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**Exploring the Relationship Between Decision Making Styles and Emotion Regulation: A Study on  
Police Officials in the Portuguese Public Security**

**Masters Dissertation**

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**Abstract**

In the realm of public security officials, decision making and effective emotion regulation play critical roles in ensuring the safety and well-being of individuals and communities. Police officials operate under continuous pressure as they make crucial decisions that hold significant implications for others' lives. Developing proficient decision making skills necessitates the ability to regulate emotions in the workplace. It is especially evident in occupations such as law enforcement, where traumatic events can elicit negative emotions and situations involving crime and violence often require high-stakes decision making. In leadership roles, such as that of an official, the inability to effectively manage one's emotions can have detrimental effects on the rest of the workforce, making this need for effective emotion regulation particularly pronounced. Therefore, analyzing how police leaders' emotion regulation (ER) relates to their decision making is of extreme relevance. The current study aims to broaden the understanding of decision making styles and strategic modes of emotion regulation used by Portuguese police officials in the Portuguese Public Security (PSP), given their influence on the public safety sector. It utilizes the Emotion Regulation in the Workplace (Re\_Trab) instrument and the Melbourne Decision Making Questionnaire (MDMQ) on a sample of Portuguese police officials ( $N = 138$ ), where the scales are translated, adapted, and validated to the Portuguese police context. To validate the psychometric scales of ER and DM styles among the PSP, a confirmatory factor analysis was conducted. Subsequently, correlations were employed to explore the relationship between the ER strategies utilized by police officers and their decision making styles. Finally, a regression analysis was conducted to assess the potential impact of this relationship. The results reveal that specific emotion regulation strategies have a significant influence on and can modify decision making styles within the critical context of policing in the PSP. The theoretical and practical implications of these findings contribute to a better understanding of the decision making processes and emotional regulation among police officials, providing valuable insights for training programs and interventions in the law enforcement sector.

*Keywords:* emotion regulation, decision making style, Portuguese police officials

## **Exploring the Relationship Between Decision Making Styles and Emotion Regulation: A Study on Police Officials in the Portuguese Public Security**

Emotions play an integral role in fundamental aspects of our lives, influencing our actions and the way in which we interact with others in different contexts (Gross, 2020). Evolutionary psychology views it as integral for survival as emotions signal the actions needed to remain adaptive in hostile environments (Brackett, 2019). This is especially true for law enforcement personnel, who must make critical decisions with unknown outcomes in high-stress situations (Christopher et al., 2018). However, the processing of emotions can have either a positive or negative impact on the decision making (DM) process (Heilman et al., 2010; Panno et al., 2013). Decision making styles, which are dimensions within the DM process, encompass patterns exhibited by individuals during the DM process (Mann et al., 1997). Emotion regulation (ER) refers to an individual's ability to effectively manage the range of emotions experienced throughout the day (Gross, 2020).

This study will focus on the Portuguese Public Security (PSP), an organization responsible for internal security in Portugal and the protection of citizens' rights. A growing body of literature indicates that police officers often face adverse conditions that may trigger traumatic experiences, making them among the most stressful occupations due to high levels of pressure and intense job demands (Kwak et al., 2018; Schaible, 2018; Stanley & Larsen, 2021). They are often faced with tasks that require rapid decisions with potentially life-changing consequences and high levels of uncertainty (Christopher et al., 2018; Queirós et al., 2020a). In these situations, leaders' impulsive decisions can lead to unethical behavior, such as violence, due to a lack of emotional regulation (Stanley & Larsen, 2021). Police officers may also be primed to intense emotional states due to their exposure to risk (Makin et al., 2019), which may lead to the use of violence (Kop & Euwema, 2001).

Instances of police brutality worldwide have resulted in public discontent with certain police officers' decisions to harm individuals, particularly when subsequent assessments determined that the use of violence was unnecessary. According to Staller et al. (2018, 2019), police officers who experience a depletion of self-regulation resources, leading to impaired self-control, exhibit reduced patience and tend

to react more quickly with force when faced with provocative resistance. Baumeister (1994, 1998) has termed this phenomenon "ego depletion," and it can influence police officers' DM regarding the use of force, as lack of self-control is also associated with police misconduct (Donner & Jennings, 2014). Therefore, Staller et al. (2018) infer that this relationship is emotionally driven. Even in certain circumstances where the use of force may be justified, police officers can focus on self-regulation which would allow them to employ non-aggressive methods that are more effective and pose fewer risks (Staller et al., 2017).

Furthermore, research has shown a correlation between policing and increased rates of suicide, divorce, and substance abuse (McCreary et al., 2017; Schaible., 2018; Wong & Law., 2017). Social pressure can subject police officers to social devaluation, resulting in additional stress that affects their job performance, emotional response, and DM abilities (Heilman et al., 2010; Lipp et al., 2017). Despite the demanding working conditions, police officers are expected to maintain neutral emotional expressions in order to remain professional, therefore resorting to suppressing the emotions that do arise (Queirós et al., 2013). The impact of these issues is not only relevant for individuals who serve in these roles, but also for the communities they seek to protect, as poor ER compromises their ability to keep communities safe via ineffective DM (Basinka et al., 2014; Heilman et al., 2010).

As a result, research highlights the importance of emotionally regulating police personnel in order to avoid negative consequences to their DM at work. Presently, within the context of police trainings in Portugal, emotions have been characterized as elements to be suppressed during the execution of official duties, thereby engendering a condescending attitude towards them (Rodrigues, 2018). Given the prevalence of these consequences and the recognition that maladaptive responses to emotions have various implications on performance, research on law enforcement's DM and ER is needed. By understanding how emotions guide decisions, policies in policing can be developed to enforce safe and effective strategies at managing emotions.

According to Bruke (1980), higher-ranking positions are more susceptible to work-related stress, which increases the likelihood of emotional exhaustion. Surprisingly, despite the significant influence

organizational leaders have on their respective organizations, limited research has specifically investigated the DM styles and ER strategies of higher-ranking police officials, particularly within Portugal (Oliveira & Queirós, 2012). The existing literature predominantly focuses on lower-ranking positions such as sergeants and patrol officers (Brief et al., 1976; Engel, 2001; Pursley, 1974). Goleman (2004) found that efficient leaders must exhibit emotional intelligence, which encompasses proper regulation of emotions. The field of research concerning leader emotion has advanced in conjunction with the investigation of ER, due to its impact on followers and organizational outcomes (Torrence & Connelly, 2019).

Given that emotions can influence information processing, problem-solving, and risk-taking tendencies, all of which are crucial factors for DM, it becomes crucial to explore the relevance of studying emotions for leaders across various fields, including law enforcement official (Stanley, 2018). Therefore, conducting a study that focuses on the DM processes and ER of Public Security Officials in Portugal holds particular importance. In an effort to contribute to the advancement of research in this area, the current research project aims to analyze the ER of Portuguese police officials and its connection to their DM. Initially, the study involved the translation, adaptation, and validation of the psychometric scale Emotion Regulation in the Workplace (ReTrab) and the adaptation and validation of the Melbourne Decision Making Questionnaire, within the Portuguese community. Confirmatory factor analysis was employed, and a series of correlations and regressions were conducted to investigate the nature and strength of the relationship between DM and ER.

### **The Portuguese Police Context**

The PSP represents a security force in Portugal that primarily functions in urban and metropolitan areas and they are commonly referred to as the city police (Durão, 2011). Significant emphasis should be placed on the classification of the PSP as armed bodies that perform executive, technical, and administrative functions (Republic Assembly, 2007, p. 6065). These officers must be constantly available for duty, even if it entails personal sacrifices (Rodrigues, 2018). The PSP is composed of three professional careers, all commanded by a National Director: officers, chiefs, and officials (Decree-Law 243/2015, of

October 19th, article 12th; Rodrigues, 2018). Officers take on technical, administrative, and logistic roles, whereas chiefs work on more executive roles such as leadership. The present study involves officials, who direct and manage the remaining personnel through leadership and inspection, as well as consulting duties (Decree-Law 243/19 October 2015th, article 79th). They are categorized by the following hierarchy: Chief Superintendent, Superintendent, Intendent, Sub-intendent, Commissionaire, and Sub-commissionaire (Rodriguez, 2018). As of 2020, the PSP consisted of approximately 19.825 members, including 806 officials, 2.158 chiefs, and 16.861 officers (Secretaria-Geral do Ministério da Administração Interna, 2021). All PSP members must make daily decisions that impact the rest of the organization, and the community in which they serve (Chiavenato, 1982a). In Portugal, the suicide rate per year for the PSP is twice that of the general population (Rodriguez, 2018). This may indicate the need for proper ER given the professions emotional demands. The attribution of risk to this profession is seen by nearly 16,000 officers in Portugal experiencing forms of aggression at work (Rodriguez, 2018).

### **Decision Making**

Decision making (DM) is the process by which choices are made and are driven by personal preferences and external demands (Filipe et al., 2020). It involves self-awareness to assess different alternatives while utilizing available resources to achieve specific goals. In cognitive psychology, DM is regarded as a continuous and integrative process influenced by both emotions and rationality, depending on implicit or explicit assumptions (Verma, 2009). Consequently, decisions can exhibit rational or irrational characteristics. Within the dimensions of the DM process, DM styles play a significant role.

The conceptualization of DM styles by Janis and Mann (1997) entails the examination of patterns through which individuals navigate conflicts during the process of making potentially risky decisions. According to their conflict theory of DM, factors such as time constraints, limited resources, and divergent perspectives can hinder the ability to make thoroughly deliberated choices. Given this, three distinct subscales of DM strategies have been identified, as outlined in the Flinders Decision Making Questionnaire (DMQ) (Mann, 1982): vigilance, hypervigilance, and defensive avoidance.

