

Exploring the role of personality traits as mediators of mental health in Pakistani commuters

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Abstract

Objective: To investigate how resilience mediates the relationship of personality factors with depression and aggression among daily commuters in an urban setting.

Method: The correlational study was conducted at Lahore Pakistan from October 2019 and March 2020, and comprised male subjects aged 20-49 years who were employed at private schools, offices and banks, and commuted on a daily basis. Data was collected using the International Personality Item Pool, Brief Resilience Scale, Siddiqui Shah Depression Scale and the Clinical Anger Scale. Data was analysed using analysis of moment structure version 24.

Results: Sample size for the current study is 187 (Male participants) were aged 19-29 years. Resilience had a significant negative mediating effect between depression (-0.14*) and neuroticism (-0.22*) personality traits, but was a non-significant mediator for other personality factors with respect to aggression and depression.

Conclusion: Resilience was found to be beneficial in addressing aggression and depression among daily commuters.

Key Words: Personality factors, Resilience, Depression, Aggression, Commuting time, Mediation.
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Introduction

Commuting refers to the time spent travelling between one's home and workplace¹. It might be connected with poor emotional wellness, negative moods, and stress in transportation and encounters². As the unusualness of the commuter's time expanded, so did the impression of anxiety³. It is reasonable to imagine that traffic congestion and other people's driving habits cause extreme anxiety, such as long journeys and long drives taking a physiological toll. Impedance was a major contributor to suburban stress, manifesting itself as physical barriers, such as traffic congestion and a subjective sensation of constriction. Subjective impedance was associated with health concerns, poor mental health at home, and decreased employment and residential fulfilment, but physical impedance was linked to poorer disappointment resistance and negative mood. While certain personal and environmental factors influence the development of psychological disorders in commuters, certain personal and environmental factors influence the development of psychological disorders in commuters⁴.

The non-pathological personality factors measured can

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predict mental health issues⁵. Additionally, neuroticism has a significant positive correlation with depression and the severity of depression, and has a negative correlation with extraversion⁶. Findings of another study concluded that depressed patients have a significant positive association with neuroticism and a lower association with extraversion and conscientiousness. Moreover, it could be inferred that personality traits like neuroticism, extraversion and conscientiousness are correlated with depression and facets of openness to experience, and agreeableness (trust)⁷.

Multiple factors can be associated with aggression in general. Usually, aggression can be learned⁸, and there is suggestion in the literature that personality factors are important predictors of angry behaviours⁹. The most often used theoretical model of aggression is the general aggression model¹⁰. Literature also suggests that agreeableness directly links to aggressive outcomes¹¹. Further, the agreeableness dimension of personality demands trust, honesty and altruism. These factors serve to maintain good interpersonal relations, which minimise the chances of conflict. Also, agreeableness has an inverse relation with aggression¹¹. Moreover, neuroticism has a strong association with aggression^{12,13}. A study¹⁴ found that neuroticism has positive, and conscientiousness has an inverse relation. Further, a resilient person can manage any psychological distress¹⁵.

The current study was planned to investigate how

resilience mediates the relationship of personality factors with depression and aggression among daily commuters in an urban setting.

Subjects and Methods

The correlational study was conducted at Lahore Pakistan from October 2019 to March 2020. After approval from the Graduate Research Committee and Board of Advanced Studies and Research (Department of Psychology, faculty of Humanities and Social Sciences University of Central Punjab Lahore) the sample was raised using convenience sampling technique. Those included were male subjects aged 20-49 years who had at least an intermediate level of education and were employed at private schools, offices and banks, commuting on a daily basis. Those with diagnosed health conditions, government employees, commuters using office transportation, business-owners and employed females were excluded.

After taking written informed consent from the participants, data was collected using a demographic sheet, which included the participant's age, gender, job type, family information, commuting time and distance, health-related issues, socioeconomic status (SES), marital status and birth order. Also used were the International Personality Item Pool (IPIP), Brief Resilience Scale (BRS), Siddiqui Shah Depression Scale (SSDS) and the Clinical Anger Scale (CAS). Permission was sought from the authors of the scales.

