

## **Personality and Coping as a risk factor: Trauma and Post-Traumatic Stress as a stress disorder in the Ekurhuleni Metropolitan Police Department – South Africa**

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### **Abstract**

*The Metro Police Services has a reputation for being resilient despite the amount of trauma they are exposed to. Research has shown that this occupation is one of the most stressful around the world. However, research surrounding the Metro Police Services suggests that police work is one of society's most stressful occupations. The way in which individuals respond to such traumatisations is dependent on numerous factors, two being personality and coping. In so far, this study investigated three main areas around metro police. In order to understand their responses to trauma: whether personality factors were related to post-traumatic stress symptomatology (PTSS) in the Metro Police population; whether coping moderated the relationship between personality factors and PTSS; whether a personality factor predicts coping style.*

*A quantitative analysis was conducted among a sample of 36 officers in the Ekurhuleni area of South Africa. This study found that the relationship between Neuroticism and PTSS is mediated by coping, specifically Emotion-Focused and Dysfunctional Coping style. A relationship between Conscientiousness and PTSS showed to be prevalent, however, this is not due to the mediation effect of coping. Furthermore, Neuroticism and Extraversion showed to predict coping style. Specially, Neuroticism showed to affect EFC and DC and Extraversion showed to affect EFC. The descriptive statistics showed that this sample of Metro Police is suffering from PTSD. Implications of these findings are discussed and directions for future research are explored.*

**Keywords:** *Personality, Coping, Trauma, Metro Police, Posttraumatic Stress Disorder, Risk factors.*

### **Introduction**

The Ekurhuleni Metropolitan Police Department (EMPD) has a reputation for being resilient despite the amounts of trauma they are exposed to. Traumatic experiences are part of the problem of the society in which people live. Pillay (2008) states that traumatic experiences have an influence that is either negative or positive for those directly exposed to the trauma. Research has revealed that mental health workers and crisis workers of the traumatized victims are susceptible to traumatic experiences of the victims.

Examples of crisis workers include police officers, emergency and rescue personnel, and fire fighters. These professionals are often called to deal with traumatic situations. Due to the nature of their work, they are at the top of the list of people who are directly affected by these traumatic events. A quantitative analysis was conducted among a sample of 36 Metro Police Officers in the Ekurhuleni area of Gauteng in South Africa. This study found that the relationship between Neuroticism and PTSS is mediated by coping, specifically Emotion-Focused and Dysfunctional Coping (DC) styles.

A relationship between Conscientiousness and PTSS showed to be prevalent, however this is not due to the mediation effect of coping. Furthermore, Neuroticism and Extraversion showed to predict coping style. Specifically, Neuroticism showed to affect EFC and DC and Extraversion showed to affect EFC. The descriptive statistics showed that this sample of police officers is suffering from PTSD. The implications of these findings are discussed and directions for future research are explored.

There is a wide variety of research centred on PTSD within the police population globally and in the South African police population (e.g. Kopel & Friedman, 1997). However, there has been less research conducted on the Metro Police services within the police population who assist in crime prevention. The Metro Police are a population within the Ekurhuleni Metropolitan Municipality who serve and

protect the country by means of three different functions; Traffic law enforcement, Municipality By-Laws and Crime Prevention. This creates that individuals that are deployed operational are subjected to a higher level of trauma and stress as the rest of the police population. However, currently, Metro Police Officers do not receive any monetary reward for their services.

### **Problem statement**

There is considerable interest in understanding the factors that increase the risk of post-traumatic stress disorder (PTSD) amongst police officers. Personality traits can be contributing factors of stress disorder. These factors are comprised of a variety of traits. The first two personality factors proposed were neuroticism and extraversion (Eysenck & Eysenck, 1967); known as the “Big two” personality factors, and as such as impulsivity and high- risk behaviour that is likely to result in high level of stress and potentially poor coping choices amongst police officers. As a metro police officer, I have experienced and witnessed the dangerous nature of police work and observed as well as learned that operational police officials deal with life and death on a daily basis. The police officers must therefore be willing to put their lives at risk or harm while performing their policing duties (Stromnes 1999). Research studies conducted locally and internationally suggest that the nature of police work in both local and international environments is highly stressful. These include studies by Garbarino et al (2011) and Steyn, Vawda, Wyatt, Williams and Madu (2013) which showed that there is an increased rate of post-traumatic stress, burnout, alcohol abuse as well as decreased levels of job satisfaction and job performance within the police force in comparison to the norms of the general population.

