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From regulation to projection: Reliance on regulatory mode in predictions about others

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Abstract

Past research showed that people project their goals onto unknown others. The present research investigates whether they also rely on their motivational orientation in terms of regulatory mode (locomotion vs. assessment). In line with work on self-judgments, a stronger chronic personal focus on locomotion over assessment decreased predictions of others' experiences of nostalgia (Study 1) and increased predictions of others' preference for, motivation by, and evaluation of a transformational over a transactional leader (Study 2). Furthermore, an experimentally induced locomotion mode compared to an assessment mode increased peoples' predictions of others' motivation to reconcile after interpersonal conflict (Study 3). We examined process evidence via the Testing-Process-by-Interaction-Strategy: As predicted, effects only emerged under time pressure (vs. ample deliberation; Study 2) and for ingroup (vs. outgroup) members (Study 3). These findings suggest that people's regulatory mode is a basis for predicting others' reactions and preferences. We discuss implications and future research directions.

KEYWORDS

egocentrism, projection, regulatory mode, social judgment

1 | INTRODUCTION

Much of social life hinges on the ability to infer others' thoughts, feelings, and states. For example, imagine having to hire a new team member and wanting to gauge to what extent a candidate might be motivated by a transactional relative to a transformational leader or be inclined to reconcile after interpersonal conflict. You might also want to know whether she has a humorous temper or is prone to nostalgia. Despite lacking substantial information about this person and not having direct access to her mind, you could rely on a useful proxy: your own mind. In doing so, you would not be alone: People generally tend to overestimate the degree of similarity between others and themselves and use the self and self-knowledge as a starting point when making social inferences and predictions (Epley, Keysar, Van Boven, & Gilovich, 2004; Nickerson, 1999), projecting their own inclinations and preferences onto others (Krueger, 2000, 2007; Ross, Greene, & House, 1977).

This proposition that people's default strategy when they infer other people's feelings, preferences, attitudes, and more is to generalize by drawing an analogy between themselves and the other person underlies various approaches to egocentrism and projection in social judgments (e.g., Alicke, Dunning, & Krueger, 2005; Ames, 2004a, 2004b; Epley et al., 2004; Heider, 1958; Holmes, 1968; Krueger, 2000, 2007; Mussweiler, 2003; Nickerson, 1999; Tamir & Mitchell, 2013; van Boven & Loewenstein, 2003, 2005; but see Karniol, 2003). Indeed, relying on self-knowledge may be a reasonable heuristic when faced with limited information (Dawes, 1989; Krueger, 2007). The present research examined whether social predictions are shaped by people's own regulatory mode (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000). As detailed below, self-judgments in the opening example's domains are sensitive to people's regulatory mode on locomotion (concerned with movement from one state to another) versus assessment (concerned with making comparisons and judgments before acting). Specifically, as a consequence of having a stronger locomotion rather than assessment orientation people prefer a transformational to a transactional leader (Benjamin & Flynn, 2006)

and are more strongly inclined to reconcile after interpersonal conflict (Webb, Coleman, Rossignac-Milon, Tomasulo, & Higgins, 2017). They also report experiencing less nostalgia (Pierro, Pica, Klein, Kruglanski, & Higgins, 2013). Consistent with research on social projection, people's predictions of unknown others should show similar differences in expected emotional experiences, preferences, and motivations based on their own regulatory mode, whether chronic or situationally induced. Stated differently, regulatory mode theory emphasizes different outcomes for locomotion and assessment modes of self-regulation. Thus, when people rely on their regulatory mode in making predictions of others, they should expect similar outcomes to be present in these social targets. Furthermore, factors known to impede the recruitment of self-knowledge, such as time for deliberation (vs. time pressure) and outgroup (vs. ingroup) membership, should moderate these effects, thus providing process evidence.

1.1 | Social projection: reliance on the self in judgments of others

Social projection serves as an umbrella term for various forms of perceived consensus of traits, attributes, beliefs, and characteristics (Krueger, 1998, 2000). It denotes "the assignment of one's own characteristics, attitudes, and behavioural preferences to other people or social groups" (Machunsky, Toma, Yzerbyt, & Corneille, 2014, p. 1373) or, more simply stated, "a set of processes by which people expect others to be similar to themselves" (Robbins & Krueger, 2005, p. 32). For instance, using this broad conceptualization, research found that people project onto others their personal attributes and traits (Newman, Duff, & Baumeister, 1997) as well as their implicit theory about their own personality (i.e., trait patterns; Critcher & Dunning, 2009), attitudes and beliefs (Katz & Allport, 1931; Ross et al., 1977), emotions (Clark, Mildberg, & Erber, 1984; Goldings, 1954), visceral states (O'Brian & Ellsworth, 2012; Van Boven & Loewenstein, 2003), behavioral tendencies (Monin & Norton, 2003), visual perspectives (Keysar, Barr, Balin, & Brauner, 2000), and knowledge about privileged information they hold (Epley et al., 2004; see also Gilovich, Medvec, & Savitsky, 2000; Keysar & Barr, 2002; Nickerson, 1999).

However, and as noted elsewhere (Oettingen, Ahn, Gollwitzer, Kappes, & Kawada, 2014; Woltin & Yzerbyt, 2015), the available research has largely neglected the question of whether people also rely on their motivational states in predicting consequences of such states for others. This is surprising in light of the fact that Holmes (1978) defined social projection as a "process by which persons attribute personality traits, characteristics, or *motivations* to other persons as a function of their own personality traits, characteristics, or *motivations*" (p. 677; emphasis added). Although scarce, projection research addressing motivational aspects and consequences thereof has provided evidence for functional projection in that participants with activated goals (i.e., self-protection, mate-search) perceived functionally relevant emotional expressions (i.e., anger, sexual arousal) in goal-relevant social targets (Maner et al., 2005; for similar findings concerning judgments of sexual intent, see Lenton, Bryan, Hastie, & Fischer, 2007). Also, people would seem to project their specific goals (Ahn, Oettingen, & Gollwitzer, 2015; Kawada, Oettingen, Gollwitzer, & Bargh, 2004; Oettingen et al., 2014; Palomares, 2012). For example, when asked to name the goals of a target person in lab studies, people projected their chronic achievement goal (of performance vs. learning) and their implicit or explicit goal to compete onto others (Kawada et al., 2004). In a similar vein, people in public places projected their goal to see a particular movie onto other moviegoers or their goal to catch a certain train onto other commuters (Ahn et al., 2015).

Going beyond the projection of *specific* goals, recent work addressed the reliance on a self-regulatory motivational orientation that people *generally* use in the pursuit of various goals when making social predictions: their regulatory focus (Higgins, 1998). In this research, participants' own regulatory focus shaped their predictions of consequences in others, such as their strategic inclinations, choices, attention to romantic alternatives, and product preferences (Woltin & Yzerbyt, 2015). For instance, promotion-focused participants expected loose acquaintances to prefer a toothpaste with promotion claims (e.g., whitening teeth) over a toothpaste with prevention claims (e.g., inhibiting cavities), and this reversed for prevention-focused participants. The current work aims to add to these recent efforts by testing if people's predictions of others are also shaped by their own regulatory mode, which should entail predicting similar consequences for emotional, preferential, and motivational differences as found for self-judgments.

