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Open Access Journal

Evaluating the Impact of Positive and Negative Emotionality on Psychological Distress among Police Employees: Role of Resilience as a Mediator

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Background. The current study aimed to examine the impact of positive and negative emotionality on psychological distress among police employees with resilience as a mediator.

Method. The sample comprised of 150 police employees which was further divided into lower ($n = 75$) and higher ranked police employees ($n = 75$).The study utilized descriptive-predictive survey method in which purposive sampling technique was employed. The instruments used to measure study variables were Positive and Negative Affect Schedule (PANAS), Ego Resiliency Scale (ERS) and General Health Questionnaire-12 (GHQ-12).

Results. The findings of the study revealed that positive emotionality negatively predicted psychological distress while negative emotionality positively predicted psychological distress among police employees. In addition, mediation analysis revealed that resilience partially mediated the relationship between positive emotionality and psychological distress. Significant differences have been observed in positive emotionality and resilience among lower and higher rank police employees.

Conclusion. The present study provides awareness on how resilience, positive emotionality and good mental health status are important for adequate functioning of people working under stressful conditions.

Keywords: Positive emotionality, Negative emotionality, Psychological distress, Resilience

Foundation University Islamabad

Introduction

There is ongoing research exploring factors related to the mental health of police employees. They experience work-related stressors (i.e., administrative and executive constrictions, unequal workload, incompatible partners, lack of positive feedback, unsatisfactory treatment, unclear roles, conflict in work and family) and temporal factors for example, change in shifts, financial and family problems (Hurell et al., 1998; Mikkelson & Burke, 2004). In Pakistan, several problems or issues have been identified, and faced by police organization. Serious reforms and effective policies are needed to be executed (Abbas, 2011; Perito & Parvez, 2013; Suddle, 2003). The inequality and provincially based nature of policing has generated an ineffective system (Perito & Parvez, 2013). This organization is neglected by the higher authorities, which is a significant reason for the inefficiency of police employees, unsatisfactory performance, corruption in the police department, the imbalanced and unfair workload on individuals, socioeconomic problems faced by the lower-ranked employees, and conflict between the public and police department (Imam, 2011; Suddle, 2003). We aimed to evaluate the impact of positive and negative emotionality on psychological distress among police employees while taking resilience as a mediator in the relationship between positive emotionality and psychological distress.

Positive and negative emotionality, psychological distress and resilience may play a significant role. According to Watson et al., (1988), both positive and negative emotions are two distinct dimensions of human emotionality. Positive emotionality is defined as the degree to which an individual becomes enthusiastic, inspired, determined, active, alert, and interested (Algoe & Haidt, 2009; Watson et al., 1988) while negative emotionality reflects subjective distress, anger, irritability, disgust, guilt, shame, and fear (Lazarus, 1991; Watson et al., 1988). For the present study, positive and negative emotionality have been studied as positive and negative emotions measured by scores of the Positive and Negative Affect Schedule. It consists of 20 items (Watson et al., 1988).

Psychological distress is an indicator of mental health status in the general and clinical population. It is defined as an emotional state of suffering, explained by symptoms of depression, anxiety, social dys-functioning, and somatic complaints (Drapeau et al., 2012; Haftgoli et al, 2010). For this research, psychological distress has been measured by scores on General Health Questionnaire-12 (Goldberg, 1972).

Theoretically, resilience has been defined in various ways by different theorists as reported by Shean (2015) in her literature review of current theories on resilience. Two conditions should be met inevitably for making an individual resilient (a) the presence of significant adversity and (b) achievement of positive adaptation (Luthar et al., 2000). Resilience is defined as an individual's capacity to actively engage in new situations in everyday life, can easily respond to changes, solve problems, control impulses, cope with stressful situations and recover from these situations (Block & Kremen, 1996; Garmezy, 1991). For this research, it was studied as an individual's ego-resiliency which infers regulation of ego-control to improve ego functioning and adapt to environmental demands by maintaining emotional, cognitive and behavioural state. It has been measured by scores of the Ego Resiliency Scale, containing 14 items (Block & Kremen, 1996).

