Chapter 7
Managing Emotions: Ecological Validation of Stimulus–Videos

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ABSTRACT

This study develops an ecologically validated video stimulus system targeting Izard's ten emotions, exploring whether there is an intersubjective agreement regarding the most salient emotion in dynamic VS and if these stimuli can form a "battery" for use in research and practice. We hypothesize that different genders will exhibit varying responses to these stimuli. Two studies were conducted with Portuguese participants. Study included 19 individuals who evaluated 150 video excerpts, leading to the selection of 50 "effective" stimuli with high emotional salience. Study II involved 175 participants who assessed these VS across dimensions of "valence" and "arousal" using the SAM and DES scales. Results showed agreement for

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emotions such as surprise, joy, sadness, and fear, with notable gender differences in responses. In both genders, VS mapped along the axes of intensity and valence deviated from the expected circumplex model. These findings suggest that gender plays a significant role in emotional perception, but further validation with psychophysiological variables is necessary.

1 INTRODUCTION

Emotions play a decisive role in human communication and behavior by serving as intrinsic motivators that shape decision-making processes and influence individual actions and social interactions (Panksepp, 2003, 2004), helping human beings avoid danger (Chanel, 2009), and, for some theorists and philosophers (psychologists and naturalists), supporting values (Hessen, 2001). These emotional responses affect several cognitive functions, including perception, attention, and judgment, which together influence how individuals perceive, interpret, and respond to their environment (Arangüena & Dorado, 2001; Correia, 2023). Therefore, the study of emotions is critical, not only for understanding everyday human experiences and decision-making processes but also for gaining insights into psychopathological conditions like emotional lability, apathy, and anxiety (Correia, 2023).

Despite extensive research, accurately capturing emotional responses in a manner that replicates the complexity of real-world interactions remains challenging. Traditional approaches have typically relied on static stimuli, such as photographs or facial expressions, that, while insightful, often suffer limited ecological validity (EV) of the stimuli used to evoke emotions, as they fail to replicate the dynamic nature of emotional interactions experienced in everyday real-world contexts (Ekman, 1999). EV refers to the extent to which experimental findings can be generalized to real-life settings (Christensen, 2007), making it essential in psychological and medical assessments of patients. Increasingly, researchers advocate the need to develop stimuli that more accurately reflect everyday emotional experiences, since emotions are rarely static or isolated; instead, they are frequently triggered by complex, time-evolving stimuli, such as social interactions or environmental changes. The use of ecologically valid stimuli, such as dynamic video-based stimuli (VS), can enhance the development of therapeutic tools, diagnostic methods, and emotion recognition technologies, advancing research on how emotions impact cognitive processes (Barrett & Wager, 2006; Bradley & Lang, 1994; Christensen, 2007). The EV of these stimuli depends on their capacity to evoke consistent emotional responses across diverse participant groups, aligning closely with real-life emotional encounters and enabling insights into the effects of emotions on cognitive processes like attention, perception, and judgment (Barrett & Wager, 2006; Panksepp, 2003).