1.2 | Regulatory mode theory

Regulatory mode theory (Higgins et al., 2003; Kruglanski, Orehek, Higgins, Pierro, & Shalev, 2010; Kruglanski et al., 2000) distinguishes two different functions involved in goal pursuit. Locomotion "constitutes the aspect of self-regulation concerned with movement from state to state and with committing the psychological resources that will initiate and maintain goal-related movement in a straightforward and direct manner, without undue distractions or delays" (Kruglanski et al., 2000, p. 794). People emphasizing the locomotion mode are concerned with initiating and maintaining movement from one state to another, they seek to "get on with it" (Higgins et al., 2003), and want to "just do it" without much further ado (Kruglanski et al., 2000). Conversely, assessment "constitutes the comparative aspect of self-regulation concerned with critically evaluating entities or states, such as goals or means, in relation to alternatives in order to judge relative quality" (Kruglanski et al., 2000, p. 794). People emphasizing the assessment mode relate past and future actions to critical standards. They seek to engage in the correct or appropriate course of action (Higgins et al., 2003), wanting to do the "right thing" (Kruglanski et al., 2000). These orientations both operate as inter-individual

difference variables and can be situationally induced (Avnet & Higgins, 2003).

Differences in regulatory mode entail important consequences across various domains. For example, compared to locomotion, choices made in the assessment mode are less impulsive and more far-sighted (Mannetti et al., 2009). Whereas the locomotion mode is negatively related to procrastination, regret, counterfactual thinking, extrinsic task motivation, and nostalgia, the assessment mode is positively related to these constructs (Pierro, Giacomantonio, Pica, Kruglanski, & Higgins, 2011; Pierro, Kruglanski, & Higgins, 2006; Pierro et al., 2008, 2013). In the social domain, locomotion entails a preference for transformational over transactional leadership (Benjamin & Flynn, 2006; see also Kruglanski, Pierro, & Higgins, 2007; for teacher styles, see Pierro, Presaghi, Higgins, & Kruglanski, 2009), an inclination to reconcile after conflict (Webb et al., 2017), and a preference for visible (rather than invisible) social support (Zee, Cavallo, Flores, Bolger, & Higgins, 2018). As such, investigating people's reliance on their regulatory mode in predictions made about others is an interesting motivational orientation to examine, due to the regulatory mode's pervasive consequences in various domains.

2 | THE PRESENT RESEARCH

The current studies build on the methodologies and findings in recent regulatory mode research in order to investigate whether social predictions of unknown others are shaped by people's personal regulatory mode. This is important for two reasons. First, motivational orientations influence a host of outcomes such as behavioral strategies, preferences, and goals in line with the predominant concern captured by the respective motivational orientation (e.g., Higgins et al., 2003). Thus, compared to specific goals, motivational orientations should have a broader impact across various cognitions and judgments. Second, although reliance on one's own regulatory focus shapes predictions of others (Woltin & Yzerbyt, 2015), it is unclear to what extent this holds for other motivational orientations. Regulatory mode and regulatory focus relate to different kinds of effective self-regulation (Higgins, 2012): Whereas promotion and prevention involve attaining or maintaining desired end-states (i.e., presence of positive vs. absence of negative outcomes, respectively), locomotion involves making things "happen" and assessment involves establishing the best choice. Consequently, regulatory mode and regulatory focus are only moderately or not at all correlated (e.g., Appelt, Zou, & Higgins, 2010; Boldero, Higgins, & Hulbert, 2015; Struk, Scholer, & Danckert, 2016), entail different consequences (e.g., Boldero et al., 2015; Hughes & Scholer, 2017; Struk et al., 2016), and regulatory mode qualifies regulatory focus effects (e.g., Appelt et al., 2010). Furthermore, people low (vs. high) on assessment exhibit more transference in social perception. That is, when presented with information about an unknown individual akin to a significant other they previously described, people low (vs. high) on assessment show more false positives in recognizing descriptions of the target person which were not provided but are consistent with their representation of their described significant other (Pierro, Orehek, & Kruglanski, 2009). However, whether regulatory mode (including locomotion, which was not assessed in Pierro, Presaghi, et al., 2009) is implicated in inferences from the self rather than from a significant other in social predictions remains an open question. This is a further reason that warrants focusing on people's reliance on their regulatory mode when making predictions about others.

Our first two studies measured chronic regulatory mode (Kruglanski et al., 2000). In Study 1, we tested if a stronger personal focus on locomotion over assessment decreases peoples' predictions of others' experiences of nostalgia (Pierro et al., 2013). In Study 2, we examined whether a stronger personal focus on locomotion over assessment increases predictions of others' preference for, motivation by, and evaluation of a transformational relative to a transactional leader (Benjamin & Flynn, 2006). In Study 3, we experimentally induced regulatory mode (Avnet & Higgins, 2003) and tested if, similar to individual judgments, a locomotion compared to an assessment mode increases peoples' predictions of others' motivation to reconcile (Webb et al., 2017).

Additionally, Studies 2 and 3 examined process evidence by employing the Testing-Process-by-Interaction Strategy (TPIS; Jacoby & Sassenberg, 2011). TPIS is based on an experimental design, whereby a contextual condition disrupts (vs. does not disrupt) the process hypothesized to explain changes in the dependent variable (for a review, see Judd, Yzerbyt, & Muller, 2014). One advantage of this strategy is that one does not need measuring the mediating variable. Measuring a mediating variable complicates inferences about causality because one has to rely on correlational data (Fiedler, Schott, & Meiser, 2011; Kenny, Kashy, & Bolger, 1998; Spencer, Zanna, & Fong, 2005). A further advantage is that this strategy avoids any influence of the act of measuring the mediator on the process: "Answering a self-report measure may induce a particular mindset or make specific information accessible that would not otherwise come to mind as a simple result of the independent variable" (Jacoby & Sassenberg, 2011, p. 183).

Testing-Process-by-Interaction Strategy is especially suited in cases where there are well-established manipulations that disrupt the focal process. In research on social projection, such manipulations entail deliberation time (vs. time pressure, Study 2) and target outgroup membership (vs. ingroup membership, Study 3). First, making judgments under time pressure inhibits adjustment for self–other differences because people have less time to change their default initial judgment based on the self, thereby facilitating projection. In contrast, such adjustments are likely to take place when people have ample time to deliberate, thus effectively eliminating social projection (Epley et al., 2004; Stern & West, 2016). Second, people readily use the self for inferences about ingroup members but cease to do so for outgroup members, thus also effectively eliminating social projection (Ames, 2004a; Cadinu & Rothbart, 1996; Cho & Knowles, 2013; Clement, & Krueger, 2002; Otten & Wentura, 2001; Stern & West, 2016; for a meta-analysis, see Robbins & Krueger, 2005).

Overall, the current set of studies thus aimed to provide process evidence via TPIS and to address chronic, inter-individual, and situationally induced differences in regulatory mode in order to provide both correlational and causal evidence. We obtained ethical clearance for all studies at the universities where we conducted this research. For each study, participants learned about their right to withdraw and the confidential and anonymous treatment of their data before providing their informed consent. They were also fully debriefed at the end of each study. None of the studies involved any anticipated risk to participants or elements of deception.

