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Decision-making in highly stressful emergencies: The interactive effects of trait emotional intelligence

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Abstract

The purpose of this study was to examine whether, how, and when trait emotional intelligence (EI) influences the relationships between operational stress and decision-making styles for personnel working in highly stressful professions. Data for this study were collected via a cross-sectional and voluntary survey from a sample of 268 professionals (*doctors = 60, paramedics = 99, police = 50 and personnel from paramilitary troops = 59*) who frequently encounter emergencies as a part of their jobs. Hierarchical regression analysis and PROCESS macro for SPSS was used to test hypotheses. Results indicated that EI significantly moderated the relationships between: i) operational stress and rational decision-making, and ii) operational stress and intuitive decision-making such that the relationship of operational stress with rational and intuitive decision styles was significantly positive when EI was high and significantly negative when EI was low. EI also moderated the relationships between: i) operational stress and dependent style and ii) operational stress and avoidant style such that these relationships were positive when EI was low, and negative when EI was high. Along with its theoretical contributions, this study offers several implications for practice that are discussed at the end.

Keywords Operational stress · Decision-making styles · Trait emotional intelligence · Emergencies · Moderation

Introduction

Personnel working in emergency situations are vulnerable to facing highly stressful conditions due to the inherent characteristics of their jobs. Police and paramilitary forces, for instance, have the responsibility of maintaining law and order during deadly riots, security breakdowns and other similar stressful situations, and make several life and death decisions even in the middle of chaos. Likewise, the doctors and nurses have to deal with casualties and injuries and take 'treatment decisions' during the emergency and catastrophic situations. Since the decisions made under temporary or prolonged stress during emergencies are very critical to minimize the potential damages (Kowalski-Trakofler et al. 2003), therefore, understanding the effects of stress on decision-making tendencies of emergency personnel becomes important.

To date, the focus of research has been on the sources of stress and its effects on the performance of the personnel who frequently deal with emergencies (Adriaenssens et al. 2011, 2015; Amaranto et al. 2003; Brown and Campbell 1990;

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Clegg 2001; Cotton and Hart 2003; Cox et al. 2003; Gershon et al. 2009; Healy and Tyrrell 2011; Lord 2005; Morash et al. 2006; Roosendaal 2002; Shane 2010; Taylor and Bennell 2006; Tyson and Pongruengphant 2007; Winefield 2003; Yuwanich et al. 2016). The research on decision-making styles, on the other hand, is also confined to the conceptual and measurement issues (Appelt et al. 2011; Bavol'ár and Orosová 2015; Gambetti et al. 2008; Kozhevnikov 2007; Loo 2000; Scott and Bruce 1995; Spicer and Sadler-Smith 2005; Thunholm 2004; Wood and Highhouse 2014). Nevertheless, attempts have been made to explore the effects of stress on the factors that underlie decision processes (McCormick et al. 2007; Wolf 2009), but, the research on decision-making under stress, especially in the context of emergency situations is rare.

Only few researchers (Kowalski-Trakofler et al. 2003; Starcke and Brand 2012) have made attempts to conceptualize the links between stress and decision-making. Despite offering useful insights, a major limitation of these scholarships, however, is their qualitative nature. These scholarships only propose the theoretical links between stress and decision-making, but do not provide empirical corroborates for the proposed relationships. Given this, the aim of this study is to fill this knowledge gap and explore whether the stress emanating from working in emergency situations affects decision-making, and what role 'emotional intelligence' might play in determining stress and decision-making relationships. This study contributes to the existing body of literature in the following ways. First, it provides 'empirical evidences' on the nature and magnitudes of the relationships between stress and decision-making, which was a missing part in the literature. Second, this study is pioneer to investigate the moderating role of trait EI on the relationships between stress and decision-making.

Theoretical Background and Hypotheses

Decision-Making Styles

Various conceptualizations and definitions of 'decision-making styles' exist in the literature. For instance, Harren (1979) defines decision-making style as the 'mode' or the 'way' an individual perceives and responds to the decision-making situations or tasks, whereas Driver (1979) views it as 'habitual patterns' of decision makers. According to another conceptualization, decision-making style is the product of 'the amount of information gathered' and 'the number of alternatives considered' at the time of decision-making (Driver et al. 1998). Paying more attention to the differing individual behaviors (characteristics of decision makers) during decision situations, Scott and Bruce (1995) define decision-making style as "*the learned, habitual response pattern exhibited by an individual when confronted with a decision situation*". Based on the characteristics of decision makers, Scott and Bruce (1995) identified five decision-making styles: i) rational (being logical and structured), ii) intuitive (relying upon heuristic experience and feelings during decision situations), iii) dependent (depending upon the directions and guidance of others), and iv) avoidant (avoiding or withdrawing from the decision situations). Later, during empirical testing of the instrument developed by Scott and Bruce (1995), another style called the spontaneous decision making (being impulsive) emerged. The general decision making-style questionnaire (GDMS) developed by Scott and Bruce (1995) focuses on individual preferences in decision-making. However, these preferences may vary for the same individual considering the decision-making environment and the task at hand.

Emotional Intelligence

Drawing on the research on 'intelligence' and 'emotions', Salovey and Mayer (1990) developed a model of Emotional Intelligence and coined the EI term. Later on, the model was refined and EI was defined as "*the ability to perceive accurately, appraise, and express emotions; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth*" (Mayer and Salovey 1997). Salovey and Mayer's (1990) scholarly work gave rise to a considerable body of research in the field of EI offering variety of conceptualizations as well as the models including: i) the ability model (Mayer and Salovey 1997), ii) the mixed model (Bar-On 1997, 2006; Goleman 1995) and iii) the trait model (Petrides et al. 2007; Petrides and Furnham 2001). The mixed model is usually subsumed under trait EI model (Kluemper 2008), hence, the most common conceptualizations of EI to date are the ability, and the trait models (Petrides and Furnham 2001). The ability model defines EI in terms of four distinct abilities: i) emotional perception; "one's ability to identify and recognize emotions of one-self and others", ii) use of emotion; "one's ability to use own and others' emotions in a way that could assist him/her to achieve desired outcomes", iii) emotional understanding; "one's ability to comprehend the language of emotions and their complex relationships" and iv) managing emotions; "one's ability to harness / regulate emotions of oneself and others" (Mayer and Salovey 1997). Performance tests with correct and incorrect answers are used to measure ability EI. The ability tests/measures are considered superior in terms of construct validity, but, criticized for lacking predictive and face validity in the workplace (Brackett and Mayer 2003). Trait EI, on the other hand, is explained as a "*constellation of behavioral dispositions and self-perceptions concerning one's ability to recognize, process, and utilize emotion laden information*" (Petrides and Furnham 2001).

Trait EI is measured with self-report measures, thus the main difference between the ability and trait models is the measurement methods, that is, performance tests versus self-report measures.

Operational Stress during Emergency

Various conceptualizations, perspectives (e.g. micro, macro & interactive), and discipline specific applications of the term 'stress' have made it a somewhat a broadly defined concept. However, the modernistic and common approach (response & stimulus paradigm) to conceptualize stress dates back to the scientific work of Selye (1956) who defined it as "*the non-specific response of the body to some demands that are placed upon it for the change*". The term 'demands' in this definition refers to a wide variety of aversive physical and psychological stimuli, which when interpreted, lead to several 'emotional states and cognitive adaptations'. Despite its medical context, Selye's (1956) work paved ways for substantial research on '*stress*' across disciplines including occupational psychology. Consequently, several definitional perspectives emerged. Some scholars defined it as a 'force' that can push individuals to go beyond the range of their abilities (Arnold et al. 2005), while others referred it as a 'discrepancy' between one's job demands and individual capabilities (Rabin et al. 1999). However, the most common approach of studying occupational stress is to observe and inspect the general occupational stressors that are broadly common across a wide range of occupations. The drawback of this approach is that it ignores the stressors that are exclusive and unique to high stress occupations e.g. doctors, paramedical staff, police and paramilitary forces (McCreary and Thompson 2006). To address this limitation, attempts have been made to identify the stressors that are unique to high stress occupations (J. Brown et al. 1999; J. M. Brown and Campbell 1990; McCreary and Thompson 2006; Toch 2002). These researchers argue that the stressors in high stress occupations could either be 'content-based' or 'context-based'. The content-based stressors, also known as operational stressors, are the inherent operational aspects of one's occupation, whereas the context-based stressors represent the organizational characteristics and the behavior of people that are likely to create stress (Shane 2010). The operational stressors identified in most of the high stress professions include: shift work (Ma et al. 2015), work related violence (Amaranto et al. 2003), overtime demands (Savery et al. 1993) and traumatic events (Duffy et al. 2015) etc. Considering the previously identified operational stressors, and based on the stimulus based perspective, i.e., stress as an independent variable (Cox 1985), we define operational stress as '*a force that originates from the primary job tasks/demands of personnel working in highly stressful professions producing a strain that affects an individual's capabilities to effectively meet his/her job demands'*.

