

**Extending the Motivational Model of Love: A Goal-Directed Predictive Processing
Perspective**

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Abstract

We extend Kruglanski et al.'s model by embedding it within a Goal-Directed Predictive Processing framework. This perspective conceptualizes romantic love as arising from self-referential inferences tied to personal goals and reveals that love may include merit, appreciation, and significance, but is not defined or limited by them. It also explains love experiences that exceed the scope of the authors' model.

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Kruglanski et al. propose a compelling motivational account of interpersonal love, identifying merit, appreciation, and significance as central components. We welcome their departure from views that portray love as irrational, and appreciate their grounding in goal-related processes. However, we suggest that the model may overemphasize a single motivational goal – significance - and under-specify the psychological mechanisms through which love emerges. While merit, appreciation, and significance can all play a role in romantic love, they are not sufficient to account for its heterogeneity or the mechanisms through which it arises and is sustained.

We propose embedding their model within the broader framework of Goal-Directed Predictive Processing Theory. This framework builds on a growing body of work suggesting that behavior - including complex emotions such as love - results from automatic yet goal-directed inferential processes (Moors et al., 2017). Integrating predictive processing (Friston, 2010; Clark, 2016) and goal-directed theories (Moors, 2022), it posits that goal-related self-referential inferences underlie both overt actions and covert experiences such as feelings and appraisals (Van Dessel & Boddez, 2025). Within this framework, love emerges not from a single dominant motive like significance but from a structured sequence of inferences grounded in an individual's personal goals and beliefs.

We outline three core inferences. (1) *Goal activation inference*: An internal or external cue (e.g., seeing someone who resembles a past partner) activates a belief about having a certain goal (e.g., wanting intimacy). (2) *Action–outcome inference*: A belief is activated that a specific action (e.g., showing appreciation) may help attain the goal. (3) *Self-prediction inference*: The individual predicts they will take a specific action or experience a

specific feeling (e.g., feeling in love) because doing so minimizes expected surprise (cf. entropy minimization in active inference; Parr et al., 2022).

In this view, emotions arise when people predict they will feel a certain way, just as actions may arise when they predict they will act (Seth & Friston, 2016). Love-related feelings may emerge when individuals predict that such feelings will occur. This prediction will be made if it coheres with activated beliefs, goals, and situational cues. For instance, predicting that one is in love may minimize expected surprise if this fits with other self-beliefs such as “I want intimacy” and “This person could fulfill that need”. Likewise, acting on that feeling may reduce expected surprise when it aligns with other beliefs including self-concept beliefs, like “I am someone who actively pursues intimacy”. In this view, love does not reflect a response to partner traits in isolation, nor to a universal motive such as significance, but reflects self-referential inferences shaped by an individual’s personal goal structure and belief system.

The constructs in Kruglanski et al.’s model can also be embedded within this inferential framework. Inferences about a partner’s desirable characteristics (i.e., *Merit*) can shape goal activation and action-outcome inferences: the perceiver may activate relational goals (e.g., intimacy or financial freedom) and infer that being with this person could help fulfill these goals. Similarly, responsiveness and expressions of care (i.e., *Appreciation*) may cue relational goal inferences (e.g., wanting to be cared for) and inferences that such goals could be achieved with this partner. Finally, *Significance* - conceived by the authors as a core motive - may itself result from predictions that forming or maintaining a bond will produce feelings of personal value and respect. In this sense, significance-seeking becomes both a driver and a product of self-referential inferences about what one expects to feel and become in a relationship.

This reconceptualization captures love experiences beyond the authors' model. For instance, someone with low self-worth may fall in love with someone who confirms their negative self-beliefs if this feeling is inferred to provide emotional coherence or self-continuity (Swann et al., 2008). Even being treated as insignificant may reduce expected surprise if it aligns with the person's self-model. Similarly, individuals driven by a goal of "rescuing others" may repeatedly fall for emotionally dependent partners despite significant costs (Happ et al., 2023). In these cases, alignment with deeply held goals or beliefs takes precedence over self-protection or social reputation.

Courtly or unreciprocated love may also challenge Kruglanski et al.'s model but fits within the current framework: a person may sometimes form goal and action–outcome inferences (e.g., that being with the beloved would fulfil intimacy needs), predict the emotional experience of being in love, but refrain from acting if doing so is expected to increase surprise (e.g., due to social class differences within a rigidly stratified society). Grief, sometimes described as the price of love, is another case that can be accommodated here. Believing that a loved one has died may conflict with core beliefs such as "I need my partner" or "Young, kind-hearted people should not die", creating persistent prediction errors and mental distress. People may fruitlessly continue acting to reduce the gap between environmental cues and internal models to confirm core beliefs and secure the presence of the loved one (e.g., looking for the loved one in familiar places; Boddez, 2018).

At the practical level, the present framework suggests that interventions targeting love-related behavior should focus on building adaptive belief structures and reshaping maladaptive one's, including self-related beliefs about what matters to someone (i.e., one's goals; e.g., intimacy versus autonomy) and about their emotional experience (e.g., distinguishing love from lust in the context of extramarital attraction). This approach may

offer clinicians a more nuanced entry point into cases where love seems irrational or harmful but is affectively coherent within the person's belief system.

In sum, while Kruglanski et al. emphasize significance as a central motivational driver, we argue that love emerges from a broader inferential system grounded in dynamic, self-referential predictions about goals and emotional experiences. This perspective retains the authors' core components but reframes them as outputs of a flexible, predictive system – offering a way to better account for the variability of love across individuals and contexts.

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