AMERICAN PSYCHOLOGICAL ASSOCIATION

Journal of Personality and Social Psychology:
Interpersonal Relations and Group Processes

ISSN: 0022-3514

https://doi.org/10.1037/pspi0000427

In It Together: Shared Reality With Instrumental Others Is Linked to Goal Success

Abdo Elnakouri[1], Maya Rossignac-Milon[2], Kori L. Krueger[3], Amanda L. Forest[4], E. Tory Higgins[5], and Abigail A. Scholer[1]

[1] Department of Psychology, University of Waterloo
[2] IESE Business School, University of Navarra
[3] Tepper School of Business, Carnegie Mellon University
[4] Department of Psychology, University of Pittsburgh
[5] Department of Psychology, Columbia University

Why are some people more successful than others? In addition to individual factors (e.g., self-control), research has recently suggested that the quality of people's interpersonal relationships is crucial for success. Successful people seem to recognize this, as they tend to like and draw closer to both instrumental objects and instrumental others (IOs; other people who make goal success more likely). For instance, students who are successful at their academic goals tend to like and feel close to both their study materials and study partners. Yet instrumental people have one crucially distinct feature that instrumental objects do not: a mind of their own. One key way to relate to the minds of others is by establishing a shared reality—the perception of shared attitudes and judgments about the world. Therefore, we propose that shared reality, or the sense of having "merged minds", is an important, previously unexplored component of relationships with IOs that contributes to goal success. Specifically, the present research (N = 1,326) explored (a) whether people are especially likely to experience shared reality with IOs, and (b) whether those who do so are more likely to achieve their goals. Participants who perceived their romantic partner as more instrumental for their goals experienced more shared reality with that partner (Study 1); participants also reported greater shared reality with IOs relative to noninstrumental others (NIOs; Study 2). Those who experienced a greater sense of shared reality with IOs reported more goal success initially (Studies 2–4), 3–4 weeks later (Study 2c), and achieved higher Grade Point Averages (GPAs; Study 4). These effects held when controlling for IO liking, closeness, and epistemic trust, as well as NIO shared reality. Self-efficacy consistently mediated the effect of IO shared reality on goal success (Studies 3 and 4), indicating that IO shared reality may bolster people's epistemic confidence in their abilities. Overall, findings suggest that experiencing a shared reality with IOs plays an important role in goal success.

Keywords: shared reality, goals, interpersonal relationships, motivation, self-regulation

Supplemental materials: https://doi.org/10.1037/pspi0000427.supp

If you have ever been to an award ceremony, then you know the drill. Awardees dutifully list off those who helped them along the way: mentors, family, friends, and perhaps a surprisingly crucial acquaintance or two. Without them, the crowd is told, success would not have been possible. While this ritual might be partly in the service of avoiding suspicions of grandeur, there seems to be an undeniable element of truth. After all, does success not require being able to win friends and influence people (Carnegie, 1936)?

Abdo Elnakouri https://orcid.org/0000-0002-7093-308X
Maya Rossignac-Milon https://orcid.org/0000-0003-2207-1507
Kori L. Krueger https://orcid.org/30000-0003-1583-4692
Amanda L. Forest https://orcid.org/0000-0003-1042-6112
Abigail A. Scholer https://orcid.org/0000-0001-8531-4436

Materials and syntax for all studies in this article can be found on Open Science Framework (OSF; https://osf.io/e7ukx/?view_only=afe47a67630a4d38b1ef4c6fc6d12dad); data for Studies 2–4 can also be accessed using this OSF link. Data from Study 1 (which involved romantic couples) can be requested by contacting Amanda L. Forest at forest@pitt.edu.

Abigail A. Scholer received funding from Grant 50656-10080 from the Social Sciences and Humanities Research Council of Canada. Amanda L. Forest received funding from Grant 30526 from the Central Research Development Fund at the University of Pittsburgh.

Abdo Elnakouri played a lead role in conceptualization, data curation, formal analysis, investigation, project administration, visualization, and writing–original draft and an equal role in methodology and writing–review and editing. Maya Rossignac-Milon played a supporting role in conceptualization, formal analysis, methodology, visualization, and writing–review and editing. Kori L. Krueger played a supporting role in data curation, formal analysis, methodology, visualization, writing–original draft, and writing–review and editing. Amanda L. Forest played a supporting role in data curation, funding acquisition, methodology, resources, supervision, and writing–review and editing. E. Tory Higgins played a supporting role in conceptualization, supervision, and writing–review and editing. Abigail A. Scholer played a lead role in funding acquisition, resources, and supervision; a supporting role in conceptualization, data curation, and investigation; and an equal role in methodology and writing–review and editing.

