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Exploring the Relationship between Decision-Making Styles and Emotion Regulation: A Study of Police Officials in Portuguese Public Security

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Citation: Carvalho, Carla, Ana Pinto, Beatriz Pinedo, Soraia Oliveira, Sonia Maria Guedes Gondim, Mary Sandra Carlotto, and Rui Coelho de Moura. 2024. Exploring the Relationship between Decision-Making Styles and Emotion Regulation: A Study of Police Officials in Portuguese Public Security. *Social Sciences* 13: 544. <https://doi.org/10.3390/socsci13100544>

Academic Editor: Antonio Bova

Received: 16 July 2024

Revised: 3 October 2024

Accepted: 10 October 2024

Published: 14 October 2024



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Abstract: In public security policing, where pressure is constant, effective decision-making and emotion regulation are critical, especially for leaders. These processes significantly impact upon work results, performance, officials' health, employee well-being, and the organizational environment. This study aims to broaden the understanding of decision-making styles and emotion-regulation strategies used by police officials in the Portuguese Public Security Police (PSP). We surveyed 138 Portuguese high-ranking police officials using two self-response questionnaires, namely the Emotion Regulation in the Workplace (ReTrab) and the Melbourne Decision Making Questionnaire (MDMQ), both translated, adapted, and validated for the Portuguese police context. A confirmatory factor analysis was conducted, followed by correlations to explore the relationship between emotion-regulation strategies and decision-making styles. Finally, through a regression analysis, the potential impact of this relationship was assessed. The results reveal that specific emotion-regulation strategies, except for adaptive ones, significantly influence and modify the decision-making styles of PSP officials. Dysfunctional and maladaptive emotion-regulation strategies lead to less adaptive decision-making styles, while functional strategies promote more adaptive styles. These findings have theoretical and practical implications, offering valuable insights for targeted training programs and interventions in the law-enforcement sector, benefiting the police personnel, the communities they serve, and public perceptions about police.

Keywords: emotion regulation; decision-making styles; Portuguese police officials

1. Introduction

In high-stakes environments, such as law enforcement, the ability of police officials to regulate their emotions and make effective decisions holds profound implications for public safety and the well-being of their police officers (Kwak et al. 2018; Schaible 2018). Emotion regulation is particularly crucial in scenarios where split-second decisions can determine life or death outcomes (Pais and Felgueiras 2016; Pyle 2022; Roycroft 2019).

Moreover, decision-making within policing is complex, influenced by diverse factors from personal beliefs to situational pressures (Aepli et al. 2011).

Understanding how emotion regulation intertwines with decision-making among police officials is not merely academic. It is crucial for its practical implications in training, policy development, and officer performance. Yet, research on emotion regulation and decision-making among higher-ranking police officers remains limited (Oliveira and Queirós 2012; Brown and Daus 2024), with most studies focusing on lower-ranking police officers (Brief et al. 1976; Engel 2001; Pursley 1974; Oliveira et al. 2023b). Effective leadership in law enforcement necessitates enhanced emotional intelligence, encompassing proficient emotional regulation (Goleman 1995). Exploring emotions and emotion regulation among leaders is pivotal due to its profound impact on organizational outcomes (Torrence and Connelly 2019).

This study aims to delve into the intricate relationship between emotion regulation and decision-making among law-enforcement officials, highlighting key theories, challenges, and practical implications. This study, whose objectives will be detailed following the presentation of key concepts, makes theoretical, empirical, and practical contributions. Specifically, it articulates the relationship between emotional regulation and decision-making (theoretical contribution), situates the study within the context of police officers handling risk situations (empirical setting), and provides insights for police training (practical implications).

1.1. Emotion Regulation

Emotions play a crucial role in shaping human actions and interactions (Gross 2002). An emotion encompasses a complex response involving thoughts, actions, and physiological changes that individuals use to navigate significant situations or events (American Psychological Association 2018). The specific nature of an emotion, such as fear, is contingent upon the personal meaning attached to the event. For instance, perceived threats typically invoke fear (Gross 2002). Emotions influence various cognitive processes, such as memory, threat detection, and decision-making efficiency (Nelis et al. 2011), reflecting their evolutionary role in signaling necessary actions for survival in challenging environments (Brackett 2019).

Police officers frequently encounter emotionally charged situations, from managing volatile conflicts to confronting imminent danger (Kwak et al. 2018; Schaible 2018). Their ability to regulate emotions effectively significantly impacts their judgment, behavior, and interactions with the public. Emotion dysregulation, where emotions overwhelm cognitive processes, can lead to impulsive actions or inappropriate responses, potentially escalating rather than defusing tense situations (Stanley and Larsen 2021; Makin et al. 2019; Kop and Euwema 2001). In the Portuguese Public Security Police (PSP), police officials oversee and manage other police personnel, undertake leadership and inspection duties, and provide consultation (Ministry of Internal Affairs 2015). Thus, improving emotion-regulation strategies among police officials is crucial for effectively managing the demands inherent in their roles as leads of police officers.

Emotion regulation is a critical area of study in leadership development and recruitment processes (McCreary et al. 2017; Torrence and Connelly 2019), involving “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). Emotion regulation can be both a conscious effort and an automatic response, influenced by person–situation interactions and being contextually dependent over time (McRae and Gross 2020). Therefore, the efficacy of emotion-regulation strategies may vary depending on the situational context (Gross and Thompson 2007; Gross et al. 2006; Nelis et al. 2011; Paul et al. 2023).

Emotion-regulation strategies can be classified into up-regulation and down-regulation techniques (Gross 1998a; Gross and Thompson 2007; Gross et al. 2006; Nelis et al. 2011; Springstein and English 2024). Up-regulation aims to enhance positive emotions and includes both adaptive and maladaptive strategies. Adaptive strategies amplify the beneficial

emotional effects of positive situations and include savoring the present moment (i.e., appreciating the current moment), capitalization (i.e., expressing gratitude towards others), positive mind trip (i.e., engaging in positive imaginative thinking), and behavior manifestation (i.e., demonstrating behaviors that exemplify the significance of the individuals' work). In contrast, maladaptive strategies diminish these positive effects and involve emotion inhibition (i.e., inhibiting emotional expression), excessive worrying (i.e., agitation), fault finding (i.e., focusing on individuals' flaws), and negative mind trip (i.e., indulgence in negative retrospection).

Down-regulation seeks to reduce negative emotions and includes both functional and dysfunctional strategies (Gross 1998a; Gross and Thompson 2007; Gross et al. 2006; Nelis et al. 2011; Richard-Sephton et al. 2024). Functional strategies include situation modification (i.e., modifying the situation directly or indirectly through a third party), attentional deployment (i.e., shifting attention to different stimuli), situation reassessment (i.e., positively reassessing the situation), and emotional expression (i.e., expressing emotions to others). Dysfunctional strategies include rumination (i.e., preoccupation with negative thoughts and feelings), learned helplessness (i.e., passive behavior and a sense of powerlessness), substance abuse (i.e., using substances to alter mental state temporarily), and acting out (i.e., behavioral reactions driven by negative emotions).