Operational Stress, EI, and Decision-Making Styles

Since the aim of this study is to explore the relationship between operational stress and decision-making styles while considering the potential interactive influence of emotional intelligence, it is therefore, essential to theorize the possible relationships between these constructs. Though researchers opine that stress and decision-making are interrelated at neural and behavioral level (Starcke and Brand 2012), yet, the connections between stress and decision-making styles are relatively unexplored (Hammond 2000).

Vaught et al. (2000), in a study on the underground mine fires suggest that decision-making during emergencies is comprised of five steps: i) problem definition, ii) diagnosis, iii) consideration of options/alternatives, iv) choice of the best option/alternative, and v) execution of the selected option. The decision-making process proposed by Vaught et al. (2000) resembles with the 'rational decision-making' style. Alkharabsheh et al. (2014) note that characteristics of stressful crises (response uncertainty and time pressure) are negatively related with comprehensive (rational) decision-making. We propose that the relationship of rational decision-making style with stress is contingent upon the interactive influence of emotional intelligence. The characteristic feature of EI, that is, the ability to understand and regulate one's emotions and to effectively process emotional information (Mayer and Salovey 1997; Petrides and Furnham 2001), supports our notion. According to the findings of a recent study, rational decision-making and emotional intelligence were found positively associated across three samples (students, police officers, and police hostage and crisis negotiators-HCNs) (Grubb et al. 2018). Individuals high in EI enjoy good mental health and are therefore capable of regulating their emotions and making sagacious decisions during tough times. It has been reported that individuals with high EI suffer less from 'stress' and enjoy good physical and psychological well-being than those with lower EI (Shah et al. 2018a; Slaski and Cartwright 2002). Researchers have also studied EI as a moderator and found that those high in EI are less cynic and willing to exert high level of work efforts (Durrani et al. 2017; Yalalova et al. 2017). Moreover, EI helps individuals control their strong emotions during stressful situations and facilitates positive coping (Nikolaou and Tsaousis 2002). These findings imply that individual high in EI would remain calm during emergencies and hence take effective / rational decisions than those with lower EI levels and vice versa. Therefore, it is expected that;

> ***Hypothesis 1***: *Operational stress for personnel frequently dealing with emergencies will be negatively associated with rational decision-making for those with lower emotional intelligence and positively associated with rational decision-making for those with higher emotional intelligence.*

Most of the decision-making circumstances in emergencies are subject to urgency where quick decisions are to be made. Considering such time constraints during emergency situations, the commonly preferred systematic rational decision-making process may sometimes not be feasible. Researchers argue that the situations where decision makers face the issues such as: time constraints (Kuo 1998), insufficient information (Agor 1986), and rapidly changing environment (Aarum Andersen 2000), they may resort to intuitive decision based on the heuristics (Starcke and Brand 2012). Likewise, the emergency personnel facing the same time and information constraints during emergencies (e.g. medical emergencies, fires, bomb blasts, riots etc.), cannot always analyze an exhaustive list of alternatives to reach a rational decision, instead they base their decisions on heuristics, i.e. the strategies based on similar previous experiences. The reliance of such strategies is on the readily accessible but loosely applicable information to solve problems.

According to some researchers, rational and intuitive decision-making are independent of each other and often used exclusively (Simon 1987), however, other researchers emphasize following multidimensional approach to decision-making where both rational and intuitive decision-making styles may be used in a complementary manner, i.e., one supporting the other (Sinclair and Ashkanasy 2005). Studies have shown that decision makers in highly unstructured, time constrained and ambiguous situations most often use both the intuition and the analysis at the same time (Burke and Miller 1999; Isenberg 1991). Drawing on the augments of Sinclair and Ashkanasy (2005), and the empirical evidences of Burke and Miller (1999), it can be said that rational and intuitive style work as parallel cognitive systems because both decision styles complement each other and may be validly used in emergency situations.

Turning to our notion described previously, it is expected that the relationship between operational stress and intuitive decision-making of emergency services personnel would also be contingent on their EI levels. Studies have shown EI and intuitive decision-making to be interrelated. Erenda et al. (2013) found that EI and intuitive decision-making was positively correlated in a sample of managers working in Slovenian automotive industry. Intuitive decision-making was also found positively associated with EI's dimension called emotional self-management (ESM) among students (Grubb et al. 2018). Considering these findings, it can be postulated that higher EI would help individuals better employ 'heuristic strategies' in the cases where rational approach may not be followed in its true spirit due to any reasons (e.g. time pressures or other constraints). Hence, it is proposed that:

> ***Hypothesis 2***: *Operational stress for personnel frequently dealing with emergencies will be negatively associated with intuitive decision-making for those with lower emotional intelligence and positively associated with intuitive decision-making for those with higher emotional intelligence.*

As decision-making styles are the patterns of perceiving and responding to the decision situations (Scott and Bruce 1995), these 'modes' may vary across individuals depending upon several factors including the level of stress faced and the EI of individuals. Building on conservation of resource theory, Shah et al. (2018b) found that stress depletes emotional resources which results in emotional exhaustion. They further state that emotionally exhausted individuals try to preserve their remaining resources. Similarly, it is expected that individuals while dealing with highly stressful emergencies, try to preserve their already depleted emotional and cognitive resources, and may hence use dependent decision style rather than using their own cognitive resources to make decisions. However, it is expected that the extent to which one might opt to use dependent decision-making style would be conditional upon the level of EI. The proposition of such interactive influence of EI can be supported by summarizing the findings on the nature of the relationship between dependent decision-making style and the EI. Grubb et al. (2018) in their study report negative association between dependent decision-making and emotional self-management dimension of EI. Likewise, Di Fabio and Kenny (2012) also note that the intrapersonal dimension of Bar-On EI inventory was negatively associated with dependent decision-making style. Keeping in view these findings and the attributes of EI, it is plausible to propose that individuals high in EI will tend to make decisions on their own rather than depending on others; whereas those low in emotional intelligence will depend on others for making decisions. Therefore, the following hypothesis is proposed;

> ***Hypothesis 3:*** *Operational stress for personnel frequently dealing with emergencies will be positively associated with dependent decision-making for those with lower emotional intelligence and negatively related to dependent decision-making for those with higher emotional intelligence.*

Stress and emotions alter the way one responds to certain decision-making situations. When the cognitive and emotional resources of individuals are depleted due to stress, they might avoid taking decisions. That might be the reason why a positive relation was found between stress and avoidant decision-making style (Thunholm 2008). However, people with high levels of EI may behave differently. Grubb et al. (2018) report negative association between avoidant decision-making and emotional intelligence. Other scholars also report a negative relationship between EI and avoidant decision making and argue that the students low in EI resort to avoiding or procrastinating decisions (Di Fabio and Blustein 2010; Di

Fabio and Kenny 2012). Hence, it can be asserted that the emergency personnel who lack emotional capabilities to deal with stressful decision situation may suffer depletion of emotional resources and hence exhibit avoidant (desire to avoid or withdraw from decision situation) style during emergencies, and vice versa. Therefore, it is expected that;

> ***Hypothesis 4:*** *Operational stress for personnel frequently dealing with emergencies will be positively associated with avoidant decision-making for those with lower emotional intelligence and negatively related to avoidant making for those with higher emotional intelligence.*

Conceptual Model

The proposed model depicting the articulated hypotheses is presented in Fig. 1.