Defensive avoidance encompasses behaviors such as procrastination and buck-passing.

However, the validity scores of the DMQ is neither extensive nor comprehensive, and the factorial structure of the questionnaire has not been duly validated (Mann et al., 1997). As a result, a revised version of the scale was introduced, referred to as the Melbourne Decision Making Questionnaire (MDMQ), aiming to address these limitations (Mann et al., 1997). The MDMQ comprises 22 items and incorporates four discernible DM strategies: vigilance, hypervigilance, buck-passing, and procrastination. Vigilance is characterized by a deliberate and impartial assessment of alternatives during DM, relying heavily on rational thinking, and is considered an adaptive DM style (Johnson et al., 1997). It involves a cautious approach and is associated with careful consideration. In contrast, hypervigilance represents an impulsive DM style driven by rapid assessment of a situation with limited attention given to alternative options, often due to time constraints (Mann et al., 1997). Hypervigilance typically occurs when individuals lack sufficient time to thoroughly construct a decision on their own. It is correlated with suboptimal outcomes and holds particular relevance when analyzing DM strategies within the realm of law enforcement (Johnson et al., 1997).

Procrastination refers to delaying commitment to a choice, while buck-passing occurs when the responsibility for a decision is shifted to others. Both procrastination and buck-passing serve as indicators of defensive avoidance, reflecting the notion that a satisfactory solution cannot be found for a problem. These tendencies typically arise when there is less time pressure (Janis & Mann, 1997). The attribution of a DM style to an individual relies on specific antecedent conditions, including: (1) awareness of significant risks associated with preferred alternatives, (2) maintaining hope of finding a better alternative, and (3) the belief that there is ample time for search and deliberation before making a decision (Mann et al., 1997). Vigilance aligns with all three of these conditions. Therefore, if an individual meets all three conditions, it suggests a vigilant DM style. In contrast, buck-passing and procrastination occur when an individual lacks hope in finding a viable solution, contradicting the second condition (Mann et al., 1997).

Understanding DM styles is crucial for effective organizational leadership, as decisions made by

higher authorities significantly impact the entire hierarchy of workers. In contrast to modern managerial belief, rational behavior is rare and emotional impulses continue to influence behavior (Sweeney, 2022). Acknowledging this dynamic is vital for fostering the creation of police policies that truly enhance community safety, especially given the current inadequate integration of emotions in law enforcement trainings. In the case of law enforcement officials, poor decisions can have detrimental effects on the individuals working for them, as well as the broader community, if their mission to maintain safety fails. Despite receiving comprehensive training across various skill sets, police officials often encounter novel scenarios that evoke emotional responses (Brown & Daus, 2015). Each criminal situation possesses unique contextual elements and differs from previous job demands, leading police officers to a heavy reliance on instinctual and often rapid emotional reactions instead of deliberate judgments. These emotional reactions subsequently shape DM through an automatic thought process (Sweeney, 2022). However, specific strategies can redirect thinking toward a more rational and calculated state of mind. For instance, when police officers interacting with civilians are required to document every occasion in which they draw withdrew firearms, along with providing a rationale for their decision, they were less likely to resort to shooting (Engel et al., 2022). In other words, this increased emphasis on rationality enables them to focus on selecting an appropriate course of action and reduces the influence of automatic thought processes in DM.

This concept can be explained through the Dual Process Model of Decision Making, which posits the existence of two systems of thought processing (Stanovich & West, 2000). System 1 (S1) involves automatic judgments based on past experiences and possesses a certain level of self-awareness. On the other hand, System 2 (S2) consists of a rational thought process with higher cognitive capacity (Englemann, 2007; Ledoux, 2000). Emotions are closely associated with S1, particularly in situations involving novel experiences that have not yet become routine (Brown & Daus, 2015). However, when S2 is activated, it has the ability to override the automatic response of S1 (Kahneman and Tversky, 1979).

Within the field of evolutionary psychology, aversive emotional stimuli have been acknowledged as

triggers for survival instincts, as they activate behavioral responses, such as attention (Ledoux, 2000; Ohman et al., 2001). In contrast, motivation operates in a more conscious manner, as it is intertwined with the perception and judgment of events, serving as a driving force for rewards (Engelmann & Pessoa, 2007). As a result, the DM process becomes slower yet significant. Consequently, when confronted with choices, individuals are susceptible to cognitive biases due to the interplay of these two processes. System 1 facilitates prompt responses to immediate circumstances, while System 2 necessitates greater effort and thoughtful consideration to attain the optimal outcome.

DM under risk and uncertainty holds significant practical importance for law enforcement personnel. Wakker (2004) defined DM under risk as making choices with unknown outcomes that have a low probability of occurring. In the context of executives and superintendents, police leaders who do not exhibit buck-passing tendencies are perceived as more effective (Densten, 2003). Improving DM abilities leads to positive outcomes and increased resilience in the face of adversity. It is a skill that can be developed and enhanced throughout one's lifetime. Emotion and reasoning are two key components that influence the generation of effective decisions (Filipe et al., 2020). This is because individuals' responses to conflict and stress can either impede or enhance their DM, underscoring the significance of ER in sound DM (Filipe et al., 2020; Mann, 1998).

### **Emotion Regulation Strategies**

Emotion regulation (ER) is defined as “the processes by which individuals influence which emotions they have when they have them, and how they experience and express those emotions” (Gross, 1998b, p. 275). It has a strong influence on cognitive processes, situational perception, performance outcomes, as well as the social environment (Mouatsou & Koutra, 2021). In addition, emotions impact memory, identification of threats, and efficacy of the DM process (Nelis et al., 2011). Studies have shown that proper ER contributes to increased flexibility in adverse and unpredictable situations (Brown & Daus, 2015; Makin et al., 2019). In a professional setting, ER enhances effective communication, situational awareness, and team performance while preventing reactive responses to uncertain events (Goleman, 1995).

Thus, it has commonly been studied by practitioners as a tool for hiring leaders and developing leadership programs (McCreary et al., 2017; Torrence & Connelly, 2019). Emotions are discerned from other affective systems such as mood and stress given its characteristic of being associated with a specific event and embodying various feelings (Gross, 2020). ER is derived from person-situation interactions and is both time-dependent and contextually contingent on meeting its regulatory goals (McRae & Gross, 2020). It can either be a conscious effort or occur implicitly in response to a given situation (McRae & Gross, 2020). Researchers have highlighted the importance of aligning the chosen emotional regulation strategy with the intensity of the emotional event (Tan et al., 2023). For instance, in scenarios characterized by high intensity emotions, employing distraction as an emotional regulation tool is more advantageous. On the other hand, cognitive reappraisal, which involves reevaluating the meaning or interpretation of an emotional situation, is best employed when there are low intensity emotions involved. In addition to changing over time, the expression of emotions runs on a continuum, making it harder to discern emotional states based on facial expressions, speech, and body language alone (Makin et al., 2020).

Given the complexity in evaluating emotions, Nelis et al. (2011) constructed the ER Profile Revised (ERP-R) as a means to validate the assessment of ER. This fifteen-scenario questionnaire defines two modes of ER: Up-regulation involves employing strategies to amplify the emotional benefits associated with events evoking positive emotions. On the other hand, down-regulation focuses on employing strategies to mitigate the detrimental or harmful impact of events that elicit negative emotions. The efficacy of these strategies can manifest either in a functional and adaptive manner or in a dysfunctional and maladaptive manner for the individual.

Down-regulation can either occur in a functional manner by reducing negative effects of negative emotions or in a dysfunctional manner by intensifying these negative effects. The model's four functional strategies for down-regulation are: modifying the situation directly or indirectly through a third party (situation modification), shifting attention to different stimuli (attention reorientation), positively reassessing the situation (situation reassessment), and expressing emotions to others (emotional

expression) (Gross & Thompson, 2007; Gross, 1998; Gross et al., 2006; Nelis et al., 2011). The dysfunctional strategies include rumination (preoccupation with negative thoughts and feelings), learned helplessness (passive behavior and a sense of powerlessness), substance abuse (using substances to temporarily alter mental state), acting out (behavioral reactions driven by negative emotions); impulsive reaction (abrupt behavior carried out without thorough thought or anticipation).

Up-regulation can occur in two ways: adaptive up-regulation, enhancing the beneficial emotional effects triggered by situations of a positive emotional nature, or maladaptive up-regulation, where positive effects are decreased. Adaptive strategies are characterized by the appreciation of the current moment (savouring the present moment), the expression of gratitude towards others (capitalization), the engagement in positive imaginative thinking (positive mind trip), and the demonstration of behaviors that exemplify the significance of one's work (behavior manifestation). Conversely, maladaptive strategies involve the inhibition of emotional expression (emotion inhibition), agitation (excessive worrying), a focus on one's own flaws (fault finding), and the indulgence in negative retrospection (negative mind trip). It is important to note that the regulatory process does not only involve the individual as the focal point, but also the other person included in the scenario.

For instance, an individual might opt to suppress their emotions due to their preference for maintaining a sense of discretion, known as emotion inhibition, which would be maladaptive. However, in certain circumstances, this would be considered adaptive as well, if one might be attempting to avoid outwardly expressing too much joy in the presence of a dear friend who was unsuccessful in the same endeavor. In this case, the suppression of positive emotions would be seen as a moral act to prevent exacerbating the suffering of another loved one. Adaptive up-regulation methods have long-term benefits for mental and physical health, while maladaptive up-regulation methods are associated with less success and negative health outcomes (Gross, 2020). In line with the findings by Gross et al. (2006), individuals typically have an inclination to decrease their negative emotions (down-regulation) and enhance their positive emotions (up-regulation), however the reverse can happen as well.