Correspondence concerning this article should be addressed to Abdo Elnakouri, Department of Psychology, University of Waterloo, 200 University Avenue West, Waterloo, ON N2L 3G1, Canada. Email: abdo.elnakouri@uwaterloo.ca

Historically, however, the empirical study of why goal success comes easier to some, but not others, has focused more on personal strengths than social connection. Psychologists have revealed a number of individual factors that are related to success, such as self-control (Baumeister et al., 1998; Mischel et al., 1996), grit (Duckworth et al., 2007), or a growth mindset (Dweck, 2008). Those with high self-control, grit, and a growth mindset are more likely to achieve their goals and live a life filled with greater health and well-being (Abele & Spurk, 2009; Boudreaux & Ozer, 2013; Wiese, 2007). But as award winners remind us, personal goal success is often built on the shoulders of, or arm in arm with, others (Cohen, 2004; Feeney & Collins, 2015; Finkel et al., 2006; Hofmann et al., 2015; Laurin, 2016; Rusbult & Arriaga, 1997; Tomasello, 2009). Indeed, a growing body of work in social psychology highlights the importance of other people for goal success (Feeney & Collins, 2015; Fitzsimons et al., 2015; Fitzsimons & Finkel, 2018; Laurin, 2016; Orehek, Forest, & Barbaro, 2018). Instrumental others (IOs)—others who make it more likely for one to achieve one's goals—inspire transformative change through example (Jackson et al., 2015; Poldin et al., 2016; Scales et al., 2020), actively push people toward their potential (Finkel, 2018; Jakubiak & Feeney, 2016; Tomlinson et al., 2016) and boost motivation by shouldering extra workload when needed (Briskin et al., 2019; Feeney, 2004). However, not all relationships with IOs are created equal. The quality of people's relationships with their IOs also matters. People who experience more liking and closeness with IOs (relative to noninstrumental others—others who are unrelated to goal success) tend to also experience more goal success (Fitzsimons & Shah, 2008; Shea & Fitzsimons, 2016; vanDellen et al., 2015).

However, the instrumental relationships that helped award winners arrive on that stage can be characterized by more than just a sense of liking and closeness. While liking and closeness are a critical part of effective relationships (Fitzsimons & Shah, 2008; Orehek, Forest, & Wingrove, 2018), cherished relationships often also grow out of deeply resonant shared experiences and perceptions of the world (Prinzing et al., 2023; Rossignac-Milon et al., 2021). Whether it be bonding over a shared emotional trauma, a shared political outrage, or shared excitement about the latest Netflix sensation, people seek to establish a shared reality—the perception of sharing inner states (feelings, beliefs, concerns) in common with others about the world (Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996; Higgins, 2019). Shared reality stands apart from liking and closeness in serving not only belonging needs but also epistemic needs (Auger, 2018; Bar-Shachar & Bar-Kalifa, 2021; Echterhoff, Higgins, & Levine, 2009; Przybylinski & Andersen, 2015; Rossignac-Milon et al., 2021). It is by establishing a sense of shared reality with others that subjective experiences come to feel objective, and that people feel certain of what is real and true about the world (Echterhoff & Higgins, 2017; Hardin & Higgins, 1996; Rossignac-Milon et al., 2021).

Despite recent research establishing the vital role of shared reality in relationship formation and maintenance (Enestrom & Lydon, 2021; Higgins et al., 2021; Rossignac-Milon et al., 2021; Rossignac-Milon & Higgins, 2018), we are aware of no work examining the role of shared reality in the process through which humans pursue and achieve their goals. There are many reasons to suspect that experiencing a sense of shared reality with instrumental others—by fulfilling epistemic needs in addition to belonging needs—may be a key variable explaining why certain relationships facilitate goal success more than others. Unlike closeness and liking, shared reality involves creating a shared understanding of events, people, and objects external to the relationship (Rossignac-Milon et al., 2021). Given that reaching one's goals involves successfully navigating this external world, we propose that creating this sense of shared reality about the external world may be especially critical for facilitating goal success. This reasoning is supported by theorizing on the role of shared reality in human evolution. Shared reality, described as "a cornerstone of social cognition" (Sebanz et al., 2006, p. 73), helps to facilitate successful coordination and complex cultural learning, processes posited to be central to our success as a species (Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996; Henrich, 2015; Higgins, 2019; Muthukrishna & Henrich, 2016; Tomasello, 2014; Tomasello et al., 2005). We argue that shared reality not only plays a crucial role in the success of our species but also contributes to individual goal success in everyday life. Accordingly, the goal of this article is to examine whether people perceive greater shared reality with instrumental others and whether this tendency is related to goal success.

Interpersonal Influences on Goal Success

If someone's presence increases the likelihood that you will achieve your goal, they are an instrumental other (Fitzsimons & Shah, 2008, p. 326). In contrast, the presence of a noninstrumental other neither increases nor decreases the likelihood that you will achieve your goal (Fitzsimons & Shah, 2008). Unsurprisingly, then, having instrumental others by one's side can be a boon for goal success. Instrumental others have been found to facilitate success for health and fitness goals (Orehek & Ferrer, 2019; Uchino, 2009), academic goals (Martin & Dowson, 2009; Roksa & Kinsley, 2019), career goals (Allen et al., 2004; Eby et al., 2008), among many others (Orehek, Forest, & Wingrove, 2018).