Methodology

Research Context

Since the aim of this study was to ascertain the effects of stress emanating from working in professions that are frequently exposed to highly stressful emergencies, therefore, the subjects of this research were those individuals whose occupational obligations are to protect the well-being, health, safety, and security of others during emergencies (e.g. doctors, nurses, police, and paramilitary forces). Studies have also shown that doctors, nurses, and police are particularly vulnerable to stress (Cotton and Hart 2003; Cox et al. 2003; Winefield 2003), and have been the subjects of previous research (Adriaenssens et al. 2015; Clegg 2001; Gershon et al. 2009; Healy and Tyrrell 2011; Morash et al. 2006; Yuwanich et al. 2016). Hence, the target population for this study were the doctors, paramedical staff, police and paramilitary troops deployed in Quetta city (the capital of Balochistan province in Pakistan). These personnel have frequently been encountering highly stressful emergencies due to the poor law & order situations in Quetta city, thus, they were the suitable candidates for data collection.

Sample and Procedure

Due to information and access constraints, the sample was drawn conveniently, i.e., approaching those who were conveniently available to participate in this study. Researchers visited the emergency/casualty departments and trauma centers of all the public-sector hospitals, check-posts of paramilitary troops, and police stations where the potential respondents could be found. The reason for recruiting participants from all the public-sector hospitals in the city was that almost all the emergency cases are dealt by the public-sector hospitals in Quetta city. The selected locations were visited multiple times during the data collection phase so that different participants working in shifts may be recruited for the survey. The researchers specifically visited those police stations and check posts that were in areas where high number of emergency situations have occurred during past few years.

Initially, 450 surveys were distributed, out of which 295 surveys were returned, indicating an initial response rate of 65.5%. Out of 295, 27 surveys were discarded due to 'missing responses' and lack of attention (assigning the same score to almost all the survey items), rest of the useable responses (268) were retained for further analysis, indicating an effective response rate of 59.5%. Out of the 268 respondents, 22.4% ($n = 60$) were doctors, 36.9% ($n = 99$) were paramedics, 18.7% ($n = 50$) were police officers, and the remaining 22% ($n = 59$) were the personnel of paramilitary troops. Respondents were categorized in five groups according to their age. Out of the total, only 0.4% ($n = 1$) were in the age group of 'under 20 years', whereas, majority of the respondents were in the age group of '20 to 30 years' (51.1%, $n = 137$), 36.6% ($n = 98$) were '31 to 40 years' old, 11.6% ($n = 31$) were in the category of '41 to 50 years', and only 0.4% (n = 1) was above 50 years.

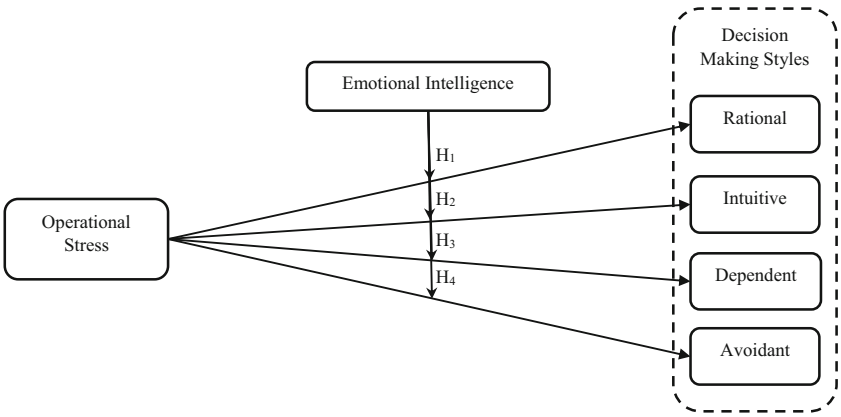

Fig. 1 Proposed model

The occupation-wise distribution of age groups showed well-balanced samples across different age groups. However, majority of the doctors were in the age group of '31 to 40 years', whereas the majority of paramedical personnel, police and paramilitary troops were in the age group of '20 to 30 years'. 71.6% ($n = 192$) of the respondents were male, and 28.4% ($n = 76$) were female. 22.4% (n-60) had attended high school, 41.8% ($n = 112$) had bachelor's degree, and the remaining 35.8% ($n = 96$) had postgraduate education. The work experience of 44.4% ($n = 119$) respondents was 1 to 5 years, 28.4% (n = 76) had served in their organizations from 5 to 10 years, 19.4% ($n = 52$) had a work tenure of 10 to 15 years, and the work experience of the remaining 7.8% (n-21) respondents was above 15 years. 42% ($n = 113$) respondents were single, 54.9% ($n = 147$) were married, and only 3% ($n = 8$) were divorced or widowed.

Measures

Previously developed scales with slight modifications were used to measure all focal constructs.

Operational Stress

Ten items from McCreary and Thompson's (2006) 20 items operational stress scale of police officers were used to measure the operational stress levels of professionals working under high stress situations. The selection of 10 items was based on Shane's (2010) findings regarding the operational stressors common across high stress human-service professions (e.g. doctors, nurses and police officers). The scale required respondents to indicate the level of stress that each stressor had caused them over the past 6 months on a 5-point scale ranging from "*No stress at all*" to "*A lot of stress*". The sample items (stressors) were: "*Risk of being injured on the job*", "*Traumatic events on the job*" and "*Occupation related health issues*".

Emotional Intelligence

Wong and Law's (2002) 16 items scale comprising of four EI dimensions was used to measure the respondents' EI levels. The sample items were: "*I really understand what I feel*", "*I have good understanding of the emotions (e.g. sadness, joy, or anger) of people around me*", and "*I always tell myself I am a competent person*". A 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" followed the scale items.

Decision Styles

Scott and Bruce's (1995) general decision-making styles-GDMS inventory with slight modifications was used to identify respondents' decision-making styles. Four decision-making styles (rational, intuitive, dependent & avoidant) that were most relevant to our study's context were measured with 14 items (4 items for 'rational decision style', 3 items for 'intuitive decision style', 4 items for 'dependent decision style' and 3 items for the 'avoidant decision style'). The spontaneous decision-making style was dropped from the analysis because it was considered less relevant with the emergency situations. In contrast to other decision-making style, spontaneous decision-making style is based on making impulsive decision at the spur of the moment without any deliberate reasoning. Grubb et al. (2018) argued that the decision-making styles of hostage and crisis negotiators and non-negotiator trained police officers differ from the general population. Their findings showed that police officers and crises negotiators use spontaneous decision-making style significantly less than the general population. Considering the critical context of emergency, it was expected that such style would not be opted by emergency personnel during emergencies, therefore, the spontaneous decision-making style was not included in the analysis. The sample items for the four included decision-making styles

Table 1 Confirmatory factor analysis

Variables	χ^2/df	NFI	NNFI (TLI)	CFI	SRMR	RMSEA	Factor Loadings
Individual scales							
Operational stress	2.05	.97	.98	.98	.0209	.063	Mean = .83, all > .78
Emotional intelligence	2.17	.96	.97	.98	.0243	.066	Mean = .89, all > .83
Decision making styles	2.11	.96	.97	.98	.0450	.064.	Mean = .88, all > .77
Overall measurement model	1.68	.90	.95	.96	.0433	.050	Mean = .87, all > .75

χ2 Chi-square test, *df* Degrees of Freedom, *NFI* Normed Fit Index, *NNFI* Non-Normed Fit Index, *TLI* Tucker Lewis index, *CFI* Comparative Fit Index, *SRMR* Standardized Root Mean Square Residual, *RMSEA* Root Mean Square Error of Approximation