Thus, police members are more susceptible and at risk of developing PTSD (Young 2005). In addition, according to the researcher most police officers find it difficult to withdraw from their challenging work even if they feel extremely threatened because of their commitment to duty and upholding law and order in society. Therefore, the immense physical, intellectual and psychological demands, exposure to traumatic incidents and interaction with violent subjects serve as occupational stress for police officers to cope with. Coping is a dynamic process involving a combination of one’s cognitive and behavioural efforts (Carver & Connor-Smith, 2007). These efforts to manage the internal and external demands of the individual-environmental relationship that is appraised as exceeding the person’s resources. Coping is a protecting behaviour that makes use of cognitive efforts as an aid against people being psychologically harmed by problematic social experiences (Tamres et al., 2002).

### **Ekurhuleni metropolitan police department**

The South African Police Service Amendment Act No 83 of 1998 provided for the establishment of Municipal Police Services (MPS), to exist independently of the South African Police Service (SAPS), and to be funded by and accountable to local governments. Municipal policing is part of government's effort to increase the numbers of police officers in South Africa's cities. Metropolitan Police Services have been established in five of South Africa's six metropolitan municipalities – eThekweni (Durban), Johannesburg, Cape Town, Tshwane (Pretoria) and Ekurhuleni. For the purpose of this study, the researcher will examine the Metro police officers of the Ekurhuleni Metropolitan Council.

In most cities, the core personnel of the MPS are drawn from former traffic policing agencies. The legislated functions of the MPS are crime prevention, traffic policing and enforcement of municipal bylaws. Metro Police Officers (MPO's) are highly likely to encounter situations of conflict and violence during the discharge of their duties, and they need to be skilled in how to manage these situations; however, many of them have not been trained to deal with matters unrelated to traffic. Metro police officers are required to effectively interface with both perpetrators and victims of crime, including violent crimes like domestic abuse, assaults, hijackings, robberies, shooting; sexual violence and escalating execution and killing of Police Officers have created an unusually dangerous environment for Metro Police Officers to manage.

Researcher, U Subramamey (2011) indicates that trauma exposure on entry into the police force was remarkably high with 99% having been exposed to at least one traumatic event in their lives. The majority (61.1 %) had been exposed to more than one traumatic event (Subramamey, 2011). Aaron (2000) indicates that approximately 08% - 25% of Metro Police Officers suffer from Post-Traumatic Stress Disorder with various levels of psychological disabilities. Post- Traumatic stress disorder is also

quoted as the 5th most common overall referral problem presented to the police psychologist (Mann, Howard, and Reilley, 1990).

### **Rational**

There is a wide variety of research centred on PTSD within the police population globally and is in the South African Police but not in the Metro Police population (e.g. Kopel & Friedman, 1997). However, there has been less research conducted on Metro police officers who assist in crime prevention. The Metro Police are a population describe within the Police Act responsible for the following functions; Traffic Control, Municipalities- Bylaws and Crime prevention. The Metro Police officers are subjected to the same level of trauma that the rest of any police population is. However, it is plausible to state the Metro police officers will face these traumatic situations as it is their job; however, it is unknown as to why officers face similar critical incidents. It is possible that a certain type of individual may be more likely to enrol as a police officer. In order to assess this certain contributory factor would need to be understood, personal factors such as personality and coping are such factors that may aid in explaining the identity of the police officer. These factors will also assist in understanding how officers respond to trauma.

### **Trauma and Post-traumatic stress disorder**

Trauma is understood as a personal experience (Herman, 1992). However, there are universal symptoms that individuals may experience and exhibit following a traumatic event. The American Psychological Association (APA, 2000) categorises these symptoms into three clusters: the Intrusion cluster, where one may experience reliving of the traumatic event; the avoidance cluster, where one may avoid certain stimuli associated with the event; and the hyper arousal cluster, where one is in a constant state of alert and arousal and may encompass an exaggerated, and inappropriate, startle response. The risk of distress is strongly correlated with the stressor itself (Tamres, Janicki & Helgeson, 2002). This is also true for developing PTSD as one's risk is dependent on the severity of the traumatic incident (Carlier, Lambert & Gersons, 2000).

Research has consistently shown (e.g. Creamer, Burgess & McFarlin, 2001; Perkonig, Kessler, Storz & Wittchen, 2000; Zlotnick, Johnson, Kohn, Vicente, Rioseco & Saldivia, 2006) that violence is the most common form of trauma associated with PTSD (Kaminer, Grimsrud, Myer, Stein & Williams, 2008). PTSD is a significant health concern that is a possible consequence after experiencing a traumatic event (Retief, 2005). The APA (2000) categorises traumatic events into criterion A1 and A2: A1 criterion refers to the external stressor (traumatic event) and A2 criterion refers to the person's emotional/subjective response to the stressor (criterion A1). As such, the diagnosis of PTSD takes into account both the traumatic event and the individual's response to that event.