The IPIP¹⁶ is a 120-item scale that measures the Big Five, also known as the Five-Factor Model, dimensions; conscientiousness, extraversion, agreeableness, neuroticism and openness. IPIP has 5 primary domains and 30 subdomains. All items are assessed on a five-point scale, ranging from strongly agree to strongly disagree. Cronbach's alpha for each of the 5 domain scales was determined to be 0.84 for extraversion (alpha [α] values for the facet scales ranged from 0.60 to 0.77), 0.85 for openness (α ranged from 0.66 to 0.78), 0.88 for neuroticism (α ranged from 0.63 to 0.80), 0.81 for agreeableness (α ranged from 0.56 to 0.70), and 0.84 for conscientiousness (α ranged from 0.47 to 0.76). In the current study, the scale's Cronbach's α was 0.85.

The BRS¹⁷ is a six-item self-reporting scale scored on a 5-point Likert scale, ranging from 1 = significant disagreement to 5 = strong agreement. The scoring was done by reversing 3 items and averaging them all. The α value ranges from 0.80 to 0.91(15). In the current study, the BRS had a Cronbach's α reliability was 0.72.

The SSDS¹⁸ comprised 36 items scored on a 4-point Likert

scale, ranging from 0 = never to 3 = most of the time. Split half-reliabilities of the scale were $r=0.80$ and $r=0.89$. Cronbach α reliability 0.89 was established for the non-clinical population¹⁶. In the current study, a coefficient was 0.92.

The CAS¹⁹ is a 21-item genuine, objective self-reporting tool that measures psychological symptoms and is useful in understanding and treating clinical anger. Males and females jointly have a Cronbach α value of 0.94, males alone have a reliability value 0.95, and females alone have a value of 0.92²¹. In the current study, the clinical rage scale had a Cronbach's alpha reliability of 0.88.

During data collection, individuals displaying signs of aggression and depression were provided on-the-spot counselling and referred for further psychological assistance.

Data was screened for missing elements, and further inferential and descriptive statistics were analysed. Data was expressed either as frequencies and percentages, or as mean +/-standard deviation. The mediating function of resilience was investigated using a structural equation model (SEM) with analysis of moment structure (AMOS) 24.0. The model modification process was conducted in one key step to fit the tested model with the threshold set at 4.0. In this step, covariance was added as suggested by the modification indices. Modification indices suggested covariance between errors in terms of mental health subscales, i.e., depression and aggression. In terms of context and content, the subscales from each domain were the same. $P<0.05$ was considered significant.

Results

Absolute and relative fit indices of the model after adjusting for covariance indicated a satisfactory fit for the model (Table 1-2, Figure 2).

Sample of 187 (Male) was recruited for the current study and they were aged between 19-29 years (Table 3). Direct effects showed that extraversion significantly negatively correlated with aggression and depression, but had no significant impact on resilience, while agreeableness and conscientiousness did not significantly predict resilience, aggression or depression (Table 4). Neuroticism emerged

Table-1: Reliability value of the scales used.

Scale	No. Items	Crown batch's Alpha
Personality	120	.84
Anger	21	.89
Depression	36	.93
Resilience	6	.67

Table-2: Fit Indices for personality trait, resilience and mental health among the commuters.

Model	Df	χ^2/df	GFI	CFI	NNFI	RMSEA	SRMR
Initial Model	109.75	22	4.99	.73	.56	-.19	.32
Model fit	59.21	20	2.96	.94	.92	.90	.06
$\Delta\chi^2$	50.54*						

All changes in chi-square values were computed relative 0 to model, $\chi^2 > 0.5$., GFI: Goodness of fit index, CFI: Comparative fit index, NNFI: Non-normal fit index, RMSEA: Root mean square error of approximation, SRMR: Standardised root mean square, $\Delta\chi^2$: Chi-square change.

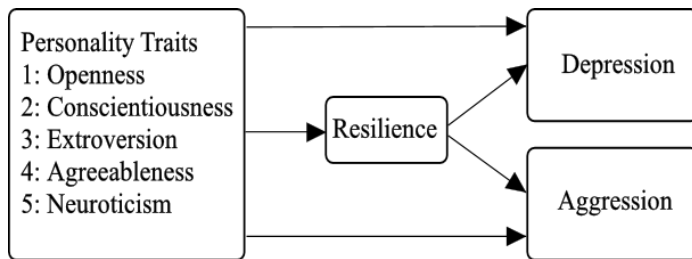


Figure-1: Conceptual Frame work of the Study

Table-4: Standardised estimates of direct effects for personality traits, resilience and mental health..

