Stress, decision-making style, and self-perceived enforcement abilities among police officers

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Abstract: This study examined the relations among stress, decision-making style and self-perceived enforcement abilities, respectively detecting, detaining and intercepting vehicles whose drivers are driving while intoxicated, among police officers. A sample of 108 police officers (M_{age} = 34.10 years, SD = 7,73, 76,9% men) was involved in the present study. The results showed that avoidant decision-making style was positively related to stress intensity and stress frequency from the last month. Moreover, detecting abilities are negatively related to stress intensity, stress frequency from the last month, and PTSD symptomatology, while detaining ability subscale and detaining and intercepting ability were negatively related only with stress frequency from the last month. The outcomes are connected with a list of recommendations aiming to improve the activity of police officers when they are conducting sobriety checkpoints for detecting, detaining, and intercepting those vehicles whose drivers are driving while intoxicated (educational actions, police training). Limitations and directions for future research are discussed.

Keywords: Occupational stress, Post-traumatic stress, Decision-making style, Self-perceived enforcement abilities, Road safety

Introduction

The profession of police officer is one of the most stressful professions and compared to other professions, police work includes challenging tasks, high risk, and often unexpected events (Lan et al., 2020; Little, 2012;). Based on previous literature, this study examined the manner in which the police officers assess their own abilities (detecting, detaining and intercept drunk drivers) to be related to occupational and post-traumatic stress, caused by exposure to trauma events. Similarly, in this study we address the relationship between the decision-making style and stress among police officers. It's important to investigate the relationship mentioned above because the studies showed that road safety (e.g., low fatality

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rate) depends on police officers' activity like active hours spent on the field (Rezapour et al., 2018). Taking in account that empirical studies and the european statistics on road accidents showed that, unfortunately, Romania is ranked with weak records in terms of road safety (EC, 2021; Măirean et al., 2022), it's necessary to investigate which factors can alleviate this situation and we consider that improving the activity of police officers is one of them.

Occupational stress

Stress can be defined as a real or perceived imbalance between a stressor and the person's capabilities, respectively resources and coping abilities (Turliuc & Măirean, 2014) and the occupational stress is a consequence of insufficient mental resources to cope with work tasks and professional demands (Bogáthy, 2004). Previous literature identified five main sources of occupational stress for employers: factors intrinsic to the job (physical working conditions, work overload, time pressure), factors which are related to role in the organization (role ambiguity, role conflict), work place security and career development (insecurity workplace, lack of a promotion system), interpersonal relationships at work (poor relationships with boss or colleagues, bullying at work), organizational structure and climate - such as involvement in decision-making (Johnson et al., 2005). Police work involves stressful demands generated by dealing with negative aspects of the society, such as abused children and instantaneous decisions making in critical situations, characteristics of the workplace (e.g., work schedules, shift work, overtime-work, exposure to traumatic events) and those related to organizational and contextual factors, like bureaucracy (Violanti et al., 2017).

Although the nature of police work requires making tough decisions which are stressful (i.e., situations which involve using physical strength or using deadly force), studies on police work showed that organizational issues (poor communication, the lack of support or resources, work overload), are associated with the highest levels of stress, compared to individual factors (i.e., making tough decisions) (Kappeler & Potter, 2005; Kop et al., 1999).

The traumatic stress in a professional context

Police officers are part of a professional category that is exposed to traumatic events, since they interact and engage emotionally in relation to the beneficiaries of their services (Turliuc & Măirean, 2014). Studies have shown that professions involving exposure to traumatic events, as in the case of police or fire brigades, lead to the development of secondary traumatic stress, which can trigger the experience of vicarious trauma (Manning-Jones et al., 2017). Exposure to human suffering and intervention in situations where people lose their lives, leads to a negative view of life, posttraumatic stress disorder (PTSD), depression or suicide ideation (Violanti et al., 2017). Several longitudinal studies have showed