For all studies, we report how we determined our sample size, all data exclusions, all manipulations, and all measures. De-identified data for all studies and data analysis scripts are available via the Open Science Framework (OSF; https://osf.io/cm72n/).

3 | STUDY 1: CHRONIC REGULATORY MODE AND PREDICTIONS OF NOSTALGIA

This correlational study builds on research demonstrating that people's regulatory mode is differentially related to their experiences of nostalgia (Pierro et al., 2013). Specifically, given that nostalgic experiences involve the evaluation of past occurrences against the present standard, Pierro and colleagues reasoned and found peoples' locomotion (assessment) orientation to decrease (increase) nostalgia proneness, with an emphasis on movement and a resilience against regret (with an emphasis on evaluation and a susceptibility to rumination and regret; Kruglanski et al., 2000; Pierro et al., 2008). In short, relative to an assessment orientation, an emphasis on locomotion decreases people's personal experience of nostalgia. We predicted that a similar relationship between regulatory mode and nostalgia should emerge when people estimate nostalgia experienced by unknown others.

3.1 | Method

3.1.1 | Participants and design

Participants participated on Amazon's MTurk (www.mturk.com) in a study on impression formation. Past research shows that data from MTurk is reliable and reflects a more diverse sample than student samples (e.g., Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012). Requirements for participation included being located in the United States and having an approval rate of at least 95% in previous assignments. A power analysis using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) indicated that detecting an effect size of $r = .32$ (i.e., the average correlation for both measures used by Pierro et al., 2013, and also used here) with $\alpha = 0.05$ and 90% power ($1-\beta$) would require around 80 participants. Overall, 84 participants completed the questionnaire and were paid $0.20.

The lie scale of the Regulatory Mode Questionnaire (RMQ; Kruglanski et al., 2000), consisting of six items (e.g., "I believe one should never engage in leisure activities"), was included in the measures. Responses are given on a 6-point scale (1 = *strongly disagree* to 6 = *strongly agree*). This scale ($M = 2.35$, $SD = 0.85$; $\alpha = 0.77$) probes participants' attention and honesty. One participant with a score larger than five was not considered (cf. Oppenheimer, Meyvis, & Davidenko, 2009).[1] In fact, this participant had a score of six, indicating that the person was dishonest on *every* item (the next highest score in the sample was 4.17; consequently and consistently the same cut-off score of larger than five was used here and in the following study including the lie scale). The final sample comprised 83 participants (34 females, 49 males; $M_{age} = 31.14$, $SD_{age} = 9.46$). Gender did not moderate the findings reported below and is thus not considered.

3.1.2 | Procedure and materials

As in previous work on self-judgments (Pierro et al., 2013), and after providing informed consent, participants first filled in the RMQ (Kruglanski et al., 2000), measuring their locomotion (12 items; $M = 4.19$, $SD = 0.74$; $\alpha = 0.87$) and assessment mode (12 items; $M = 3.99$, $SD = 0.80$; $\alpha = 0.86$), as well as items constituting the lie scale (see above). Each item represents a self-descriptive statement either reflecting locomotion (e.g., "By the time I accomplish a task, I already have the next one in mind") or assessment (e.g., "I spend a great deal of time taking inventory of my positive and negative characteristics") and participants indicate agreement with these statements on 6-point scales (1 = *strongly disagree* to 6 = *strongly agree*). The modes were not correlated in the current sample, $r(83) = .07$, $p > .52$. Following Higgins, Pierro, and Kruglanski (2008) and in line with previous regulatory mode research (e.g., Higgins et al., 2008; Orehek, Mauro, Kruglanski, & van der Bles, 2012; Webb et al., 2017; Zee et al., 2018) participants' predominant regulatory mode was calculated by subtracting their assessment scores from their locomotion scores ($M = 0.20$, $SD = 1.05$).[2] Higher (lower) scores indicate greater predominance of the locomotion (assessment) mode.

[1] At the very end the questionnaire contained an instructional manipulation check item (modeled after Oppenheimer et al., 2009), which six participants failed to respond to correctly. However, further excluding these participants does not change the results reported below in a meaningful manner, with all results reported remaining significant at very similar levels.

[2] The use of difference scores comes at some costs (cf. Edwards, 1994, 2001). However, and as noted in other research on self-regulation (e.g., Webb et al., 2017; Righetti, Finkenauer, & Rusbult, 2011; Cesario & Higgins, 2008), from a theoretical perspective, it is the *relative* strength that determines which mode of self-regulation is chronically in the foreground and a predominance perspective thus creates the clearest theory-driven predictions. This is especially the case when the modes are in opposition (e.g., at the system or strategic level; Higgins et al., 2003; Kruglanski et al., 2010) and impose competing forces on individuals—such as in the domains considered in the current work (i.e., nostalgia proneness, leadership preference, motivation to reconcile). Consequently, a predominance approach regarding regulatory mode has been argued for and used in previous research (e.g., Higgins et al., 2008; Orehek et al., 2012; Webb et al., 2017; Zee et al., 2018). Furthermore, the notion of regulatory mode predominance is also captured in manipulations of regulatory mode (cf. Zee et al., 2018), as temporarily increasing the strength of one mode increases its strength *relative* to other (chronic) motivational systems.

Next, we presented participants with a picture of a same-sex target, allegedly morphed for reasons of anonymity, and asked them to form a first impression about this target (see Figure 1). They learned that they would be asked questions about this person and were invited to continue once they had formed a first impression.

The following part of the questionnaire consisted of scales also employed by Pierro et al. (2013), which we adapted to assess participants' predictions of the target's nostalgia proneness. Nostalgia has been conceptualized as the remembrance of self-relevant past experiences, often involving close others, and generally entailing a positive affective tone, even though the nostalgic experience can include a slight negative affect (e.g., Wildschut, Sedikides, Arndt, & Routledge, 2006). Participants had to fill in modified versions of the Southampton Nostalgia Scale (SNS; Routledge, Arndt, Sedikides, & Wildschut, 2008) and the Time Perspective Inventory (TPI; Zimbardo & Boyd, 1999).

The SNS included five items, assessed using 7-point scales: "How often do you think the person experiences nostalgia?" and "How often do you think the person brings to mind nostalgic experiences?" (1 = *very rarely* to 7 = *very frequently*); "How prone do you think the person is to feeling nostalgic?" and "How important do you think it is for the person to bring to mind nostalgic experiences?" (1 = *not at all* to 7 = *very much*); "Specifically, how often do you think the person brings to mind nostalgic experiences?" (1 = *once or twice a year* to 7 = *at least once a day*). We computed a composite average score (α = 0.93; *M* = 4.08, *SD* = 1.25), with higher scores indicating greater predicted nostalgia proneness.