Effective emotion regulation significantly influences cognitive processes, situational perception, performance outcomes, and the social environment (Mouatsou and Koutra 2023). Emotion-regulation strategies vary in effectiveness across work and social contexts, with some of them being ineffective in one setting but beneficial in another (Hirschle and Gondim 2019). Matching emotion-regulation strategies to the intensity of emotional events is crucial. For instance, distraction may be more effective for managing high-intensity emotions, while cognitive reappraisal may be more suitable for low-intensity emotions (Tan et al. 2023).

Successful emotion regulation is associated with traits such as self-awareness, low neuroticism, and high conscientiousness (Gross 2002). Activities promoting connectivity between the left amygdala and prefrontal cortex are predictive of effective emotion regulation (Morawetz et al. 2017). Proper emotion regulation enhances flexibility in challenging situations, communication skills, situational awareness, and teamwork, while mitigating impulsive (Brown and Daus 2015; Goleman 1995; Makin et al. 2019) and aggressive responses (Staller et al. 2017). Maintaining a stable positive effect fosters life satisfaction and resilience, whereas negative emotions can lead to psychopathological symptoms and cardiovascular diseases (Balzarotti et al. 2017).

The depletion of self-regulation resources, termed "ego depletion" (Leith and Baumeister 1996; Baumeister et al. 1998), can impair self-control and increase the likelihood of reactive responses (Donner and Jennings 2014). Social pressures and the expectation to suppress emotions can further stress police officers, adversely affecting job performance and decision-making abilities (Heilman et al. 2010; Lipp et al. 2017; Queirós et al. 2013). The research underscores higher rates of suicide, divorce, and substance abuse among police officers (McCreary et al. 2017; Schaible 2018; Wong and Law 2017), attributable in part to poor emotional regulation and its impact on both police officers and the communities they serve (Basinska et al. 2014).

While traditional research on emotion regulation has predominantly focused on down-regulation strategies, there is increasing interest in up-regulation strategies. Interventions, such as cognitive-behavioral therapy, antidepressants, and emotional intelligence education, can reduce the reliance on maladaptive strategies (Gross 2002). The effectiveness of emotion-regulation strategies influences leadership performance (Torrence and Connelly 2019), with enhanced regulation associated with improved social skills and resilience, reduced aggression, effective conflict management, enhanced job performance, and greater organizational resilience during a crisis—qualities particularly pertinent for law-enforcement personnel (Balzarotti et al. 2017; Holley et al. 2017; Mouatsou and Koutra 2023).

1.2. Decision-Making

Decision-making is crucial for the success of police officers, private entities, and government organizations (Alharbi and Alnoor 2022; Brown and Daus 2024). In policing, decision-making is multifaceted, often occurring under uncertainty (Bryant 2019), time pressure (Pais and Felgueiras 2016), moral ambiguity (Aepli et al. 2011; Blumberg et al. 2020), limited resources, and divergent perspectives (Janis and Mann 1977). Police officers must navigate legal statutes, departmental protocols (Rodrigues 2018), and personal ethical frameworks under emotional and psychological stress (Bhowmick and Mulla 2016; Black and Lumsden 2021; Oliveira et al. 2023a, 2023b). Additionally, the way police officers make decisions is deeply influenced by how they perceive risk (Quinton et al. 2000), whether it is the immediate risk at an incident or their general attitude toward risk (Pyle 2022). These decisions affect immediate outcomes and shape public perceptions of law-enforcement legitimacy and trust (Bryant 2019). For example, since the murder of George Floyd, there has been increased scrutiny of police decision-making (Pyle 2022). Notably, despite the unique nature of police work, limited academic research exists on how decision-making theories apply specifically to policing.

Decision-making is the process through which individuals select among various options based on personal preferences and external demands (Filipe et al. 2020; Roycroft 2019). In other words, decision-making involves evaluating different possibilities and choosing the one that aligns best with internal motivations and external requirements. It requires self-awareness to evaluate alternatives and utilize resources to achieve goals. In cognitive psychology, decision-making is seen as a continuous, integrative process that is influenced by both emotions and rationality, with decisions showing either rational or irrational characteristics (Verma 2009).

Police officers rely on their cognitive abilities and specific knowledge to make decisions (Bryant 2019). Reasoning—a crucial part of this process—helps them distinguish cause from effect, predict outcomes, understand motivations, and challenge others' reasoning. Furthermore, it facilitates the maintenance, alteration, or adoption of strategies depending on their reliability (Donoso et al. 2014; Pinker 2015).

The decision-making process is subject to heuristics—mental shortcuts that help individuals make decisions quickly and efficiently—that are valuable in policing for solving complex problems rapidly (Bryant 2019). For example, the *anchoring and adjustment* heuristic starts with a simple hypothesis and adjusts it as new information emerges (Mousavi and Gigerenzer 2014). Other heuristics include the *representative heuristic* (judging typically), the *satisficing heuristic* (choosing the first satisfactory option), and the *availability heuristic* (basing decisions on readily available information) (Bryant 2019). Despite their usefulness, heuristics can lead to cognitive biases. For example, *tunnel vision* can cause investigators to focus on one suspect while ignoring other possibilities. Other biases include the *feature positive effect* (difficulty with non-occurrences), *confirmatory bias* (seeking evidence to support existing beliefs), *hindsight bias* (memory distortions), and *anchoring bias* (undue influence of initial information). Overall, while heuristics can enhance decision-making efficiency, they also carry the risk of introducing errors due to cognitive biases.

Decision-making can be categorized into two main types, namely (1) individual decision-making, which involves assessing options and choosing the best course based on personal values, and (2) social decision-making, which involves another person's presence and actions, requiring an assessment of interpersonal dynamics (Grecucci and Sanfey 2014). Policing decision-making seems to be mostly the junction of both.

A crucial aspect of this process is the decision-making styles, which refer to the patterns that individuals use to navigate conflicts when making potentially risky decisions (Janis and Mann 1977). According to Scott and Bruce (1995, p. 820), a decision-making style is a "learned habitual response pattern exhibited by an individual when confronted with a decision situation. It is (...) a habit-based propensity to react in a certain way in a specific decision context". Mann et al. (1997) categorize decision-making as incorporating four strategies, namely vigilance, hypervigilance, buck-passing, and procrastination. Vigilance is

considered an adaptive decision-making style, involving the careful and rational assessment of alternatives (Johnston et al. 1997). It aligns with the conditions of recognizing significant risks, maintaining hope for better alternatives, and believing there is ample time for deliberation (Mann et al. 1997). Hypervigilance, an impulsive decision-making style, occurs under time pressure and involves rapid assessments with limited consideration of alternatives, often leading to suboptimal outcomes. Procrastination delays decision-making, while buck-passing shifts decision responsibility to others, both indicating defensive avoidance, typically when there is less time pressure (Janis and Mann 1977).