In the present study, resilience was studied as a mediator in the relationship between positive emotionality and low psychological distress. According to Baron and Kenny (1986), a variable may qualify for the role of mediator if it has empirical support in association with the predictor and outcome variable in question. In this respect, resilience has been consistently associated with positive emotionality (Fredrickson, 2004; Block & Kremen, 1996; Klohnen, 1996; Xing & Sun, 2012) and psychological distress (Galatzer et al., 2013; Mccraty & Atkinson, 2012). The

mediation model is an effective tool to provide insight into complex relational patterns among variables (Baron & Kenny, 1986; Frazier, Tix, & Baron, 2004). So, mediation analysis was done to identify a clear pathway which could explain *how* positive emotionality was associated with level of psychological distress.

Researches were conducted to examine the mechanism of effects that interplay between positive and negative emotionality, resilience and psychological distress. Galatzer and his colleagues (2013) hypothesized that positive and negative emotions might predict courses of resilience and psychological distress in police officers exposed to highly threatened situations. They identified four types of responses in which resilience was regarded as one of the key factors. The police officers showing resilience, reported lower levels of negative emotionality and higher levels of positive emotionality. As a result, they had lower levels of psychological distress.

Xing and Sun (2012) researched the effectiveness of positive emotions and resilience in dealing with risky situations. This study proved both variables as important constructs of an individual that provide long-term consistency, steadiness, and psychological and social benefits. The final evaluation demonstrated psychological resilience as a key factor in enhanced outcomes of happier people. In other words, psychological resilience fuels more positive emotions that help individuals take more proactive steps in handling adverse situations.

Police employees are trained how to stay calm in adverse situations in their jobs. In addition, faking their true emotions could be considered necessary for their jobs as they were not allowed to disclose negative emotions in public (Adams, 2010). As a result, it might disrupt the process of emotional regulation which leads to disturbance in positive emotionality. It increases the level of psychological distress. Mccraty and Atkinson (2012) stated that the police department is among the most stressful occupations and officers typically undergo psychological distress. Negative emotions predicted an increase in psychological distress. Resilience can improve officers' capacity to recognize and self-regulate their responses to stressors in both work and personal settings.

The concerned research also hypothesized that there was a difference between higher and lower-rank police employees on positive emotionality, negative emotionality, resilience and psychological distress. A significant study has been executed by Biggam and Power (1996) in this respect. They evaluated the personality traits of Scottish police officers for their level of positive and negative affectivity, compared with the general population. They found that police officers did not differ from the norm on either of these indices. Differences were observed in gender, marital status, post, working location, and job satisfaction. The highest levels of negative affectivity were found in officers working in urban and rural environments where more severe stressors were encountered by them. However, differences in affectivity were observed according to rank, in that the higher ranks reported more positive affectivity and the lower ranks had more negative affectivity. Another research by Husain (2014) reported similar trend in differences between junior and senior police officers. Moreover, a cross-sectional study was executed by Parsekar et al., (2015) in India. The researchers aimed to highlight the prevalence of psychological distress in police constables. The study signified 95% of participants fell on higher levels of psychological distress.

The present study was therefore designed to examine the impact of positive and negative emotionality on psychological distress among police employees. Positive and negative emotionality was studied in terms of one's degree of feeling positive and negative emotions. In addition, the mediating role of resilience in the relationship between positive emotionality and low psychological distress helped in identify a clear pathway between these variables.

The present study will provide awareness on how resilience and positive emotionality are important for adequate functioning to the general population, higher authorities of defence area, mental health professionals and educators. Researches on the mental health status of the police department suggest providing more awareness on how to cope with negative emotionality, psychological distress and employ positive emotions and resilience in police employees (Humayon et al., 2018). Lack of knowledge and difficulty in noticing stress-related symptoms in police workers should be incorporated (Arvidsdotter et al., 2016). So, the proposed study will target police organization specifically and help provide awareness in this aspect. Likewise, the effects of negative emotionality on the level of psychological distress will also be highlighted. In addition, this study may help in suggesting ways and means for prevention level. It might suggest introducing screening tools to identify psychological distress among police work force to help them in their jobs. Moreover, it will support the existing literature and offer new researches to be done in this area.