Participants also responded to the same three items of the 5-point scale TPI employed by Pierro et al. (2013; but again adapted to the current context) as a further measure of nostalgia proneness: "It gives the person pleasure to think about the past", "Happy memories of good times spring readily to the person's mind", "The person gets nostalgic about childhood" (1 = *not at all characteristic of the person* to 5 = *very characteristic of the person*). We computed a composite average score (α = 0.90; *M* = 3.42, *SD* = 0.93) with higher scores indicating greater predicted nostalgia proneness. The two nostalgia proneness measures were correlated, $r(83) = .83$, $p < .001$ (see Pierro et al., 2013; Routledge et al., 2008).[3]

FIGURE 1 Female (left) and male (right) faces presented in Studies 1–3. [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 1 Correlations of variables in Study 1

	Assessment	Locomotion	Predominance
SNS score	.42***	.06	−.28**
TPI score	.43***	.06	−.38***

Abbreviations: Assessment, Assessment mode score; Locomotion, Locomotion mode score; Predominance, Predominance score; SNS score, predicted nostalgia proneness measured with the adapted Southampton Nostalgia Scale; TPI score, predicted nostalgia proneness measured with the adapted Time Perspective Inventory.
**$p < .01$.
***$p < .01$.

After completing all scales, participants were fully debriefed, thanked, and remunerated. We report all measures, manipulations, and exclusions in the main text or footnotes to this study and all other studies.

3.2 | Results and discussion

Outlier analyses (Cohen, Cohen, West, & Aiken, 2003; Judd, McClelland, & Ryan, 2011) indicated one outlier for each of the predicted nostalgia proneness measures (both with Cook's *D*s > 0.117), which were excluded in the respective regressions and correlations below. Table 1 gives an overview of the correlations between assessment mode, locomotion mode, and the predominance score with the nostalgia proneness measures. The assessment (but not the locomotion) mode and the predominance score correlated as expected with the nostalgia proneness measures. These correlations structurally replicate Pierro et al. (2013), albeit only for the assessment mode.

Regressing participants' *SNS predicted nostalgia proneness* on their locomotion predominance score revealed the expected negative relation: $B = -0.34$, $SE = 0.13$, $t = -2.64$, $p = .010$. Similarly, regressing participants' *TPI predicted nostalgia proneness* on their locomotion predominance score revealed the expected negative relation: $B = -0.34$, $SE = 0.09$, $t = -3.69$, $p < .001$.

Overall, and paralleling effects found for the self (Pierro et al., 2013), when making predictions for unknown others people's stronger locomotion (over assessment) predominance was related to expecting unknown others having a weaker proneness for experiencing nostalgia. While these results constitute a first indication that people rely on their regulatory mode in making predictions about others, they remain limited in terms of process evidence. The next study sought to provide such evidence by employing TPIS, namely

[3]After these scales, and for explorative purposes, we also assessed participants' mood with four items ("In this moment I feel rather … 1 = *sad/discontent/tense/bad* to 7 = *happy/content/relaxed/good*; α = 0.87; *M* = 5.40, *SD* = 1.20) and some control questions (e.g., whether they had been involved in similar previous research, what they thought the study was about). Controlling for mood does not impact the findings in any way.

investigating the reliance on regulatory mode under time pressure as compared to ample time for deliberation.

4 | STUDY 2: CHRONIC REGULATORY MODE AND PREDICTIONS OF LEADERSHIP STYLE PREFERENCES

Compared to people high in assessment or with an induced assessment mode, those high in locomotion or induced with a locomotion mode have been found to prefer, to be more motivated by, and to evaluate more positively a transformational over a transactional leader (Benjamin & Flynn, 2006). Furthermore, while people draw on the self in social predictions under time pressure, they adjust for self–other differences when provided with ample time to make deliberated decisions, effectively eliminating social projection (Epley et al., 2004; Stern & West, 2016). The current study thus tests if people high in locomotion compared to assessment indeed envisage unknown others to prefer a transformational relative to a transactional leader. This is predicted to occur under time pressure (when people are more likely to rely on the self as an anchor) but not when people have time to make deliberate predictions (and are more likely to take factors other than the self into account).

4.1 | Method

4.1.1 | Participants and design

Overall, 229 participants participated on Prolific Academic (www.prolific.ac), with inclusion criteria being 18 years or older and having an approval rate no lower than 90%. Power analysis (G*Power; Faul et al., 2007) indicated that approximately 210 participants would be required to detect a small to medium size effect (R^2 = .07) with α = 0.05 and 90% power (1–β) with the current design.

Participants learned that they would take part in a study on self and social judgment, gave their informed consent and took part online for a remuneration of £1.50. As in Study 1, the RMQ lie scale (M = 2.98, SD = 1.08; α = 0.81; Kruglanski et al., 2000) probed participants' attention and honesty, and as in Study 1 we discarded participants with scores larger than five (n = 11; cf. Oppenheimer et al., 2009; n = 3 from the time pressure condition; n = 8 from the deliberation condition; see below). Three participants without a Prolific identification and whose origin thus was not clear were also not considered (n = 2 from the time pressure condition; n = 1 from the deliberation condition).[4] The final sample comprised 215 participants (141 males, 74 females; M_{age} = 28.89, SD_{age} = 8.19), whose regulatory mode was measured and who were randomly assigned to the time pressure (n = 109) or the deliberation condition (n = 106). Gender did not moderate the findings reported below and is thus not considered.

4.1.2 | Procedure and materials

After providing informed consent, participants first filled in the RMQ (Kruglanski et al., 2000), measuring their locomotion (M = 4.09, SD = 0.69; α = 0.82) and assessment mode (M = 3.89, SD = 0.60; α = 0.72), which were not correlated, $r(215) = .06$, $p > .41$. We computed a regulatory mode predominance score as in Study 1 (i.e., subtracting participants' assessment from their locomotion scores; M = 0.20, SD = 0.88) with higher score indicating greater locomotion mode predominance.

Also as in Study 1, participants were then presented with a picture of a same-sex social target (see Figure 1), asked to form a first impression, and informed they would answer questions about this person. In the *time pressure condition* they further learned: "We know that it might be difficult to answer questions about a person one doesn't know, but past research has found that people are rather good at this, especially if they make quick and spontaneous judgments"; in the *deliberation condition* this sentence ended with: "especially if they consider their judgments carefully and reflect well on them".

Subsequently, participants read two vignettes taken verbatim from Benjamin and Flynn (2006, p. 225; Study 3), one describing a transformational leader (Mark Doyle) and the other describing a transactional leader (Alex Hale). Transformational leadership encompasses the encouragement of personal development and performance beyond standard expectations, as well as inspiring others by communicating an idealized vision of the future. In contrast, transactional leadership encompasses engaging in an exchange dynamic, with the leader establishing precise goals, monitoring goal progress, and identifying rewards (Bass, 1985). In line with these conceptualizations, the transformational leader was described, among other aspects, as someone who encourages employees to develop their full potential, solicits their ideas, and shares with them his company vision and mission. The transactional leader was described as someone who believes employees are motivated by positive reinforcement, tells them what they are required to do, monitors their performance, and takes corrective actions or rewards them.