Decision-making skills are an important part of adaptive behavior, helping to respond appropriately to various situations (Hess et al. 2010). However, poor decisions by police officials can negatively affect both their colleagues and the community they serve (Sweeney 2022). Understanding decision-making styles is essential for effective leadership, as decisions made by authorities impact the entire organization (Sweeney 2022). Furthermore, decision-making under risk and uncertainty, as in high-ranking police officials, is seen as low probability with unknown outcomes (Wakker 2004). This concept aligns with the dual process model of decision-making, which posits two thought systems, namely System 1, involving automatic judgments based on past experiences, and System 2, involving rational, high-cognitive-capacity thought (Stanovich and West 1998). System 1 is linked to emotions and quick responses, while System 2 requires more effort and thoughtful consideration (Engelmann and Pessoa 2007; LeDoux 2003). System 2 can override System 1's automatic responses (Kahneman and Tversky 1973, 2013).

Effective police leaders avoid buck-passing and are seen as more competent (Densten 2003). Improving decision-making skills enhances resilience and leads to positive outcomes. For example, requiring police officers to document and justify each instance of drawing a firearm can reduce the likelihood of shooting, as it emphasizes rationality over automatic responses (Engel et al. 2022).

1.3. Interplay between Emotion Regulation and Decision-Making

Research indicates that emotion regulation and decision-making are interconnected (Modecki et al. 2017). The relationship between emotion regulation and decision-making is complex and reciprocal (Brown and Daus 2024; Heilman et al. 2010; Panno et al. 2013). It can be described as individuals' efforts to resolve dilemmas with distinct consequences, often triggering negative emotions (Luce 1998). Effective emotion regulation enhances cognitive functioning, improving police officers' ability to assess risks, consider alternatives, and choose appropriate actions (Grecucci and Sanfey 2014; Gross 2002; Mann et al. 1997). For example, if police officers feel anger, they might make hasty decisions focusing only on one aspect of the problem. Emotion regulation can help recognize this anger and adjust the behavior accordingly, allowing them to step back and analyze the situation before acting (Güss and Starker 2023).

Emotions can cloud cognitive judgment, which is influenced by an individual's current emotional state (Johnson and Tversky 1983; Gray 1999). Emotions help individuals sense threats and opportunities (Håkonsson et al. 2016; Hodgkinson and Healey 2011, 2014; Hodgkinson et al. 2015), providing an initial intuitive impression of a situation and trigger certain cognitive tendencies that can guide or mislead decision-making (Güss and Starker 2023). Positive emotions facilitate complex task performance by categorizing stimuli broadly, while negative emotions prioritize short-term benefits and paying more attention to details (Gray 1999; Isen and Means 1983; Leith and Baumeister 1996). Aversive emotional stimuli trigger survival instincts and behavioral responses, while motivation involves conscious perception and judgment, driving rewards and making the decision-making process slower yet significant (Engelmann and Pessoa 2007; LeDoux 2003; Öhman et al. 2001). It is worth noting that both current and past emotional experiences impact strategic decision-making (Kisfalvi and Pitcher 2003; Stanley 2010).

Decisions often act as a means for individuals to manage their emotions, guiding their actions to avoid negative feelings, such as guilt and regret, and to pursue positive

feelings, like pride and happiness, even if they are not consciously aware of it (Keltner and Lerner 2010; Loewenstein and Lerner 2002). Similarly, decisions can also amplify negative emotions or diminish positive ones (Lerner et al. 2015). To better understand this relationship, the same authors proposed the emotion-imbued choice (EIC) model to describe how emotions affect the decision-making process.

The EIC model is particularly relevant in scenarios where the decision-makers must choose between options without the opportunity to gather additional information, as often occurs in law-enforcement contexts (Lerner et al. 2015). It stops on the decision point itself, excluding consideration of actual outcomes or emotions, and does not address reflexive behaviors, such as automatic reactions to sudden events. Decision-makers assess the utility of each potential outcome (Payne et al. 1993; Slovic 1995) based on factors such as probabilities, time delays, and personal characteristics like risk aversion (Lerner et al. 2015). These factors are integrated to formulate an overall evaluation that guides the selection of the optimal option.

Unlike stable preferences in traditional decision-making models, the EIC model incorporates preferences that are constructed based on anticipated emotional responses to potential outcomes (Lerner et al. 2015). These anticipated emotions are regarded as rational inputs in the decision-making process. Emotions experienced during decision-making, which are typically not accounted for in conventional models, significantly influence the decision process. These emotions originate from five sources, namely (1) decision-makers' characteristics, such as chronic anxiety or depression, which can predispose individuals to certain emotional responses; (2) option characteristics, i.e., the attributes of the choices themselves, such as ambiguity or uncertainty, can directly impact emotions; (3) anticipatory emotions, i.e., predicted emotions that can affect current feelings, for example, fear stemming from anticipating a negative outcome; (4) decision contemplation, i.e., emotional responses elicited during the process of thinking about the decision, particularly with complex or difficult choices; and (5) incidental emotions, i.e., emotions unrelated to the decision itself, arising from external events or mood, which can also exert influence on the decision-making process.

Current emotions affect the evaluation of outcomes by changing the focus on specific dimensions, the use of heuristics or analytic thinking, and the activation of different motivational goals (Lerner et al. 2015). For example, emotions can alter the weight given to various factors (Lerner and Keltner 2000, 2001), distort probabilities (Rottenstreich and Hsee 2001), and modify discount rates (Lerner et al. 2013; DeSteno et al. 2014). Additionally, current emotions can influence decision-making indirectly by altering the anticipated utility of potential outcomes (Loewenstein et al. 2003).

When making decisions, police officers experience emotions (Oullier and Basso 2010; Tamir et al. 2015), not only feeling emotions themselves but also attempting to manage their own emotions and those of stakeholders (Turner 2021). Therefore, effective emotion regulation is particularly relevant for law-enforcement personnel, who often need to suppress emotions to maintain professionalism (Gilmartin 2002; Rafaeli and Sutton 1987) and make critical decisions effectively under conditions of high stress and uncertainty (Christopher et al. 2018; Keinan 1987; Isen and Patrick 1983; Loewenstein et al. 2001; Patterson and Newman 1993).

Police officers experience changes in perception, memory, and thinking before and after critical incidents (Alpert et al. 2012), which can negatively affect their decision-making both immediately and in future scenarios (Cox et al. 2018). Despite extensive training, police officers often encounter novel situations that evoke emotional responses, leading to instinctual and rapid reactions rather than deliberate judgments (Brown and Daus 2015).