Theoretical Framework

Frederickson's Broaden-n-Build Theory of positive emotions (1998) provides a theoretical framework for the current study which states that positive emotions broaden individuals' thought-action repertoires and lead them to attain more enduring personal resources but negative emotions minimize their personal resources by limiting their thinking. This theory also claims that positive emotions and psychological resilience affect each other reciprocally. Resilience is a resource that lowers the level of stress by reducing the effects of negative impulses in individuals (Block & Kremen, 1996). According to Garmezy, (1991) being resilient identifies maintenance of functional adequacy through presenting oneself as competent irrespective of interfering emotionality under stressful conditions.
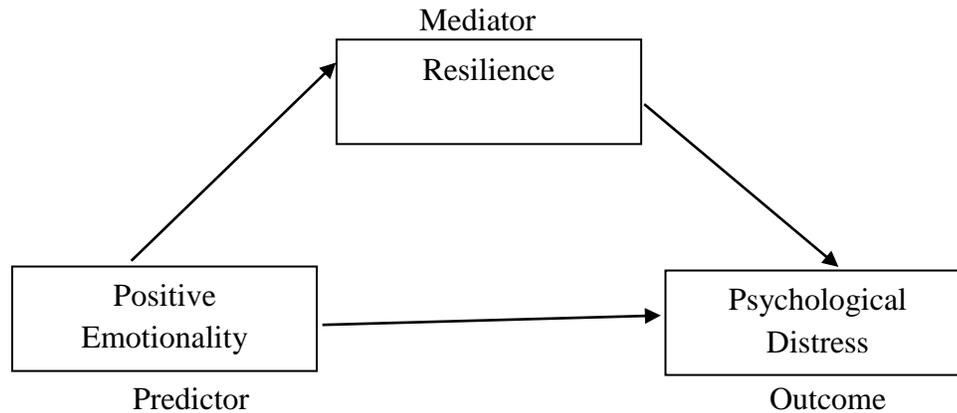
In the context of this theory, the current study investigated whether positive emotions could affect the level of psychological distress of police officials. As concerned with the impact of negative emotions, this research predicted high psychological distress which incorporated the assumption of concerned theory. Two psychological constructs or variables are not always directly associated with each other. Their effects are mediated or moderated by the third variable. Researchers suggest that a mediator should have an association with the predictor and outcome variable (Baron & Kenny, 1986). If a reciprocal relationship is present between positive emotions and resilience, as suggested in the current theory, resilience could be taken as a mediator in the relationship between positive emotions and low psychological distress. This study investigated whether level of psychological distress was produced by only positive emotions or a third variable that might mediate this relationship.

Hypotheses

The hypotheses of the present study are as follows:

1. Positive emotionality will predict low psychological distress among police employees.

2. Negative emotionality will predict high psychological distress among police employees.

3. Resilience mediates the relationship between positive emotionality and low psychological distress.

4. There is a difference between higher and lower rank police employees on positive emotionality, negative emotionality, resilience and psychological distress.

Conceptual Framework for Mediation

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                         Mediator
                      ┌────────────┐
                      │ Resilience │
                      └────────────┘
              ↗                        ↘
 ┌──────────────┐                    ┌──────────────┐
 │   Positive   │ ─────────────────→ │Psychological │
 │ Emotionality │                    │   Distress   │
 └──────────────┘                    └──────────────┘
    Predictor                            Outcome
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Method

Participants and Procedure

The study was conducted by using descriptive-predictive survey method. Data collection was held between January and February 2021. The sample size was calculated through sample size calculator which included 150 members of police staff (*N*=150). The sample was classified into two groups. One group comprised of 75 participants from lower rank police employees (*n*=75), the constables and head constables. The other group consisted of 75 participants from higher rank police employees (*n*=75) in which assistant sub inspectors and sub inspectors were included. Purposive sampling technique was employed for data collection. The age range of the sample was 25 to 56 years. Data was collected from different police stations of Rawalpindi, Attock, and Islamabad .Individuals with minimum intermediate education and having two or more than two years of work experience were included in the research. Participants with any history of psychological disorder were excluded.