Gondim et al. (2015) later modified the original instrument into a reduced version, known as the

ERP-Br, to validate ER assessment in a social context within the Brazilian community. This six-scenario questionnaire focused on colloquial events that trigger different emotional responses, such as through family relationships, work, school, and health care systems. It includes three scenarios measuring down-regulation through the emotions of jealousy, sadness, and fear, and another three scenarios measuring up-regulation through the emotions of happiness, pride, and admiration.

Factors associated with successful DR include self-awareness of the emotion being experienced, decreased neuroticism, and high conscientiousness (Gross, 2020). Successful DR may also be predicted by activities that facilitate connectivity between the left amygdala and the prefrontal cortex (Morawetz et al., 2017). Additionally, it has been found that up-regulation of emotions is more cognitively driven compared to down-regulation (Morawetz et al., 2017). The management of emotions in the work context differs from how they are managed in social settings (Hirschle & Gondim, 2019). Furthermore, certain strategies that were deemed ineffective in the original instrument by Nelis et al. (2011) have been found to be useful in different contexts. For example, expression inhibition, the act of repressing an emotional response, may be detrimental in a social context but beneficial in a professional setting due to the need for professionalism. Similarly, the identification of faults is generally seen as maladaptive in a social context, but some occupations require workers to identify faults in order to maintain competence (Hirschle & Gondim, 2019).

Maintaining stable positive affect is linked to higher life satisfaction, resilience to negative emotions, and a greater likelihood of experiencing recurring positive emotions (Nelis et al., 2011). Conversely, exposure to negative emotions can lead to psychopathological symptoms, emotional disorders, and even cardiovascular disease (Balzarotti et al., 2017). Traditionally, research on ER focused on down-regulating negative emotions, but in recent years, there has been an expansion to include up-regulation strategies as well. Cognitive-behavioral therapy, antidepressant medication, and education on emotional intelligence can help reduce reliance on maladaptive down-regulation and dysfunctional up-regulation (Gross, 2020).

Each strategy of ER varies in terms of the effort required and its efficacy (Gross, 2020). This variability can have an impact on leadership performance, as employing emotional strategies that require

less effort can be done in a productive manner, allowing officials to allocate their remaining time to engaging in job-related tasks. The ability to effectively manage one's emotions is considered an integral aspect of effective leadership due to its influence on judgment and behavior (Torrence & Connelly, 2019). While previous research on ER has predominantly focused on cognitive reappraisal, which involves shifting one's perspective on a situation, existing literature demonstrates that increased ER in an adaptive and functional manner leads to various benefits. These benefits include increased positive affect, improved social abilities, and greater resilience in managing negative emotions (Balzarotti et al., 2017; Mouatsou & Koutra, 2021). Additionally, ER is associated with reduced aggressive behaviors, effective management of interpersonal conflict, enhanced job performance, and greater resilience in the face of organizational crises. These qualities are particularly relevant for law enforcement personnel (Holley et al., 2017; Torrence & Connelly, 2019).

### **Decision Making and Emotion Regulation**

Research conducted in the field of DM has emphasized the significant role ER emotions in the DM process (Isen & Patrick, 1983; Keinan, 1987; Leith & Baumeister, 1996; Loewenstein et al., 2001; Patterson & Newman, 1993). The capacity for ER determines whether emotions hinder or enhance DM (Fenton et al., 2011; Hu et al., 2015), ultimately biasing the DM process (Shiv et al., 2005). Baumeister (2003) has highlighted how a lack of ER leads to self-deprecating DM due to impaired cognitive abilities resulting from poor ER. In other words, individuals with inferior ER abilities have limited cognitive information available to guide their choices, leading to hasty decisions with suboptimal results (Luce, 1998).

Alpert et al. (2012) reported that police officers often experience different perceptions, memory, and thinking before and after critical incidents, resulting in poor DM not only in the immediate situation but also in future scenarios (Cox et al., 2018). Luce (1998) explained the relationship between DM and ER as individuals' attempt to resolve the dilemma they face when making choices. Difficult decisions often involve trade-offs with distinct consequences. This interplay of choices can trigger negative emotions, and if a person does not regulate their emotions effectively, it can lead to quick and

inadequate decisions. Heilman et al. (2010) also found that induced ER strategies influence performance on risky tasks, with suppression leading to less risky decisions compared to situation reassessment.

Furthermore, emotions can cloud cognitive judgment of a situation. "The Mood Congruence Judgment Effect" suggests that individuals tend to modify their judgments based on their emotional state at the time of consideration, and affective feelings can bias individual choices (Johnson & Tversky, 1983; Gray, 1999). Consequently, emotions can influence how individuals perceive the probability of a certain outcome, with positive emotions often overestimating probabilities and focusing more on the outcome rather than its actual likelihood of occurring (Nygren et al., 1996). Positive emotions tend to categorize stimuli in a broader manner, emphasizing generalities in the DM process, which facilitates the performance of complex tasks (Isen & Means, 1983; Leith & Baumeister, 1996). On the other hand, negative emotions prioritize short-term benefits when making decisions, disregarding the potential long-term consequences and paying more attention to details (Gray, 1999; Leith & Baumeister, 1996).

The feeling-as-decision-facilitator view highlights how emotions can enhance DM (Damásio, 1994). Feelings increase conscious attention, improve working memory for reasoning, and prioritize urgent goals (Damásio, 1994; Ketelaar & Clore, 1997; Kitayama, 1997; Wells & Matthews, 1994). Emotions also create a sense of action readiness, enabling individuals to respond to tasks with greater effort and flexibility in the face of environmental changes, regardless of whether the emotions are pleasant or unpleasant (Seo et al., 2004; Van Kleef et al., 2010). Models of DM have started incorporating the role of emotions as they significantly impact how information is processed (Grecucci & Sanfey, 2014).

One study conducted using functional magnetic resonance imaging (fMRI) examined the relationship between emotional reactions and DM regarding receiving a monetary reward (Wang et al., 2014). In the study, participants were presented with an unfair proposal involving the splitting of money between two individuals: they could either accept the offer and receive a partial sum or reject the offer and receive no money at all. The fMRI measured the level of anger triggered by the unfair proposal. The results demonstrated that participants experiencing anger, as indicated by activation of the anterior

insula, were more inclined to reject any monetary reward. Conversely, individuals without unpleasant emotional reactions were more likely to accept the offer and receive the reward. These findings underscore how negative emotions experienced during the DM process can impede individuals' ability to recognize a favorable opportunity. In this particular scenario, accepting a partial monetary gain proves to be more advantageous than receiving no reward at all.

Other studies have specifically examined the impact of ER on DM in critical scenarios. Heilman et al. (2010) found that ER strategies effectively reduced the intensity of emotions under risk, resulting in a beneficial impact on DM. By using adaptive strategies to control emotions, such as situation reassessment, the intensity of the emotion is diminished more rapidly and with less effort (Gross, 2002). On the other hand, suppression also diminishes the intensity of emotions, but is correlated with impulsive DM and weakens explicit memory (Leith & Baumeister, 1996; Richards & Gross, 1999). In addition, while both suppression and situation reassessment are able to diminish the intensity of positive emotions, only situation reassessment is able to diminish the intensity of unpleasant emotions (Gross, 1998a). Law enforcement personnel are known to suppress emotions in order to remain professional, with a survival guide for new officers referring to emotions as a "biological rollercoaster," indicating that they should be viewed as something to avoid (Gilmartin, 2002). In fact, Rafaeli and Sutton (1987) found that police officers often alter their emotional reactions when interacting with crime suspects. Therefore, they must remain attentive to other people's emotional intelligence, specifically crime suspects, while also managing their own emotions.

Another study by Heilman et al. (2010) discovered that ER also leads to better performance when making a decision and modulates risk-taking behavior by reducing the likelihood of negative emotions. This quality is crucial for law enforcement, as their job involves a high level of risk, which in turn impacts their performance. ER also helps mitigate feelings of loss aversion when making a decision (Sokol-Hessner et al., 2013). Loss aversion, the notion that humans tend to focus more intensely on negative feelings of losses rather than positive emotions associated with gains, is reduced when ER strategies are employed during DM. This was also associated with less activation in the amygdala in

response to the loss, indicating lower levels of fear.

Hu et al. (2015) highlighted two cognitive pathways that humans typically follow when making risky decisions: an impulsive pathway, characterized by high error rates and superficial quality, and an optimal pathway, characterized by greater precision but slower development. Regulation of emotions along the optimal pathway can dampen emotional arousal, thereby reducing emotional hindrance in the DM process. ER is shown to guide DM towards safer behavior outcomes and ethical DM (Martin & Delgado, 2011; Kligyte et al., 2013). Research has shown that fear and anger are two common emotions in the workplace, with fear having less of an effect on ethical DM than anger. By implementing ER strategies prior to DM in the workplace, particularly after the onset of anger, negative consequences to ethical DM can be prevented (Kligyte et al., 2013). These findings highlight the influence of emotions and the importance of regulating them, as they shape the choices made, thereby altering the outcome in terms of performance and the perception of the situation.