that there is a significant relationship between the exposure or involvement in traumatic events of police officers and PTSD. More specifically, the police officers who have experienced traumatic events during the working hours of the police are more likely to develop PTSD, unlike those who have not experienced traumatic events (Huddleston et al., 2007; Maguen et al., 2009; Stephens & Miller, 1998). Similarly, a study conducted by Robinson and colleagues (1997) showed that exposure among US police officers to any type of event, involving death of victims or any part involved in the event, is a powerful predictor for the development of post-traumatic stress. It is worth mentioning that the on-duty traumatic events experienced by the police officers was the stronger predictor for the development of PTSD than the traumatic events experienced while off-duty (Stephens & Miller, 1998). Also, a research conducted in Sweden, which examined the effects of exposure to traumatic events, found that police officers who participated in helping victims of a fire, experienced higher stress levels than those working at hospitals were injured, were taken (Renck et al., 2002). Moreover, police officers who were exposed to traumatic events also have higher levels of depression and anxiety (Hartley et al., 2007).

Work stress and decision-making

The decision-making consists of a sequence of cognitive processing that determines the choice of an alternative from a variety of available options. Two types of systems operate in the decision-making process: system 1 (corresponds to intuitive decision-making style) operates automatically and quickly with little or no effort and no feeling of voluntary control and system 2 (corresponds to rational decision-making style) also ensure the necessary attention to perform mental activities, which include complicated calculations. The division between System 1 and System 2 is very efficient: it minimizes effort and maximizes performance (Kahneman, 2012). The theory of dual processes - "fuzzy trace" explains how to make decisions in the sense that the intuitive decision-making style corresponds to the first processing system which is heuristic and automatic and the rational decision-making style corresponds to the second controlled, analytical, slow, meticulous processing system (Benga & Opre, 2015).

A career decision-making model has been proposed, where three decision-making styles were identified: dependent, rational, and intuitive (Harren, 1979). The rational decision makers assume personal responsibility and, the consequences of own decisions impact themselves. The intuitive decision makers rely on their own personal assumptions, make decisions relatively quickly, in a completely different way from those who have a rational decision-making style, they deliberate after a phase of approach of the available alternatives. Dependent decision makers are passive and project the responsibility for decision-making to others. Decision-making style is not a personality trait but refers to a pattern of

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responses used by individuals when confronting with decision situation (Scott & Bruce, 1995).

The occupational profile of the military profession, including police, is characterized by clear rules, high structured environment and a well-defined structure of tasks, so as regards decision-making, they tend to be characterized by a rational decision-making style, rather than an intuitive, avoidant or spontaneous decision-making style (Scott & Bruce, 1995). Some findings have identified that policemen with a rational decision-making style have higher anger control (Martin & Dahlen, 2005). In general, rational decision-making style has been more strongly linked to positive outcomes, compared with the other styles, while avoidant decision-making style has been linked to poorer job performance and to a high level of stress (Allwood & Salo, 2012). Stress exposure biases decision-making and propensity to engage in risk-taking (Porcelli & Delgado, 2017). Some positive effects of stress in the decision-making of police officers have also been noted, respectively, a greater vigilance in dangerous situations, such as those in which they have to decide using deadly force (Akinola & Mendes, 2012).

In the case of police officers, it is important to study the link between stress and decision making, considering two very important issues: a) profession of police officer is one of the most stressful occupations (Crippen, 2018), b) decision making is "a routine task" that characterizes the police activity. Law enforcement work is considered a highly stressful, dangerous and demanding occupation. Therefore, the police profession is largely involved in law enforcement, with policemen face a variety of situations involving decisions which will be reviewed, criticized or scrutinized. Moreover, police officers face a variety of situations involving decision-making (i.e., use of physical force or deadly force), they are in front pages of newspapers and attention paid to the decisions taken by the police is very high (Anshel, 2000).

Therefore, we expect a positive relationship between avoidant, intuitive, dependent, spontaneous decision-making style and all dimensions of stress (i.e., stress intensity, stress frequency, PTSD symptomatology among police officers and a negative relationship between stress subscales and rationale decision-making style (*Hypothesis 1*).