Table 2 Validity, reliability, descriptive statistics and correlations

	CR	AVE	MSV	1	2	3	4	5	6
1. Operational stress	0.958	0.696	0.147	**0.834**					
2. EI	0.940	0.797	0.462	−0.385**	**0.893**				
3. Rational style	0.949	0.823	0.442	−0.285**	0.665**	**0.908**			
4. Intuitive style	0.890	0.732	0.398	−0.191*	0.630**	0.493**	**0.855**		
5. Dependent style	0.930	0.769	0.304	0.190**	−0.470**	−0.551**	−0.288**	**0.877**	
6. Avoidant style	0.915	0.782	0.462	0.324**	−0.680**	−0.645**	−0.531**	0.487**	**0.884**
Mean				3.42	3.04	3.07	3.03	3.06	3.14
Standard deviations				1.01	1.06	1.25	1.04	0.88	1.10

CR Composite Reliability, *AVE* Average Variance Extracted, *MSV* Maximum Shared Variance. The square roots of Average Variance Extracted (AVE) are given in bold figures diagonally for each variable

** = $p < 0.01$, * = $p < 0.05$

are: "*I make decision in a logical and systematic way* (rational)", "*When making decisions, I trust my inner feelings or reactions* (intuitive)", "*I rarely make important decision without consulting others* (dependent)" and "*I avoid making important decisions until the pressure is on (avoidant)*". Each item was measured on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree".

Control Variables

Research has shown that decision making varies with age and gender (Bruine de Bruin et al. 2007; Deakin et al. 2004; Finucane et al. 2005; Mau 2000; Mitchell and Walsh 2004; Park 1996; Salo and Allwood 2011; R. N. Taylor 1975; Worthy et al. 2011). Based on these findings, the effects of age and gender were controlled for within the analysis.

Results

Preliminary Analyses

We initiated the analysis by testing the validity and reliability of the scales used. Confirmatory factor analysis (CFA) was run to determine the goodness of fit of all the scales individually and of the overall model. The results (Table 1) revealed that all the scales and the overall hypothesized measurement model fitted the data well. More specifically, the values of fit indices [Normed Fit Index (NFI) being ≥ .90, Tucker and Lewis Index (TLI) being ≥ .95, Comparative Fit Index (CFI) being ≥.96, Root Means Square Error of Approximation (RMSEA) being ≤ .066, and the Standardized Root Mean Square Residual (SRMR) being ≤ .045] indicated good model fit (Hu and Bentler 1999).

Table 2 presents the descriptive statistics, correlations, reliability and the validity of the measures used. Fornell and Larcker's (1981), and Hair et al. (2010) criteria were used to

Table 3 Direct and moderated effects of operational stress on rational decision making

Variable	Rational decision style		
	Model 1 *β (SE)*	Model 2 *B (SE)*	Model 3 *B (SE)*
Age	.151 (.104)	.125 (.085)	.078 (.078)
Gender	−.222 (.165)	.030 (.136)	.164 (.126)
Operational stress	−.330**(.073)	−.071 (.064)	−.190** (.061)
Emotional intelligence		.712** (.061)	.654**(.057)
Stress X EI (Interaction)			.394** (.055)
R^2	.087	.397	.495
ΔR^2		.310	.098
ΔF	8.336**	135.204**	50.883**

* $p < 0.05$; ** $p < 0.01$, standard errors are given in the parentheses

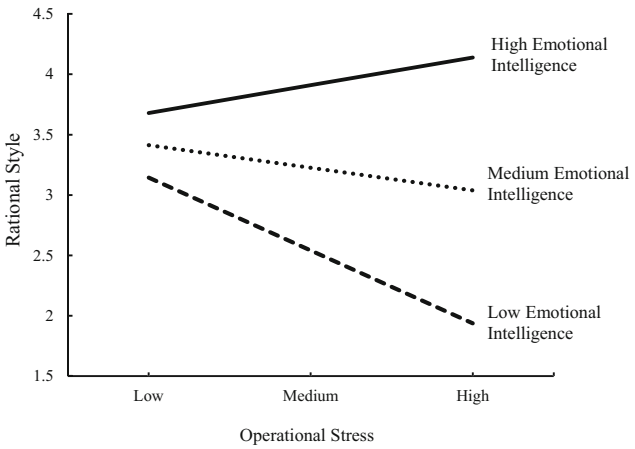

Fig. 2 Moderating effects of emotional intelligence on the relationship between operational stress and rational decision making

Table 4 Johnson-Neyman significance regions for effects of operational stress on rational decision making moderated by EI

EI Range	Point Estimate (Stress → Rational)	t	LLCI	ULCI	Johnson-Neyman Significance Region
1.3125	−0.8705	−6.8928	−1.1192	−0.6218	Negative significant
1.4781	−0.8053	−6.8097	−1.0381	−0.5724	
1.6438	−0.74	−6.704	−0.9573	−0.5226	
1.8094	−0.6747	−6.5685	−0.877	−0.4725	
1.975	−0.6094	−6.3934	−0.7971	−0.4217	
2.1406	−0.5442	−6.1658	−0.718	−0.3704	
2.3063	−0.4789	−5.8686	−0.6396	−0.3182	
2.4719	−0.4136	−5.4802	−0.5623	−0.265	
2.6375	−0.3484	−4.9757	−0.4862	−0.2105	
2.8031	−0.2831	−4.3301	−0.4118	−0.1544	
2.9688	−0.2178	−3.527	−0.3394	−0.0962	
3.1344	−0.1526	−2.5707	−0.2694	−0.0357	
3.2197	−0.1153	−1.9691	−0.2306	0	Insignificant
3.3	−0.0873	−1.4977	−0.202	0.0275	
3.4656	−0.022	−0.3754	−0.1375	0.0935	
3.6313	0.0433	0.7161	−0.0757	0.1622	
3.7969	0.1085	1.7105	−0.0164	0.2335	
3.8446	0.127	1.9691	0	0.2541	
3.9625	0.1738	2.5709	0.0407	0.3069	Positive significant
4.1281	0.2391	3.2894	0.096	0.3822	
4.2938	0.3043	3.8771	0.1498	0.4589	
4.4594	0.3696	4.3533	0.2024	0.5368	
4.625	0.4349	4.7384	0.2542	0.6156	

EI Emotional Intelligence, *LLCI* Lower Level Confidence Interval, *ULCI* Upper Level confidence Interval

establish the reliability (composite reliability-CR ≥ .70), and validity (average variance extracted-AVE ≥ .50 & Maximum Shared Variance-MSV < AVE) of the measures. Results indicated that: the CRs of all measures were above 0.89, their AVEs were greater than the threshold value of .50, and their MSV scores were less than the corresponding AVE scores, providing sufficient evidence for the reliability, convergent validity and discriminant validity, respectively. The AVE

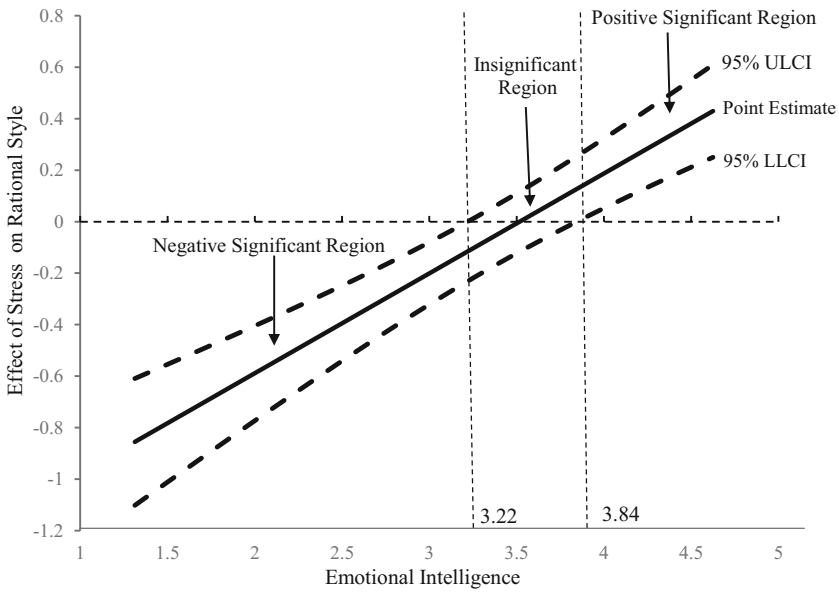

Fig. 3 Johnson-Neyman significance regions for the moderated effect of stress on rational decision making

values of all scales were also greater than the inter-construct correlations.