The scales used for data collection of present research were Positive and Negative Affect Schedule (PANAS, Watson, 1988), General Health Questionnaire-12 (GHQ-12, Goldberg, 1972) and Ego- Resiliency Scale (ERS) (Block & Kremen, 1996). It took almost ten to fifteen minutes to complete the questionnaires. After taking approval from the Ethical Review Board, participants were approached by the researchers. Researchers first took permission from concerned authorities of the police department. After a brief introduction about the study informed consent form was provided to the participants. After that they were provided with Demographic Sheet, Positive and Negative Affect Schedule, General Health Questionnaire-14, and Ego Resiliency Scale. They were requested to be honest while giving responses to statements. At the end, they were thanked for their cooperation.

Data Analysis

Data analysis was done through SPSS 25.0. Means, standard deviations, frequencies, and percentages of the variables were computed. Psychometric properties of the questionnaires were analyzed. Impact of positive and negative emotionality was evaluated through simple linear regression analysis and mediating role of resilience was tested by regression analysis. T-test was used to infer differences in variables between lower and higher rank police officials.

Measuring Instruments

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule is a self-report questionnaire, by Watson and his colleagues (1988) to measure a person's positive and negative emotions. It consists of 20 items; 10 items depicting

positive mood states and 10 for denoting negative mood states. It is a 5 point scale that ranges from 1 "very slightly or not at all", to 5 "very much". A number of different time-frames have been used with the PANAS. Scores on positive affect ranges from 10 – 50, with higher scores representing higher levels of positive affect. Scores on negative affect range from 10 – 50, with lower scores representing lower levels of negative affect. Positive Affect (PA) Scale showed Cronbach alpha coefficient as 0.94 and Negative Affect (NA) Scale, as 0.94 for this sample.

General Health Questionnaire-12.

General Health Questionnaire-12 is the short version of original General Health Questionnaire, developed by Goldberg in 1972 (Banks et al., 1980). It is a screening tool used for presence of any psychiatric illness and to measure the level of psychological distress in general and clinical population. It consists of 12 items, containing 4 point likert scale ranging from 0 to 3. There are two types of items (i.e., positive items and negative items) in this questionnaire. Positive items refer to absence of symptom and negative items are related to presence of symptom. For positive items scale is ranging from 0 "always" to 3 "never" whereas scale for negative items ranges from 0 "never" to 3 "always". Total score ranges from 0 to 36. Higher scores show higher level of distress. The reliability of General Health Questionnaire-12 was reported as .93 for the concerned sample.

Ego Resiliency Scale.

Ego Resiliency scale was developed by Block & Kremen in 1996, to measure one's capacity to adapt in changing environment by coping with stress and resisting to vulnerabilities. It examines three components of individual's general resiliency (i.e., dynamic engagement with the world, repertoire of problem solving approaches, integrated performance while facing stress) (Farkas & Orosz, 2015). It comprises of 14 items based on 4 point scale, ranging from 1 as "does not apply at all" to 4 as "applies very strongly". The score ranges 10 to 56 in which 0-10 indicates very low resiliency trait, 11-22 low resiliency trait, 23-34 undetermined trait, 35-46 high resiliency trait, and 47-56 shows very high resiliency trait. The test retest correlations of this scale were .81 that was significant. The Cronbach's alpha value of Ego Resiliency Scale was .95.

Results

The findings of the study were computed and analyzed through SPSS version 25.0.

Table 1

Frequencies and percentages of demographic variables of the Study (N=150).