### **Purpose of the Present Study**

The purpose of the present study is to reach two objectives. The first is to gather validity evidence for two psychometric scales for European Portuguese, specifically for the police context: one for DM, the MDMQ (Mann et al., 1997) and one measuring ER, namely the Re-Trab (Hirschle & Gondim, 2019). To achieve this, a confirmatory factor analysis will be conducted for both scales. By doing so, we seek to provide both theoretical and empirical evidence to enhance studies on these variables within the Portuguese police context, and for occupations related to public safety. We also seek to support the hypothesis that strategic employments of ER strategies utilized by police officials can enhance their DM abilities as leaders in their respective fields. The second objective is to analyze the strength of the association between ER and DM styles for the purposes of forming practical interventions and professional trainings in these areas. This would then help minimize negative consequences that impact societies perception of police officials, as well as prevent personal harm to others.

### **Methods**

#### **Participants**

The sample is composed of higher-ranking Portuguese Public Security officials ( $N = 138$ ) who were recruited from major cities across Portugal. Initially, 216 questionnaires were distributed, but only 138 were deemed valid due to missing data. Among the participants, the majority (81.2%,  $N=112$ ) were male. The average age of the participants was 41 years ( $M=41.37$ ;  $SD=10.89$ ), with an age range spanning from 24 to 62 years. All participants held the position of police officials in Territorial Commands, with a significant portion ( $N=81$ ) serving as Metropolitan Commanders in Lisbon. On average, participants had been in the profession for 20 years ( $M=19.96$ ).

### **Procedures/ Data Collection**

Data collection for this study was conducted using an electronic questionnaire distributed to PSP officials in all regions of Portugal Continental after formal authorization from the PSP Central Command, which ethically analyzed the study. Participation in the study was voluntary, and respondents were assured of anonymity and confidentiality. Participants provided informed consent, as well as information on their sociodemographic background, through a questionnaire that included key variables such as gender, age, career in policing (official or chief position), years of service in the Portuguese Public Security Police (PSP), and current location of their district in Portugal. They then filled out two more questionnaires consisting of the Re-Trab (Re-Trab) questionnaire, which focused on ER in the workplace, and the Melbourne Decision Making Questionnaire (MDMQ), which assessed participants' DM styles.

### **Instruments**

**The Melbourne Decision Making Questionnaire (MDMQ)** - The MDMQ, developed by Mann et al. (1997), is a measure used to assess individuals' DM styles. It consists of four subscales: vigilance, hypervigilance, procrastination, buck-passing. Vigilance implies heightened effort and emphasis on consideration of alternatives, whereas hypervigilance is more impulsive in manner. Procrastination is the delay of a choice, while buck-passing is shifting the responsibility of the decision to another person. It was originally based on the Flinders Decision Making Questionnaire (Mann, 1982), which was a 31-item self-reported checklist made up of four DM styles: Vigilance, hypervigilance, procrastination, buck-passing. It is composed of 22 items with answers appraised on

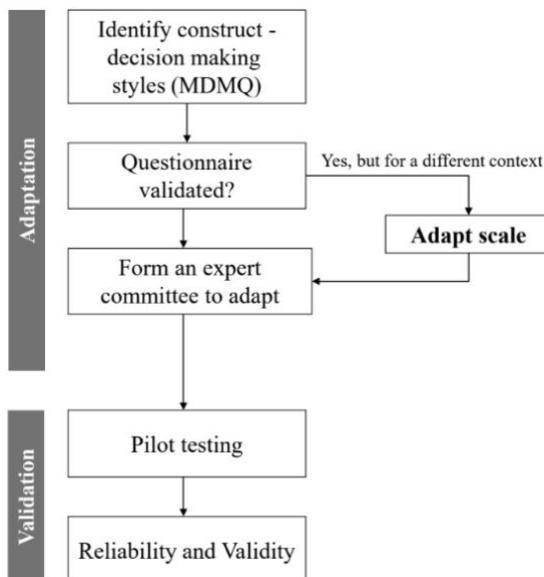
a 5-point Likert scale that ranges from 1 - "Never" to 5 - "Always". Each DM style has good reliability, assessed through Cronbach alpha, with vigilance  $\alpha = 0.768$ , hypervigilance  $\alpha = 0.768$ , procrastination  $\alpha = 0.778$ , and buck-passing  $\alpha = 0.758$ . Vigilance indicating statements are made up of six items describing a cautious manner of assessing alternatives (e.g., "I am very careful before making the final decision in a risky situation"). Hypervigilance composes five items with statements indicating a more impulsive approach to DM (e.g., "I feel like I'm under a lot of time pressure when I make decisions."). The procrastination subscale indicates a delay of choice and has five items, (e.g., "When I have to make a decision, I wait a long time before I start thinking about it"). Buck-passing comprised six items assessing the removal of responsibility from oneself to others (e.g., "Faced with a risky situation, I avoid making decisions, because it is difficult for me to consider the aspects involved"). The MDMQ has been found to have suitable psychometric properties, demonstrating both validity and reliability in previous research studies.

**The Emotion Regulation Profile - Revised (Re-Trab) - The Emotion Regulation in the Workplace** questionnaire developed by Hirschle and Gondim (2019) is designed to assess an individual's capacity to regulate their emotions in the workplace. It involves hypothetical negative and positive scenarios to measure two modes of regulation: up-regulation and down-regulation. The questionnaire identifies specific strategies employed by individuals to cope with emotions and categorizes them into four scales: functional, dysfunctional, adaptive, and maladaptive. The scale has been validated for the current Portuguese context. The Re-Trab questionnaire has also demonstrated good reliability, measured through Cronbach's alpha coefficients. The reliability coefficients for each scale are as follows: adaptive ( $\alpha = 0.861$ ), maladaptive ( $\alpha = 0.815$ ), functional ( $\alpha = 0.746$ ), and dysfunctional ( $\alpha = 0.782$ ). These coefficients indicate the internal consistency and reliability of the questionnaire in measuring the respective scales. Down-regulation is measured through three negative scenarios and consists of four functional and four dysfunctional strategies. The four functional strategies include attentional reorientation (altering the target of focus to a separate stimulus), situation modification (altering the circumstances), situation reassessment (shifting perspective regarding the meaning of the situation), and emotional expression (sharing emotional thoughts).

with others) (e.g., “I share my fears and seek support and advice”). Conversely, dysfunctional strategies are made up of learned helplessness (viewing oneself as passive and unable to control situations), rumination (constant focus on a thought pattern), substance abuse, and impulsive reaction (a response with little thought) (e.g., “I use a relaxing substance to try to feel better”). Up-regulation is measured through three positive scenarios, with either adaptive or maladaptive strategies. Adaptive strategies include savoring the present moment, capitalization (sharing feelings of gratitude with others), positive mental travel, and behavior manifestation (e.g., “I keep remembering the good times or the reasons why my work is so valuable”). Maladaptive strategies are composed of inhibition of emotional expression, excessive worrying, identification of faults, and negative mental travel (e.g., “I contain my emotions despite my contentment, as I prefer to remain discreet”). It comprises six hypothetical situations related to the work context, with 8 subsets of statements related to their emotional reactions to the situation (e.g., “I contain my emotions despite my contentment, as I prefer to remain discreet”). Each subset statement is assessed on a 5-point Likert scale ranging from 1 – “I would hardly react that way” to 5 – “I would probably react that way”. The original instrument found acceptable internal reliability values and acceptable psychometric indices for the scale dimensions.

**Table 1.**

The adaptation and validation process of the MDMQ

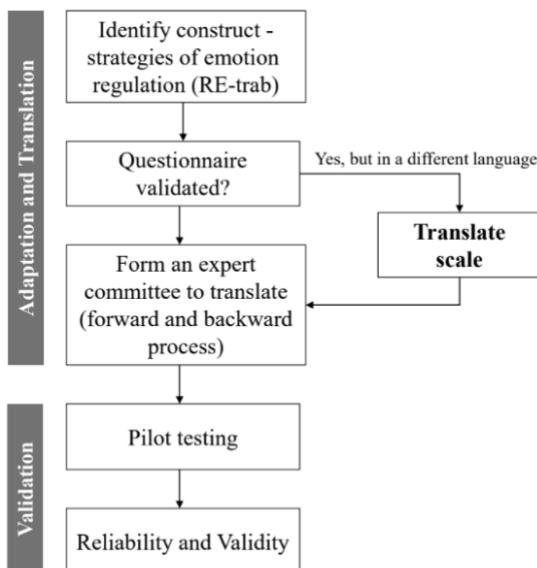


### **Adaptation and Validation of the MDMQ**

The current investigation represents an extension of prior research endeavors through the adaptation and validation of the MDMQ specifically for implementation in the police context. Given that the instrument has already undergone translation to European Portuguese, the primary focus of this study was on adapting and validating the scale without the necessity of further translation. The adaptation and validation procedures followed works of Tsang et al. (2017) and Hill (2012) encompassing two distinct stages: stage 1 involved the adaptation of the scale, while stage 2 focused on assessing the scale's accuracy to ensure its validation. The scale had previously been translated from English to European Portuguese by native speaking Portuguese translators, ensuring cultural adaptation. Adaptation and validation results were presented to a committee of seven professionals in the field, where their feedback was employed to enhance the application of the instrument in the current sample set. To ascertain the comprehensibility and validity of the scale, a pilot test was conducted involving participants from the police force. It aimed to determine if the participants were able to comprehend the scale adequately. However, the findings from the pilot study are not included in the present data analysis. For a detailed account of the process employed in the adaptation and validation of the MDMQ, please refer to Table 1.