Participants then answered a series of questions regarding how the social target of whom they had formed an impression would perceive these leaders. However, participants in the *time pressure condition* were additionally told: "Please remember to be quick and spontaneous. You should respond to each question in less than 4 s (but you will receive another 4 s to read the question). In short, please be as quick and spontaneous as you can." This amount of time is in line with previous research and prevents participants from engaging in effortful thought while making judgments, thus preventing adjustment (e.g., 3 s, Epley et al., 2004; 4–5 s, Smith & Windschitl, 2011; 6 s, Stern & West, 2016). Participants in the *deliberation condition* were additionally told: "Please remember to consider your judgments carefully and to reflect well on them

[4]A Prolific ID entails a string of numbers and letters and Prolific requires participants to provide it when taking part in research. The three participants not considered instead provided other information in the required field (e.g., a webpage address). Without a Prolific ID it is impossible to determine participants' origin or to withhold payment or to flag them in case of non-performance or lack of compliance.

before giving your answer. You should take as much time as you need to respond to each question. To ensure you do not rush yourself, the 'next' button on the following pages will only show after a short delay." For the subsequent questions (see below) a clock counting down from 8–36 s (depending how many questions were on the pages) was displayed to participants in the *time pressure condition*; participants in the *deliberation condition* were only displayed the "next" button after a similar delay. In other words, whereas in one condition participants were under pressure to respond to each question within a 4 s timeframe, in the other condition they could not move on without having spent an average of at least 4 s on each question.

First, to assess participants' predicted relative preference of the social target for one over the other leader, and in line with previous research on self-preferences (Benjamin & Flynn, 2006), they were asked "Which of these leaders would the person you formed an impression of prefer to work for?" and provided their responses on a 5-point scale (1 = *the person strongly prefers Mark Doyle*, 2 = *the person slightly prefers Mark Doyle*, 3 = *the person feels neutral about both*, 4 = *the person slightly prefers Alex Hale*, 5 = *the person strongly prefers Alex Hale*). Responses were reversed with higher scores indicating stronger predicted preference for the transformational leader.

Participants were then asked to what extent the person of whom they had formed an impression would agree with a set of each three statements gauging the respective leaders' ability to motivate the person (Mark Doyle/Alex Hale would increase willingness to work harder; readiness to put in extra effort; motivate to exceed legitimate expectations at work; cf. Benjamin & Flynn, 2006, for the same questions regarding self-judgments). Their responses on a 5-point scale (1 = *the person strongly disagrees* to 5 = *the person strongly agrees*) were aggregated (transformational leader motivation: $M = 3.65$, $SD = 0.83$; $\alpha = 0.76$; transactional leader motivation: $M = 3.54$, $SD = 0.81$; $\alpha = 0.73$). We subtracted the transactional from the transformational leader motivation score to create an overall leadership motivation measure with higher scores indicating stronger predicted motivation ability by the transformational over the transactional leader ($M = 0.11$, $SD = 1.30$).

An additional set of four questions per leader (cf. Benjamin & Flynn, 2006) asked participants about their predicted agreement of the target person with statements gauging the respective leaders' leadership style evaluation (Mark Doyle's/Alex Hale's leadership style is highly effective/highly efficient; Mark Doyle/Alex Hale possesses leadership qualities/is worthless as a leader – reversed). They provided their responses on the same 5-point scale as for the items regarding motivation, and responses were again aggregated (transformational leader evaluation: $M = 3.88$, $SD = 0.78$; $\alpha = 0.69$; transactional leader evaluation: $M = 3.78$, $SD = 0.74$; $\alpha = 0.71$). We subtracted the transactional from the transformational leader evaluation score to create an overall leadership evaluation measure with higher scores indicating predicted better evaluation of the transformational over the transactional leader ($M = 0.10$, $SD = 1.08$).

Participants were then fully debriefed, thanked, and paid for their participation.

4.2 | Results and discussion

Outlier analyses (Cohen et al., 2003; Judd et al., 2011) indicated three outliers for predicted leader preferences (Cook's $D > 0.031$; $n = 2$ from the time pressure condition; $n = 1$ from the deliberation condition), two for predicted leader motivation (Cook's $D > 0.076$; $n = 1$ from each condition), and one for predicted leader evaluation (Cook's $D > 0.105$; from the deliberation condition). We excluded them in the respective regressions and correlations below. Table 2 gives an overview of the correlations between assessment mode, locomotion mode, and the predominance score with the leadership style prediction measures in the two conditions. In the time pressure condition, locomotion and assessment correlated as expected with the different leadership style prediction measures, for which higher scores indicate an assumed preference for a transformational leader. Corroborating our argument regarding the benefit of a difference-score approach (see footnote 2), the strongest and most consistent correlations emerged for the predominance score.

TABLE 2 Correlations of variables in Study 2 by experimental conditions

	Deliberation condition			Time pressure condition		
	Assessment	Locomotion	Predominance	Assessment	Locomotion	Predominance
Leadership style preference	−.08	−.03	.03	−.17*	.19**	.271***
Leadership style motivation	.00	.07	.06	−.18*	.23**	.306***
Leadership style evaluation	.02	−.04	−.05	−.20**	.14	.249***

Abbreviations: Assessment, Assessment mode score; Locomotion, Locomotion mode score; Predominance, Predominance score.

*$p < .10$.

**$p < .05$.

***$p < .01$.

Regressing participants' *predicted leadership style preference* on their z-transformed locomotion predominance score, condition (coded −1 for time pressure and 1 for deliberation), and the interaction revealed a main effect of the locomotion predominance score, such that participants' locomotion predominance positively predicted the target's assumed preference for the transformational over the transactional leader: $B = 0.22$, $SE = 0.10$, $t = 2.34$, $p = .02$. There was no main effect of condition, $t < |1.4|$, $p > .15$, but the predicted interaction emerged, $B = -0.19$, $SE = 0.10$, $t = -2.00$, $p = .047$. Simple slope analyses (Aiken & West, 1991) further showed that whereas participants' locomotion predominance positively predicted the targets' assumed preference for the transformational over the transaction leader in the time pressure condition, $B = 0.42$, $SE = 0.14$, $t = 2.96$, $p = .003$, this was not the case in the deliberation condition, $B = 0.03$, $SE = 0.13$, $t = 0.25$, $p = .802$.

Regressing participants' *predicted leadership style motivation* on the same predictors again revealed a main effect of the locomotion predominance score, such that participants' locomotion predominance positively predicted the target's assumed stronger motivation by the transformational over the transactional leader: $B = 0.24$, $SE = 0.09$, $t = 2.80$, $p = .006$. There also was a main effect of condition, $B = -0.17$, $SE = 0.08$, $t = -1.97$, $p = .050$, indicating that with less time pressure and more deliberation participants expected the target to be more strongly motivated by the transformational over the transactional leader. More importantly, the predicted interaction qualified these effects, albeit marginally, $B = -0.17$, $SE = 0.09$, $t = -1.95$, $p = .052$. Whereas participants' locomotion predominance positively predicted the targets' assumed stronger motivation by the transformational over the transactional leader in the time pressure condition, $B = 0.40$, $SE = 0.12$, $t = 3.32$, $p = .001$, this was not the case in the deliberation condition, $B = 0.07$, $SE = 0.12$, $t = 0.60$, $p = .548$.

Finally, regressing participants' *predicted leadership style evaluation* on the same predictors revealed no main effect of the locomotion predominance score, $t < 1.63$, $p > .10$, but a main effect of condition, $B = -0.17$, $SE = 0.07$, $t = -2.35$, $p = .020$. With less time pressure and more deliberation, participants expected the target to evaluate more negatively the transformational over the transactional leader. These effects were again qualified by the predicted interaction, $B = -0.17$, $SE = 0.07$, $t = -2.28$, $p = .024$. Whereas participants' locomotion predominance positively predicted the targets' assumed more positive evaluation of the transformational over the transactional leader in the time pressure condition, $B = 0.29$, $SE = 0.10$, $t = 2.74$, $p = .007$, this was not the case in the deliberation condition, $B = -0.05$, $SE = 0.10$, $t = -0.46$, $p = .648$.

