

Abstract

Agency is the capacity of an entity to act independently in a world. Many previous studies have demonstrated that inanimate objects without human or animal traits are under some circumstances perceived as having features of animate objects and can elicit attribution of mental states like motivation, emotion or intention. There are three main types of cues that evoke attribution of agency: morphological cues (head, face, biomechanical movement), behavioral cues (self-propelled movement, goal-directedness, changes in speed or direction, unpredictability, principle of rational (efficient) action) and communicative cues (interaction). In the current study we focused on examination of behavioral irregularity and its role in eliciting agency attribution to simple geometric figures. The aim of this study was to verify whether behavioral irregularity can lead to attribution of agency to irregular object. Two studies were designed to test this possibility. In Study A participants (N=20) watched a sequence of priming videoclips displaying four moving geometric shapes. In every trial one object was automatically selected and participants were asked to evaluate its movement on a seven-point scale. Six attributes related to attribution of agency (animacy, goal-directedness, freedom, dynamism, rationality and autonomy) and two attributes controlling perceived nonconformity (nonconformity) and irregularity (irregularity) were evaluated. Study B aimed at testing implicit attribution of agency using behavioral paradigm of intentional binding. Experimental procedure consisted of two different types of task: 1) baseline intentional binding and 2) intentional binding in observed actions produced by inanimate objects. Baseline condition explored eliciting of intentional binding in self-made and observed causal actions. In second condition participants (N=24) watched sequences of three priming animations, which were identical to videoclips used in Study A. Subsequently one of the objects was randomly selected for presentation. It appeared on the left side of screen and started to move towards button situated on the right side of screen. It switched the button on and after pseudorandom delay auditory tone was presented. Participants were required to recreate the perceived interval between the button press and the onset of the tone. Aim of Study B was to explore if irregular objects are spontaneously perceived as agents and their behavior as goal-directed.