One of the common methodological issues attached to the self-reported measures is the possibility of common method bias (CMB). To rule out the possibility of common method bias, we conducted Herman's single factor test (Harman 1976; Podsakoff and Organ 1986). All variables/items were loaded on a single factor to check the total variance explained by a single factor. The results indicated that a single factor explained less than 50% variance (Podsakoff and Organ 1986), indicating no serious concern of CMB.

Hypotheses Testing

A combination of hierarchical regression analysis and PROCESS macro for SPSS (Hayes 2017) was used to test hypotheses. Hierarchical regression method is a commonly used method to test the moderation effects, whereas PROCESS macro is a useful plugin that increases the robustness of moderation analysis. Since we were interested to explore how EI moderates/changes the relationship between operational stress and decision-making, we therefore, used Johnson-Neyman technique to better comprehend all hypothesized relationships (Hayes 2017). To avoid any potential bias, the effects of age and gender were controlled for by including them as covariates in the hierarchical regression analysis and the PROCESS macro. The results showed that the control variables did not reduce the predictive significance of the exogenous variables.

Stress, EI, and Rational Decision-Making

The direct and moderated effects of stress on rational decision-making are given in Table 3. The results from model 1 showed that operational stress had significant negative relationship with rational decision-making without considering the effects of EI and the interaction ($\beta = -.336$, $p < 0.01$). However, the value of R^2 (.073) of this model indicated a little variation in the dependent variable. The direct negative relationship between operational stress and rational decision-making in model 3 after including both, the EI and the interaction term was relatively weaker ($\beta = -.185$, $p < 0.01$), however EI significantly moderated the relationship between stress and rational decision-making as the interaction term was highly significant ($\beta = .388$, $p < 0.01$). The value of R^2 increased to .489, verifying a significant proportion of variation in model 3.

The absolute value of the regression coefficient for the interaction term (.388) being greater than the regression coefficient of the predictor variable (−.185) in the moderated model indicated a change in the direction of the relationship between the independent and the dependent variable (positive to negative) at certain values of the moderator (EI). To better understand these changes, a graph was plotted (Fig. 2) which shows that the relationship between stress and rational decision-making was negative at relatively low EI level, but when the EI level increased from low to medium, the negative relationship became weaker to the extent that operational stress and rational decision-making were not related. However, the relationship between operational stress and rational decision-making was positive when EI was high.

Table 5 Direct and moderated effect of operational stress on intuitive decision making

Variable	Intuitive decision style		
	Model 1 *β (SE)*	Model 2 *B (SE)*	Model 3 *B (SE)*
Age	−.051 (.089)	−.070 (.077)	−.105 (.073)
Gender	−.173 (.142)	.017 (.124)	.116 (.118)
Operational stress	−.145** (.063)	.051 (.058)	−.036 (.057)
Emotional intelligence		.537** (.056)	.495** (.053)
Stress X EI (Interaction)			.290** (.052)
R^2	.028	.283	.360
ΔR^2		.255	.077
ΔF	2.574	93.404**	31.308**

* $p < 0.05$; ** $p < 0.01$, standard errors are given in the parentheses

Neither the absolute value of the interaction coefficient, nor plotting the relationship (moderation graph) exactly revealed the EI levels (score) where the effect of operational stress on rational decision-making were negatively significant, insignificant, or positively significant. Johnson-Neyman technique was therefore used to address this limitation (Hayes 2017). The results of Johnson-Neyman technique on the moderated relationship between operational stress and rational decision-making (Table 4) showed that at relatively low level of EI, (3.1 and lower), the relationship between operational stress and rational decision-making was negative significant. This relationship was insignificant when EI score was moderate (e.g. 3.21 to 3.84). However,

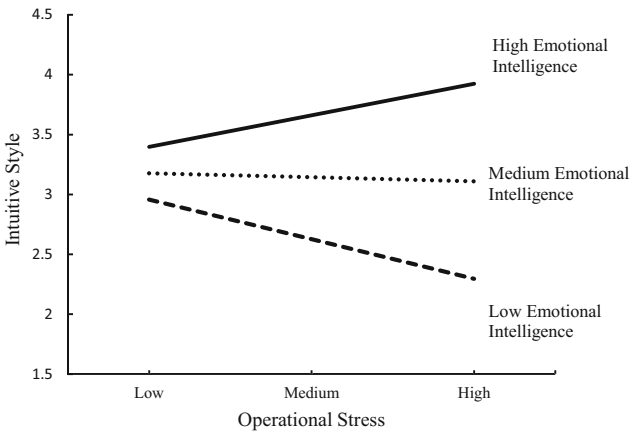

Fig. 4 Moderating effect of emotional intelligence on the relationship between operational stress and intuitive decision making

Table 6 Johnson-Neyman significance regions for effects of operational stress on intuitive decision making moderated by EI

EI	Point Estimate (Stress → Intuitive)	t	LLCI	ULCI	Johnson-Neyman significance region
1.3125	−0.5372	−4.5342	−0.7705	−0.3039	Negative significant
1.4781	−0.4892	−4.4097	−0.7076	−0.2707	
1.6438	−0.4411	−4.2603	−0.645	−0.2372	
1.8094	−0.3931	−4.0796	−0.5828	−0.2034	
1.975	−0.3451	−3.859	−0.5212	−0.169	
2.1406	−0.297	−3.5879	−0.4601	−0.134	
2.3063	−0.249	−3.253	−0.3998	−0.0983	
2.4719	−0.201	−2.8387	−0.3404	−0.0616	
2.6375	−0.153	−2.329	−0.2823	−0.0236	
2.7097	−0.1239	−1.9691	−0.2479	0	Insignificant
2.8031	−0.1049	−1.711	−0.2257	0.0158	
2.9688	−0.0569	−0.9823	−0.171	0.0572	
3.1344	−0.0089	−0.1596	−0.1185	0.1007	
3.3	0.0391	0.716	−0.0685	0.1468	
3.4656	0.0872	1.5847	−0.0211	0.1955	
3.5585	0.1095	1.9691	0	0.219	
3.6313	0.1352	2.3861	0.0236	0.2468	Positive significant
3.7969	0.1832	3.0785	0.066	0.3004	
3.9625	0.2313	3.6466	0.1064	0.3561	
4.1281	0.2793	4.0964	0.145	0.4135	
4.2938	0.3273	4.4451	0.1823	0.4723	
4.4594	0.3753	4.7126	0.2185	0.5322	
4.625	0.4234	4.9175	0.2538	0.5929	

EI Emotional Intelligence, *LLCI* Lower Level Confidence Interval, *ULCI* Upper Level Confidence Interval

the relationship turned significant positive at high levels of EI (scores of 3.9 and higher). The entire analysis provided us sufficient evidence to accept hypothesis 1, which asserts that operational stress would be negatively related to rational decision-making for those with low EI and positively related to the rational decision-making for those with high EI.