Variables	Resilience		Aggression		Depression	
	β	SE	β	SE	β	SE
Extraversion	0.12	0.07	0.25***	0.07	-0.38**	0.07
Agreeableness	-0.02	0.08	0.11	0.07	0.09	0.08
Conscientiousness	-0.05	0.11	0.03	0.10	-0.01	0.08
Neuroticism	-0.22*	0.10	0.41**	0.09	0.36**	0.10
Openness to Experience	0.10	0.11	0.13	0.09	0.29**	0.09
Resilience			0.06	0.07	-0.14*	0.07
Total R ²	.086		.417		.529	

*p<.05, **p<.01, ***p<.001

B: Beta, SE: Standard error.

as a significant negative predictor of resilience, but positively predicted aggression and depression, while openness to experience significantly predicted depression, but not resilience or aggression, and resilience significantly negatively predicted depression, but not aggression (Table 4).

In terms of indirect effects, resilience was identified as a significant negative mediator between neuroticism and

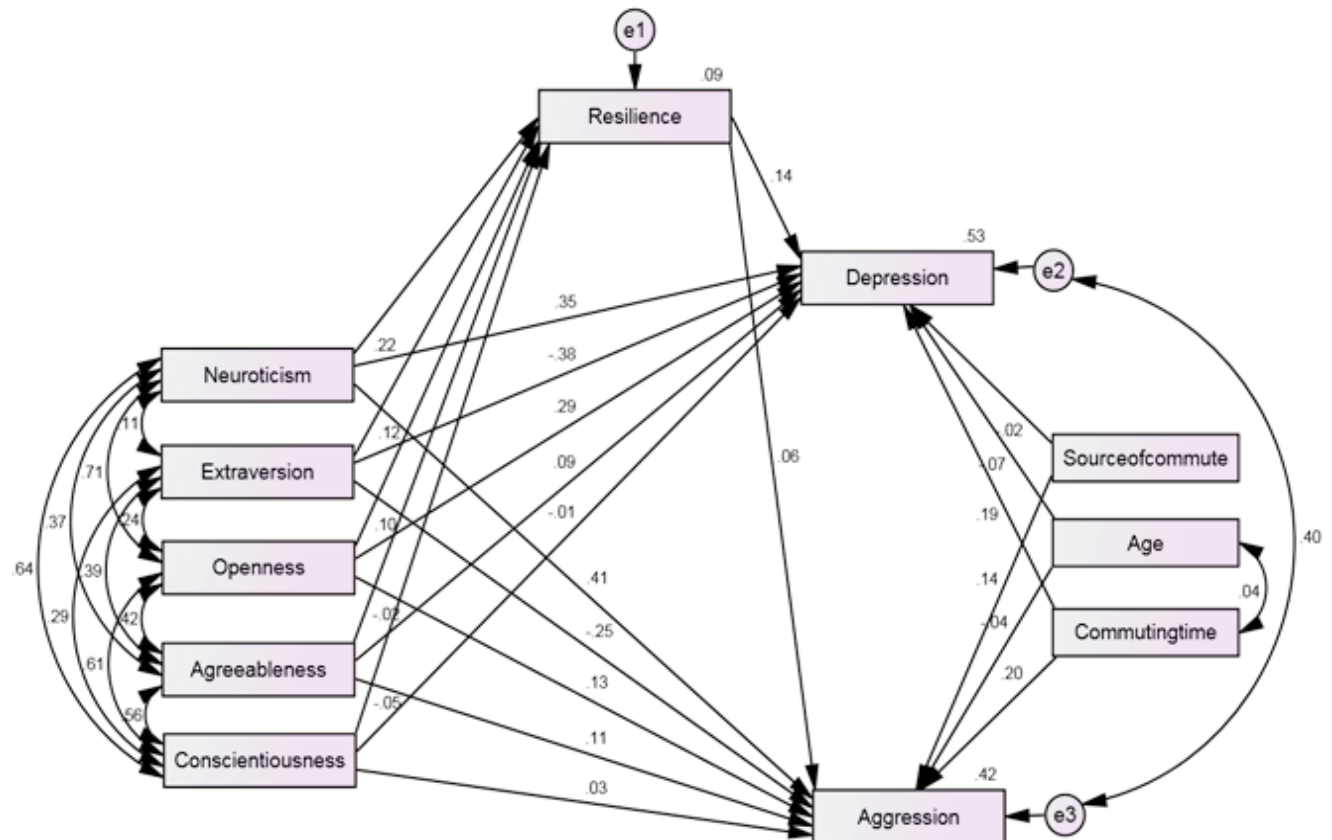


Figure-2: A complex multivariate model of three endogenous and eight exogenous variables showing completely standardised maximum likelihood parameter estimates.

Table-5: Standardised estimates of indirect effects through resilience between personality trait and mental health.

Variables	Aggression		Depression	
	β	SE	β	SE
Extraversion	0.01	0.01	0.02	0.01
Agreeableness	-0.001	0.01	-0.003	0.01
Conscientiousness	-0.003	0.011	-0.01	0.018
Neuroticism	0.01	0.02	-0.03*	0.02
Openness to Experience	0.01	0.01	0.01	0.02

* $p < .05$. ** $p < .01$. *** $p < .001$ B: Beta, SE: Standard error.

depression, but resilience did not significantly mediate between personality traits and mental health outcomes (Table 5).

Discussion

The current study noted that resilience was a significant mediator between personality factors and mental health issues among commuters. Further, resilience could help explain why persons who were high in extraversion were less likely to be aggressive or depressed, while those who were high in neuroticism were more likely to be aggressive and depressed. Highly extraverted individuals were more resilient. This factor allowed them to adjust to dynamic environments and bounce back from bad emotional events to preserve happiness, preventing sadness and violence²⁰.

However, people with a high level of neuroticism reported having a lower level of resilience. They were prone to rage and sadness and they were unable to keep high levels of happiness in a changing environment²¹. This finding suggested that other possible mediators existed that were not included in the current study, such as social competence²², religious orientation²³, and self-esteem²⁰.