The effect of instrumental others in supporting goal pursuit is clear. How, then, do people capitalize on the benefits that instrumental others offer? Interestingly, research finds that people automatically and dynamically shift liking and closeness for instrumental others to support their active goals. In general, people tend to like and feel closer to instrumental others relative to noninstrumental others (Fitzsimons & Shah, 2008; vanDellen et al., 2015). This tendency grows when people's goals are salient. Thinking about achieving straight "A's" motivates people to maintain closeness for their study partner (an instrumental other) while distancing themselves from a friend who is irrelevant for their academic goals (a noninstrumental other; Converse & Fishbach, 2012; Fitzsimons & Fishbach, 2010; Fitzsimons & Shah, 2008; Huang et al., 2015). People also seem sensitive to how many goals an instrumental other is instrumental for: the more goals, the better. An instrumental other who motivates you to go to the gym and is helpful for a work project is, on average, liked more than an instrumental other who only does one of those two things (Orehek, Forest, & Wingrove, 2018).

Part of what initially inspired researchers to explore whether people like and feel closer to instrumental others was earlier work showing that people display a similar pattern with nonsocial instrumental objects. If someone wants to achieve straight "A"s, they are more likely to increase liking for instrumental objects such as the library or their textbooks (Ferguson, 2008; Ferguson & Bargh, 2004; Moore et al., 2011). In other words, prior work suggests that people will draw

closer to anything, whether it be objects or other people that serve as means toward their goals. Yet people have one crucially distinct feature that objects do not have: a mind of their own. Therefore, successfully relating to instrumental others, rather than to instrumental objects, likely involves another key ingredient—the ability to successfully relate to their minds. Unique to humans (Higgins, 2019; Tomasello, 2009), shared reality is one critical way of connecting to other minds.

Shared Reality

Shared reality involves a mind meld of sorts. When two or more people feel like they are sharing the same subjective experience of the world, they are experiencing a shared reality (Hardin & Higgins, 1996; Higgins, 1992). More specifically, shared reality is defined as the perceived commonality of inner states (e.g., feelings or beliefs) with another person about a target referent (e.g., an event or object; Echterhoff, Higgins, & Levine, 2009; Higgins et al., 2021; Higgins & Rholes, 1978). Shared reality is distinguished from adjacent concepts (e.g., empathy, perspective taking) in capturing the experience of sharing a similar subjective state about something in the world—a target referent—with at least one other person (see Echterhoff, Higgins, & Levine, 2009; Higgins et al., 2021, for reviews). More simply, two people sharing a reality have a "sense of having 'merged minds' and of having created their own reality—a shared world that they are motivated to uphold" (Rossignac-Milon et al., 2021, p. 21).

The experience of shared reality is something humans desire (Bar-Tal, 2000; Festinger, 1950; Hardin & Higgins, 1996; Kruglanski et al., 2006; Rossignac-Milon et al., 2021; Rossignac-Milon & Higgins, 2018). People are eager to believe that vast swaths of the population and their immediate social circle see the world similarly to them (i.e., the false consensus effect; Holtz & Miller, 1985; Krueger & Clement, 1994; Lee et al., 2009; Ross et al., 1977; Thielmann et al., 2020). Some will even go as far as to move in order to be around like-minded others (Motyl et al., 2014). The desire to establish a shared reality is also sensitive to situational variables. People seek to experience shared reality when they feel threatened (Davis & Florquist, 1965; McGregor et al., 2005; Rossignac-Milon et al., 2021), when they are eager for connection (Sinclair, Huntsinger, et al., 2005; Sinclair, Lowery, et al., 2005), and when they feel existentially isolated (Pinel et al., 2006). But people do not indiscriminately experience shared reality with just anybody. People prefer to experience shared reality with ingroup members over outgroup members (Echterhoff et al., 2005; Echterhoff, Lang, et al., 2009) and with those whose judgment they trust over those they do not trust (Echterhoff et al., 2005, 2017).

Empirical work has traditionally focused on how shared reality is constructed about particular targets, such as events, objects, or other individuals (see Echterhoff & Higgins, 2017, for a review). More recently, Rossignac-Milon et al. (2021) documented a more generalized form of shared reality in which people perceive that they have merged their way of seeing the world at large with another person. This sense of sharing inner states about the world in general can be experienced both with a close partner and with a new acquaintance (Rossignac-Milon et al., 2021). Using a newly constructed scale (with items like "during our discussion, we thought of things at the exact same time"), Rossignac-Milon et al. (2021) found that self-reported shared reality tracked real-world behavioral signatures of shared reality, such as expressing agreement and saying things at the same time. Participants who experienced a greater sense of shared reality in conversation with a stranger felt closer, more rapport, a greater sense of "clicking," and wanted to interact again (Rossignac-Milon et al., 2021), even when controlling for traditionally important relationship variables like inclusion of the other in the self (Aron et al., 1992), perceived partner responsiveness (Reis, 2003), and even other forms of perceived similarity, such as perceived personality similarity (see Huneke & Pinel, 2016; Launay & Dunbar, 2015, for a similar pattern of shared reality taking precedent over other forms of similarity).