**Table 2.**

The translation, adaptation, and validation process of the ReTrab



**Translation, Adaptation, and Validation of the ReTrab**

The current investigation is a continuation of previous studies by translating, adapting, validating the ReTrab for the Portuguese police context. Given that the instrument was not yet translated to European Portuguese, the procedures outlined by Tsang et al. (2017) and Hill (2012) to ensure proper translation, adaptation, and validation. This encompasses two distinct stages: stage 1 involving translation and adaption, and stage 2, validation. A committee of seven professionals (CE) were presented with the translated material to conduct an impartial evaluation of its semantic equivalence in the police context. The feedback provided by the CE was employed to enhance the application of the instrument in the current sample pool. To ascertain the comprehensibility and validity of the scale, a pilot test was conducted involving participants from the police force. It aimed to determine if the participants were able to comprehend the scale adequately. However, the findings from the pilot study are not included in the present data analysis. For a detailed account of the process employed in the adaptation and validation of the MDMQ, please refer to Table 2.

**Data Analysis**

To achieve the objectives of the study, a cross-sectional quantitative research design was employed. It is of transversal nature and the variables are composed of police officials' ER and DM style. A confirmatory factor analysis was first conducted to validate the ER in the Re-Trab as well as the MDMQ for the Portuguese police context. Data was then analyzed using correlations to test for a relationship, as well as a mulitple regression with enter method to analyze the impact of that relationship. Reliability analyses of the scales were conducted using Cronbach's Alpha.

## Results

### Confirmatory Factor Analysis

Data was first analyzed using confirmatory factor analysis to assess both psychometric scales for the Portuguese police context. The global assessments of models fit the suggestion of Brown (2015) and Kline (2015) was considered. That is, the analysis of the chi-square test ( $\chi^2$ ) and additionally due to the size of the sample the following indicators: Comparative Fit Index (CFI), Tucker and Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The choice of these indicators was due to the fact that they are among the most mentioned and accepted in the literature. The evaluation of the set of indices of model adequacy revealed a high level of satisfaction, supporting the hypothesis of adjustment between the empirical data and the hypothetical model (Appendix E).

In the context of a confirmatory factor analysis, Cronbach alpha values were used to assess the internal consistency and reliability of measurement scales. In this study, we examined the alpha values for two distinct constructs: DM styles and ER strategies. The alpha values for the variables are as follows: hypervigilance with 0.77, procrastination with 0.78, buckpassing with 0.726, and vigilance with 0.771. This suggests a good level of internal consistency among these measures, indicating that they assess different aspects of DM styles reliably and consistently.

Regarding the ER strategies, the alpha values were also examined. The adaptive ER strategy demonstrated the highest reliability coefficient with a value of 0.83. This suggests that the measures assessing adaptive strategies are internally consistent and reliably measure this construct. The maladaptive ER strategy exhibited a slightly lower but still acceptable reliability coefficient of 0.79. This indicates that the measures assessing maladaptive strategies also demonstrate reasonable internal consistency. On the other hand, the functional ER strategy displayed a reliability coefficient of 0.67. Although this value is somewhat lower than the desired threshold, further justification based on theoretical and contextual considerations might allow accepting the value of 0.67 as an acceptable level

of internal consistency for the measures assessing functional strategies. Lastly, the dysfunctional ER strategy presented a reliability coefficient of 0.74, indicating a moderate level of internal consistency for the measures related to dysfunctional strategies.

In the scale Re-Trab, three items were removed. More specifically items 2c, 1d, and 5c due to saturation being under 0.45. These three previous items encompass the overall item titled “func\_3” which was removed from Re-Trab for having a saturation of 0.44 (it should be noted that each dimension of the Re-Trab corresponds to four “items”, and each of these “items” results from the arithmetic mean of the items that make up said “items” - see Table 10 and Table 11 in annex). In the MDMQ scale, item 1 and item 4 were removed for having a saturation of 0.30 and 0.41 respectively (saturation under 0.45). The indices of modifications in this scale suggested, for a better fit, the covariance between two errors (e14 and e15).

**Table 3.**

Results of Confirmatory Factor Analysis for ReTrab and MDMQ

Scale	$\chi^2/$					Confidence Interval (90%)
	g.l.	SRMR	TLI	CFI	RMSEA	
A. Re-Trab	147.96	0.08	0.88 = 0.9 (IFI = 0.90)	0.90	0.08	0.06 - 0.10
		g.l. = 83		0.91)		
B. MDMQ	232.12	0.08	0.91	0.92	0.06	0.04 - 0.07
		g.l. = 164				

\*p<.05 \*\*p < .01; \*\*\*p < .001

*Note.* SRMR = Standardized Root Mean Square Residual; TLI = Tucker-Lewis Index; CFI = Comparative Fit Index; IFI = Incremental Fit Indices; RMSEA = Root-Mean Square Error of Approximation

### Correlations

A Pearson correlation analysis was performed to examine the relationship between ER strategies and DM styles. As we can see in Table 2, most ER strategies are correlated with at least one DM style, with the exception of Adaptive ER not correlating to any DM style. Specifically, maladaptive ER is positively correlated to both hypervigilance ( $r = .635; p < .01$ ) and procrastination ( $r = .401; p < .01$ ). Functional ER is negatively correlated with procrastination ( $r = -.189; p < .01$ ), and positively correlated with vigilance ( $r = .236; p < .01$ ). Dysfunctional ER is positively correlated with procrastination ( $r = .022; p < .01$ ), hypervigilance ( $r = .635; p < .01$ ), and buck-passing ( $r = .464; p < .01$ ). Finally, Adaptive strategies are the only ER not correlated with any DM style.

**Table 4.**

*Correlation Results of MDMQ and Re-Trab.*

	A	B	C	D	E	F	G	H
<b>A. Vigilance</b>	--							
<b>B. Buck-passing</b>	-.149	—						
<b>C. Procrastination</b>	-.164	.566 **	—					
<b>D. Hypervigilance</b>	.013	.589 **	.591 **	—				
<b>E. Maladaptive</b>	-.097	.427 **	.401 **	.635 **	—			
<b>F. Adaptive</b>	.134	.046	.022	.031	- .038	—		
<b>G. Dysfunctional</b>	-.142 .034	- .034	.394 **	.635 **	.748 **	.116	—	
<b>H. Functional</b>	.236**	.692 .189 *	— .133	— .114	— .501 **	— .1	— .05	

\*  $p < .05$ . \*\*  $p < .01$ .

### Regression analysis: Effects of ER on DM

A multiple regression analysis with enter method was conducted for each independent variable to test if ER strategies predicted DM styles (N=138). Normality was met to an acceptable degree.

For the first block of the multiple regression analysis through the enter method, the relationship between all of the ER strategies with procrastination DM was evaluated. The multiple regression analysis reveals that procrastination is predicted by ER approximately 21% of the time. Additionally, hypervigilance is predicted by ER approximately 46% of the time, while buckpassing is predicted 23% and vigilance 7.2%. Furthermore, vigilance is found to have a prediction rate of approximately 7.2% for procrastination. Procrastination is significantly positively impacted by maladaptive ER ( $\beta = .258$ ,  $p < .05$ ) and negatively impacted by functional ER ( $\beta = -.198$ ,  $p < .05$ ). Hypervigilance was significantly predicted by maladaptive ER ( $\beta = .369$ ,  $p < .05$ ) and dysfunctional ER ( $\beta = .346$ ,  $p < .05$ ). Buckpassing was only significantly impacted by dysfunctional ER ( $\beta = .329$ ,  $p < .05$ ). Vigilance was significantly impacted by functional ER ( $\beta = .093$ ,  $p < .05$ ).

**Table 5.**

Multiple regression coefficients: 1) Procrastination; 2) Hypervigilance; 3) Buckpassing; 4) Vigilance

Variables	B	$\beta$	t	p	$R^2$
<b>1) Regression 1</b>					.210
Adaptive	.106	.112	1.208	.229	
Maladaptive	.282	.258	2.175	.031	
Dysfunctional	.197	.168	1.390	.167	
Functional	-.179	-.198	-2.184	.031	
<b>2) Regression 2</b>					.466
Adaptive	.045	.044	.575	.567	
Maladaptive	.437	.369	3.791	< .001	
Dysfunctional	.440	.346	3.493	< .001	
Functional	-.075	-.077	-1.029	.305	
<b>3) Regression 3</b>					.230
Adaptive	.005	.005	.056	.956	
Maladaptive	.193	.183	1.569	.119	

Dysfunctional	.372	.329	2.763	.007
Functional	.016	.019	.210	.834
<b>4) Regression 4</b>				.072
Adaptive	.057	.100	.571	.569
Maladaptive	.059	.148	.398	.691
Dysfunctional	-.205	.162	-1.269	.207
Functional	.186	.093	1.991	.049

### Discussion

The findings of the current study enhance existing literature in DM by examining the influence of emotional regulation strategies, specifically up-regulation and down-regulation, among DM styles of Portuguese police officers. Through correlation and multiple regression analysis, significant correlations were found between certain ER strategies and specific DM styles, as listed in the previous tables. This finding aligns with previous research emphasizing the crucial role of emotions and how they are regulated in influencing the DM process (Brown et al. 2015; Elster, 1999; Sweeney, 2022), as well as studies highlighting the importance of ER in effectively navigating challenging situations and promoting overall well-being (Carvalho et al., 2018; Siu et al. 2015; Quoidbach et al., 2010). Although there is a lack of unanimous agreement regarding the precise conceptual boundaries of emotions, scholars tend to find common ground when it comes to their functions, triggers, and regulation (Techio et al., 2023).

