as making communication effective, stakeholder interference, the process of making decisions and improvement strategies. By creating this framework, researchers can effectively and efficiently identify best practices that are required for successful crisis decisions. To effectively acknowledge the impact of the organizational framework on Pakistan International Airlines' crisis response strategies, a concentrated research dynamism should be created that explores the relationship between PIA's internal framework and its ability to manage these crises. The future studies should involve an approach that begins with an in-depth assessment of PIA's organizational framework through qualitative methods such as focusing on the targeted groups and doing surveys questionnaires with multiple employees within multiple departments. By focusing and gathering all these insights on PIA's values, beliefs and behaviors within the Organization, multiple researchers can identify how these frameworks affect the process of making decisions, how to communicate and overall responsiveness during a crisis. To acknowledge the gap related to Pakistan International Airlines stakeholder / shareholder's engagement during the crisis, a unique and successful research dynamism should be created that mainly focuses on understanding and operating the airline's engagement strategies with its stakeholders, facing hurdles in future and gaining and improving their stakeholder's trust in the airline's capability to maneuver this crisis effectively and efficiently. This dynamism should involve collecting comprehensive case studies on previous and specific incidents, such as crashes, disruptions of the services and Management immoral behavior, along with addressing the analysis of these responses and their results related to each crisis. By integrating the solutions proposed, PIA is able to;

1. Safety ratings will be improved by at least 20%.
2. May reduce financial losses by 15 % within 2 years.
3. Surveys and media sentiment may improve in public perception.

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