Improved emotion regulation determines whether emotions hinder or enhance decision-making, ultimately biasing the process (Fenton-O'Creevy et al. 2011; Hu et al. 2015; Shiv et al. 2005). Effective emotion regulation leads to better decision-making and modulates risk-taking behavior by reducing negative emotions, which is crucial for high-risk jobs like law enforcement (Heilman et al. 2010). It also mitigates loss aversion, reducing amygdala

activation and fear levels during decision-making (Sokol-Hessner et al. 2013). Adaptive emotion-regulation strategies (e.g., situation reassessment) decrease emotional intensity and positively influence decision-making under risk (Heilman et al. 2010). These strategies reduce emotional intensity more effectively and with less effort compared to suppression, which, while decreasing emotional intensity, is associated with impulsive decision-making and weakened explicit memory (Leith and Baumeister 1996; Richards and Gross 2000).

However, a lack of emotion regulation leads to self-deprecating decision-making due to impaired cognitive abilities (Baumeister et al. 2003), resulting in hasty decisions with sub-optimal outcomes (Luce 1998). In summary, the way police officials regulate their emotions, especially if they focus on relaxation rather than excitement, can significantly influence the choices they make when facing risky situations (Martin and Delgado 2011). Successfully managing their emotions can help them make better and more rational decisions.

1.4. The Study Purpose

With this study, we intend to achieve three main objectives: (1) to gather valid evidence for two psychometric scales for European Portuguese, specifically designed for the police context; (2) to explore potential differences in the emotion-regulation strategies used by police officials; and (3) to analyze the strength of the association between emotion-regulation strategies and decision-making styles. Specifically, we aim to find out whether the use of emotion-regulation strategies by police officials can enhance their decision-making abilities, thereby improving their leadership in their respective fields. Ultimately, we expect to outline practical interventions and professional training programs in these areas, minimizing the negative consequences that impact society's perception of police officials and preventing personal harm to others.

2. Materials and Methods

2.1. Sample and Data Collection Procedures

The study sample comprised 138 higher-ranking PSP officials, selected from various cities across Portugal (see Table 1). Initially, 216 questionnaires were distributed, but 138 were deemed valid after excluding incomplete responses. The PSP has about 806 officials in total (Secretaria-Geral do Ministério da Administração Interna 2021). Most participants were male ($N = 112$; 81.2%), with an average age of 41.37 years ($SD = 10.89$), ranging from 24 to 62 years. All participants were high-ranking police officers from commands across mainland Portugal and the islands. On average, the participants had been in the profession for approximately 19.96 years ($SD = 10.49$).

Table 1. Summary of sample characteristics ($n = 138$).

	<i>n</i>	%	<i>M</i>	<i>SD</i>
Gender				
Female	26	18.8		
Male	112	81.2		
High-rank category				
Officials	137	99.3		
Chiefs	1	0.7		
Age			41.37	10.89
Seniority			19.96	10.49
Geographical area ¹				
North	27	19.4		
Center	74	53.5		
South	15	10.7		
Islands	22	15.9		

¹ North (Aveiro, Braga, Bragança, Guarda, Porto, Viana do Castelo, Vila Real, and Viseu), Center (Castelo Branco, Coimbra, Leiria, Lisboa, Portalegre, and Santarém), South (Beja, Évora, Faro, and Setúbal), and Islands (Azores and Madeira).

Data for this study were collected through an electronic questionnaire administered via the LimeSurvey platform and distributed to PSP officials across mainland Portugal and its islands. Permission for the study was formally granted by the PSP Central Command, which conducted an ethical review to ensure adherence to ethical standards. Participation in the study was voluntary, with assurances provided regarding respondent anonymity and the confidentiality of their responses. The participants gave their informed consent before completing a questionnaire that gathered sociodemographic data, such as gender, age, career position (official or chief), years of service in the PSP, and their current district location in Portugal.

2.2. Instruments

In our study, we utilized two main self-report measures, namely the Emotion Regulation Profile Revised (ERP-R; Nelis et al. 2011), which was adapted to the workplace context and renamed ReTrab by Hirschle and Gondim (2019), and the Melbourne Decision-Making Questionnaire (MDMQ; Mann et al. 1997).

The ReTrab (Nelis et al. 2011; Hirschle and Gondim 2019) measures emotional regulation abilities in workplace scenarios. It measures both down-regulation, encompassing three negative scenarios (e.g., *Currently, you are experiencing a very difficult situation in your unit (at your workplace). The information necessary for your work is not communicated; there is no adequate material support; some of your tasks are being withdrawn without explanation. Furthermore, you notice that your work is increasingly being undervalued. This leaves you extremely emotionally distressed.*), with four functional strategies [attentional deployment (e.g., *I plan some time to take care of myself or do other things I enjoy, to disconnect a little from the situation*), situation modification (e.g., *I try to reverse the situation: I define my priorities to seek a transfer to another workplace*), situation reassessment (e.g., *Although it is difficult, I try to see the positive side of things, as it could be an opportunity to reassess my job or find one that satisfies me more*), and emotional expression (e.g., *I confide in someone close because I need to share what I am feeling*)] and four dysfunctional strategies [learned helplessness (e.g., *I feel undervalued and very distressed, but I cannot identify what could change*), rumination (e.g., *I keep ruminating and thinking negatively about the situation, and I feel pessimistic*), substance abuse (e.g., *I use a relaxing substance to try to feel better (e.g., food, alcohol, medication, among others)*), and acting out (e.g., *Because I feel strongly distressed, I act without thinking and take out my feelings on those around me*)]. It also assesses up-regulation, including three positive scenarios (e.g., *You had a great month at work in terms of achievements, meeting goals, and professional recognition (such as praise, awards/rewards, new projects). You are feeling very happy.*), with four adaptive strategies [savoring the present moment (e.g., *I try to enjoy the moment, putting everything else aside*), capitalization (e.g., *I share this good moment by talking to friends, writing in a journal, or interacting on social media*), positive mind trip (e.g., *I keep remembering about the good moments or the reasons why my work is so valuable*), and behavior manifestation (e.g., *I allow myself to fully express my happiness: laughing, joking, or hugging my colleagues*)] and four maladaptive strategies [emotion inhibition (e.g., *I contain my great happiness because it is not my style, I feel guilty or afraid of being ridiculous*), excessive worrying (e.g., *I cannot completely put aside my current worries (e.g., relationships, family, health)*), fault finding (e.g., *I cannot help but notice some negative aspects of my work that prevent everything from being perfect*), and negative mind trip (e.g., *I am afraid that some negative thought will ruin this moment, as it is too good to be true*)]. Responses to the hypothetical situations are rated on a 5-point Likert scale ranging from 1 (I would hardly react that way) to 5 (I would probably react that way). The questionnaire has demonstrated strong internal consistency (Cronbach's alpha coefficients: $\alpha_{adaptive} = 0.86$, $\alpha_{maladaptive} = 0.82$, $\alpha_{functional} = 0.75$, and $\alpha_{dysfunctional} = 0.78$). We found the following Cronbach's alpha values: $\alpha_{adaptive} = 0.83$, $\alpha_{maladaptive} = 0.79$, $\alpha_{functional} = 0.67$, and $\alpha_{dysfunctional} = 0.74$.