Variables	Category	*f*	%
Age	25-40	83	55.3
	41-65	67	44.7
Education	Intermediate	57	38.0
	Bachelor	58	38.7
	Masters	35	23.3
Marital status	Single	39	26.0
	Married	111	74.0
Family type	Nuclear	9	6.0
	Joint	141	94.0
Post	Lower rank police employees	75	50.0
	Higher rank police employees	75	50.0
Working location	Rawalpindi	40	26.7
	Islamabad	56	37.3
	Attock	54	36.0
Working experience	2-8 years	70	46.7
	More than 9 years	80	53.3
Total working hours	6 hours	45	30.0
	8 hours	59	39.3
	12 hours	46	30.7

Table 1 shows that greater number of police employees have fallen in the category of early adult men (n=83, 55.3%) as compared to middle adult men (n=67, 44.7%). Police employees with degree in masters were lower in number (n=35, 23.3%) as compared to intermediate (n=57, 38.0%) and bachelors (n=58, 38.7). Majority of participants were married (n=111, 74.0%) as compared to unmarried men (n=39, 26.0%). Majority of respondents lived in joint family system (n=141, 94.0%) as compared to respondents with nuclear family system (n=9, 6.0%). Half of the participants were lower rank police employees (n=75, 50.0%)while the other half (n=75, 50.0) of participants were from higher rank police staff. Greater number of police employees worked in Islamabad (n=56, 37.3) and Attock (n=54, 36.0) as compared to Rawalpindi (n=40, 26.7%). Higher number of respondents (n=80, 53.3%) appeared to have more than 9 years of experience as compared to respondents with 2 to 8 years of experience (n=70, 46.7%). Greater number of police employees (n=59, 39.3%) had to work for 8 hours a day as compared to police employees working for 6 (n=45, 30.0%) and 12 (n=46, 30.7%) hours a day.

Table 2

Regression Coefficients of Positive Emotionality on Psychological Distress (N=150).

Variable	B	β	SE
Constant	24.48***		1.15
Positive emotionality	-.49***	-.76	.03
R^2	.59		

Note. N=150, ***p <.001

Table 2 shows the impact of positive emotionality on psychological distress in police employees. The findings revealed that positive emotionality predicted low psychological distress (β = -.76, p< .001). The R^2 value of .59 indicated that the predictor variable explained 59% variance in the outcome variable with F (1, 148) = 208.16, $p < .001$.

Table 3

Regression Coefficients of Negative Emotionality on Psychological Distress (N=150).

Variable	B	β	SE
Constant	-2.44**		.88
Negative emotionality	.52***	.75	.04
R^2	.57		

Note. N=150, ***p <.001, **p < .01

Table 3 shows the impact of negative emotionality on psychological distress in police employees. The findings revealed that negative emotionality significantly predicted psychological distress (β = .75, p< .001).The R^2 value of .57 indicated that the predictor variable explained .57% variance in the outcome variable with F (1, 148) = 192.74, $p < .001$.

Table 4

Mediation effect of Resilience between Positive Emotionality and Psychological Distress among Police Employees (N=150).

Variables	B	95% CI	SEB	β	R^2	ΔR^2
Step 1					.58***	.58***
Constant	24.48***	[26.75,22.22]	1.15			
Positive emotionality	-.49***	[-.42-,.56]	.03	-.76***		
Step 2					.59***	.01
Constant	24.83***	[27.19,22.47]	1.19***			
Positive emotionality	-.45***	[-.34,-.55]	.05***	-.70***		
Resilience	-.05	[.05,-.14]	.05	-.08		