The requirements for a diagnosis of PTSD according to the APA (2000) are: (A) A person experienced, witnessed or was confronted with an event(s) that involved actual or threatened death or serious injury, or a threat to one or someone else's physical integrity; (B) The response of the traumatised person involved intense fear, helplessness or horror. This definition explains that one can experience being traumatised or develop PTSD from a primary traumatic event as well as from a secondary traumatic event (Hathaway, Boals & Banks, 2009). Hathaway et al. (2009) conducted a study in order to understand which emotional reactions/responses are related to the highest levels of PTSD. Their study concluded that individuals, in the sample, who developed more severe symptoms of PTSD, experienced a variety of emotions (fear, disgust, anger etc.).

The results from this study suggest that one does not have to only experience criterion A2 (fear/helplessness) in order to develop PTSD. PTSD can therefore develop despite the emotions experienced during the event (Hathaway et al., 2009). The study aimed at exploring psychiatric disorders in the South African population, as well as the prevalence of exposure to physical and psychological torture/trauma. The study managed to draw a number of conclusions such as associations between type of trauma exposure and general levels of distress as well as the influence of socio-demographic predictors and different types of trauma exposure (Williams, Williams, Stein, Seedat, Jackson & Moomal, 2007). Violanti and Paton (1999) explain that the some of the types of trauma

police are exposed to range from natural disasters, bombings, riots to violent crimes and life-threatening critical incidents.

### **The psychosocial functioning of police officers after traumatic events**

Biere (2002) emphasises that an individual's view point about the consequences of traumatic exposure rests on the individual's beliefs and it includes the person's world view. The traumatic experiences challenge the beliefs people have about themselves, other people and the world around them and therefore give rise to particular sets of assumptions. These assumptions guide people's actions and behaviours. People's assumptions or theories guide their perceptions and their actions. People's assumptions are often challenged when an experience or event that is in conflict with these assumptions occurs. When an individual undergoes a process like this, it can be said that the person is experiencing emotional and psychological distress because of the discord between their own assumptions and the reality of the experience. Young (2005) contends that when a traumatic episode happens, it may challenge these assumptions, thereby creating a sense of uncertainty for the person. It is when an individual starts to question their sense of security and trust in others and the world. It might be a difficult task for a person to continue with their lives.

It is as if the traumatic experience has made their life come to a standstill, making it hard to plan for the future or recuperate and go back to the way they lived before the traumatic event had occurred. Young goes on to say police officers also have assumptions about themselves and their world. During the police officers' basic training, they are taught that the world is malicious and that they should expect the unexpected when dealing with people in general, especially the criminal elements. While under training and during their interaction with other police officers, they would form particular beliefs about themselves as police officers. Such beliefs may originate from their own experiences and from what is referred to as the police subculture (Resick, 2001). When police officers are confronted by a traumatic event that contests these assumptions, it leaves them feeling stunned and vulnerable (Young, 2005).

The control that they thought they had is now questionable. These feelings of vulnerability and loss of structure and control that they went through as a result of the trauma, causes police officers to find it challenging to cope with. Whilst police officers find it difficult to cope with a traumatic experience, they may develop psychological distress such as anxiety and depressive disorders as a result. The police work is one of the professions that have a high risk to develop Post Traumatic Stress Disorder (PTSD) (Yarmey, 1990). However, Violanti (1997) states that police officers who have been long exposed to trauma are likely to experience the after-effects of trauma long after separating from the traumatic event.

**Table 1.** Common reaction to trauma

Physical Reactions	Mental Reactions	Emotional Reactions	Behavioural Reactions
Muscle tension Upset stomach Rapid heart rate Dizziness Lack of energy Fatigue Nausea Dryness of the mouth Palpitations Shortness of breath	Inability to concentrate Memory disturbances Flash backs Poor judgement Absent mindedness Difficulty in making decisions nightmares	Fear Sadness Guilt Depression Anger Frustration Helplessness Anxiety	Withdrawal from activities Impulsiveness Heightened or lowered sexual drive Change in eating habits Restlessness

Adopted from Chabalala (2005, p.55)

### **Personality and coping**

Individual differences in response to trauma are influenced by a variety of factors. Two very important factors that contribute towards one's susceptibility to develop PTSD are personality and coping factors (Paris, 2006). These factors – as predispositions – can be best understood by combining them with a cognitive processing model (Paris, 2006). This model suggests that one cannot understand the impact of life events without understanding how one processes such events i.e. their cognitive

schemas (Paris, 2006). Coping and personality factors can pose as a means to explain why some individuals experience traumatic events and life stressors more intensely than others. Personality definitions have been of much debate over the years; however, it is plausible to state that personality consists of behaviours that are consistent in the same situation over time (Robert, 2009). The Big Five Factor Model (FFM) of personality is one of the most prominent means of assessing, measuring and understanding personality traits (Friborg, Barlaug, Martinussen, Rosenvinge & Hjemdal, 2005; McCrae & Costa, 1997).