The MDMQ (Mann et al. 1997) evaluates different decision-making styles across four subscales: vigilance (six items; e.g., *I am very careful before making the final decision in a risky situation*), hypervigilance (five items; e.g., *I feel like I'm under a lot of time pressure when I make decisions*), procrastination (five items; e.g., *When I have to make a decision, I wait a long time before I start thinking about it*), and buck-passing (six items; e.g., *Faced with a risky situation, I*

avoid making decisions because it is difficult for me to consider the aspects involved). Respondents rate 22 items on a 5-point Likert scale from 1 (Never) to 5 (Always). Previous studies have confirmed the MDMQ's psychometric properties (validity and reliability), with each subscale showing strong internal consistency (Cronbach's alpha values: $\alpha_{\text{vigilance}} = 0.77$, $\alpha_{\text{hypervigilance}} = 0.77$, $\alpha_{\text{procrastination}} = 0.79$, and $\alpha_{\text{buck-passing}} = 0.76$). We found the following Cronbach's alpha coefficients: $\alpha_{\text{vigilance}} = 0.77$, $\alpha_{\text{hypervigilance}} = 0.77$, $\alpha_{\text{procrastination}} = 0.78$, and $\alpha_{\text{buck-passing}} = 0.73$.

2.3. Translation, Adaptation, and Validation of the Instruments

The current study expands upon previous research by translating, adapting, and validating the instruments for their use in police contexts. ReTrab was translated, adapted, and validated into European Portuguese, following the procedures outlined by Tsang et al. (2017) and Hill and Hill (2016) (see Figure 1a). While the MDMQ has already been translated into European Portuguese, our focus here was exclusively on adapting and validating the scale, following the methodologies outlined by the same authors (see Figure 1b).

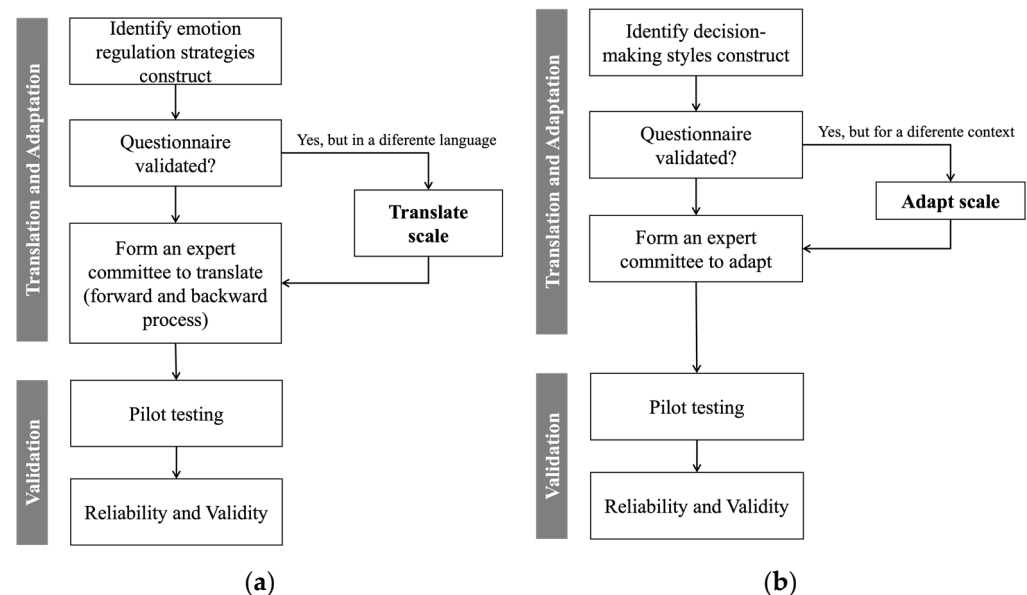


Figure 1. Translation, adaptation, and validation process of the scales, based on Tsang et al. (2017) and Hill and Hill's (2016) guidelines. (a) The ReTrab (translation, adaptation, and validation); (b) The MDMQ (adaptation, and validation).

An expert committee of seven professionals reviewed the measures to assess their semantic equivalence in the police context. To ensure the scale's clarity and validity, a pilot test was conducted with police force participants using the think-aloud protocol (Jääskeläinen 2010) to gauge their understanding of the instrument items. However, the findings from the pilot study are not included in the current data analysis.

2.4. Data Analysis

To achieve the study objectives, a cross-sectional quantitative research design was employed to investigate the emotion regulation and decision-making styles of police officials. This design, characterized by its single-point examination of variables, aimed to understand these aspects within the context of Portuguese police officials.

Initially, a confirmatory factor analysis was conducted to validate the scales used, establishing content validation by ensuring that the items adequately represented the constructs of interest (Nunnally [1967] 1978). Confirmatory analyses were selected instead of exploratory ones, given that the model is empirically supported by samples from other countries. Subsequently, the data were analyzed using a paired *t*-test to examine differences

in emotion-regulation strategies among police officials, and Pearson correlations were conducted to explore relationships between the variables. A multiple regression analysis using the enter method was then employed to assess the impact of these relationships. It is worth noting that the assumptions for both analyses were confirmed. For example, normality was met to an acceptable degree (Cohen 1988). Additionally, reliability analyses of the scales were performed using Cronbach's alpha to ensure measurement consistency and accuracy.

3. Results

3.1. Confirmatory Factor Analysis

The data were first analyzed using confirmatory factor analysis to assess the psychometric scales in the Portuguese police context. Following the guidelines of Brown (2006) and Kline (2015), the model's overall fit was evaluated using the chi-square test (χ^2) and additional indicators due to the sample size, including the comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). These indicators are widely recognized and accepted in the literature. The model adequacy indices indicated a high level of satisfaction, supporting the alignment between the empirical data and the hypothetical model (see Table 2).

Table 2. Fit statistics for both measures.

Models-Scales	χ^2/df	SRMR	TLI	CFI	RMSEA	90% CI
Model 1—Re-Trab	147.96 (df = 83)	0.08	0.88 (IFI = 0.91)	0.90	0.08	0.06–0.10
Model 2—MDMQ	232.12 (df = 164)	0.08	0.91	0.92	0.06	0.04–0.07

Note. χ^2 = Chi-square; df = degrees of freedom; SRMR = standardized root mean square residual; TLI = Tucker–Lewis index, CFI = comparative fit index; RMSEA = root mean square error of approximation.

In ReTrab, three items (2c, 1d, and 5c), corresponding to the “func_3”, were removed (see Figure 2a) due to saturation levels below 0.45 (Brown 2006). These items were part of the emotion-expression dimension, which was eliminated from subsequent analyses. As a result, the functional factor included only items from attentional deployment, situation modification, and situation reassessment. In MDMQ, items 1 and 4 were removed (see Figure 2b) due to saturation of 0.30 and 0.41, respectively (Brown 2006). These items were part of the vigilance and buck-passing dimensions, reducing each from six to five items. Notably, they were excluded from the subsequent analyses. The modification indices suggested improved model fit by covarying two errors (e14 and e15).

