

Prosocial Decision-Making Among Social Valence and Communication Framing: Behavioral and EEG Evidence

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Abstract

Understanding how the perceived social impact of corporate initiatives shapes individual willingness to support them is a central question at the intersection of behavioral science, neuroeconomics, and organizational psychology. However, less is known about how communication framing and personal financial cost jointly interact with social valence to influence both behavioral intentions and underlying neurocognitive processes. This study investigated the effects of social valence (positive vs. negative), communication frame (neutral, emotional, economic), and decision type (general support vs. personal financial investment) on prosocial decision-making. Twenty-two volunteers evaluated realistic corporate initiatives, while their electroencephalographic (EEG) activity was continuously recorded. Each scenario varied in social valence and communication frame and required two sequential judgments: willingness to support the initiative and willingness to invest a portion of personal income. Behavioral results revealed significant effects of decision type and valence, with greater support for positively valenced initiatives and lower support when personal financial investment was required. A significant Frame $\times$ Valence interaction showed that, in negative scenarios, economic framing elicited greater support than neutral framing, whereas in positive scenarios emotional framing produced greater support than economic framing. EEG results showed significant modulation of theta activity during decision-making. Left-hemispheric theta activity was higher for negative scenarios requiring personal financial investment than for general support decisions. Moreover, within financial investment decisions, negative scenarios elicited greater theta activity than positive scenarios. Overall, social valence emerged as the primary driver of prosocial decision-making, while communication framing exerted context-dependent effects. Increased theta activity during financially costly and negatively valenced decisions suggests greater cognitive control and conflict monitoring, suggesting that personal financial involvement increases cognitive demand and influences prosocial choices.

Keywords: prosocial decision-making, EEG activity, social impact, social valence, communication frame

Doi: <https://doi.org/10.66414/mlabs.9704>

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