Overall, and in line with findings regarding people's own preferences for leadership styles (Benjamin & Flynn, 2006), a stronger locomotion orientation was associated with participants assuming that others would also favor a transformational over a transactional leader as evidenced by stronger predicted preferences, higher predicted levels of anticipated motivation, and more positive predicted evaluations. However, whereas the simple effects consistently emerged, the interactions for predicted leadership style preference and motivation were rather weak, which somewhat tempers the results. We can only speculate on reasons: Predicting others' general evaluative tendencies might be easier than predicting others' more specific motivation; alternatively, stronger results for the last measure could indicate participants becoming more certain in their responses. Nonetheless, it is noteworthy that these findings emerged under time pressure and were eliminated when participants engaged in deliberation, in line with the anchoring-and-adjustment reasoning that more (less) time and deliberation effort in social judgments helps overcome (fosters using) the self as an anchor (Epley & Gilovich, 2001; Epley et al., 2004; Stern & West, 2016).

The astute reader may have noticed another potential limitation of this study[5]: The time pressure (deliberation) condition might have constituted a situation of congruence with the locomotion mode's preference for quick movement (with the assessment mode's preference for evaluation). We acknowledge this being a rather undesirable, and unintended, limitation of the chosen paradigm. However, we deem it unlikely that effects emerged solely because of this. First, incongruence of primed and chronic motivational orientations only undermines performance on subsequent tasks that rely on cognitive resources (e.g., the Stroop task; Lisjak, Molden, & Lee, 2012). Second, situations of congruence between motivational orientations and task requirements have been argued to constitute instantiations of fluency, in which people are more prone to process heuristically (Alter & Oppenheimer, 2009; Fiedler, 2013). Given that using the self as reference in social judgments is a heuristic process (Alicke et al., 2005; Krueger, 2007), this analysis would suggest effects also under the provision of ample time and the assessment mode, which was not the case (see also Table 2 for correlations).

The next study again sought to provide process evidence via TPIS by investigating judgments regarding ingroup versus outgroup targets. Furthermore, it sought to extend the findings regarding regulatory mode as a chronic, dispositional variable by experimentally inducing in participants these modes as a temporary, situational variable, thus providing causal evidence.

5 | STUDY 3: INDUCED REGULATORY MODE AND PREDICTIONS OF PROPENSITY TO RECONCILE

The strength of people's locomotion predominance (whether chronic or induced) increases their motivation to reconcile after low-intensity interpersonal conflict (Webb et al., 2017). Furthermore, research has over and again demonstrated that people more strongly rely on the self when making predictions for ingroup but not for outgroup members (for a review and meta-analysis, see Robbins & Krueger, 2005). We therefore predicted

[5]We thank an anonymous reviewer for raising this issue.

that regulatory mode and a social target's group membership would interact in shaping people's predictions of unknown others' propensity to reconcile. Specifically, a locomotion orientation entailing a stronger personal reconciliation propensity should result in stronger predicted motivation to reconcile for ingroup but not outgroup members. In contrast, assessment orientation has not been found to impact people's own motivation to reconcile, and should thus not affect reconciliation judgments as a function of group membership. We experimentally induced regulatory mode in participants as a temporary state.

5.1 | Method

5.1.1 | Participants and design

We ran this study in the context of a summer research project for second-year students and recruited participants on campus or via social media platforms. They took part on a voluntary basis.[6] To be eligible for the study, participants had to confirm being 18 years or older and a student of the university where the research was conducted. The research assistant was instructed to recruit as many participants as possible in the data collection phase of this project, but at least double the number of participants recruited in the study on self-judgments on which this work was based (Webb et al., 2017; Study 2, $N = 58$). Overall, 131 participants completed the study online. They were randomly assigned to conditions in a 2 (regulatory mode: locomotion vs. assessment) × 2 (target group membership: ingroup, a student of the same university, vs. outgroup, a student from a different university abroad) between-subjects design.

One participant who did not indicate their sex was excluded (from the locomotion/outgroup condition), because it was impossible to determine whether or not this participant saw a same-sex social target (see below). Furthermore, five participants who did not comply with the regulatory mode induction instructions[7] (see below; one from the assessment/outgroup, two from the locomotion/ingroup, two from the locomotion/outgroup condition) and one outlier (Cohen et al., 2003; Judd et al., 2011; Cook's Ds > 0.063; from the locomotion/ingroup condition) in the analyses reported below were excluded. The final sample comprised 124 participants (96 females, 28 males; $M_{age} = 25.15$, $SD_{age} = 8.59$; $n = 29$ in the assessment/outgroup, $n = 37$ in the assessment/ingroup, $n = 33$ in the locomotion/outgroup, and $n = 25$ in the locomotion/ingroup condition). Gender did not moderate the findings reported below and is thus not considered.

[6]As in all other studies, participants were not informed about the study hypotheses and experimental conditions. Apart from five participants who did not comply with the regulatory mode induction instructions (see footnote 7) all completed the study diligently.

[7]Instead of writing about examples of locomotion and assessment behaviors as instructed, these participants wrote unrelated texts or texts stating that they could not recall any behavioral examples in line with instructions.

5.1.2 | Procedure and materials

After providing informed consent, participants first underwent the regulatory mode induction task devised by Avnet and Higgins (2003; also used by Webb et al., 2017; Study 2). This induction has proven to be reliable and valid in previous research (e.g., Mannetti et al., 2009; Orehek et al., 2012; Pierro et al., 2008; Pierro, Presaghi, et al., 2009). They read: "In what follows, you are requested to recall three different behaviors you have used successfully in the past and to write a short example for each behavior (one short paragraph per example that allows us to understand the behavior/situation). These are the kind of behaviors that you find people doing in everyday life." In the *locomotion condition*, they were then asked to think back to the times when "you acted like a 'doer'", "you finished one project and did not wait long before you started a new one", and "you decided to do something and you could not wait to get started". In the *assessment condition*, they were then asked to think back to the times when "you compared yourself with other people", "you thought about your positive and negative characteristics", and "when you critiqued work done by others or yourself".

Participants then proceeded to allegedly unrelated reflection and impression formation tasks. In the *ingroup condition* they were asked to reflect on and list several fundamental similarities that they shared with other students at the same (i.e., their) university; in the *outgroup condition* they were asked to reflect on and list several fundamental differences between them and students at a different university abroad (see Ames, 2004a, Study 2, for the same procedure). In both conditions, participants were then shown a picture of a same-sex social target as in the previous studies (see Figure 1) and asked to form a first impression. However, in the ingroup condition the target was described as a student from the same university, whereas in the outgroup condition it was described as a student from a different university abroad. Participants were instructed to continue once they had formed a first impression.