Working in law enforcement is a highly demanding profession due to the wide range of interpersonal encounters and the exposure to high-risk and unpredictable circumstances (Oliveira et al., 2023; Queirós et al., 2020a; Lan et al., 2020). Researchers underline the importance of emotions in individuals' everyday experiences, including social contexts, considering their varying effects on functionality and whether they are adaptive, maladaptive, functional, or dysfunctional (Gondim et al., 2015). However, there is a scarcity of studies focusing on Portuguese police officials, which is likely attributed to the challenges in accessing this specific population (Oliveira et al., 2023).

In the sample size, a correlation was found between functional ER and both vigilant and procrastination DM within the sample size. This suggests that individuals, in their attempts to reduce the impact of negative emotions, may exhibit either heightened attentiveness during DM, potentially linked to reevaluating the situation, or engage in procrastination as a means of redirecting attention and modifying the situation. Sirois and Pychyl (2013) propose that procrastination stems from difficulties in achieving self-regulation and instead seek short-term emotional regulation, in order to briefly avoid the

unpleasantness associated with the task. Research conducted by Steel (2007a) and Wohl et al. (2010) even demonstrated that negative emotions are a precursor in the occurrence of procrastination. This observation is consistent with previous scientific investigations that have demonstrated a notable correlation between emotion regulation and procrastination (Steel, 2007a; Pychyl and Sirois, 2016). On the other hand, heightened vigilance DM in individuals when experiencing negative emotions may be attributed to their desire to avoid potential negative outcomes or find solutions to alleviate the negative emotions they are experiencing.

Averill et al. (1977) found that being vigilant in a situation pays off depending on the situation at hand. In their study, participants who exhibited vigilance DM, and had the ability to preemptively avoid an impending shock, reported lower levels of stress in contrast to individuals who did not demonstrate vigilance DM. Conversely, in situations where the shock was inevitable, and avoidance was not plausible, vigilant individuals experienced higher levels of stress compared to their less vigilant counterparts. This suggests that being attentive and cautious can be helpful when there's a chance to avoid something negative, but if avoidance isn't possible, being watchful only increases anxiety without providing any real benefits. This emphasizes the importance of regulating emotions effectively, enabling individuals with adept knowledge of the regulatory process to carefully consider contextual factors and determine the most appropriate strategy for implementation.

Considering the previous discussion, it can be argued that individuals with a solid understanding of regulatory strategies may be better equipped to engage in System 2 thinking, from the Dual Process Model of Decision Making, when necessary. This critical utilization of cognitive resources allows individuals to carefully assess the situation and select the most appropriate ER strategy, taking into account both the context and potential consequences. Therefore, their ability to navigate between S1 and S2 thinking, guided by regulatory strategy knowledge, becomes crucial in effectively managing emotions and DM processes.

Procrastination is also significantly predicted by maladaptive emotion regulation. It is theorized

by researchers that individuals who engage in procrastination may do so as a means of evading the emotional response associated with a particular task (Pychyl and Sirois, 2016). This phenomenon could potentially be explained by the implementation of maladaptive ER including emotion inhibition, which appears to be linked to procrastination. By employing emotion inhibition, individuals delay the expression of their emotions, analogous to the way procrastination involves postponing decision-making and attention to the task at hand. Further investigations have also established a connection between emotion suppression and emotional strategies commonly associated with depression (Joormann & Gotlib, 2010). Therefore, although procrastination may offer temporary relief from negative emotions, studies have indicated that this benefit is short-lived (Sirois and Pychyl, 2013). Additionally, Mohammadi et al. (2020) also found that individuals who engage in procrastination tend to exhibit maladaptive emotion management techniques, which paradoxically result in an outcome opposite to their intended goal—rather than avoiding negative emotions, they generate even more negative emotions.

The results of the study also revealed a significant regression result when examining the relationship between maladaptive and functional ER strategies with hypervigilance DM. Specifically, with an  $R^2$  value of 46%. This strong correlation raises the question of why hypervigilance is so closely associated with these ER variables. To reiterate, maladaptive ER encompasses behaviors such as expression inhibition, fault finding, negative rumination, and excessive worrying. Dysfunctional ER are behaviors such as learned helplessness, rumination, impulsive reactions, and substance abuse.

One possible explanation for the connection of hypervigilance with maladaptive ER can be that individuals with low self-confidence tend to excessively worry and criticize themselves, manifesting fault-finding behaviors which involves excessive self-criticism. Certel et al. (2013) conducted a study exploring the connection between self-esteem in DM and decision-making styles found in the MDMQ. Their findings indicated that vigilant decision-making was positively correlated with higher self-esteem, whereas the opposite was true for hypervigilance. Considering that hypervigilance involves making rushed decisions under time pressure, due to an overwhelming emotional pressure, individuals with this

decision-making style may lack confidence in their choices, which could explain the correlation with lower self-esteem in DM. Making decisions under time pressure can also contribute to excessive worrying due to the limited time available for considering alternative options and difficulties in focusing. Furthermore, hypervigilance is characterized by severe psychological distress (Ding et al., 2020). The connection to acute stress suggests that individuals may transfer this stress to their emotional regulation, resulting in maladaptive patterns, such as excessive worrying. Maladaptive approaches to managing emotions can result in intensified emotional reactivity (Clauss et al., 2019). Hypervigilance, characterized by heightened attentiveness and sensitivity, may be an expression of this heightened emotional reactivity. As a result, police officials might be more inclined to detect potential dangers or hazards, leading to heightened hypervigilance when making decisions.

Dysfunctional ER showed correlations with buck-passing, procrastination, and hypervigilance, with buck-passing and hypervigilance demonstrating significant impacts. Filipe et al. (2020) identified a positive association between negative affect and both hypervigilance and buck-passing tendencies. Their findings suggest that individuals who experience negative emotions are more inclined to exhibit heightened alertness and sensitivity to potential threats or dangers, as well as a proclivity to evade personal accountability and DM by delegating responsibility to others. Steel (2007a) conceptualizes procrastination as a dysfunctional strategy for regulating emotions, aligning with the findings of our study. Procrastination can be influenced by dysfunctional ER strategies, perhaps because individuals who engage in impulsive reactions or substance abuse resort to procrastination as a means of escaping or numbing these negative emotions. Given that the police profession has been correlated to substance abuse as a dysfunctional form of coping with job demands (Rodrigues, 2018), this is in line with the need for proper trainings on effective ER strategies for law enforcement.

### Theoretical and Practical Implications

The findings of this study have significant practical implications, particularly in optimizing DM

processes for law enforcement personnel through the adoption of effective ER strategies.

Incorporating proper strategies for ER into the training programs of law enforcement officials in the PSP can enhance the prevalence of efficient DM, while also positively impacting other organizational outcomes such as well-being and resilience. Considering the critical nature of the police profession, these factors assume even greater importance. As such, the present study contributes to the field of Work Organization and Personnel Psychology (WOP-P) by highlighting the influence of ER on DM and subsequent workplace behavior.

While the context of law enforcement may be inherently more dangerous than other professions, the findings have broader applicability and shed light on how individuals formulate and maintain effective DM styles. The implications of this research extend beyond law enforcement and offer insights applicable to other professions as well. DM styles play a crucial role in various occupational settings and understanding how individuals formulate and retain effective DM styles has broader relevance.

Additionally, the introduction of various ER strategies offers insights into how DM styles can be altered. Moreover, with the successful translation, adaptation, and validation of The ReTrab (Hirschle & Gondim, 2019) and the validation and adaptation of the Melbourne Decision Making Questionnaire (Mann et al., 1997) within the Portuguese community, future studies in this community can utilize these instruments, taking into account cultural differences from the original instruments. The broader applicability of these findings across various professions underscores the importance of integrating ER strategies into training and development initiatives aimed at optimizing DM outcomes.

### **Limitations and future research**

This study has potential limitations. To begin, after removing participants who were missing more than 10% of the questionnaire, the study began with an initial sample size of 216 and ended with 138, resulting in a small sample size. This small sample may have also led to a lack of power in detecting

significant correlations. Additionally, the sample size is not large enough to generalize the findings to other law enforcement personnel, indicating poor external validity. Generalizations cannot be made to the PSP, other security forces, or other emotionally demanding professions that involve critical DM under adverse work conditions. Therefore, caution should be exercised when analyzing our results.

Moreover, different organizational and individual factors can influence how officers make decisions and regulate their emotions. The present study did not account for control variables, which may have influenced the results, such as sociodemographic variables despite collecting them. Future studies should focus on the professional characteristics of police officials to consider these individual factors. Additionally, sociodemographic qualities should be taken into account to better understand and explain the final results. Furthermore, data collection occurred during the pandemic, which may have affected participants' responses due to the emotional stressors and DM challenges they faced at that time.

In terms of future research, the relationship between the up-regulation of positive emotions in police officers during DM can be explored by controlling for the environment. Although our results confirm that ER affects DM for most independent variables, there was no correlation found between adaptive ER of positive emotions and the aforementioned DM strategies. This differs from previous studies that have shown an association between adaptive ER and vigilant DM. Given the occupational culture of police officials in dealing with risk and danger, it stimulates the use of down regulation strategies more than up regulation. Thus, future studies can control for the criticality of the environment in which up regulation occurs to investigate differences in risk relevance and its impact on adaptive ER.

Furthermore, Palma (2016) linked down-regulation to the form in which individuals' access and utilize knowledge, known as epistemic orientation. Epistemic orientation also influences professional behavior by mitigating the negative consequences associated with the occupation. Future studies can

examine how DM styles and ER strategies relate to epistemic orientation within the police context.