Stress and self-perceived enforcement abilities

Ability or capacity is the practical transposition of aptitude (potentially innate apptitude that enables rapidly performing activity) through practice and interaction with the environment (Havârneanu, 2013). The perception of own abilities can be defined in terms of self-efficacy, this refers to people's beliefs about their own abilities needed to successfully perform tasks (Bandura, 1997 apud Chang & Shih, 2012) and previous studies indicated that the self-perceived ability could be positively related to actual ability (Kruger & Dunning, 1999).

In a professional context, the level of self-efficacy is the one that allows to manage and perform the work tasks, being the one that influences the achievement of the goals by regulating the level of motivation. In the field of organizational psychology, self-efficacy determines the employees' well-being and interferes with the positive coping in stressful situations (Makara-Studzińska et al., 2019). In this research interest is directed toward self-efficacy in terms of the ability of police officers to retain drivers driving under the influence of alcohol during control operations. These operations (process of apprehending) broadly involve three types of abilities: detecting possible drunk drivers by identifying DWI (driving while intoxicated) cues, detaining suspected DWI motorists and intercepting escaping motorists. Therefore, the task of police officers to detect the DWI (driving while intoxicated) cues requires that they have physical abilities (good vision) and psychological abilities (attention, concentration). Organizing checkpoints for detecting these types of drivers is a necessity because driving under the influence of alcohol is one of the most important personal risk factors for serious and fatal injuries, contributing to approximately one third of all deaths from accidents and the checkpoints have been proven useful in reducing alcohol related accidents (Chang & Shih, 2012; Stübig et al., 2012). Studies have showed that most police officers perform well in identifying cars driven by drunk drivers, are confident in their abilities to detect DWI vehicles (Sluiter, 2006).

The relationship between stress levels and the assessment of abilities among police officers is not fully clarified. For exemple, a study has showed the occupational stress negatively influences the performance of police officers (Murray-Gibbons & Gibbons, 2007). In other words, the police officer who perceive work as stressful, are more likely to underestimate their performance. Moreover, stress does not only influence the assessment of performance, but creates difficulties in using the strategies of coping. The development of symptoms specific to post traumatic stress is fostered by factors such as poor coping strategies, reduced cognitive abilities (DiGangi et al., 2013). Thus, we proposed a negative relationship between police officers' abilities and stress dimensions (i.e., stress intensity, stress frequency, PTSD symptomatology). (*Hypothesis 2*).

Based on previous literature presented above, the aims of the present study are: a) to explore the relation between decision making style and stress dimensions (i.e., stress intensity, stress frequency, PTSD symptomatology) among police officers; b) to evaluate the relations between police officers' abilities and stress dimensions.

Method

Participants

A sample of 120 participants was recruited for the present study. A number of 12 surveys were excluded from the dataset because they were not fully completed. Thus, the final sample was comprised by 108 police officers (M_{age} = 34.10, SD = 7.73, range 20–55) selected from rural areas, the speciality of public order, an operative workline. Ages ranged from 20 to 55, with a mean age of 34.10 years, SD = 7,73. From the total sample, 83 were men (76.9%). Their work police experience ranged from 1 to more than 25 years (M =2,35, SD = 1,5).

Measures

The General Decision-Making Style Inventory (GDMS; Scott & Bruce, 1995) includes 25 items measuring five decision-making styles: rational (5 items; e.g., "*I plan my important decisions carefully*", α = .75), intuitive (5 items; e.g., "*When making decisions, I rely upon my instincts*", α = .65), dependent (5 items; e.g., "*I rarely make important decisions without consulting other people*", α = .82), avoidant (5 items; e.g., "*I postpone decision making whenever possible*", α = .73) and spontaneous (5 items; e.g., "*I often make decisions on the spur of the moment*", α = .68). Participants were asked to circle one of the numbers that best described themselves using scales from 1 (strongly disagree) to 5 (strongly agree).

The Traffic Police Sobriety Checkpoints Enforcement Ability Scale (TPSCEAS; Chang & Shih, 2012) includes 18 items which assess 3 categories of police officers' abilities: detecting ability (items from 1 to 6; e.g., "*I can promptly detect vehicles swerving*", α = .85; item 5 was removed because it contributes to a low Alpha Cronbach coefficient), detaining ability (items from 7 to 12 e.g.,"*I can safely detain a swerving vehicle*", α = .90) and detaining and intercepting ability (items from 13 to 18 e.g.,"*I can successfully drive a patrol car to intercept a weaving escaping vehicle*", α = .93). Participants were asked to assess their own abilities using scales from 1 (strongly disagree) to 5 (strongly agree).