Additionally, indirect effects showed that resilience was a significant negative mediator between neuroticism and depression, which showed that an increase in neuroticism tended to decrease resilience. In comparison, a decrease in resilience, in turn, increased depression. At the same time, it was found to be a non-significant mediator between neuroticism and aggression. Resilience was also a non-significant mediator between traits of personality (extraversion, agreeableness, openness to experience, and conscientiousness) and mental health (aggression and depression).

From a trait viewpoint, the results provided more evidence for the theoretical model that personality significantly impacted people's moods and resilience. Extraversion exerted its excursive effect through

resilience to the aggression of commuters. Furthermore, neuroticism exerted its excursive effect through resilience to aggression²⁴. Extraversion was a significant negative predictor of aggression and depression as the direct effects revealed in the current study. In contrast, it was found to be a non-significant predictor of resilience. At the same time, agreeableness and conscientiousness were non-significant predictors of resilience, aggression and depression. Neuroticism was a significant negative predictor of resilience, while a significant positive predictor of aggression and depression. Openness to experience was a significant positive predictor of depression, and a non-significant predictor of resilience and aggression. Moreover, resilience was found to be a significant negative predictor of depression, while being a non-significant predictor of aggression.

The overall findings of the present study supported the suggestion that due to longer travelling distances, commuters faced an immense amount of problematic situations that led to further challenges in their lives, which would affect their innate life, which would further lead to disturbance in daily living. Mental health was disturbed to the extent that depression and aggression increased, whereas resilience played a mediating role in harmonising an individual's innate self. In a country like Pakistan, where there is poor traffic and roads, there must be some disturbance in the mental wellbeing of such people.

Conclusion

There was a significant role of resilience as a mediator between personality traits and mental health outcomes among the commuters. The findings suggested the need for interventions to enhance resilience among the commuters.

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Authors' Contribution:

AA: Main idea and complete write up.

NN: Data collection and analysis.

GC: Literature and critical review.