3.2. Paired *t*-Test

A paired *t*-test analysis examined differences in emotion-regulation strategies used by police officials. Significant differences were found for both up-regulation ($t = 21.35$, $p < 0.001$) and down-regulation strategies ($t = 27.10$, $p < 0.001$). Police officials used more adaptive ($M = 3.36$, $SD = 0.592$) than maladaptive strategies ($M = 1.91$, $SD = 0.511$) and more functional ($M = 3.58$, $SD = 0.620$) than dysfunctional strategies ($M = 1.69$, $SD = 0.475$).

3.3. Correlation

A Pearson correlation analysis examined the relationship between emotion-regulation strategies and decision-making styles. As shown in Table 3, most emotion-regulation strategies are correlated with at least one decision-making style, except for adaptive emotion-regulation strategies, which do not correlate with any decision-making style. Specifically, maladaptive emotion-regulation strategies are strongly and positively correlated with hypervigilance ($r = 0.635$, $p < 0.01$) and moderately and positively correlated with buck-passing ($r = 0.427$, $p < 0.01$) and procrastination ($r = 0.401$, $p < 0.01$). Dysfunctional emotion-regulation strategies are strongly and positively correlated with hypervigilance

($r = 0.635, p < 0.01$) and moderately and positively correlated with buck-passing ($r = 0.464, p < 0.01$) and procrastination ($r = 0.394, p < 0.01$). Functional emotion-regulation strategies have a low positive correlation with vigilance ($r = 0.236, p < 0.01$) and a low negative correlation with procrastination ($r = -0.189, p < 0.05$). It is worth noting that the correlation coefficient effects were analyzed according to the guidelines provided by Cohen (1988).

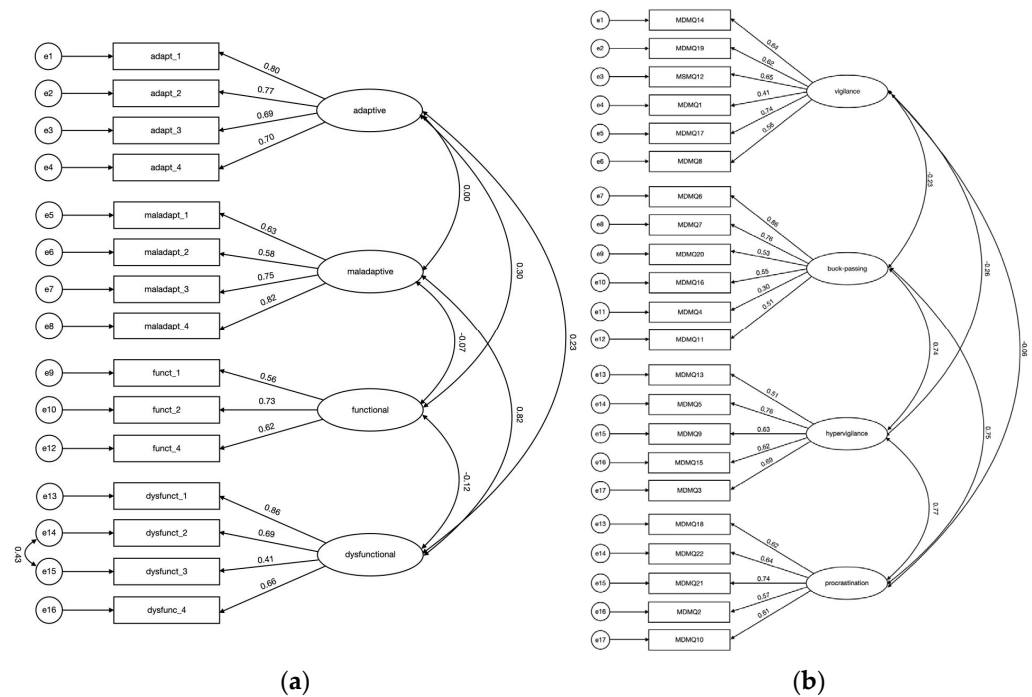


Figure 2. Confirmatory factor analysis: (a) ReTrab; (b) MDMQ.

Table 3. Means (M), standard deviations (SD), and correlation results (r) of emotion-regulation strategies and decision-making styles.

	M	SD	1	2	3	4	5	6	7	8
<i>Emotion-regulation strategies</i>										
1. Adaptive	3.36	0.592	—							
2. Maladaptive	1.91	0.511	−0.038	—						
3. Functional	3.58	0.620	0.501 **	−0.114	—					
4. Dysfunctional	1.69	0.475	0.116	0.748 **	−0.105	—				
<i>Decision-making styles</i>										
5. Vigilance	4.21	0.589	0.134	−0.097	0.236 **	−0.142	—			
6. Buck-passing	1.61	0.538	0.046	0.427 **	−0.034	0.464 **	−0.149	—		
7. Procrastination	1.79	0.560	0.022	0.401 **	−0.189 *	0.394 **	−0.164	0.566 **	—	
8. Hypervigilance	2.13	0.604	0.031	0.635 **	−0.133	0.635 **	−0.013	0.589 **	0.591 **	—

** Correlation is significant at the 0.01 level (2 tailed). * Correlation is significant at the 0.05 level (2 tailed).

3.4. Regression Analysis: Effects of Emotion-Regulation Strategies on Decision-Making Styles

A multiple regression analysis using the enter method was conducted for each independent variable to test if emotion-regulation strategies predicted decision-making styles ($N = 138$).

Table 4 presents the multiple regression results. Emotion-regulation strategies predict procrastination by approximately 21%. This decision-making style is significantly positively impacted by maladaptive emotion-regulation strategies ($\beta = 0.258, p < 0.05$) and negatively affected by functional emotion-regulation strategies ($\beta = -0.198, p < 0.05$). This means that individuals who frequently use maladaptive emotion-regulation strategies are more likely to adopt a procrastination decision-making style. Conversely, those who employ functional emotion-regulation strategies are less likely to use this style.

Table 4. Multiple regression coefficients: (1) procrastination; (2) hypervigilance; (3) buck-passing; and (4) vigilance.

Variable	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²
(1)					
Regression 1					0.210
Adaptive	0.106	0.112	1.208	0.229	
Maladaptive	0.282	0.258	2.175	0.031	
Functional	−0.179	−0.198	−2.184	0.031	
Dysfunctional	0.197	0.168	1.390	0.167	
(2)					
Regression 2					0.466
Adaptive	0.045	0.044	0.575	0.567	
Maladaptive	0.437	0.369	3.791	<0.001	
Functional	−0.075	−0.077	−1.029	0.305	
Dysfunctional	0.440	0.346	3.493	<0.001	
(3)					
Regression 3					0.230
Adaptive	0.005	0.005	0.056	0.956	
Maladaptive	0.193	0.183	1.569	0.119	
Functional	0.016	0.019	0.210	0.834	
Dysfunctional	0.372	0.329	2.763	0.007	
(4)					
Regression 4					0.079
Adaptive	0.057	0.100	0.571	0.569	
Maladaptive	0.059	0.148	0.398	0.691	
Functional	0.186	0.093	1.991	0.049	
Dysfunctional	−0.205	0.162	−1.269	0.207	

Hypervigilance is predicted by emotion-regulation strategies at approximately 46.6%. This decision-making style is significantly predicted by maladaptive emotion-regulation strategies ($\beta = 0.369, p < 0.001$) and dysfunctional emotion-regulation strategies ($\beta = 0.346, p < 0.001$). Individuals who use maladaptive or dysfunctional emotion-regulation strategies are more likely to adopt a hypervigilance decision-making style.