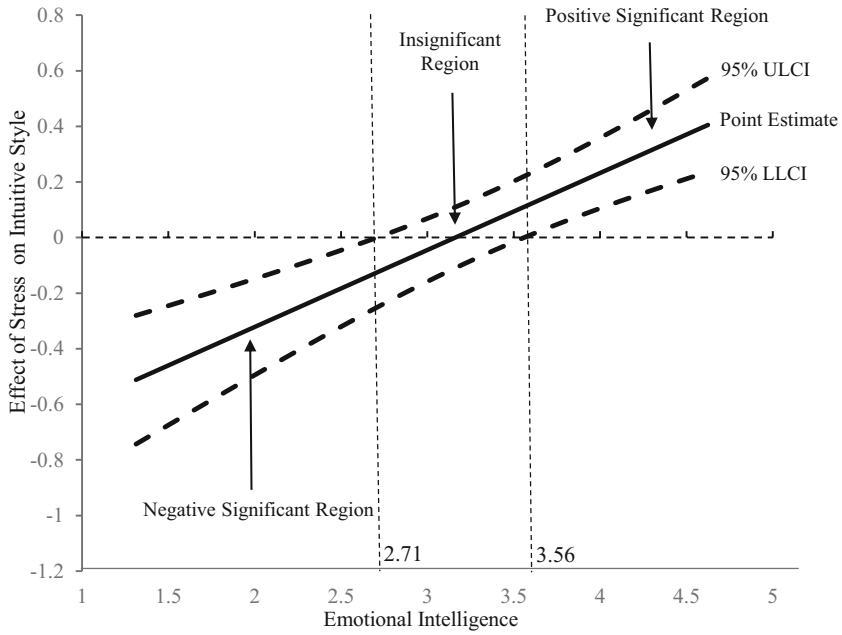

Fig. 5 Johnson-Neyman significance regions for the moderated effect of stress on intuitive decision making

Figure 3 illustrates the Johnson-Neyman significance regions for the conditional effects of stress on rational decision-making at different levels of the moderator EI. The area where both the upper and the lower level confidence intervals are above zero depicts positive significant region, and the area where upper confidence interval is above zero, but the lower confidence interval is below zero depicts insignificant region, whereas the area where both upper and lower confidence intervals are below zero depicts negative significant region.

Stress, EI, and Intuitive Decision-Making

The direct and moderated effects of operational stress on intuitive decision-making are given in Table 5. Similar to the results obtained for rational decision-making, the results from model 1 showed that operational stress was negatively related to intuitive decision-making while ignoring the moderating effect of EI ($\beta = -.151$, $p < 0.01$). Again, a very low value of R^2 (.022) was observed, demonstrating a negligible proportion of variation in the dependent variable. However, after the inclusion of both the EI and the interaction term in model 3, the direct relationship of stress and intuitive decision-making became insignificant, indicating a significant moderating effect ($\beta = .277$, $p < 0.01$). A substantial increase in the R^2 (.353) was also observed.

Figure 4 depicts the moderating effects and shows that the relationship between operational stress and intuitive decision-making was negative when EI was low, no apparent relationship was observed between operational stress and intuitive decision-making when EI was moderate. However, the relationship turned significant positive when EI was high.

Results of Johnson-Neyman technique (Table 6 & Fig. 5) showed significant negative relationship between operational stress and intuitive decision-making at low EI scores (2.6 and below), no significant relationship between the two at medium EI scores (2.7 to 3.5), and significant positive relationship between operational stress and intuitive decision-making at high EI scores (3.6 and above). Based on these results, hypothesis 2 was accepted.

Stress, EI, and Dependent Decision-Making

The results regarding hypothesis 3 are summarized in Table 7 which shows that the positive relationship between operational stress and dependent decision-making ($\beta = .148$, $p < 0.01$) was significantly moderated by EI ($\beta = -.428$, $p < 0.01$). The graphical representation of this moderation effect (Fig. 6) shows a converse trend with those of the moderated relations between operational stress, rational and intuitive decision-making styles. As expected, operational stress was found positively associated with dependent decision-making for those with low EI and negatively related to dependent decision-making for those who were high in EI.

The Johnson-Neyman significance regions (summarized in Table 8 and elaborated in Fig. 7) further verified the moderating effect by showing a positive relationship between operational stress and dependent decision-making at relatively lower scores of EI ≤ 3.13, however this relationship was insignificant at moderate EI scores (3.18 ≤ EI ≤ 3.59). Interestingly, the very relationship turned negatively significant at high EI scores (EI ≥ 3.63). Hence, hypothesis 3 was accepted.

Stress, EI, and Avoidant Decision-Making

The results of model 3 in Table 9 revealed that EI significantly moderated ($\beta = -.257$, $p < 0.01$) the apparently positive significant relationship between operational stress and avoidant decision-making ($\beta = .172$, $p < 0.01$). The graphical representation of the moderation effects (Fig. 8) also shows that operational stress was positively related to avoidant decision-making for those with low EI, and negatively related to avoidant decision-making for those with high EI.

Table 7 Direct and moderated effect of operational stress on dependent decision making

Variable	Dependent decision style		
	Model 1 *β (SE)*	Model 2 *B (SE)*	Model 3 *B (SE)*
Age	−.216 (.073)	−.204** (.067)	−.153** (057)
Gender	.261 (.116)	.141 (.108)	−.001 (.092)
Operational stress	.145** (.051)	.022 (.051)	.148** (.044)
Emotional intelligence		−.338** (.049)	−.276** (.041)
Stress X EI (Interaction)			−.420** (.040)
R^2	.077	.219	.447
ΔR^2		.143	.228
ΔF	7.306**	48.130**	107.941**

* $p < 0.05$; ** $p < 0.01$, standard errors are given in the parentheses

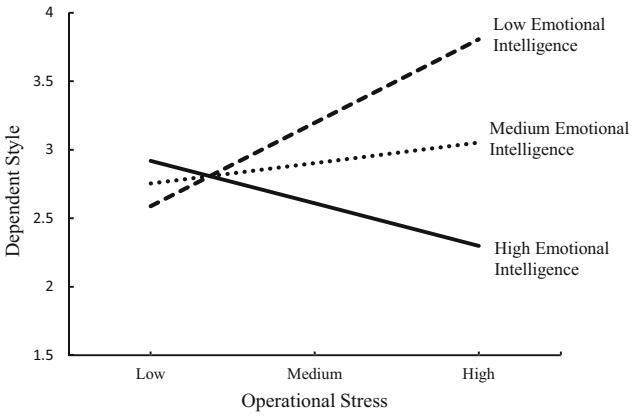

Fig. 6 Moderating effect of emotional intelligence on the relationship between operational stress and dependent decision making

Table 8 Johnson-Neyman significance regions for effects of operational stress on dependent decision making moderated by EI

EI Range	Point Estimate (Stress → Dependent)	t	LLCI	ULCI	Johnson-Neyman significance region
1.3125	0.8738	9.4553	0.6918	1.0558	Positive significant
1.4781	0.8042	9.2945	0.6339	0.9746	
1.6438	0.7347	9.0961	0.5756	0.8937	
1.8094	0.6651	8.8489	0.5171	0.8131	
1.975	0.5956	8.5382	0.4582	0.7329	
2.1406	0.526	8.1448	0.3988	0.6532	
2.3063	0.4564	7.6437	0.3389	0.574	
2.4719	0.3869	7.0047	0.2781	0.4956	
2.6375	0.3173	6.1936	0.2164	0.4182	
2.8031	0.2477	5.1786	0.1535	0.3419	
2.9688	0.1782	3.9428	0.0892	0.2672	
3.1344	0.1086	2.5014	0.0231	0.1941	
3.1849	0.0847	1.9691	0	0.1695	Insignificant
3.3	0.0391	0.9159	−0.0449	0.123	
3.4656	−0.0305	−0.7109	−0.115	0.054	
3.5877	−0.0864	−1.9691	−0.1727	0	
3.6313	−0.1001	−2.264	−0.1871	−0.013	Negative significant
3.7969	−0.1696	−3.6537	−0.261	−0.0782	
3.9625	−0.2392	−4.8354	−0.3366	−0.1418	
4.1281	−0.3088	−5.8057	−0.4135	−0.204	
4.2938	−0.3783	−6.5865	−0.4914	−0.2652	
4.4594	−0.4479	−7.2091	−0.5702	−0.3255	
4.625	−0.5174	−7.7051	−0.6497	−0.3852	

EI Emotional Intelligence, *LLCI* Lower Level Confidence Interval, *ULCI* Upper Level Confidence Interval

The Johnson-Neyman significance regions (Table 10 & Fig. 9) verified this conditional effect by showing that the relationship between operational stress and avoidant decision-making was significant positive when EI scores were low (EI ≤ 3.13), insignificant when EI scores were moderate (3.30 ≤ EI ≤ 4.25), and negative significant when EI was high (EI ≥ 4.29), thus supporting the hypothesis 4.