Shared reality also plays an important role in establishing close relationships. Relationship partners who experience a greater sense of generalized shared reality feel more supported by their partner, especially when facing daily uncertainty, and feel more committed to their relationship (Bar-Shachar & Bar-Kalifa, 2021; Enestrom & Lydon, 2021; Rossignac-Milon et al., 2021). Further, Rossignac-Milon et al. (2021) found that once generalized shared reality is established, close partners are motivated to protect it: In response to an experimental threat to their sense of experiencing the sensory world in the same way, close partners high on baseline generalized shared reality engaged in motivated interaction behaviors to reaffirm their sense of shared reality (e.g., finishing each other's sentences, referencing inside jokes). Importantly, shared reality was the only relationship construct to predict these reaffirmation behaviors in response to the threat. Unlike other close relationship constructs like closeness or perceived partner responsiveness, in which the focus of attention is on the self, the partner, and the relationship, shared reality involves the experience of coattending to the world external to the relationship and thus was uniquely sensitive to a threat about experiencing the external world in the same way (Rossignac-Milon et al., 2021).

Despite the central role of shared reality in relationships, research has not yet explored (a) whether people experience greater shared reality with more instrumental others and (b) whether those who experience shared reality with instrumental others tend to succeed at their goals. First, we propose that when people perceive another person as instrumental to their goals, they do more than just draw closer to them and like them more, the way they do for nonsocial objects (Ferguson, 2008; Fitzsimons & Shah, 2008; Moore et al., 2011). We suggest that people also seek to align their minds with those of instrumental others and create a sense of seeing the world at large in the same way—a sense of shared reality.

Second, we theorize that shared reality may play a particularly important role in facilitating goal success. While other relationship constructs focus on internal relationship dynamics (e.g., how each partner feels about the other), shared reality plays a vital function in establishing the experience of certainty about what is true and real in the external world (e.g., how each partner experiences the world). Indeed, shared reality helps to build a sense of certainty in one's perceptions of the world (Rossignac-Milon et al., 2021; Rossignac-Milon & Higgins, 2018) and in mutual epistemic trust—trusting the other person's judgments (Echterhoff & Higgins, 2017; Echterhoff, Higgins, & Levine, 2009). In other words, through shared reality, subjective judgments come to feel like objective reality (Hardin & Higgins, 1996). In the realm of goal pursuit, one's subjective judgments about one's goals may come to feel more objective. Specifically, experiencing a shared reality may validate not only the importance of one's goals and one's sense of how to achieve them but also the feeling that one's goals are attainable and that one is truly equipped to attain them.

Early theorizing on goal pursuit supports the idea that having a strong shared reality with an instrumental other could enhance people's perceptions of being able to reach their goals—that is, their perceived self-efficacy. Bandura (1982) proposed that people's self-efficacy is often built on shared experiences with others. First, he proposed that vicarious experiences, or seeing "similar others perform successfully," can lead observers to "then judge that they too possess the capabilities to master comparable activities" (pp. 126–127). In addition, convincing others through verbal persuasion is a method "widely used to get people to believe they possess capabilities that will enable them to achieve what they seek" (p. 127). This idea is supported by research finding that people experience greater self-efficacy after hearing or seeing the success of others (i.e., vicarious experience) as well as after being told that they are capable of success (i.e., verbal persuasion; Arslan, 2012; El-Abd & Chaaban, 2021; Wise & Trunnell, 2001). Indeed, people tend to seek out instrumental others when they are feeling a lack of self-efficacy (Righetti et al., 2014), suggesting that people instinctively look to instrumental relationships as sources of self-efficacy. Shared experiences may be especially persuasive and likely to bolster self-efficacy when they are experienced with IOs with whom one has a higher sense of shared reality, helping people internalize that an IO's success is possible for them or believe an IO's verbal persuasion attempts. Thus, experiencing a shared reality with instrumental others could make people more certain that they can reach their goals (i.e., that they really do have the necessary capabilities).

Moreover, shared reality could facilitate the process of jointly pursuing shared or related goals. A strong shared reality with an instrumental other could change the relationship dynamic itself, making it easier to work together during joint goal pursuit. Shared reality with an instrumental other could facilitate effective communication and goal coordination (Rossignac-Milon & Higgins, 2018); when meeting with a coworker to consult on a new project, the work session might feel effortless and productive when there is mutual trust in each other's judgments (Langfield-Smith & Smith, 2003; McAllister, 1995; Zaheer et al., 1998), allowing you to pursue your work more effectively. To the extent that relationship partners are actually on the same page about the world around them (i.e., objectively share reality), greater shared reality with an instrumental other could also make it easier to "get in each others' heads," making complex coordination feel relatively effortless (Sebanz et al., 2006; Tomasello, 2010; Török et al., 2019).

Given all these potential benefits to shared reality with instrumental others, we predict that experiencing shared reality with instrumental others will be linked to goal success. Specifically, we hypothesized that people are especially likely to experience shared reality with instrumental others (IOs) versus noninstrumental others (NIOs), and that those who do so are more likely to achieve goal success.