Buck-passing is predicted by emotion-regulation strategies by approximately 23%. This decision-making style is significantly impacted by dysfunctional emotion-regulation strategies ($\beta = 0.329, p < 0.05$). When individuals use dysfunctional emotion-regulation strategies, they are more likely to adopt a buck-passing decision-making style.

Finally, emotion-regulation strategies predict approximately 7.9% of vigilance. This decision-making style is significantly impacted by functional emotion-regulation strategies ($\beta = 0.093, p < 0.05$). Individuals who use functional emotion-regulation strategies tend to adopt a vigilant decision-making style.

4. Discussion

This study contributes to the existing literature on decision-making by examining how emotional regulation strategies—specifically up-regulation and down-regulation—affect decision-making styles among Portuguese police officials. Employing paired *t*-tests, correlation, and multiple regression analyses, we identified significant relationships between certain emotion-regulation strategies and specific decision-making styles, as detailed in the preceding tables. These findings reinforce prior research highlighting the pivotal role of emotions and their regulation in influencing the decision-making process (Brown et al. 2015; Elster 1999; Sweeney 2022) and echo studies underscoring the importance of emotion regulation for effectively navigating challenges and promoting overall well-being (Carvalho et al. 2018; Quoidbach et al. 2010; Siu et al. 2015).

Law enforcement is inherently demanding due to frequent interpersonal encounters and exposure to high-risk, unpredictable situations (Lan et al. 2020; Oliveira et al. 2023b;

Queirós et al. 2020). Scholars underscore the significance of emotions in daily experiences within social contexts, noting their diverse impacts on functionality—whether adaptive or maladaptive (Gondim et al. 2015). Yet, research specific to Portuguese police officers remains limited, largely due to challenges in accessing this group (Oliveira et al. 2023a).

Within our sample, the results of the paired *t*-test analysis demonstrate clear preferences in the emotion-regulation strategies used by police officials. For up-regulation, police officials are more likely to engage in more constructive ways to enhance or sustain positive emotions. Similarly, for down-regulation strategies, police officials are more inclined to use methods that help them effectively manage negative emotions, which is essential in the high-stress situations they frequently encounter (Kwak et al. 2018; Pais and Felgueiras 2016; Pyle 2022). These findings reflect the importance of emotional resilience and well-being in policing (Au et al. 2019; Wolter et al. 2019), where adaptive and functional emotion-regulation strategies are critical for managing challenging interactions (Gross 2014; Williams and Stott 2021), reducing burnout (Schaible 2018), and maintaining performance under pressure (Queirós et al. 2020). Additionally, the emphasis on these positive strategies may indicate that police officials receive training in emotion regulation (Blumberg et al. 2020; Rodrigues 2018), though further research would be necessary to confirm this. Understanding these patterns can inform future interventions to enhance emotion-regulation skills within police forces, contributing to better occupational health and performance outcomes (Roycroft 2019; Wolter et al. 2019).

Similarly, functional emotion-regulation strategies were correlated with vigilant and procrastinating decision-making styles, suggesting individuals may heighten attentiveness to reassess situations or delay action to redirect focus and modify circumstances. Procrastination, often linked to short-term emotional avoidance, aligns with prior research associating negative emotions with procrastinatory behaviors (Pychyl and Sirois 2016; Steel 2007). Conversely, heightened vigilance during negative emotional experiences may stem from efforts to preempt negative outcomes or alleviate emotional distress (Averill and Rosenn 1972). Individuals proficient in regulatory strategies likely leverage System 2 thinking from the dual process model of decision-making when necessary, enabling thoughtful consideration of contextual factors and strategy selection (Pychyl and Sirois 2016; Steel 2007).

We found that dysfunctional emotion-regulation strategies, such as rumination and substance abuse, are linked to decision-making styles like hypervigilance, buck-passing, and procrastination. This is consistent with the findings from previous research (Filipe et al. 2020; Steel 2007). Interestingly, adaptive emotion-regulation strategies did not show significant correlations with any decision-making style. Nonetheless, these strategies are more efficient and require less effort (Leith and Baumeister 1996; Richards and Gross 2000) to reduce emotional intensity and enhance decision-making in risky situations (Heilman et al. 2010).

Furthermore, our study revealed significant correlations between maladaptive emotion-regulation strategies and hypervigilance, buck-passing, and procrastination decision-making styles, suggesting that individuals experiencing psychological distress may exhibit heightened emotional reactivity and vigilance (Clauss et al. 2020; Ding et al. 2020). Procrastination, often influenced by maladaptive emotion-regulation strategies like emotion inhibition, temporarily relieves negative emotions but can intensify them over time (Jorrmann and Gotlib 2010; Sirois and Pychyl 2013).

Additionally, the present study provides compelling evidence that emotion-regulation strategies play a significant role in influencing the procrastination, hypervigilance, buck-passing, and vigilance decision-making styles. These findings have important implications for understanding the underlying mechanisms of these behaviors and for developing interventions to address them.

Our results confirm that procrastination is positively impacted by maladaptive emotion-regulation strategies and negatively impacted by functional emotion-regulation strategies. Specifically, individuals who employ maladaptive strategies (e.g., emotion inhibition) are more likely to procrastinate. This aligns with previous studies (Bytamar et al. 2020;

Doménech et al. 2024; Schuenemann et al. 2022; Wypych et al. 2018), which suggest that poor emotion regulation is a significant predictor of procrastination. The tendency to delay tasks to avoid negative emotions like anxiety and fear of failure (Schuenemann et al. 2022; Wypych et al. 2018) creates a paradox where short-term emotional relief leads to long-term stress and increased procrastination (Doménech et al. 2024; Sirois et al. 2019). This cyclical pattern is particularly relevant in high-stress environments, such as those experienced by police officers, where avoiding aversive emotions through procrastination only exacerbates stress and task delays (Wypych et al. 2018).

Conversely, enhancing functional emotion-regulation skills, such as situation reassessment, has been shown to reduce procrastination. This improvement is likely to be due to increased emotional self-efficacy (Wypych et al. 2018), which helps individuals manage their emotional responses more effectively and maintain task focus (Doménech et al. 2024). For example, Schuenemann et al. (2022), in a study with university students, observed a significant reduction in procrastination in university students who received emotion-regulation training, which underscores the potential of these interventions in various populations. This is particularly relevant in populations such as police officials, who experience high stress levels and aversive emotions related to policing tasks.