Participants were then presented with three low-intensity interpersonal conflict scenarios from Webb et al. (2017; Study 2), adapted so that rather than referring to a conflict between the participant (i.e., "you") and a friend, they instead referred to "the person you just formed and impression of" and "a friend of this person". The scenarios did not involve serious offenses or transgressions, but rather misunderstandings or conflicts of interest in everyday live, for example:

> *Imagine that the person you formed an impression of and a friend are having a conflict over differing ideas of how to spend more time together. This person and the friend have both recently desired "expanding their horizons" by meeting new people, and think it would be fun and beneficial to their friendship to have these new experiences together. However, it is beginning to feel like both are seeking to widen the social circle in different ways (for example, this person is excited about going to museums and art galleries; the friend is excited about going to parties and social events). As a result,*

the person's friend is becoming involved in a somewhat different "scene," and although the friend makes an effort to include this person, realizes that this person is not as eager. This person makes the effort to be inclusive of the friend as well, but feels that the friend is not as enthusiastic. It feels like the mutual goal of wanting to experience new things together and advance the friendship is being thwarted by different ideas on what those experiences should be.

As in the original work (Webb et al., 2017), two versions of each scenario were created by switching roles (i.e., switching "the person you formed and impression of"/"this person" and "a friend"/"the friend" throughout the text). These three scenarios were chosen because Webb et al. (2017) used them in their work on induced regulatory mode and personal motivation to reconcile after conflict and because role did not affect motivation to reconcile. Contrary to Webb et al. (2017; Study 2), participants in the current study did not only read one but all three scenarios, and role was randomly altered for each scenario. Upon reading each scenario, participants answered the question "To what extent would the person you formed an impression of be motivated to reconcile with the friend?" (1 = *not at all* to 7 = *very much*) and their responses were averaged (α = 0.67; *M* = 4.52, *SD* = 0.95).[8]

All participants were then fully debriefed and thanked for their participation.

5.2 | Results and discussion

Participants' predicted motivation to reconcile was submitted to a 2 (regulatory mode) × 2 (target group membership) ANOVA. Neither main effect was significant (regulatory mode: $F < 1$, $p > .61$; group membership: $F < 1$, $p > .44$) while the predicted interaction emerged, $F(1, 120) = 4.22$, $p = .042$, $\eta_p^2 = 0.03$. As expected, participants in the locomotion condition envisaged unknown ingroup members (*M* = 4.83, *SD* = 0.98) to have a stronger motivation to reconcile than outgroup members (*M* = 4.34, *SD* = 1.07), $F(1, 120 = 3.72$, $p = .056$, $\eta_p^2 = 0.03$, albeit marginally so (see Figure 2). In contrast, no differences emerged in the assessment condition as a function of group membership (ingroup: *M* = 4.39, *SD* = 0.96; outgroup: *M* = 4.61, *SD* = 0.72), $F < 1$, $p > .34$, $\eta_p^2 = 0.01$.[9]

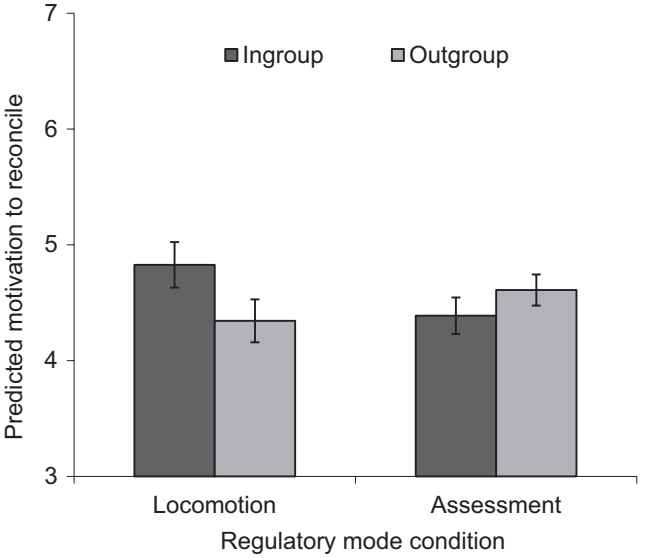

FIGURE 2 Participants' predictions of the social target's motivation to reconcile as a function of regulatory mode and group membership in Study 3. Error bars depict standard errors.

People's locomotion (but not their assessment) mode has been shown to impact the extent to which they are willing to reconcile after interpersonal conflict (Webb et al., 2017). In the current study people's locomotion (but not assessment) mode also influenced the extent to which they assume others to be motivated to reconcile. In line with research on social projection, and providing process evidence via TPIS, this tendency only emerged if the unknown other was an ingroup rather than an outgroup member (Robbins & Krueger, 2005). A caveat to these findings is that the simple effects were only marginal. In hindsight, choosing an outgroup that students were familiar with (such as students from another rival university) might have ensured a stronger pattern of effects. This caveat aside, these results extend those of the previous studies by demonstrating opposing patterns for experimentally induced differences in regulatory mode.

6 | GENERAL DISCUSSION

The results of three studies suggest that people rely both on their chronic (Studies 1 and 2) and situationally activated regulatory mode (Study 3) when making social judgments about unknown others. We observed this pattern across correlational and experimental designs, student and adult samples, and various judgment domains for which previous research has demonstrated regulatory mode to affect self-judgments: nostalgia, leadership style preferences, and motivation to reconcile (Benjamin & Flynn, 2006; Pierro et al., 2013; Webb et al., 2017). In line with this previous research on self-judgments, people's stronger predominance of locomotion over assessment decreased their predictions of others' nostalgia (Study 1), increased their predictions of others' preference for a transformational over a transactional

[8]At the very end, participants were also asked: "To what extent do you think you are similar to the person you formed an impression of" (1 = *not at all* to 7 = *very much*). Verbal reports from participants with the research assistant present indicated that they based their responses on the visual images presented. Participants showed no differences based on experimental manipulations (group membership: $F < 1$, $p > .65$; regulatory mode: $F < 1$, $p > .82$; interaction: $F = 1.84$, $p > .17$), suggesting that the present findings are indeed based on group membership status rather than similarity perceptions.

[9]Alternatively, participants with a locomotion rather than an assessment orientation tended to predict ingroup targets would show stronger motivation to reconcile, $F(1, 120) = 3.22$, $p = .075$, $\eta_p^2 = 0.03$, whilst there were no differences as a function of regulatory mode in the outgroup target condition, $F = 1.22$, $p > .27$, $\eta_p^2 = 0.01$.

leader (Study 2), and increased their predictions of others' motivation to reconcile after interpersonal conflict (Study 3).

Consistent with previous research on social projection, two studies provided process evidence via TPIS (Jacoby & Sassenberg, 2011). First, whereas ample time to deliberate fosters people adjusting their initial egocentric judgment anchored on the self, time pressure inhibits this (Epley et al., 2004; Stern & West, 2016). Indeed, participants only relied on their chronic regulatory mode in their social judgments when pressured by time (but not when deliberating their judgments; Study 2). However, a limitation of this study is that some of the expected interactions, most importantly for the predicted motivation of the target by different leadership styles, only emerged weakly or marginally. Second, a host of previous research demonstrated that whereas people readily project to ingroup members, they do not project to outgroup members (Robbins & Krueger, 2005). In line with this body of evidence, participants whose regulatory mode was experimentally manipulated tended to display corresponding changes in social judgments of an unknown ingroup but not outgroup member (Study 3). As mentioned in the discussion of this study regarding the marginal in- versus outgroup difference, future research might obtain stronger results for antagonistic and/or more familiar outgroups.