The Present Research

Eight studies (N = 1,326) investigated whether individuals experience greater shared reality with instrumental others, and whether this tendency is related to goal success. In Study 1, we explored the link between instrumentality and shared reality. Specifically, Study 1 examined whether perceived partner instrumentality predicts generalized shared reality (e.g., shared inner states about the world in general; Rossignac-Milon et al., 2021) within romantic dyads. Next, Studies 2a–2c examined whether shared reality with IOs (vs. NIOs) is related to goal success. Specifically, Study 2 examined (a) whether participants report higher levels of shared reality with instrumental others (IOs) relative to noninstrumental others (NIOs) and (b) whether IO shared reality predicts goal success, controlling for other key relationship variables (e.g., liking, closeness). While Studies 2a and 2b explored these questions at a single time point, Study 2c examined whether IO shared reality at Time 1 also predicts goal success 3–4 weeks later (Time 2). Study 3 investigated potential mechanisms linking IO shared reality and goal success (e.g., self-efficacy). Finally, Studies 4a–4c examined the relation between IO shared reality and an objective and conservative measure of goal success—grade point average (GPA). Using dyadic, correlational, and longitudinal designs, in combination with both self-report and objective measures, we aimed to build a cumulative case for the importance of shared reality in instrumental relationships and goal success.

Study 1

Study 1 served as an initial investigation of the relation between instrumentality and shared reality. If shared reality does indeed play an important role in goal pursuit, then people should experience more shared reality with instrumental others, those who make goal success more likely. Study 1 tested this assumption by assessing instrumentality and shared reality within romantic dyads, a relationship context in which people commonly receive support for their goals (e.g., Fitzsimons & Shah, 2008; Gomillion et al., 2015; Meltzer et al., 2012; Orehek, Forest, & Barbaro, 2018).

Moreover, while shared reality reflects the *individual's* perception of sharing inner states in common with their partner about some target in the world (Higgins, 2019), this perception may be strongly or weakly aligned with their partner's sense of shared reality with them. People could overperceive or underperceive how much shared reality their partner experiences with them, which might have implications for understanding the mechanisms by which shared reality supports goal pursuit. For example, having an accurate perception of one's shared reality with an instrumental other might be critical if shared reality operates by promoting coordination with the other person (e.g., when planning a vacation together), but less critical if shared reality operates as a personal self-regulatory resource, bolstering one's feelings of capability (e.g., soaking in a partner's words of affirmation before a presentation). By studying romantic dyads, Study 1 also allowed us to examine actor–partner dynamics relevant to instrumentality and shared reality.

Participants separately completed measures assessing their perceptions of their partner's instrumentality for their goals (perceptions of partner instrumentality) and their perceptions of shared reality with that partner (perceptions of generalized shared reality) during an initial lab session and again in an online follow-up survey administered 1 year later. Therefore, Study 1 was able to test whether perceptions of partner instrumentality predicted greater perceptions of generalized shared reality (actor effects) at each time point. In addition, because relationship partners can influence one another's thoughts, feelings, and behaviors (e.g., Kelley & Thibaut, 1978), it is possible that people's perception of their partner's instrumentality for their goals might also predict their partner's reports of shared reality (partner effects). We tested both actor and partner effects in this study, using actor–partner interdependence models (APIM; Kashy & Kenny, 2000). Study 1 also examined the degree to which partners agreed on their level of shared reality.

Because participants are reporting on the same relationship, we would expect a positive correlation between partners' reports of shared reality. However, partners' perceptions of shared reality might not be fully aligned, especially if being motivated to see more shared reality with IOs is personally beneficial. We preregistered[1] our hypotheses and analysis plan (https://osf.io/3bqsf/?view_only=6258c0dce2d64253a0506ade7fec76db).

Method

Participants

One hundred three romantic couples (206 participants; 51% women; 46% men; 1% nonbinary; $M_{age} = 36.20$ years, $SD = 17.07$; $M_{relationship\ length} = 122.13$ months, $SD = 163.10$; 93 different-gender couples; eight same-gender couples; two unknown) participated in a study on "Couples' Communication." Participants were recruited through a university-affiliated research registry, through flyers posted on a large American university's campus and surrounding community, via advertisements on Craigslist, and from the Department of Psychology research participation pool. Sample size was determined by budget constraints. Participants were required to be 18 years or older, to have been in an exclusive romantic relationship for at least 6 months,[2] and to have their partner be willing to participate in the study with them. Participants received $25.00 each for their participation in the initial lab session,[3] plus parking/limited travel reimbursement. Participants who completed the 1-year online follow-up survey received a $5.00 gift card. Approximately 65% of participants completed the 1-year follow-up survey. This attrition rate is consistent with those typically observed in longitudinal couples' studies (Karney & Bradbury, 1995).

Procedure and Materials

After arriving at the laboratory, couple members were separated and each participant privately completed a series of measures, including measures assessing their perceptions of their partner's instrumentality for their goals and their generalized shared reality with their partner (Time 1). Participants then completed a variety of additional interaction tasks and measures for purposes unrelated to the hypotheses being tested here (see Open Science Framework [OSF] page for full materials). Approximately 1 year after each couple's lab session, each participant was contacted and invited to complete an online follow-up survey. The follow-up survey (Time 2) included the same measures assessing perceptions of partner instrumentality and generalized shared reality administered at the initial lab session (see OSF for full materials).

