How one's emotional and cognitive disposition influence moral decision making: the neuroscientific perspective

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Moral decision-making represents a complex process, requiring people to achieve balance between emotional and cognitive information processing (Garrigan et al., 2018). The first process enables individuals to evaluate stimuli, while the second is echoed in reasoning processes and cost-benefit analysis. Different decision-making styles and personalities impact moral decision-making (Balconi et al., 2023; Dewberry et al., 2013). To investigate moral decision-making, neuroscience highlights implicit aspects, such as cognitive or emotional aspects (Balconi & Fronda, 2019; Cassioli et al., 2023; Greene et al., 2004). This study tested a novel task based on realistic moral decisional scenarios to explore how emotional and cognitive dispositions influence moral decision-making. 24 participants completed the task while electroencephalographic and autonomic activity were collected. General Decision Making Scale (GDMS), Maximisation Scale (MS), 10-item Big Five Inventory (BFI), and Five Facet Mindfulness Questionnaire (FFMQ) were also administered. Data analysis highlighted how emotional and cognitive dispositions influence moral decision-making and correlate with distinct decision-making styles and personality traits. Specifically, people with emotional disposition showed higher BFI Emotional Stability and mindfulness-related traits, probably as an index of approaching decisions while capitalizing greater self-awareness and self-regulatory skills. People with cognitive information processing reported higher Agreeableness and Openness BFI traits, and were defined by Rational or Intuitive GDMS styles, reflecting the propensity for a rational and logical decisional process. Furthermore, electroencephalographic and autonomic activities correlated with different decision-making styles and personality traits. Theta activity correlated positively with Rational and Dependent GDMS scores and negatively with Decision Difficulties MS scores, reflecting information integration and enhanced cognitive control. Beta activity correlated with Alternative Search MS scores, suggesting workload management. Finally, heart rate correlated with Emotional Stability, while heart rate variability was associated with greater Conscientiousness and High Standards scores, and lower Avoidant GDMS scores, plausibly mirroring efficient self-regulation skills.

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