Given the propensity for negative outcomes in the police profession, it is essential to prioritize studies focused on mitigating these negative consequences.

### **Conclusion**

The current study has contributed to ER and DM research in various ways. To begin, it confirmed a connection between ER and DM, while also adding to the literature by identifying the specific mode of ER that correlates and impacts to the specific type of DM style. Through it, we have identified that hypervigilance is significantly predicted by maladaptive ER and dysfunctional ER. The multiple regression analysis examined the relationship between different emotional regulation (ER) strategies and procrastination. Procrastination was found to be predicted by ER strategies approximately 21% of the time. Specifically, hypervigilance was predicted by ER around 46% of the time, buckpassing was predicted 23% of the time, and vigilance had a prediction rate of approximately 7.2%. Maladaptive ER had a significant positive impact on procrastination, while functional ER had a significant negative impact. Hypervigilance was significantly predicted by both maladaptive and dysfunctional ER. Buckpassing was only significantly impacted by dysfunctional ER, and vigilance was significantly impacted by functional ER. No connection was found for adaptive ER. Due to the importance of police officials making an optimal decision in a critical context, research on their DM process is of extreme importance. By training police officials to better control their emotions in critical situations, they will be able to make more efficient decisions, and improve the overall safety of the community they serve.

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## Appendices

### Appendix A

#### Questionnaire MDMQ

To answer the following questions, consider conflict situations at work in which you have to make decisions.

Mark the frequency with which you act or feel as described in the items.

1	two	3	4	5
Never	Rarely	Occasionally	Often	Always

	1	2	3	4	5
1. When I make a decision, I like to gather a considerable amount of information.					
2. When I make a decision quickly, I spend a lot of time convincing myself that I made the right choice.					
3. At work, I put off making decisions about problems					
4. In a risky situation, I don't take responsibility for decisions unless it's really necessary					
5. Even after I've made up my mind, I'm slow to act on my decision					
6. I prefer to let others decide for me, in the face of a risky situation					

7. Faced with a risky situation, I avoid making decisions, because it is difficult for me to consider the aspects involved.					
8. I am very careful before making the final decision in a risky situation					
9. When I have to make a decision, I wait a long time before I start thinking about it.					
10. In a risky situation, when I need to make a decision in a hurry, I can't think properly					
11. I prefer people who are more informed to make the decisions for me					
12. At risk, I make decisions with caution, evaluating the best alternative					
13. I spend a lot of time thinking about trivial matters before making the final decision.					
14. I like to think of all possible alternatives before deciding.					
15. Postpone decision making until it's too late					
16. If a decision can be made by me or someone else, I let the other person decide.					
17. I try to have clear goals before making a risky decision					
18. I feel like I'm under a lot of time pressure when I make decisions					

19. I try to identify the disadvantages of all alternatives						
20. I don't like to take responsibility for making decisions						
21. Whenever I face a difficult decision, I feel pessimistic about getting a good solution.						
22. The possibility that a simple thing could go wrong causes me to abruptly change my preference						

## Appendix B

### Questionnaire Re-Trab

Below, you will find six hypothetical situations related to the work context in the Public Security Police. In each of them the police officers (officials) may react differently from each other. Imagine that you are going through a situation similar to the one presented, and evaluate each alternative by marking the number that best represents your way of dealing with each situation. On a scale of 1 to 5, consider that 1 - You would hardly react this way and 5 - You would probably react this way.

1. You are currently experiencing a very difficult situation in the service. Information that is necessary for your work is not transmitted; there is no adequate material support; some of its functions are being withdrawn without explanation. In addition, he realizes that his work is being increasingly undervalued. This leaves him/her extremely upset emotionally. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
1.1 Sadness					
1.2 Anger					
1.3 Fear					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

	1	2	3	4	5
1a) I feel undervalued and very upset, but I don't see what I could change					
1b) I plan time to take care of myself or do other things I enjoy, to be able to detach myself from the situation a little.					
1c) I use a relaxing substance to try to feel better (e.g. food, alcohol, medication, etc.)					

1d) I confide in someone close, because I need to share what I feel					
1e) I try to reverse the situation: I reset my priorities to get a workplace transfer					
1f) I keep reminiscing and thinking negatively about the situation, and I feel pessimistic					
1g) Although it is difficult, I try to see the positive side of things, as it can be an opportunity to re-evaluate my work or find another that satisfies me more					
1h) Because I feel strongly disturbed, I act without thinking and take my feelings out on the people around me					

2 – A more modern co-worker receives an indication from his/her superior to coordinate an important project. He/she is surprised, because everything indicated that he/she would be the chosen one, for being more experienced and better qualified. This situation makes you feel extremely frustrated and upset. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
2.1 Jealousy					
2.2 envy					
2.3 Anger					
2.4 Sadness					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

	1	2	3	4	5
2a) I observe the colleague out of the corner of my eye, I brood, but without showing					
2b) I decide to think and do other things to distract myself, like talking, planning new projects, new challenges, etc.					

2c) I share my feeling of frustration with another colleague or close person					
2d) I visibly show my frustration and annoyance to the colleague who took my place, in order to vent what I feel					
2e) I try to calm myself down by taking a relaxing substance (e.g. food, alcohol, medication, etc.)					
2f) I reflect on what happened and try to find solutions to deal with the situation in the best possible way					
2g) I feel wronged, but there is nothing to be done, because nothing will change					
2h) I try not to give so much importance to this isolated fact, as I am sure that my effort will be recognized next time					

3 – Had a great month at work in terms of professional accomplishments, achievement of goals and professional recognition (such as praise, praise, new projects). You are feeling very happy. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
3.1 Joy					
3.2 Excitement					
3.3 Pride					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

	1	2	3	4	5
3a) I can't help but notice some negative points in my work that prevent everything from being perfect					

3b) I try to enjoy the moment, putting everything else aside					
3c) I'm afraid that some negative thought will spoil this moment, because it's too good to be true					
3d) I allow myself to vent all my contentment: laughing, joking or hugging my colleagues					
3e) I keep remembering the good times or the reasons why my work is so valuable					
3f) I contain my great contentment at not being my style, feeling guilty or afraid of ridicule					
3g) I share this good moment, talking to friends, writing in a diary or interacting on social networks					
3h) I am unable to fully abstract from my current concerns (e.g. relationships, family, health)					

4 – The sub-unit or service where you work completed a major change in the work environment to make it more modern, practical and ergonomic, and so that the police could work more satisfied, preserving their health. The structure was excellent. He/she is amazed at the new facilities and at the concern of the hierarchical superiors in relation to the police. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
4.1 Admiration					
4.2 Joy					
4.3 Excitement					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

1	2	3	4	5

4a) I notice that there are still several problems that prevent me from fully enjoying the moment (for example, there are few outlets, the printer is far away, my workstation was not well)				
4b) I express my contentment (e.g. enthusiasm, joy, admiration)				
4c) I contain my emotions despite my contentment, as I prefer to remain discreet				
4d) I keep thinking about my new job, reflecting on the improvements made and the benefits for the police				
4e) I share my emotions with co-workers and close people				
4f) I think that the material used is probably of poor quality and that it will all be over quickly				
4g) I let myself be carried away by my feelings towards the new environment, enjoying this moment				
4h) I keep thinking about the possible intentions of superiors, what demands they should ask in return, and all the problems that will come				

5 – You have to make an important oral presentation with your team in a meeting with higher officials. However, he is afraid of receiving criticism that may embarrass him/her before the other officers. The idea of living in a situation of public exposure of this nature disturbs you emotionally. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
5.1 Fear					
5.2 Sadness					
5.3 Shame					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

	1	2	3	4	5
5a) I try to distract myself by doing an enjoyable activity, as I have already prepared my presentation well					
5b) I keep thinking about this, focusing on what could go wrong, keeping me stressed until the day of the presentation					
5c) I share my fears and seek support and advice					
5d) I establish action plans, looking for solutions to feel more secure (e.g. rehearsal, relaxation, information on how to improve the presentation)					
5e) I feel “a zero on the left” and I think I will never get there					
5f) I take or eat something that relaxes me to reduce my anxiety (e.g. coffee/tea, alcohol, medication, food, etc.)					
5g) I try to see the positive side of the situation, because if things go wrong, it won't be the end of the world					
5h) I feel paralyzed since the presentation was scheduled and I look for a reason that prevents me from doing it					

6 – After months of hard work, he got the recognition he had dreamed of (taking on the role he wanted so much within the PSP). It wasn't easy and you have a lot of merit for having achieved it. He is very moved and decides to celebrate his achievement with his friends. What emotion(s) would this situation arouse in you? Tick the number relative to the intensity of each emotion, if it was aroused in you:

	1	2	3	4	5
6.1 Pride					
6.2 Joy					
6.3 Excitement					

Given the previous situation, assess how you react: 1 = Not likely; 5 = Extremely likely to react this way.