Perceptions of Partner Instrumentality. Participants completed a nine-item measure of their perceptions of their partner's instrumentality for their goals (Orehek, Forest, & Wingrove, 2018). Participants were asked to "indicate how much your partner helps or harms your pursuit of each type of goal below." Participants responded for each of nine-goal domains (e.g., health/fitness goals; academic goals; social support/social connection goals") rated on a scale from −5 = *extremely harmful* to 5 = *extremely helpful* ($\alpha_{Time\ 1} = .89$; $\alpha_{Time\ 2} = .90$).

Perceptions of Generalized Shared Reality. Participants completed an eight-item measure of generalized shared reality (Rossignac-Milon et al., 2021) that captures the subjective experience of sharing a common set of feelings, beliefs, or concerns with their partner about the world at large (e.g., "we often feel like we have created our own reality," "we often anticipate what the other is about to say") rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree* ($\alpha_{Time\ 1} = .86$; $\alpha_{Time\ 2} = .85$).

Results

Data from one participant who had difficulty remaining alert throughout the lab session were excluded from analyses. Because data were collected from couple members, whose perceptions and outcomes are likely to be correlated, we used APIM (Kashy & Kenny, 2000) to test associations between perceptions of partner instrumentality and generalized shared reality. APIM analyses model the nonindependence within couples to estimate both the effect of an actor's predictor on that individual's own outcomes (i.e., actor effect) and the effect of the actor's predictor on the partner's outcomes (i.e., partner effect). Dyads were treated as indistinguishable.

Shared Reality at Time 1

To test whether perceptions of partner instrumentality would predict generalized shared reality at Time 1, we used participants' perceptions of their partner's instrumentality as the predictor and participants' sense of generalized shared reality with their partner as the outcome in our first APIM model (see Figure 1). Actor and partner perceptions of generalized shared reality were significantly positively correlated, $r(205) = .21$, $p = .026$, suggesting a small-to-medium level (Lovakov & Agadullina, 2021) of agreement about shared reality between couple members. Supporting our hypothesis, we found a significant actor effect such that participants who reported greater perceptions of their partner's instrumentality reported greater generalized shared reality with that partner, $b = .26$, $SE = .04$, $t(200.41) = 6.61$, 95% CI [.18, .34], $p < .001$. The partner effect was not significant, $b < .01$, $SE = .04$, $t(200.43) = -.01$, 95% CI [−.08, .08], $p = .995$. Thus, actors who perceived their partner as more (vs. less) instrumental felt greater shared reality with their partners. Actors' perceptions of their partners' instrumentality did not predict their partners' reports of shared reality.

Shared Reality at Time 2

Next, we conducted an APIM to determine whether perceived partner instrumentality at Time 2 predicted generalized shared reality at Time 2, in a model in which we controlled for Time 1 shared reality (see Figure 2). Following our preregistered analysis plan, we found that similar to the prior model, actor and partner perceptions of

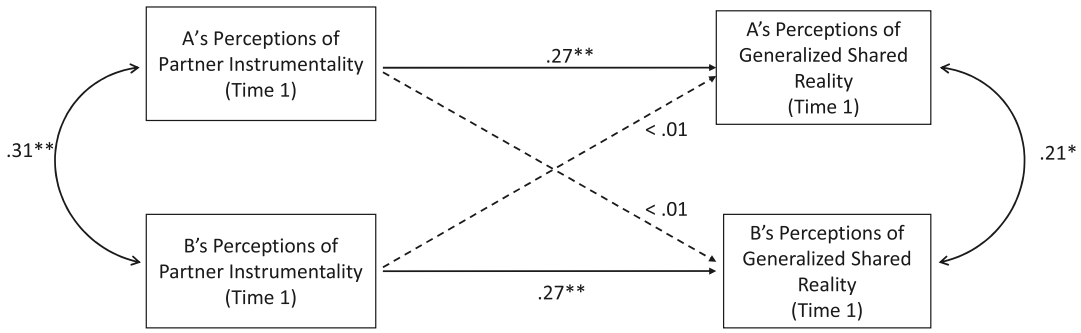
[1] Data in Study 1 were collected as part of a larger investigation on couples' communication and relationship functioning. We preregistered our hypotheses, exclusion criteria, and analytic plan after data collection but before beginning analyses related to the present hypotheses. This is the first investigation involving this data set to use the measures reported in this study.

[2] Five couples reported a relationship length shorter than the 6 months requirement ($M = 3.4$ months; range = 2–5 months) and two couples did not report relationship length. Since our goals in Study 1 involved examining links between romantic couple members' instrumentality and shared reality, which should not require a romantic involvement over 6 months, we included data from these couples in our analyses.

[3] Participants completed a 90–120 min lab session in which they completed surveys and interaction tasks in the lab. Analyses reported in this article only use measures from the preinteraction survey portion of the lab session and from the 1 year online follow-up survey.