The Spielberger Police Stress Survey (SPSS; Spielberger et al., 1981) is made up of 60 items, but in the translation and adaptation procedure to Romanian culture and legislation, 2 items were removed (one item which concerns racial discrimination and one item which deals with the arrest procedure). For each item (e.g., "*Assignment of disagreeable duties*"), it was evaluated the intensity of stress factors rated on a 10-point scale from 0 to 10 (0 - no stressful, 10 – extremely stressful, α = .97), frequency of stress factors experience in the last month (0 = never, 2 – twice, 3 – between 3 and 5, 4 – between 6 and 9, 5 – more than 10 times, α = .96), frequency of stress factors experience in the last year (0 = never, 2 – twice, 3 – between 3 and 5, 4 – between 6 and 9, 5 – more than 10 times, α = .96).

Posttraumatic Stress Disorder (PTSD Checklist for DSM-5; Weathers et al., 2013) is a 20 item self-report scale that measures PTSD symptomatology presented in the past month. Participants were asked to think about the traffic accident in which they were involved, as part of their professional activity. Then, they were asked to what degree they have been bothered by each PTSD symptom (e.g., unpleasant memories, nightmares, sleep disturbances etc.) in the past month, on a scale ranging from 1, "not at all" to 5, "extremely". Higher scores indicated higher levels of PTSD symptoms. The overall coefficient of internal consistency for the current sample was .93.

The Police Incident Survey (IS; Violanti & Gherke, 2004) is made up of 9-item Police Incident Survey. Participants were asked to indicate whether they had experienced each of eight events in the past year (i.e., event occurrence, α = .66), and if 'yes' indicate the number of occurrences (i.e., event frequency, α = .69) and the time since they last experienced the event (in months) (i.e., event recency). The eight events included witnessing the shooting of another police officer, being involved in a shooting incident, seeing abused children, seeing victims of a serious traffic accident, seeing someone die, seeing dead bodies, seeing severely assaulted victims and seeing victims of a homicide.

Procedure

The research was carried out over 6 weeks, from 1 April to 15 May 2019. The test phase was conducted by administering the set of questionnaires to police officers at police stations in the Suceava county. Before completing the questionnaires, the participants signed the informed consent. All the participants completed the questionnaires at home, the time from their delivery until their return was four days at most. The participants were explained what they had to do and were advised to read both the general and the specific consent of each questionnaire. A demographic scale was also completed, for collecting information about gender, age, work experience in police. The participation was voluntary and the answers were anonymous and confidential.

Results

Preliminary analysis

Independent sample *t* tests were conducted in order to identify gender differences in decision making style (rational, intuitive, dependent, avoidant and spontaneous), perceived abilities (detecting ability subscale, detaining ability subscale, detaining and intercepting ability), the intensity and frequency of stress factors, and PTSD symptoms. The results showed that the only significant differences are for dependent decision style, t(106) = 2.03, p = .044. Men

presented higher scores (M = 17.13, SD = 3.99) compared to women (M = 15.40, SD = 2.62). All the other differences are non-significant, all p > .05.

Pearson correlation revealed that work experience in police is positively related to intuitive, avoiding and spontaneous decision making styles. The correlations between work experience, abilities, and stress (intensity and frequency) were non-significant, all p > .05. These results are presented in Table 1.

The traumatic experiences that most of the participants were exposed in the last year are: seeing dead bodies (81.5%), seeing victims of a serious traffic accident (74.1%), seeing abused children (68.5%), seeing severely assaulted victims (64.8%), seeing someone die (55.6%).