The Big Five personality factors, on which the FFM is based, are: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness (McCrae & Costa, 1997; McCrae, 2001). These factors can be best understood as inherited basic tendencies (Church, 2001). These factors are comprised of a variety of traits (Vollrath, 2001). The first two personality factors proposed were neuroticism and extraversion; known as the 'Big Two' personality factors (Eysenck & Eysenck, 1967). The former is associated with traits such as being anxious, depressed, worried and insecure whilst the common traits that are associated to the latter are social, gregarious, talkative and active (Barrick & Mount, 1991).

Barrick and Mount (1991) further explain the remaining factors and their associative traits: openness to experience is associated with being curious, imaginative and intelligent; agreeableness is mostly associated with being cooperative, forgiving and easy going; conscientiousness has been commonly associated with organised, planful and achievement-oriented traits. The FFM allows for a framework of personality that is unified and solid (Vollrath, 2001). Furthermore, this framework has shown to be consistent across different theoretical frameworks and assessments, thus strengthening the theory as a model (McCrae & Costa, 1987). The Big Five factors can be associated with both negative and positive outcomes of stressful events (Vollrath, 2001). Carver and Connor-Smith (2007) explain that the trait neuroticism leads to negative outcomes of events as this is associated with worry, anxiety and other negative emotions that may affect one's emotional stability.

Furthermore, they discuss that the above-mentioned personality factors have shown to have a relationship with high emotional stability. The traits that make up conscientiousness are those of persistence, self-discipline, organisation, achievement and using a deliberative approach (Carver & Connor-Smith, 2010; McCrae & John, 1992). Conscientiousness is unique in itself as it is associated with very planful, logical and systematic cognitions and behaviours (Carver & Connor-Smith, 2010). This precise and methodical approach is understood as being very facilitative when confronted with problematic situations as one who is high on this personality factor is capable of cognitively restructuring the negative event (Vollrath, 2001). This restructuring allows for a healthy level of disengagement from the negative thoughts associated with the event (Vollrath, 2001). In a study conducted by Fauerbach et al. (2001) on a sample of burn victims, it was found that those individuals' who developed PTSD were shown to be lower in the personality trait extraversion. Cohen and Hoberman (1983) also found a relationship between extraversion, positive well-being and beneficial experiences.

Although extraversion is associated with low levels of PTSD as well as with more positive trait-attributes (e.g. Barrick & Mount, 1991) the personality factor possesses sub-traits, such as impulsivity and high-risk behaviour (Headey & Wearing, 1989). In addition, Headey and Wearing (1989) further state that this type of high-risk behaviour is likely to result in high levels of stress and potentially poor coping choices. The present study will investigate how personality and coping are associated with the experience of PTSD in the Metro Police Officers. Secondly, this study will explore the mediation effect that coping has on one's personality and the development of PTSD.

### **Objectives to the study**

To determine the relationship between PTSS and the five personality factors: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness.

To determine whether coping mediates the relationship between personality factors and post-traumatic stress symptoms / post-traumatic stress disorder.

To determine if personality type predicts which coping strategy will be utilised when a trauma is experienced.

## Methods

### Sample

The sample for this study consists of 36 police officers within the Gauteng area in South Africa. The participants were comprised of an ethnically diverse sample of police officers aged between 18 and 50 years old. There was a total of 31 male officers and 5 female officers. The stations that participated in the study are: Sandton, Norwood, Bramley, Randburg and Douglasdale. The participating officers volunteered to be part of the study. The sample completed the questionnaires at their monthly management meeting. The police officer population is a very specific and unique population that is not as large as other areas of the police force. Each police station has a squad of officers that have shown to range from 10-20 officers.

Therefore, although the total sample size is small it is expected to be a representative sample of the officer population. Probability sampling was employed when collecting the data that including each element of the population.

### Methodology design

The five police stations identified in Gauteng show that the most violent crime reported at these stations were of such a nature that officers are exposed to a variety of traumatic stress disorder. This study takes the form of a quantitative, non-experimental, cross-sectional, with-in group design. Quantitative analyses make use of numerical information in order to make sense of the behaviour (Whitley, 2002). This type of analyses allows the researcher to remain value-neutral and objective towards the research (Babbie & Mouton, 1998). Furthermore, the data collected was done at one point in time, which is in line with a non-experimental cross-sectional design. The questionnaires explained previously were administered to metro police officers sourced from four different police stations. It was important to reach as many police officers as possible in order to gain as large sample as possible. The data collected was subjected to a quantitative analysis.