Discussion

The aim of this study was to explore whether and when trait EI affects the relationships of operational stress and four decision-making styles (rational, intuitive, dependent and avoidant). The key tenet of the hypotheses that were tested in this article was that EI has the potential to affect the strength

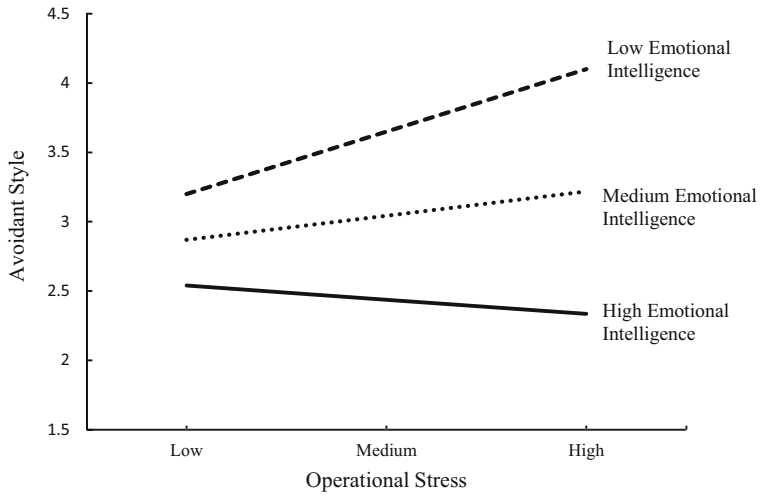

Fig. 7 Johnson-Neyman significance regions for the moderated effects of operational stress on dependent decision making

Table 9 Direct and moderated effects of operational stress on avoidant decision making

Variable	Avoidant Decision Style		
	Model 1 *β (SE)*	Model 2 *B (SE)*	Model 3 *B (SE)*
Age	−.101 (.091)	−.079 (.075)	−.049 (.072)
Gender	.279 (.145)	.063 (.121)	−.024 (.117)
Operational stress	.318** (.064)	.096 (.056)	.173** (.056)
Emotional intelligence		−.609** (.054)	−.572** (.053)
Stress X EI (Interaction)			−.256** (.051)
R^2	.104	.394	.447
ΔR^2		.290	.053
ΔF	10.257**	125.652**	24.950**

* $p < 0.05$; ** $p < 0.01$, standard errors are given in the parentheses

and even the direction of the relationship between operational stress and the decision-making styles in highly stressful professions. In essence, we believe that the combination of four components of EI, i.e., emotional perception, emotional assimilation, emotional understanding, and emotional management (Mayer and Salovey 1997) creates a unique construct that can moderate the relationships of stress and behavioral responses. Though, it may appear logical that EI can directly affect both the operational stress and decision-making, however, this study was particularly aimed to explore whether EI moderates the relationship between operational stress and different decision-making styles. Therefore, four hypotheses were articulated for testing.

In first hypothesis, we posited that operational stress would be negatively associated with the rational decision-making for those who are low in EI and positively associated with the rational decision-making for those high in EI. The initial analysis showed that the relationship between operational stress and rational decision-making was significantly negative when EI was not taken into consideration (the correlation analysis in Table 2 and model 1 of multiple hierarchical regression analyses in Table 3). However, as expected, when the interactive influence of EI was considered, the relationship between stress and rational decision-making showed an interesting pattern. That is, the relationship was significantly negative for those with low level of EI, insignificant for those with a relatively moderate level of EI, and significantly positive for those with high level of EI (Johnson-Neyman analysis). These results imply that people high in EI are more capable of combating with stress than those with low or moderate EI. To make rational decisions under stress, it is crucial to stay calm by keeping a check on our emotions and feelings. Researchers also argue that people may portray adaptive or maladaptive behavior because of their emotional responses to certain situations depending on whether these emotions are perceived as pleasant or unpleasant (Tenenbaum et al. 2008; Hanin 2004). However, highly stressful emergencies may stimulate unpleasant emotions for those with low EI and hence restrict their ability to think rationally. In contrast, those high in EI are capable of interpreting and managing their emotions well and stay rational despite going through the stressful situations. Thus, it can be concluded that emergency service personnel with high EI are better able to stay calm and rational during emergencies, and are hence, more effective while performing their duties in such stressful situations.

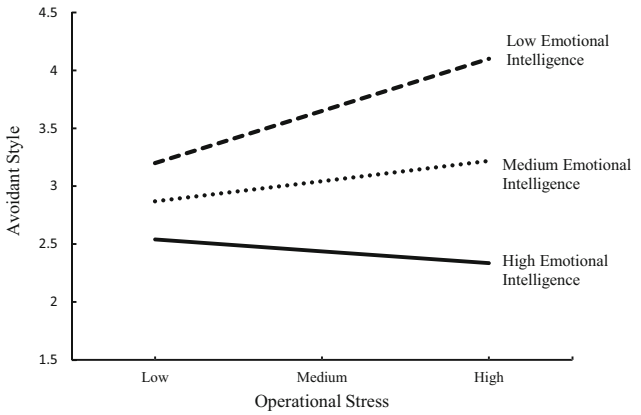

Fig. 8 Moderating effect of emotional intelligence on the relationship between operational stress and avoidant decision making

Due to the time constraints in certain situations, people may not be able to evaluate every available alternative rationally and may hence opt to take decisions based on hunches. However, the scenario for the professionals (e.g. doctors, nurses, police paramilitary forces, fire fighters and bomb disposal squad) working in the emergencies situations (e.g. medical emergencies, fires, bomb blasts, riots etc.) is quite different. They cannot rely on decisions merely based on spontaneous hunches because of the critical nature of emergencies, therefore, they use heuristics, i.e. the strategies based on previous similar experiences, which is also referred to as intuition. Emergencies are commonly characterized by high levels of uncertainty and time constraints. The intuitive-experiential system may play a prominent role in decision-making during such situations (Starcke and Brand 2012). Erenda et al. (2013) argue that managers with high level of EI use their intuition more efficiently and effectively to improve the quality of their decisions. Consistent with these arguments, it was hypothesized that operational stress would be negatively associated with intuitive decision-making for those low in EI, and positively associated with intuitive decision-making for those who are high in EI. Similar to the results of hypothesis 1, intuitive decision-making was found negatively associated with operational stress when EI was low, but this relationship became significantly positive at high levels of EI, hence hypothesis 2 was supported. Such findings are consistent with the opinions that intuitive decision-making act as a parallel, fast, associative type of processing alongside the rational decision-making

Table 10 Johnson-Neyman significance regions for the effects of operational stress on avoidant decision making moderated by EI

EI Range	Point Estimate (Stress → Avoidant)	t	LLCI	ULCI	Johnson-Neyman significance region
1.3125	0.615	5.2509	0.3844	0.8457	Positive significant
1.4781	0.5727	5.2216	0.3567	0.7886	
1.6438	0.5303	5.1799	0.3287	0.7318	
1.8094	0.4879	5.1212	0.3003	0.6755	
1.975	0.4455	5.0391	0.2714	0.6196	
2.1406	0.4031	4.9247	0.2419	0.5643	
2.3063	0.3607	4.7661	0.2117	0.5097	
2.4719	0.3183	4.5474	0.1805	0.4562	
2.6375	0.2759	4.2496	0.1481	0.4038	
2.8031	0.2336	3.8518	0.1142	0.3529	
2.9688	0.1912	3.3374	0.0784	0.3039	
3.1344	0.1488	2.7032	0.0404	0.2571	
3.2969	0.1064	1.9691	0	0.2129	Insignificant
3.3000	0.1064	1.9683	0	0.2128	
3.4656	0.064	1.1768	−0.0431	0.1711	
3.6313	0.0216	0.3858	−0.0887	0.1319	
3.7969	−0.0208	−0.3531	−0.1366	0.0951	
3.9625	−0.0632	−1.0075	−0.1866	0.0603	
4.1281	−0.1056	−1.566	−0.2383	0.0272	
4.2511	−0.1417	−1.9691	−0.2834	0	
4.2938	−0.1479	−2.0322	−0.2913	−0.0046	Negative significant
4.4594	−0.1903	−2.4171	−0.3454	−0.0353	
4.6250	−0.2327	−2.7341	−0.4003	−0.0651	

EI Emotional Intelligence, *LLCI* Lower Level Confidence Interval, *ULCI* Upper Level Confidence Interval

to facilitate decisions in situations of moderate to high uncertainty (Starcke and Brand 2012). Translating these findings into emergency situations, it can be established that relying on heuristics/intuition in time constrained emergencies is not only feasible but can also prove to be an effective decision-making strategy for emergency personnel with high EI.