The associations between decision making style and stress

Pearson Correlations were computed in order to assess the relation between decision making style and stress (frequency, intensity, PTSD symptomatology). The results showed that avoidant decision making style was positively related to stress intensity (r = .24, p = .012) and stress frequency from the last month (r = .23, p = .013). Thus, a high level of avoidant decision style is related to a high level of stress intensity and stress frequency from the last month. The correlations between intuitive, dependent, and spontaneous decision making style with stress intensity, stress frequency, and PTSD symptoms are non-significant, all p > .05. The results are presented in Table 1.

Table 1. Means, SDs and correlation coefficients between the main study variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1.	19.26	2.91										
2.	16.99	2.68	.15									
3.	16.73	3.78	.08	.32**								
4.	11.37	3.30	-.11	.36***	.42***							
5.	13.71	3.15	-.29**	.40***	.09	.44***						
6.	20.94	3.44	.11	-.05	-.22*	.20*	.15					
7.	21.50	5.40	-.09	.09	.07	.05	.14	.32**				
8.	20.65	5.16	.07	.27**	.13	.19*	.21*	-.03	.54***			
9.	293.54	107.61	.02	.00	.18	.24*	.04	-.21*	-.15	-.17		
10.	93.88	45.99	-.03	-.08	-.03	.23*	.02	-.19*	-.22*	-.19*	.51***	
11.	32.97	11.37	-.11	-.10	-.00	.16	.03	-.19*	-.18	-.16	.51***	.54***

Note. 1 – Rational decision; 2 - Intuitive decision; 3 – Dependent decision; 4 – Avoidant decision; 5 – Spontaneous: 6 – Detecting ability; 7 – Detaining ability; 8 – Intercepting ability; 9 – Stress intensity; 10 – Stress frequency; 11 – PTSD symptoms; * *p* < .05, ** *p* < 0.01, *** *p* < .001

The associations between police officers' abilities and stress

Pearson Correlations were computed in order to assess the relation between perceived abilities and stress (frequency, intensity, PTSD symptomatology). The results showed that detecting abilities are negatively related to stress intensity ($r = -.21$, $p = .029$), stress frequency from the last month ($r = -.19$, $p = .043$), and PTSD symptomatology ($r = -.19$, $p = .046$). Detaining ability subscale and detaining and intercepting ability were negatively related only with stress frequency from the last month ($r = -.22$, $p = .021$; $r = -.19$, $p = .041$ respectively).

Discussions and conclusion

The aims of the present study were to explore the relation between decision making style, police officers' abilities, and stress dimensions (i.e., stress intensity, stress frequency, PTSD symptomatology) among police officers. The results partially confirm the first hypothesis: (1) a positive relationship between avoidant decision making style and stress dimensions (i.e., stress intensity and stress frequency from the last month) and (2) a negative relationship between police officers' abilities and stress dimensions (i.e., intensity, frequency and, PTSD symptomatology).

In regard to the avoidant decision making style which is related positively to stress intensity and stress frequency from the last month, our results support previous findings made by Alwood and Salo (2012) and Thunhlom (2008) who found that the avoidant decision making style describes individuals who experinced a high level of stress. Taking in account some findings that showed that the avoidant style was found to be associated with with poorer job performance (Russ et al., 1996), is important to counteract the consequnces of having an avoidant style in order to enhance job performance

However, the rational, dependent, spontaneous, and intuitive decision-making styles have non-significant association to stress. This results may be explained by the fact that the police officers tend to be characterized in a small extent by a dependent, intuitive, or spontaneous decision making style, and tend to maintain a rational decision making styles, even they perceive work as stressful (Scott & Bruce, 1995). Better understanding of the relation between decision styles and stress could help create work environments that provide support to employees who are responsible for decision-making tasks (Alwood & Salo, 2012).

Further, our results showed that detecting abilities are negatively related to stress intensity, stress frequency from the last month and, PTSD symptomatology, while detaining ability subscale and detaining and intercepting ability were negatively related only with stress frequency from the last month. The results are in line with other studies that revealed the tasks of detecting, detaining subscale and detaining and intercepting DWI are very stressful, complex and difficult to

perform (Chang & Shih, 2012). Conversely, the tasks mentioned above, leads to a high level of stress, and studies showed the stress influences negatively the police officers' performance (Murray-Gibbons & Gibbons, 2007).