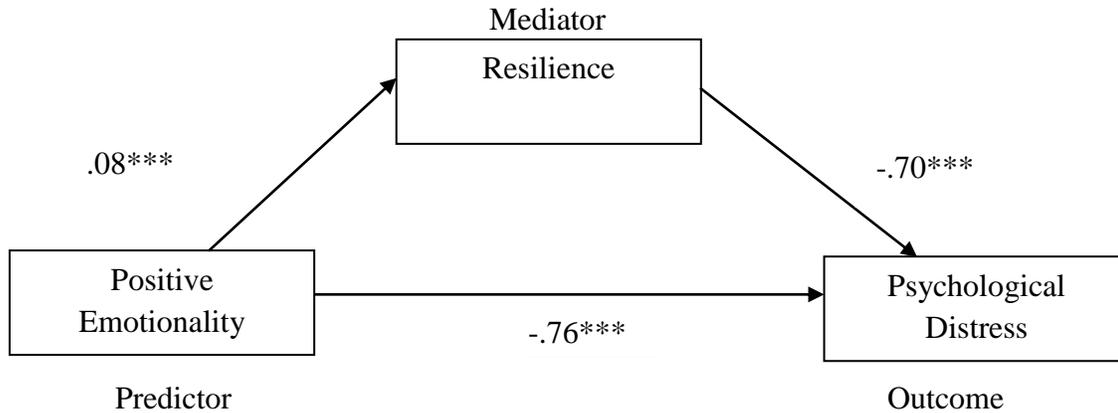*Note. N=150, ***p <.001*

Table 4 shows regression analysis of mediating effect of resilience in relationship between positive emotionality and psychological distress among police employees. In step 1, the R^2 value .58 revealed that positive emotionality explained 58% variance in psychological distress with $F(1,148)=208.15$, ***p< .001 in police employees. The findings showed that positive emotionality (β = -.76, p< .001) negatively predicted psychological distress. In step 2, the R^2 value .59 revealed that positive emotionality and resilience explained 59% variance in psychological distress with $F(2,147)=104.67$, ***p< .001 in police employees. The findings also indicated that positive emotionality (β = -.70, p< .001) and resilience (β = -.08, p <.001) negatively predicted psychological distress. The ΔR^2 value of .01 explained 1% change in variance of model 1 and model 2 with F (2,147) =104.67, ***p< .001. The regression also denoted that positive

emotionality has subsequently reduced from Model 1 to Model 2 (-.76 to -.70) but remained significant which confirmed partial mediation. Moreover, positive emotionality has direct as well as indirect effect on psychological distress.

Figure 1. Mediation effect of Resilience between Positive Emotionality and Psychological Distress among Police Employees

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                    Mediator
                   Resilience

    .08***                          -.70***

  Positive                              Psychological
  Emotionality      -.76***            Distress

    Predictor                          Outcome
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Table 5

Mean, Standard Deviations and t-values along lower and higher rank of police employees on Positive Emotionality, Negative Emotionality, Resilience and Psychological Distress (N=150).

Variables	Lower rank (n=75) M(SD)	Higher rank (n=75) M(SD)	t(148)	p	95% CI UL LL	Cohen'sd
Positive emotionality	30.49(8.90)	33.85(11.34)	-2.01	.05	[-.06,-6.67]	.33
Negative emotionality	22.24(8.50)	20.64(10.53)	1.02	.31	[4.69,-1.49]	.12
Resilience	30.77(10.79)	36.35(11.12)	-3.12	.00	[-2.04,-9.11]	.51
Psychological distress	9.47(6.74)	7.97(6.47)	1.39	.15	[3.63,-.64]	.23

Note. CI = Confidence Interval; *LL* = Lower Limit; *UL* = Upper Limit.
**p<.01

Table 5 revealed significant mean differences on positive emotionality with *t* (148) = -2.01, (*p>* .05). Similarly, differences on resilience were significant with *t* (148) = -3.12, (*p* <.01) which revealed that higher rank police employees exhibited higher scores on resilience (*M* = 36.35, *SD* = 11.12) compared to lower rank police employees (*M* = 30.77, *SD* = 10.79). However, mean differences on negative emotionality and psychological distress were non-significant having *t* (148) = 1.02, *p>* .05and *t* (148) = 1.39, *p>* .05.