### Measures/Instruments

The present study will make use of the following measures/instruments: NEO-PI-R (Costa & McCrae, 1992) The NEO-PI-R is a personality measure that makes use of the five factors of the five-factor model (FFM) of personality (Costa & McCrae, 1992). This measure assesses personality traits in adults (Costa & McCrae, 1992). The test can be used in both corporate and clinical settings and is readily adaptable for obtaining personality ratings used to predict behaviour (Kurtz et al., 1999). Brief COPE inventory (Carver, 1997): The Brief COPE questionnaire is a 14-item Likert scale and is the condensed version of the original COPE inventory (Carver, Scheier, Weuntraub & Jagdish, 1989). The original COPE is a multifaceted measure that is aimed at assessing the various ways in which people respond to stressors (Carver et al, 1989). Impact of Events Scale-Revised (Horowitz et al., 1979; Weiss & Marmar, 1997): The original IES is a Like art scale that consists of 22 items (Horowitz et al., 1979).

Initially, the IES was used to study bereavement of individuals; however later the scale was used as a measure for traumatic incidents (Sundin & Horowitz, 2002). Traumatic Stress Schedule (Norris, 1990): The Traumatic Stress Schedule (Norris, 1990; Norris 1992) is a 9-item questionnaire that assesses past traumatic events. The theory behind this instrument proposes that loss, scope, threat, blame, familiarity and PTS are dimensions of traumatic events that are difficult to measure (Norris, 1990; Norris, 1992). This assessment measures widely agreed upon traumatic life events (e.g. loss of a loved one) and is used to detect the occurrence and the impact of these traumatic events (Norris, 1990; Norris, 1992).

## Results, discussions, limitations, recommendations and conclusions

### Results

The final sample that took place in this study consisted of 36 police officers in Ekurhuleni Metropolitan Municipality, South Africa. The study consisted of the following demographic information: demographics for the police officers are as follows. Gender: Male n=31 (86%), Female n=5 34 (14%). Race: White n= 30 (83%), African n=3 (8%), Indian n=2 (6%), Coloured n=1 (3%). The

officers' age ranged from 18 years old to over 50 years old. The marital status of the officers was also reported: single  $n=17$  (47%), married  $n=18$  (50%), divorced  $n=1$  (3%). The years in force varied in the sample: 3% of the officers had been in the force for less than one year, 36% of the sample had been in the force for one to five years, 28% of the sample had been in the force for six to ten years, 19% of the sample had been in the force for 11 to 20 years and 14% of the sample had been in the force for over 21 years.

### **IES and personality factors**

When correlated with the personality domains, the overall Impact of Events Scale (IES) score was significantly positively correlated with Neuroticism ( $r=0.33$ ,  $n=36$ ,  $p<0.05$ ) and Conscientiousness ( $r=-0.34$ ,  $n=36$ ,  $p<0.05$ ). IES was not significantly correlated with any other variable. When looking at the individual clusters of Posttraumatic stress system (PTSS), the results showed a significant relationship between the IES subscales Intrusion and Avoidance with the personality factors Neuroticism and Conscientiousness. Specifically, Intrusion was positively correlated with Neuroticism ( $r=0.33$ ,  $n=36$ ,  $p<0.05$ ) as well as to Conscientiousness ( $r=-0.36$ ,  $n=36$ ,  $p<0.05$ ). Avoidance was negatively correlated with Conscientiousness ( $r=-0.34$ ,  $n=36$ ,  $p<0.05$ ) suggesting that conscientious participants were more likely to report avoidance symptoms.

### **IES and coping styles**

Further analyses were conducted to correlate the overall IES score with the three coping domains. IES was significantly positively correlated with each of PFC ( $r=0.35$ ,  $n=36$ ,  $p<0.05$ ), EFC ( $r=0.52$ ,  $n=36$ ,  $p<0.01$ ) and DC ( $r=0.46$ ,  $n=36$ ,  $p<0.01$ ). Hyper arousal was positively correlated with all levels of coping: PFC ( $r=0.4$ ,  $n=36$ ,  $p<0.05$ ), EFC ( $r=0.57$ ,  $n=36$ ,  $p<0.01$ ), and DC ( $r=0.47$ ,  $n=36$ ,  $p<0.01$ ). Intrusion was positively correlated with all levels of coping: PFC ( $r=0.38$ ,  $n=36$ ,  $p<0.05$ ), EFC ( $r=0.47$ ,  $n=36$ ,  $p<0.01$ ), DC ( $r=0.36$ ,  $n=36$ ,  $p<0.05$ ). This suggests that, officers who reported higher levels of intrusion symptoms were more likely to be engaged in active coping strategies; regardless whether that coping was adaptive or perhaps maladaptive as in the case of DC. Avoidance was significantly correlated to two types of coping: EFC ( $r=0.41$ ,  $n=36$ ,  $p<0.01$ ) and DC ( $r=0.43$ ,  $n=36$ ,  $p<0.01$ ).