Studying the ability of police officers is a great need for authorities in identifying the faults and shortcomings and identify proper actions to remedy them, in a context where the abilities of police officers are an important factor that determines the effectiveness of control actions (e.g., enforce DWI laws when they are conducting sobriety checkpoints) and thus the effectiveness to enforce traffic lows necessary for road safety improvement (Chang & Shih, 2012). The abilities of police officers are very important in preventing road accidents or in detecting, detaining and intercepting drunk drivers who break the law, as is the information they provide in drawing-up police reports of road accidents. For instance, in Great Britain, police officers attending road accidents scenes provide a subjective assessment containing their point of view about the contributing factors of road accidents (age, driver error, road environment, vehicle defects) (DfT, 2014). The police officer's views are more accurate than the views of the driving public which can be more reliant on stereotypic perceptions. In fact, the views of police may, in some cases, be more specific and accurate even than official reports based on road accident records (Rolison et al., 2018).

When interpreting these results, several limitations should be noted. First, the number of women is low (23,1%), future research should stratify sampling methods for include more women in the sample. Second, the participants in this study were police officers who are spending their working hours almost on the field, organizing checkpoints, making decisions quickly, under pressure of time, thus the results can not be generalized to all professional categories of police officers (e.g., those who are assigned to command positions). A third weakness is the low reliability for the intuitive, dependent and the spontaneous style with stress intensity. There is a need for further studies of the relation between stress and decision-making styles that address these issues (Thunholm, 2008). Fourth weakness of the present study may be that it is cross-sectional and that the data are self-reported so we can talk about a biased self-assessment among police officers explained by the presence of illusion of superiority bias (above-average effect) which is a cognitive bias found among expert drivers (Waylen et al., 2004) and explained by social comparision (Bandura, 1997; Festinger, 1954, apud Havârneanu, 2013). Thus, future research should attempt to expand upon this study using more action-oriented indicators of decision style (i.e., computerized decision-making task, see Akinola & Mendes 2012). From the results reported from this study and other studies in regard to avoidant decision-making style (Thunholm, 2008) is that it is strongly related to stress so is interesting to addressed by future research if police officer with an avoiding style should not be assigned to command positions, taking into account that these positions involve a

high level of stress. In regard to self-perceived enforcement abilities, is necessary for police officers to evaluate themselves accurately because people tend to overestimate their abilities in many domains, particularly, those who are incompetent in a specific field (Christopher et al., 2021; Kruger & Dunning, 1999). Thus, is important for police officers to participate at personal development trainings which could help them to recognize the limitations of their abilities and also how to manage the influence of stress.

The present results offer little evidence to sustain different associations between the officers' enforcement ability (i.e., detecting, detaining subscale and detaining and intercepting DWI) and self-efficacy which refers to the perception of own abilities (Bandura, 1997 apud Chang & Shih, 2012), although we can observe, based on the correlational analysis, that the stress negatively related to police officers' abilities. Thus, these associations suggest the necessity to further explore additional variables may play a role in the link between stress and perception of own abilities among police officers.

Despite these limitations, our current results are in line with other studies related to avoidant decision making style which describes individuals who experinced a high level of stress (Alwood & Salo, 2012; Thunhlom, 2008). Similarly, although more research is needed to clarify associations between police officers' abilities and stress, our results showed that stress negatively influence perception of police officers (Murray-Gibbons & Gibbons, 2007). Also, our findings have some practical implications, especially for police officers' safety when conducting checkpoints, like practical training and also for enhance their job performance.

As a conclusion, this present study has some strengths regarding theoretical aspects. Firstly, it combines a decision-making model proposed by Scott and Bruce (1995) and the self-efficacy theory (Bandura, 1997, as cited in Chang & Shih, 2012) in professional context, to our knowledge, less studied in Romania, regarding police officers' performance when conducting sobriety checkpoints. Secondly, we found that the avoidant decision making style is positively related to stress and the police officers' perceived abilities are negatively related to stress. This information could be used by enforcement authorities to design suitable trainings to enhance police officers' enforcement ability and also to help police officers to manage and control stress responses.

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