There are some further caveats that future research might address. First, the present efforts only addressed a small selection of the pervasive effects of regulatory mode on self-judgments and decisions. It thus remains an open question to what extent the current findings generalize to other facets such as predictions regarding perceptions and time management of other people (Amato, Pierro, Chirumbolo, & Pica, 2014), intrinsic and extrinsic task-motivation (Pierro et al., 2006), or their inclination to procrastinate (Pierro et al., 2011). At the same time, whereas the domains investigated here increase generalizability of the findings, this came at the cost of reduced internal validity, as design features changed from study to study. Second, future research might consider additional moderators known from social projection research to strengthen further the argument set forth here. Such further moderators not addressed in the current work include target similarity (Ames, 2004a, 2004b; Ames, Weber, & Zou, 2011), target valence (Davis, 2017; Machnunksy et al., 2014), and a cooperative (rather than a competitive) context (Riketta & Sacramento, 2008; Toma, Yzerbyt, & Corneille, 2010). Finally, in the vast majority of social projection research people make judgments about neutral and hypothetical targets about whom very little is known, usually from vignettes or still photographs (e.g., Ames, 2004b; Kawada et al., 2004; Machnunksy et al., 2014)—an approach also taken here as it adds experimental control. However, this approach comes with a cost for realism and generalizability, and future research might consider real-world targets (Ahn et al., 2015; Davis, 2017). Such research might be informative regarding boundary conditions, as with accumulating behavioral evidence the need for the heuristic strategy of projection declines (Ames & Sheena, 2005; Krueger, 2007; Woltin & Yzerbyt, 2015).

6.1 | Contributions and future directions

The current findings contribute to a better understanding of the interface between social projection, person perception, and motivational orientations. Specifically, they contribute to the notion that research on egocentrism and social projection may benefit from taking into account the projection of motivational states. Previous work indirectly addressing this call has uncovered motivations underlying projection (i.e., why one is projecting), for example defensive projection (Govorun, Fuegen, & Payne, 2006) and functional projection (Maner et al., 2005). Other work has focused on the projection of specific goals (i.e., what is being projected; Ahn et al., 2015; Kawada et al., 2004; Oettingen et al., 2014; Palomares, 2012). Only recent research has directly addressed motivational states, and more precisely people's reliance on their regulatory focus in social predictions (Woltin & Yzerbyt, 2015). The current findings extend and generalize this line of work by showing that people also rely on their regulatory mode in social judgments. This is important because contrary to specific goals that relate to particular end-states people seek to attain (Austin & Vancouver, 1996), motivational orientations pertain to general concerns in self-regulatory processes (Higgins, 2012)—with implications for various domains, goals, strategies, and preferences. In other words, whereas knowing a person's specific goal (e.g., to compete) might allow one to gauge to what extent this person will expect an interaction partner to also hold this goal (Kawada et al., 2004), knowing a person's chronic inclination toward locomotion rather than assessment allows one to gauge various expectations (for example, relating to their nostalgia or leadership preferences). Future research could consider extending the current findings to other motivational orientations and states set forth in the literature and with different implications across various judgment domains, such as people's action versus state orientation (Kuhl, 1985) or their deliberative versus implemental mindset in goal pursuit (Gollwitzer, 2012; Heckhausen & Gollwitzer, 1987).

The current findings also shed additional light on effects of regulatory mode in the interpersonal context. Here, a fit in terms of regulatory mode between individuals and their instructors (Pierro, Presaghi, et al., 2009) as well as their leaders (Benjamin & Flynn, 2006; Kruglanski et al., 2007) has been found to ensue positive outcomes, compared to conditions of interpersonal misfit. People projecting their craving for movement and impatience with delays (locomotion) versus their desire for perfection and finding the "right" option (assessment) might at least partially explain the negative effects of interpersonal misfit, given that their expectations are violated (Afini & Metts, 1998).

Furthermore, egocentrism is found even in close relationships (Murray, Holmes, Bellavia, Griffin, & Dolderman, 2002; Schul & Vinokur, 2000). For example, people project their relationship attributes (Murray, Holmes, & Griffin, 1996), emotions (Clark, Von Culin, Clark-Polner, & Lemay, 2017), and responsiveness to their partner's needs onto their partner (Lemay, Clark, & Feeney, 2007). Research on the so-called Michelangelo phenomenon, which suggests that partners sculpt one another's selves, shape one another's skills and traits, and promote versus inhibit one another's goal pursuit (Rusbult, Finkel, & Kumahiro, 2009), found locomotors to

be more effective sculptors (Kumashiro, Rusbult, Finkenauer, & Stocker, 2007). Again, projective tendencies may in part contribute to this difference, because "sculptors are likely to approach targets' goals in the same manner as they approach their own goals" (Kumashiro et al., 2007, p. 596). As such, locomotors' inclination toward optimism, action, and change would create environments that facilitate their partners' growth, and assessors' inclination toward pessimism and critical evaluation would inhibit this—presumably because they assume they are acting in their partner's interest (Finkenauer & Righetti, 2011). To our knowledge, this conjecture has not been tested.

A further consideration concerns the role of both modes in biased and accurate social perceptions and predictions in real-life contexts. The current studies with neutral target pictures and hypothetical scenarios do not allow gauging whether assessors are more accurate than locomotors. However, and as mentioned in the introduction, previous work found the transference effect (i.e., falsely ascribing significant-other representations to novel targets) to be less pronounced when individuals' chronic assessment orientation was high (vs. low), presumably because they pay more attention to the impression formation process (Pierro, Presaghi, et al., 2009). For close relationships and regulatory mode it has been suggested that "individuals inclined to assess their circumstances in life will probably be more motivated to accurately understand their relationships than will others inclined to pursue goals" (Gagné & Lydon, 2004, p. 333). Indirect support for this conjecture comes from research with relationship partners induced with a deliberative or implemental mindset (cf. Gollwitzer, 2012; akin to the assessment/locomotion distinction; Gagné & Lydon, 2004; Van Putten, Zeelenberg, & Van Dijk, 2015). For example, those in a deliberative (vs. implemental) mindset were more accurate in their relationship survival predictions (Gagné & Lydon, 2001a), and their ratings of their partner's relationship commitment also more accurately predicted this (Gagné, Lydon, & Bartz, 2003). Furthermore, whereas highly committed individuals showed similarly biased partner superiority ratings—presumably to protect their relationship by embellishing their partner—low-committed individuals in a deliberative compared to an implemental mindset demonstrated reduced bias (Gagné & Lydon, 2001b). Taken together, in the real-life context high assessors deliberating their options and judgments might thus be less likely to be biased, including by reliance on the self, in their perception of (close) others.

6.2 | Conclusion

The current work adds to the relatively scarce research addressing the projection of motivational states by showing that people tend to rely on their regulatory mode when making judgments of others—at least to the extent that predictors are under time pressure—rather than when deliberating judgments and that such judgments regard ingroup rather than outgroup members. As such, it also provides novel perspectives on regulatory mode research at the interpersonal level, hopefully stimulating future research in this domain.

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

TRANSPARENCY STATEMENT

For all studies, we report how we determined our sample size, all data exclusions, all manipulations, and all measures. De-identified data for all studies and data analysis scripts are available via the Open Science Framework (OSF; https://osf.io/cm72n).

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