Figure 1

APIM Model Testing the Effects of Perceptions of Partner Instrumentality on Perceptions of Generalized Shared Reality at Time 1



Note. Dyads are treated as indistinguishable. APIM = actor–partner interdependence models.
* $p < .05$. ** $p < .01$.

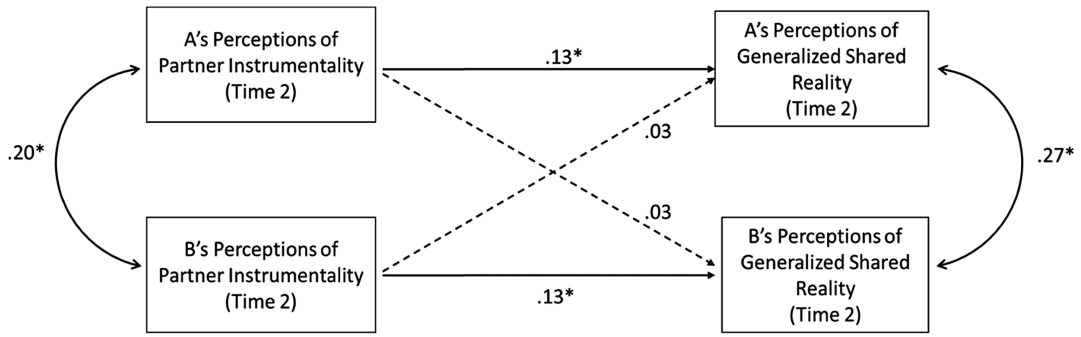
generalized shared reality were significantly correlated, $r(106) = .27$, $p = .025$, again suggesting a small-to-medium (Lovakov & Agadullina, 2021) level of agreement about shared reality between couple members at the 1-year follow-up. Supporting our hypotheses and parallel to the prior analyses, we found a significant actor effect such that participants' (actors') perceptions of their partners' instrumentality at Time 2 positively predicted their perceptions of generalized shared reality at Time 2 while controlling for their perceptions of generalized shared reality at Time 1, $b = .13$, $SE = .04$, $t(102.84) = 3.30$, 95% CI [.05, .20], $p = .001$. The partner effect was not significant, $b = .03$, $SE = .04$, $t(103.22) = .77$, 95% CI [−.05, .11], $p = .444$. Generalized shared reality at Time 1 significantly predicted generalized shared reality at Time 2, $b = .67$, $SE = .09$, $t(98.05) = 7.78$, 95% CI [.50, .85], $p < .001$, indicating relatively high within-person stability in perceptions of generalized shared reality over time. Thus, actor perceptions of partner instrumentality at Time 2 predicted increased shared reality perceptions for actors (but not for partners) at Time 2, even when Time 1 shared reality was controlled.

Discussion

Study 1 provided initial evidence that instrumentality is linked to shared reality. Specially, we found that perceiving one's partner as highly (vs. less) instrumental to one's goals is associated with increased feelings of shared reality with that partner. This was demonstrated concurrently at each of two time points. Furthermore, the link between instrumentality and shared reality at Time 2 emerged in a model in which Time 1 shared reality was controlled. Although we cannot draw causal conclusions from these correlational data, these findings are useful in establishing a link between perceived partner instrumentality and shared reality among close relationship partners. One limitation of this study is that the attrition rate (35%)—while similar to those of other longitudinal studies of close relationships (Karney & Bradbury, 1995)—is still relatively high. However, it is noteworthy that we observed consistent patterns in the models presented in Figure 1 (involving data from all participants at Time 1) and Figure 2 (involving data from the subset of participants who completed Time 2 measures). Furthermore, we find the same

Figure 2

APIM Model Testing the Effects of Perceptions of Partner Instrumentality on Perceptions of Generalized Shared Reality at Time 2



Note. Perceptions of generalized shared reality at Time 1 were controlled in this model. APIM = actor–partner interdependence models.
* $p < .05$.

pattern of results running the Figure 1 model with or without data from participants who did not complete Time 2 measures. These findings reduce our concerns regarding attrition. However, replicating the link between instrumentality and shared reality in the following studies is important.

Of note, we only found evidence of an actor effect in each model we tested: Actors who perceived their partners as more instrumental reported increased shared reality. By contrast, actor perceptions of partner instrumentality did not predict partner reports of shared reality (i.e., lack of a partner effect). Therefore, the link between instrumentality and shared reality could be primarily driven by the actor's individual perceptions. However, that is not to say that actor's perceptions are untethered to reality. Study 1 revealed that partners' perceptions of shared reality were significantly positively correlated with one another, both at Time 1 and Time 2, indicating that there is, indeed, correspondence between partners regarding the amount of shared reality between the pair. However, the correlation between the two partners' reports of shared reality was small to medium (Lovakov & Agadullina, 2021). Together with the primacy of the actor effects, these findings in Study 1 suggest that actors' perceptions of shared reality with instrumental others may not be entirely accurate. It follows that simply perceiving a strong shared reality—whether that perception is shared by the partner or not—might have personal benefits during goal success. Despite this plausible connection, Study 1 did not explore the link between shared reality with IOs and goal success. This link is examined in Study 2.