In addition, a positive association was found between operational stress and both the dependent and avoidant

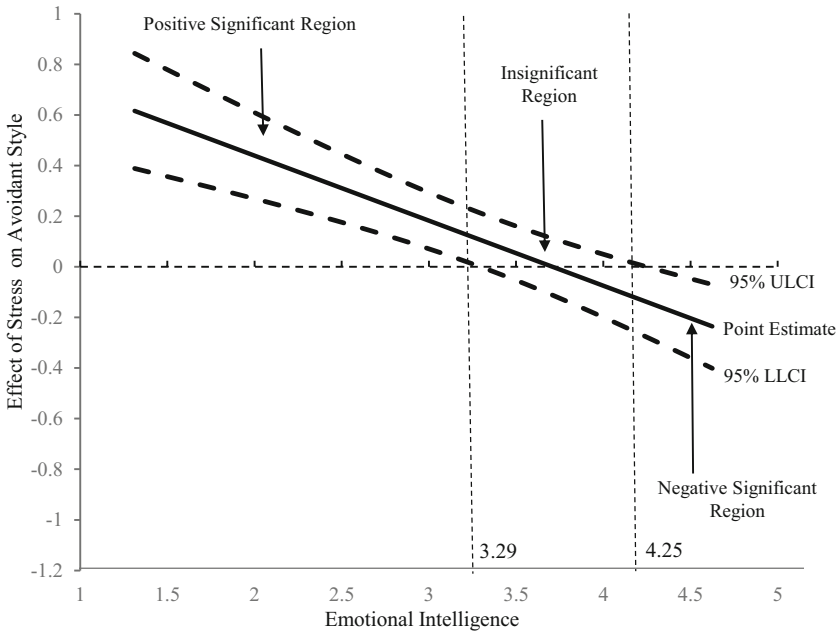

Fig. 9 Johnson-Neyman significance regions for the moderated effects of stress on avoidant decision making

decision-making styles for those with low EI. This finding is not surprising as people may adopt 'dependent' or 'avoidant' strategy during highly stressful situations, especially those with lower EI. These findings are consistent with the findings of previous research (Thunholm 2008). However, the direction of this relationship changed (became significantly negative) when EI was high (Figs. 6 & 8). Such change in the direction of the relationship due to varying levels of EI is logically consistent with the findings of previous studies that have shown negative association between EI and maladaptive (dependent and avoidant) decision strategies/styles (Di Fabio and Blustein 2010; Di Fabio and Kenny 2012). It has also been reported that EI is negatively related to indecisiveness which is defined as "the chronic inability to make decisions in different contexts and situations" (Di Fabio and Saklofske 2014). Hence, being indecisive under stress may be the reason why those with low EI resort to dependent or avoidant decision-making styles.

The findings of this study imply that EI is an individually different construct with the potential to alter the direction of relationship between stressors and individual behaviors. Such varying responses to stressful emergencies can be explained based on the transactional theory of stress, which states that the response to stressful situation depends whether the stress is viewed as a threat or a challenge (Lazarus and Folkman 1984). Based on the findings of current study, it can be argued that those high in EI will tend to view stressful emergency as a challenge, and thus, take charge of the situation and make rational or intuitive decisions rather than using maladaptive decision strategies (dependence, procrastination or avoidance). Whereas, those low in EI may perceive stressful emergencies as a threat, and thus opt to depend on others for making decisions or avoid taking any decision. In general, our findings regarding differential moderating effects of high vs. low EI on operational stress and decision-making styles prove EI a useful resource that may improve emergency personnel's stress coping and thence enable them to make sagacious decisions.

Limitations and Recommendations for Future Research

Certain limitations should be noted while interpreting the findings of this study. First, because the data for this study was single source and collected at a single point of time (cross-sectional design), therefore only directions of the relationships between study constructs can be established, not the causality. It is worth mentioning here that a major reason behind this limitation were the access (changes in duty shifts of doctors and nurses and frequent relocation of police and paramilitary personnel), and the time constraints due to which multi-time and multi-source data collection was not possible. Though, no serious methodological issue of common method bias was found in the data, yet, we encourage future researchers to replicate this study in the settings where access and time constraints do not apply. Second, linked to the first limitation, we had no option but to rely on 'self-report' measures, which could cause 'social desirability bias. Third, our sample was primarily comprised of public sector professionals/personnel, therefore, the results may not necessarily reflect the behavioral trends of those emergency professionals/personnel (especially doctors and nurses) working in different settings (combined military hospitals and private hospitals). Therefore, replication of this study in those settings is necessary. Data from other emergency professionals (fire fighters, members of bomb disposal squad and military) may also be collected to determine whether, how, and when EI effects their decision-making styles under highly stressful situations. Moreover, Future research may also use a control group that does not have any experience of dealing with emergency situations, and test whether they respond similarly to stress with different levels of EI.

Practical Implications and Conclusion

Despite its limitations, this study offers several implications for practice. For instance, the fundamental finding of this study is that emotional intelligence moderates the relationships between operational stress and decision-making styles in such a way that rather than panicking and adopting ineffective decision strategy, personnel with high emotional intelligence stay focused and adopt effective decision styles despite facing highly stressful situations. These findings point to the fact that EI could be a very useful resource for emergency personnel. Hence, it is very important for the organizations that provide services during emergencies to incorporate measures of EI in their recruitment and selection process of emergency service personnel. Apart from assessing the cognitive skills of the potential applicants during recruitment and selection process, the level of EI of the applicants should also be assessed and EI scores should be seriously considered in the final selection of emergency service personnel. Since EI consists of non-cognitive emotional skills that are not necessarily fixed or inherited, hence, it can be developed and enhanced. Emergency service organization should focus on continuously developing and enhancing the EI of emergency service personnel through conducting specialized trainings programs specifically focused at managing heightened emotions during emergencies.

Apart from that, considering the sensitive nature of emergencies, uninterrupted operational support for emergency service personnel should be ensured during crises and emergencies to help them make quick and reliable decisions in situations of high uncertainty and time constraints. It is also important to allow emergency service personnel autonomy and

delegate them discretionary decision-making powers in the situations where standard operating procedures cannot be followed due to complex and uncertain nature of emergencies. Content related to development of EI and emotional skills should also be incorporated into the curricula for doctors, nurses, and other emergency professionals. This initiative would not only enable them to effectively manage and control their emotions, but also help them make sagacious decisions under stress. Apart from the operational benefits, increased EI may also be followed by certain benefits at both, the individual (better emotional coping, improved occupational health and workplace relationships), and organizational (superior service delivery and lower turnover) levels. Summing up, this study concludes that EI is an indispensable resource for emergency personnel that must be continuously developed and enhanced to improve the decision-making capabilities of emergency service personnel, and hence, provide better services to the victims of emergencies.

Compliance with Ethical Standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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