This suggests that officers', who reported experiencing more avoidance symptoms of PTSD, were also more likely to report using emotion focused and dysfunctional coping mechanisms in dealing with their traumatic experiences.

### **Coping styles and personality factors**

When the three coping domains, Emotion-Focused Coping (EFC), Problem-Focused Coping (PFC) and Dysfunctional Coping (DC) were correlated with the personality factors, EFC was positively correlated with Neuroticism ( $r=0.36$ ,  $n=36$ ,  $p<0.05$ ) suggesting that participants who were higher in neuroticism were also more likely to use emotion focused coping. Furthermore, DC was significantly positively correlated with Neuroticism ( $r=0.41$ ,  $n=36$ ,  $p<0.01$ ). This suggests that neurotic officers were more likely to engage in dysfunctional coping. PFC was not significantly related to any of the personality factors.

### **Personality factors and years in force (YIF)**

Extraversion was positively correlated with YIF ( $r=0.41$ ,  $n=36$ ,  $p<0.01$ ). This result suggests that the longer participants have served as an officer on the force, the more likely their personality was extraverted in nature

**Table 2.** Descriptive statistic variables

Variables	N	M	SD
TSS	36	3.58	1.71
Hyperarousal	36	6.69	4.16
Intrusion	36	9.44	6.13
Avoidance	36	9.69	5.29
IES	36	25.83	14.14
PFC	36	14.44	5.11
EFC	36	22.94	7.09
DC	36	15.31	4.93
Neurotic	36	26.72	8.03
Conscientiousne	36	40.06	5.17
Agreeableness	36	46.86	7.10
Extraversion	36	43.36	5.19
Openness	36	30.97	4.27
Years in force	36	3.14	1.07

The current sample's IES score is 25.85 which are above the optimal cut-off point. Given this result, it is plausible to state that this sample of police officers' is suffering from PTSD. The mean for EFC (22.94) is higher than the other two coping strategies. This suggests that the current sample utilises EFC to a much greater extent than the other two levels of coping: PFC, DC. The sample does make use of PFC and DC; however, EFC strategies appear to be a far more prevalent coping strategy in the current sample. The descriptive statistics further show that the means for neurotic (26.72) and openness to experience (30.97) personality factors are far lower than that of the remaining three personality factors: conscientiousness (40.06), agreeableness (46.86), extraversion (43.36). Although the sample displays sing of the former factors, they are done so to a lesser degree than the latter factors. The neurotics mean is the lowest and agreeableness is the highest mean. This suggests that the dominant personality factor present in the sample is that of agreeableness and the least prominent factor is that of neuroticism. Extraversion and conscientiousness also showed to be quite prominent personality factors in the current sample.

### **Mediation between neuroticism, PFC and PTSS**

The regression weight (**b**) for the relationship between Neuroticism and PTSS was 0.11 and the standard error (SE) of the relationship was 0.29. With a significant correlation of the regression weight for Neuroticism and PFC showed to be  $r^2 = 0.05$  and the  $SEa = 0.107$ . The regression weight for PFC and PTSS showed to be  $r^2 = 0.47$  and the  $SEb = 0.44$ . The Sobel test statistic for this mediation was 1.119 and the one-tailed  $p = 0.132$ . This result shows to be non-significant. This suggests that in this sample Neuroticism does have an association with PTSS however this not mediated by PFC.

### **Mediation between neuroticism, EFC and PTSS**

The regression weight for the relationship between Neuroticism and PTSS was  $b = 0.11$  and the standard error (SE) of the relationship showed to be 0.29. The regression weight for Neuroticism and EFC showed to be  $b = 0.13$  and the  $SEa = 0.14$ . The regression weight for EFC and PTSS showed to be  $b = 0.027$  and the  $SEb = 0.29$ . The regression weight for the relationship between Neuroticism and PTSS was  $b = 0.11$  and the standard error (SE) of the relationship showed to be 0.29. The regression weight for Neuroticism and DC showed to be  $b = 0.17$  and the  $SEa = 0.1$ . The regression weight for DC and PTSS showed to be  $b = 0.21$  and the  $SEb = 0.44$ . The Sobel test statistic for this mediation was 1.97 with the one-tailed  $p = 0.03$  Therefore this suggests that in this sample, the relation between Neuroticism and PTSS is mediated by DC.