	1	2	3	4	5
6a) I can't stop thinking about other things (e.g. risks of my new professional situation, my personal problems)					
6b) I reflect a lot on my success: the efforts and qualities I have shown, the pride of those close to me, future prospects					
6c) I think maybe I haven't done so much to deserve this recognition and I believe it won't happen again					
6d) I am pleased and show it (e.g. screaming or crying with joy, making gestures of victory)					
6e) I can't help but think that I could have done better, despite the success					
6f) I make the most of this moment of glory of mine, as I have worked hard and deserve all the praise					
6g) Other reasons prevent me from expressing my pride and fully celebrating my success (e.g. fear of ridicule, modesty, shyness)					
6h) I announce the news and share my success with those around me					

### Appendix C

#### Dimension ReTrab

**Table 6.**

*Dimensions Up-Regulation*

Up-regulation of Positive Emotions							
Adaptive				Maladaptive			
Adapt_1: Capitalization	Adapt_2: Behavior Manifestation	Adapt_3: Positive mind trip	Adapt_4: Savoring the present moment	Maldapt_1: Expression Inhibition	Maldapt_2: Fault Finding	Maldapt_3: Negative Mind Trip	Maldapt_4: Excessive Worrying
4e, 6h, 3g	4b, 3d, 6d	3e, 4d, 6b	4g, 6f, 3b	3f, 6g, 4c	3a, 4a, 6e	3c, 4f, 6c,	3h, 4h, 6a

*Note.* Last row indicates items

**Table 7.**

*Dimensions Down-Regulation*

Down-regulation of Negative Emotions							
Functional				Dysfunctional			
Func_1: Attention Reorientation	Func_2: Situation Modification	Func_3: Emotion Expression	Func_4: Situation Reassessment	Dysfunc_1: Rumination	Dysfunc_2: Impulsive Reaction	Dysfunc_3: Substance Abuse	Dysfunc_4: Learned Helplessness
2b, 5a, 1b	1e, 2f, 5d	2c, 1d, 5c	5g, 2h, 1g	1f, 5b, 1a	1h, 5h, 1c, 2d, 5f	2e	2g, 5e

*Note.* Last row indicates items

**Appendix D**

## Dimensions MDMQ

**Table 8.***Dimensions DM Styles*

Decision Making Styles			
Vigilance	Hypervigilance	Procrastination	Buck-passing
14, 19, 12, 1, 17, 8	21, 18, 22, 10, 2	13, 5, 9, 15, 3	4, 6, 20, 16, 11, 7

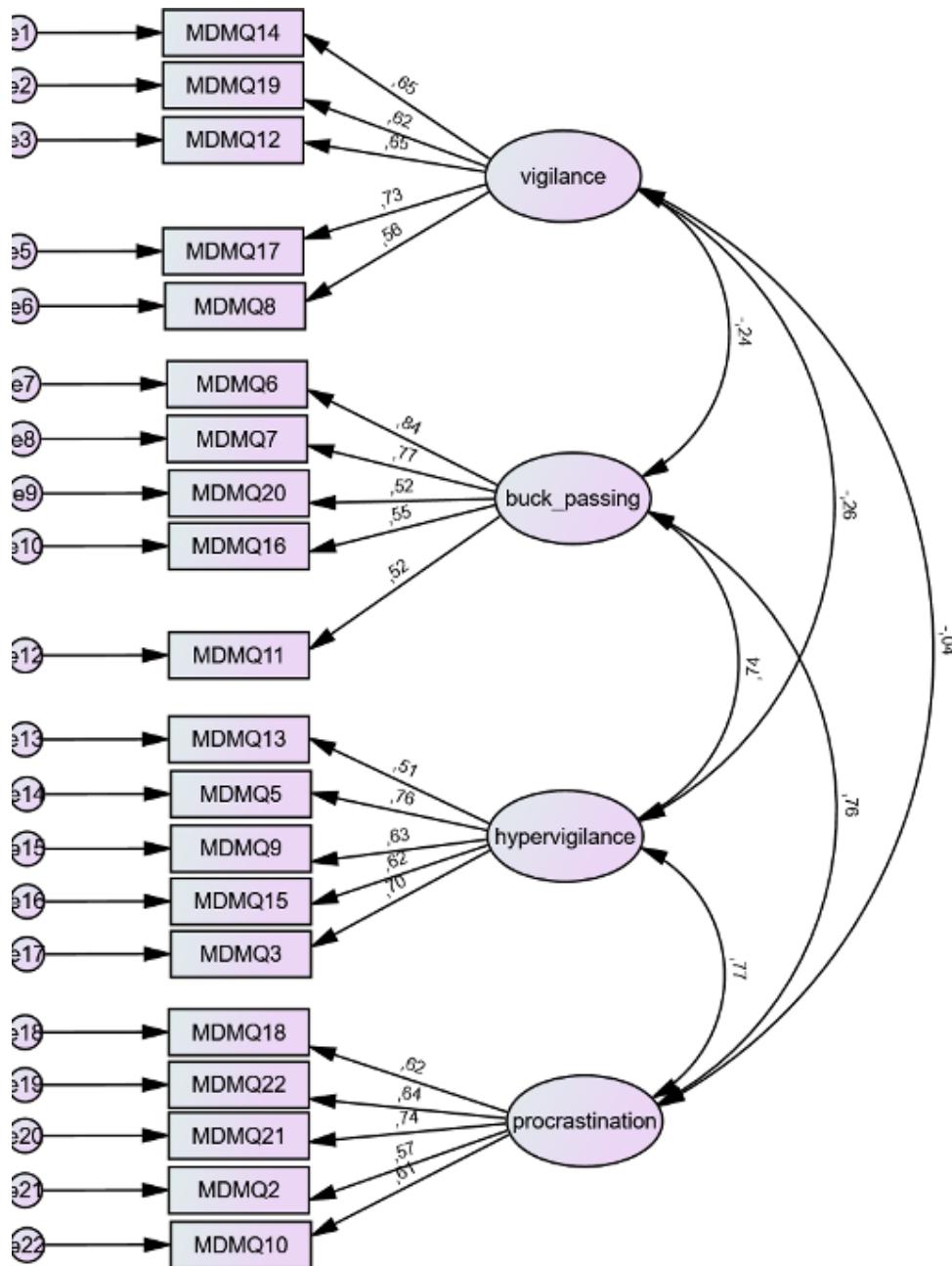
*Note.* Last row indicates items corresponding to variable

## Appendix E

### Model Confirmatory Factor Analysis MDMQ

**Figure 1.**

*Confirmatory Factor Analysis MDMQ*



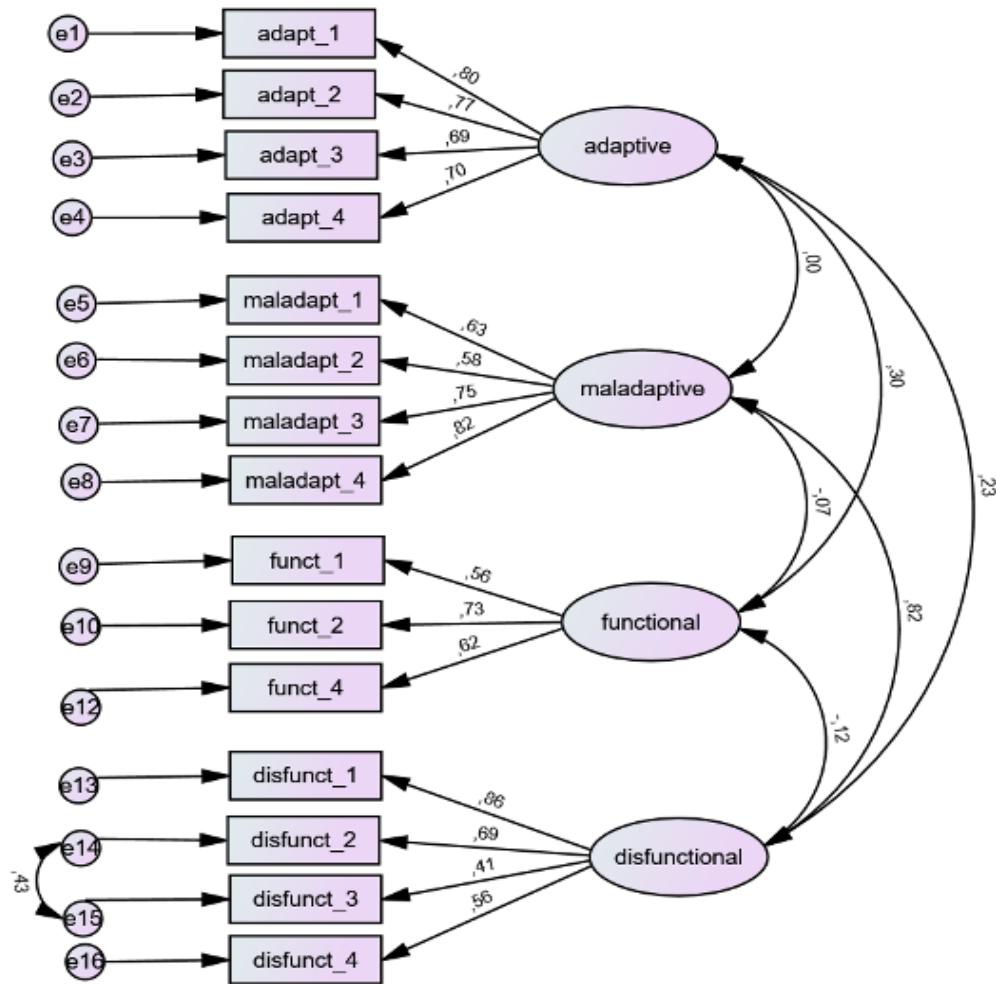
*Note.* Confirmatory factor analysis adaptation following Brown (2015) and Klein (2015)

## Appendix F

### Model Confirmatory Factor Analysis for ReTrab

**Figure 2.**

*Confirmatory Factor Analysis ReTrab*



*Note.* Confirmatory factor analysis adaptation following Brown (2015) and Klein (2015)