Discussion

In the current study, we aimed to examine whether positive emotionality is linked to low psychological distress among police employees. The findings revealed that positive emotionality significantly negatively predicted psychological distress in the sample. Our findings are in line with the concerned theoretical assumption (Fredrickson, 2000; Folkman & Moskowitz, 2000). These theories regarded positive emotions as being key factors to have buffering effects on psychological distress (Folkman &

Moskowitz, 2000; Tugade, Frederickson & Feldman, 2004, Lazarus, 1991). For example, when a stress hormone is triggered as a result of exposure to a stressor, the individuals' cardiovascular activity and blood flow increase and they experience psychological distress. During this process, positive emotions try to prepare the body and mind for a broader array of thinking and actions and as a consequence lower the production of stress hormones and the person feels low psychological distress (Fredrickson et al., 2000).

Vice versa of the previous assumption, in the present study we also found that negative emotionality significantly positively predicted psychological distress among police employees. Previous literature also supported these findings (Mccraty & Atkinson, 2012). Moreover, the Broaden-n-build theory of positive emotions states that people with negative emotionality exhibit more symptoms of anxiety and depression (Fredrickson, 2004). In addition, much of the recent literature found similar reports (Adams, 2010; Fox et al., 2012; Galatzer et al., 2013). According to Frederickson (2000), negative emotions narrow individuals' thought actions tendencies and leave them with a limited choice of actions which can lead to prolonged experiences of psychological distress.

Similarly, we assumed that resilience mediates the relationship between positive emotionality and level of psychological distress. The results revealed that resilience partially mediated the relationship between positive emotionality and psychological distress. Our findings are in line with the theoretical framework of Broaden-n-Build theory of positive emotions, which states that positive emotionality and resilience affect each other reciprocally (Fredrickson, 2004). Fredrickson and Joiner's (2002) study predicted the positive relationship between positive emotionality and broad-minded thinking that was inferred as resilience. This study claimed that attention and cognition generated by past experiences of positive emotions could facilitate coping. As this

sequence continues, individuals build psychological resilience and boost their emotional well-being by lowering psychological distress.

The fourth hypothesis of the current study inferred a difference between high and lower-rank police employees regarding positive and negative emotionality, resilience and psychological distress. Results showed significant differences in positive emotionality and resilience among lower and higher rank police employees. The majority of the higher rank police employees appeared to be more resilient and exhibit positive emotionality.

In addition, differences have been found in negative emotionality and psychological distress in lower and higher rank police employees. Reports of previous research also supported this notion. Researchers identified that the level of psychological distress is varied in higher and lower-rank police employees (Parsekar, Singh & Bhumika, 2015). Lower-rank police staff experience increased psychological distress. Negative emotions (e.g., depression, anxiety, and stress) have a greater prevalence in junior police officers as compared to senior police officers whereas positive emotionality and resilience were proved to be high in senior police staff (Hussain, 2014). The other reasons for this variability may be inequality of the pay grades, negligence by higher authorities, unfair workload, and more socioeconomic problems faced by the lower-ranked police employees (Hussain, 2014; Suddle, 2003).

Conclusion

The findings of the study have revealed that positive emotionality has significantly positively predicted resilience and negative emotionality has significantly positively predicted psychological distress. Results also reported that resilience mediated the relationship between positive emotionality and low psychological distress. Moreover, significant differences have been observed in positive emotionality and resilience in the sample.

Limitations and suggestions

The present study had some limitations that need to be considered in further research. As it was a descriptive-predictive study and was conducted on small sample size, therefore renders it towards limited generalizability. Moreover, as it was not an experimental study so a causal relationship between the study variables could not be assessed. . If the experimental method was implied, environmental factors could be controlled to some extent and more reliable results could be attained.

The current research has some recommendations for future studies. As police employees work under extremely challenging circumstances, therefore they are more prone to mental health issues. Their mental health is neglected by the mental health professionals and the higher authorities at large. Therefore, much research is needed to be carried out on police employees' mental health status as well as highlighting important variables that can buffer the effects of a negative work environment. Moreover, by conducting research having a large sample size of police employees across different areas of Pakistan, researchers can further identify different psychosocial and organizational issues and their psychological impact. Further research is also needed to explore positive emotions following the broaden-and-build theory of positive emotions as it gives a logical and creative explanation of their importance and functions.

Declaration

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