The study also found that hypervigilance is influenced by both maladaptive and dysfunctional emotion-regulation strategies. Maladaptive strategies such as emotion inhibition are associated with heightened hypervigilance and poor decision-making outcomes (Aldao et al. 2010; Lauriola et al. 2022; Renna et al. 2017). This suggests that individuals who struggle to manage their emotional responses in high-stakes situations may become overly vigilant, which can impair their decision-making processes. Moreover, dysfunctional strategies like rumination can lead to less adaptive decision-making (Cisler and Olatunji 2012; Ouhmad et al. 2023). This indicates that fostering dysfunctional emotion-regulation skills could reduce decision-making abilities, particularly in stressful environments.

The results further indicate that dysfunctional emotion-regulation strategies significantly impact the buck-passing decision-making style. Rumination on negative emotions can increase anxiety and indecisiveness, promoting a tendency to defer decision-making responsibility to others (Urieta et al. 2023). This behavior is often observed in individuals with high levels of anxiety and neuroticism, who doubt their decisions and fear negative outcomes (Berens and Funke 2020).

Finally, our findings suggest that the vigilance decision-making style is significantly impacted by functional emotion-regulation strategies. Effective emotion regulation, such as situation reassessment, helps individuals maintain emotional stability and enhances their ability to make careful and deliberate decisions under pressure (Doménech et al. 2024; Goetz and Bieg 2016). Improved self-efficacy resulting from effective emotion regulation can reduce anxiety and enhance cognitive functions, which are essential for vigilance in decision-making (Huang et al. 2023). Furthermore, individuals who regulate their emotions well tend to exhibit higher resilience and better stress management, leading to improved decision-making outcomes (Heilman et al. 2010; Huang et al. 2023).

The practical implications involve integrating effective emotion-regulation strategies into law-enforcement training programs to enhance decision-making quality, overall well-being, and resilience among police officers. This approach aligns with broader insights from organizational psychology, emphasizing how emotion regulation influences workplace behavior and decision-making styles (Hirschle and Gondim 2019; Mann et al. 1997). These findings transcend law enforcement, offering valuable insights that are applicable to the diverse professions that seek to enhance decision-making styles through initiatives focused on emotion-regulation training.

Recognizing the critical nature of emotion regulation and decision-making, police departments are increasingly integrating psychological training into their curricula. Techniques such as mindfulness (Bergman et al. 2016; Christopher et al. 2016; 2018), scenario-based training (Biggs 2021), and peer-support programs (Levenson and Dwyer 2003) aim to enhance police officers' emotional resilience and decision-making skills. Moreover,

developing clear policies that support officers in managing stress and seeking mental health resources is essential for fostering a psychologically healthy workforce (Eikenberry et al. 2024). In conclusion, the intricate interplay between emotion regulation and decision-making among police officials underscores the need for comprehensive research and practical interventions. By better understanding these dynamics, we can equip law-enforcement professionals with the tools necessary to navigate the complexities of their roles while promoting public safety and enhancing community relations.

Limitations and Future Research

This study has several potential limitations that warrant consideration. First, the initial sample size of 216 participants was reduced to 138 after excluding those with significant missing data, which may have compromised the statistical power and the ability to detect significant correlations. Consequently, caution is advised in the generalization of the findings beyond this specific sample, particularly to other law-enforcement agencies or emotionally demanding professions that involve critical decision-making under adverse conditions.

Moreover, the study did not incorporate control variables, such as sociodemographic factors, despite collecting this data, which could have influenced the results. Future research should explore how these individual characteristics and organizational factors impact officers' decision-making and emotional regulation. Additionally, the data collection period coincided with the pandemic, potentially influencing participants' responses due to heightened emotional stress and unique decision-making challenges during that period.

Looking ahead, studies could delve into the relationship between the up-regulation of positive emotions during decision-making among police officers, and controlling for environmental factors. Although the current study confirms that emotional regulation impacts decision-making across various variables, it did not find a correlation between adaptive emotional regulation of positive emotions and the decision-making strategies discussed. This contrasts with the prior research that links adaptive emotional regulation to vigilant decision-making styles. Second, future research should explore the long-term effects of emotion-regulation training and its impact on various professional groups. Additionally, examining the specific components of emotion-regulation strategies that are most effective in different contexts can help tailor interventions to individual needs. Additionally, comparing the results with undergraduate students would provide insights into how they transition into police work. Future research should also consider other relevant factors that contribute to effective policing. Finally, conducting longitudinal studies would be valuable for tracking police officers throughout their careers.

Furthermore, Palma et al. (2018) proposed a link between down-regulation strategies and epistemic orientation, which influences how individuals access and utilize knowledge. Exploring how decision-making styles and emotional regulation strategies intersect with epistemic orientation within the police context could provide valuable insights, particularly for mitigating the negative outcomes associated with policing.

Given the inherent risks and challenges in police work, prioritizing studies that address these complexities is crucial for advancing our understanding of decision-making processes and emotional regulation strategies in this profession.

5. Conclusions

The current study contributes significantly to the research on emotion regulation and decision-making in several ways. First, it confirms the relationship between emotion regulation and decision-making, while also contributing by pinpointing specific emotion-regulation strategies that influence decision-making styles. In addition, through a multiple regression analysis, our study explores how different emotion-regulation strategies impact decision-making styles.

Given the critical nature of decision-making among police officers, enhancing their emotion-regulation skills is crucial. By improving their emotional control during critical incidents, officers can make more effective decisions, thereby enhancing community safety.

Author Contributions: Conceptualization, C.C., A.P. and S.M.G.G.; methodology, A.P., B.P. and S.O.; software, A.P., B.P. and S.O.; validation, A.P.; formal analysis, C.C., A.P. and S.O.; investigation, S.O., C.C. and A.P.; resources, C.C., R.C.d.M. and A.P.; data curation, A.P., B.P. and S.O.; writing—original draft preparation, B.P., C.C., S.O. and A.P.; writing—review and editing, C.C., S.O., A.P., S.M.G.G., M.S.C. and R.C.d.M.; visualization, A.P., B.P. and S.O.; supervision, C.C., A.P. and S.M.G.G.; project administration, C.C. and A.P. All authors have read and agreed to the published version of the manuscript.

Funding: This project was funded solely through internal resources, no external funding was obtained.

Institutional Review Board Statement: Under Portuguese legislation, an ethical review by an Institutional Review Board (IRB) or Ethics Committee is not mandatory for studies involving participants' perceptions and opinions. Nonetheless, this study complied with the ethical principles outlined in the Helsinki Declaration. The study received formal permission from the PSP Central Command, which conducted its own internal ethical review to ensure adherence to ethical standards.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data supporting this study's findings are available from the corresponding author upon reasonable request.

Conflicts of Interest: The authors declare no conflicts of interest.

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