### **Mediation between conscientiousness, PFC and IES**

The regression weight for the relationship between Conscientiousness and PTSS was  $b = 0.12$  and the standard error (SE) of the relationship were 0.32. The regression weight for the relationship between



Conscientiousness and PFC was  $b = 0.01$  and the  $SEa = 0.13$ . The regression weight for the relationship between Coping and PTSS was  $b = 0.13$  and the  $SEb$  were 0.44. The Sobel test statistic for this mediation was 0.41 with the one-tailed  $p = 0.342$ . Therefore, this suggests that in this sample, while Conscientiousness is related to PTSS, the relation is not mediated by PFC.

### **Mediation between conscientiousness, EFC and IES**

The regression weight for the relationship between Conscientiousness and PTSS was  $b = 0.12$  and the standard error (SE) of the relationship were 0.32. The regression weight for the relationship between Conscientiousness and EFC  $b = 0$  and the  $SEa = 0.17$ . The regression weight for the relationship between EFC and PTSS was  $b = 1.27$  and the  $SEb = 0.14$ . The Sobel test statistic for this mediation was 0.53 with the one-tailed  $p$  of 0.3 being non-significant. Therefore, this suggests that in this sample, Conscientiousness does have a relationship with PTSS but this is not mediated by EFC.

### **Mediation between conscientiousness, DC and PTSS**

The regression weight for the relationship between Conscientiousness and PTSS was  $b = 0.12$  and the standard error (SE) of the relationship were 0.32. The regression weight for the relationship between Conscientiousness and DC  $b = 0$  and the  $SEa = 0.12$ . The regression weight for the relationship between DC and PTSS was  $b = 0.21$  and the  $SEb$  were 0.44. The Sobel test statistic for this mediation was 0.02 with the one-tailed ( $p = 0.5$ ). Therefore, this suggests that in this sample, Conscientiousness does have a relationship with PTSS but this relationship is not mediated by DC.

## **Discussion and findings**

One of the aims of this study was to determine the relationship between PTSS and the five personality factors: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. The PTSS symptoms are understood as: intrusion, avoidance and hyper arousal (APA, 2000). It was crucial to separate these symptoms in order to gauge the relationship between these key variables. The results for this research question suggested several significant results. The overall IES model showed to be related to personality, specifically to the neurotic and conscientious personality factors.

Haisch and Meyers (2004) explained in their research that the level of stress one experiences and the coping they employ is directly related to the following personality factors: neuroticism, conscientiousness and extraversion. This is consistent with the current findings. Intrusion showed to be positively correlated with neuroticism as well as negatively correlated to conscientiousness. This result suggests that neurotic police officers are more likely to report symptoms of intrusion. This result further suggests that police officers, who are more conscientious, are less likely to experience intrusive symptoms after experiencing a traumatic event. This result is in accordance with research conducted by Knez'Evic et al. (2005) who deduced that a relationship does exist between intrusion and certain personality factors.

However, the sample did show to be suffering from post-traumatic stress disorder diagnosis – given the Impact of Events Scale Revised cut off score which was discussed above – therefore this conclusion will need to be further researched in order to be more conclusive. Avoidance was found to be negatively correlated with conscientiousness. This result suggests that police officers who are more conscientious are less likely to experience PTSS avoidance symptoms. As it has been previously mentioned conscientiousness aids in cognitive restructuring of an event and it is understood to be an indirect measure of emotional regulation (Vollrath, 2001). This suggests that this sample of police officers potentially has high rates of post-traumatic stress disorder, or is at least at risk of developing post-traumatic stress disorder. The significant results of the current research paper indicate that one's method of coping after experiencing a traumatic event plays an important role in developing post-traumatic stress disorder.

## **Limitations and strengths**

The current study had certain strengths as well as limitations. There is a significant amount of research focused on police and trauma globally. The Metro police force is a more unique population than most others given the high crime rate. Although there is some research focused on the police

population in South Africa there is far less information regarding the Metro Police. Since the establishment of Metro Police in 2002, legislated functions of the Metro Police are crime prevention, traffic policing and enforcement of municipal bylaws. Metro Police Officers (MPO's) are highly likely to encounter situations of conflict and violence during the discharge of their duties, and they need to be skilled in how to manage these situations; however, many of them have not been trained to deal with matters unrelated to traffic. Metro police officers are required to effectively interface with both perpetrators and victims of crime, including violent crimes like domestic abuse, assaults, hijackings, robberies, shooting; sexual violence and escalating execution and killing of Police Officers have created an unusually dangerous environment for Metro Police Officers to manage.

