Visual encoding of social cues predicts sociomoral reasoning

Mathieu Garon[1], Marie Maxime Lavallée[1], Evelyn Vera Estay[1,2], Miriam H. Beauchamp[1,3]*

1 Department of Psychology, University of Montreal, Montreal, Qc, Canada, **2** Centro de Desarrollo de Tecnologías de Inclusión, Escuela de Psicología, Pontificia Universidad Católica de Chile, Macul, Chile, **3** Sainte-Justine Hospital Research Center, Montreal, Qc, Canada

* miriam.beauchamp@umontreal.ca

Abstract

As the first step of social information processing, visual encoding underlies the interpretation of social cues. Faces, in particular, convey a large amount of affective information, which can be subsequently used in the planning and production of adaptive social behaviors. Sociomoral reasoning is a specific social skill that is associated with engagement in appropriate social behaviors when faced with dilemmas. Previous studies using eye tracking suggest that visual encoding may play an important role in decision-making when individuals are faced with extreme moral dilemmas, but it is not known if this is generalizable to everyday situations. The main objective of this study was to assess the contribution of visual encoding to everyday sociomoral reasoning using eye tracking and ecological visual dilemmas. Participants completed the SocioMoral Reasoning Aptitude Level (SoMoral) task while their eye movements and pupil dilation were recorded. While visual encoding was not a predictor of sociomoral decision-making, sociomoral maturity was predicted by *fixation count*. Thus, in an ecological context, visual encoding of social cues appears to be associated with sociomoral maturity: the production of a justification is associated with volitional encoding strategies. Implications with regards to the dual-process theory of sociomoral reasoning and social information processing are discussed.

Introduction

Sociomoral reasoning is an essential process in social interactions and influences decisions made in everyday life from a very young age [1,2]. It can involve elaborate reasoning processes, while also relying on rapid and automatic cognitive bases. In most situations, production of a moral behavior involves intuitive processes such as perceptual encoding of the situation, which is required to extract relevant information from the context [3,4]. As a significant first step in the process, visual encoding is likely to play an important role in many subsequent aspects of sociomoral reasoning. Observing eye movements is a reliable way to assess visual encoding in social situations and studies in the fields of social and affective neurosciences increasingly rely on eye tracking techniques to effectively assess the relation between visual encoding and social information processing or social cognition. A limited number of existing