Given the small amount of research on the Metro Police population, this study will provide important information regarding the Metro Police population responses to trauma and how personality and coping factors influence that response. The sample consisted of police officers from six different stations across Ekurhuleni Metropolitan Municipality. The focus of this study was centred on the officers' coping and personality factors. As a result, this report was able to deduce certain information regarding personal factors that may affect one's susceptibility towards developing PTSD. Certain limitations coincided with these strengths. The sample size is extremely small ( $n=36$ ). This could affect the representativeness of the sample. A larger sample would have increased the statistical power. In spite of this, some significant relations were still found. The lack of volunteers within the stations could have been due to fear of alienation from the police culture. However, given that the police population is very specific and small by nature this sample may be able to pose as a representative for the Ekurhuleni Metropolitan Municipality police officers. This study used officers from Ekurhuleni Metropolitan Municipality only. Therefore, the results are restricted to the Ekurhuleni Metropolitan Municipality.

## **Conclusion**

The current study was conducted in order to better understand the Ekurhuleni Metropolitan Municipality police officer's population. A particular focus was on how certain factors, such as personality and coping, influence the way in which this population manages trauma. The EMPD experience crime and deviant behaviour on an ongoing basis. The officer population is especially intriguing as they offer their services free of charge. Their want to help better society against crime is of interest as they risk both their physical and psychological lives in order to do so and they receive no monetary or rewards by other means. In order to do so it was hypothesised a relationship existed between all personality factors and PTSS.

Furthermore, it was hypothesised that coping mediates the relationship between personality and PTSS. The final hypothesis centred on the assumption that personality style predicts coping style. This report consisted of a four-part questionnaire which was utilised in order to satisfy the above aims. The final sample that comprised the study was 36 police officers from the Ekurhuleni Metropolitan Municipality area of South Africa. The questionnaires utilised in this study were:

Traumatic Stress Schedule (TSS); Impact of Events Scale Revised (IES-R); Brief COPE Inventory; NEO-PI-R. A number of regression and correlation analyses were employed in order to analyse the data collected from this sample. Sobel tests for mediation were also employed in order to analyse the mediational relationship. As a result, many interesting results emerged. There were several informative results.

Firstly, there appeared to be a number of significant relationships between personality factors (Neuroticism and Conscientiousness) with the types of PTSS (Intrusion and Avoidance). Secondly, the results concluded that a relationship between neuroticism and PTSS does exist however this is via mediation of coping (EFC, DC). Finally, it was concluded that Neuroticism and Extraversion predict types of coping (EFC, DC). Previous research and literature supported the data that arose from the analyses. These results were somewhat anticipated. Given the recorded literature and the results obtained it is evident that personality and coping have a relationship with PTSS/PTSD. Furthermore, it is evident that this sample of officers relies on certain coping strategies (EFC and DC) more so than others. This type of overreliance is maladaptive and ultimately this sample of officers makes use of negative/dysfunctional coping strategies. This sample is also more prone to having a specific personality type. In order to understand why this sample is more prone to use certain coping strategies and as to

why they are more likely to be a specific personality type it is necessary for more studies to be conducted.

## Recommendations for future research

The current research looked at potential mediating effects of coping as well as predetermining variables of trauma, namely personality. It is strongly recommended that future research on this topic should further investigate predetermining variables, such as culture (individualism/collectivism), genetic predisposition as well as previous traumas. Previous traumatic experiences have been suggested to be an important factor that needs to be explored more in trauma research. The police population (especially in South Africa) is very unique therefore understanding prior traumas as predispositions to PTSS/PTSD could aid in understanding trauma in the Ekurhuleni Metropolitan Municipality police population. Such traumatic incidents could be categorised and controlled for, such as development, work-oriented and personal traumas. Future research could also use the demographic information collected in the analyses.

This type of information is often overlooked yet it contains valuable information regarding the sample. This study made use of quantitative methods. Although this type of research methodology is used extensively in the social science field it is unable to gain the personal and descriptive nature data that is associated with trauma. As a result, future research should aim at using a qualitative/mixed-method approach. This type of analysis could be valuable to trauma research conducted on the police population as it will collect data which is subjective and more personal to the traumatic experience as well as elucidate more nuances experiences of the sample. Furthermore, this study made use of a cross-sectional design. As PTSD can only be diagnosed after one month of being exposed to a trauma (APA, 2000) a cross-sectional design does not account for this time due to its design nature.

As a result, future research should consider making use of a longitudinal design in order to understand trauma in the police population over a period of time. By doing so the results may be more representative of the police population and the experiences as well as the traumatic responses post-trauma may be more understood. Lastly, further research should explore coping, personality and traumatization in the greater police force. This is in part due to the fact that the officer population represents a unique population, comprised of volunteers who have other vocations in addition. They are likely drawn from a systematically different population than the rest of the police force. This needs to be explored by future research.

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