Study 2

Study 1 found an initial link between instrumentality and shared reality in a sample of romantic dyads. Study 1 did not allow for a comparison of the shared reality a given person experiences with instrumental versus noninstrumental others in their lives. To further examine the relation between instrumentality, shared reality, and goal success, Studies 2a–2c followed procedures used in earlier work on instrumentality (Fitzsimons & Shah, 2008, 2009). Specifically, participants nominated an instrumental other (IO) and a noninstrumental other (NIO) in one or several goal domains (e.g., academic goals, health and fitness goals). For each nominated individual, participants made several ratings including shared reality and relationship evaluations (liking, closeness, and epistemic trust[4]). Participants also reported on their goal success. Both Studies 2b and 2c were close replications of Study 2a, but Study 2b included only a single goal domain (academic goals), whereas Study 2c included two goals (academic goals, health and fitness goals).

Studies 2a–2c had three primary aims. First, the studies aimed to replicate earlier findings regarding instrumentality, specifically that participants would report higher liking and closeness for IOs versus NIOs (Fitzsimons & Shah, 2008; Orehek, Forest, & Wingrove, 2018). In addition, we included a third relationship variable, epistemic trust. Epistemic trust is the degree to which people feel like they can rely on another person's judgment, a variable that has been associated with the experience of shared reality (e.g., people are more likely to align their perceptions of a target referent with another person's if they trust that person's judgment; see Echterhoff, Higgins, & Levine, 2009). Like liking and trust, we similarly predicted that participants would report higher epistemic trust for IOs versus NIOs. Our second aim with Study 2 was to test one of our key predictions that individuals would report greater shared reality with IOs versus NIOs, a result that would replicate and extend Study 1.

The third aim of Study 2 was to explore our second key prediction that shared reality with IOs, but not NIOs, would be related to goal success. Specifically, we predicted that shared reality with IOs would be associated with goal success, even controlling for closeness, liking, and epistemic trust. While Studies 2a and 2b examined whether IO shared reality was related to goal success at a single time point, Study 2c also tested whether IO shared reality measured at Time 1 predicted goal success at Time 2.

To capture multiple ways shared reality with an IO about the world at large might be linked to goal success, we created a shared reality composite of three measures. First, as in Study 1, we used the recently validated generalized shared reality scale (Rossignac-Milon et al., 2021). Given that people could experience a shared reality about particular targets even without the sense of shared reality about the world at large, we also included two shared reality measures about more specific targets. Specifically, we included a measure that captures people's tendency to agree about things directly relevant to the goal pursuit in question (goal-relevant shared reality) as well as a measure tapping into people's alignment on moral worldviews (ideological shared reality). Having a measure that captures goal-relevant shared reality assesses whether participants and IOs share reality about goal-relevant tactics, which could be important for goal success. In addition, a measure that captures ideological shared reality assesses whether participants and their IOs are on the same page about foundational moral commitments—commitments that shape what goals people value and effortfully pursue (Gai & Bhattacharjee, 2022; McCullough & Carter, 2013). Measuring shared ideological reality is important since people are highly attentive to moral beliefs in relationship contexts (Launay & Dunbar, 2015; Nicolas et al., 2022).

We propose that the link between IO shared reality and goal success may be best captured by a composite variable that incorporates all three measures of shared reality (generalized, goal-relevant, and ideological shared reality). By combining both general perceptions and shared reality about crucial targets (goal-relevant tactics, ideological commitments), this composite measure reflects the multifaceted experience of sharing reality with an IO during goal pursuit. We conducted separate analyses with each of the individual measures for each study, reported in the online supplemental material (results for the individual measures largely parallel the composite measure).

Study 2a

Method

Participants. A total of 236 undergraduate students (74% women; 26% men; M_{age} = 19.46 years, SD_{age} = 2.1) at a large Canadian university completed the online study in return for course

[4] We use the established label "epistemic trust" for those items both for precedence (those items have been called "epistemic trust" in prior papers; e.g., Echterhoff et al., 2017; Echterhoff & Higgins, 2017) and because of feedback we received from other close relationship researchers that those items do not capture "trust" as typically defined within close relationship contexts. Trust is often used in relationship research to connote relational trust, or the expectation that the other person will reliably meet one's needs (e.g., Simpson, 2007; Sorrentino et al., 1995). It was important for us to distinguish this form of trust how much people felt like they could rely on the other person's judgment, which is referred to as "epistemic trust" in the prior literature mentioned above.

credit. We calculated our minimum sample size based on the typical small-to-moderate effect sizes observed in psychological studies (Schäfer & Schwarz, 2019). A priori G*Power calculations (Faul et al., 2014) suggested a sample size of at least 90 participants to achieve 80% power for a two-tailed repeated measures matched pairs within-participant study to detect a small-to-moderate effect ($d = 0.3$) size. The a-priori stop rule was to collect data from as many participants as we could over the course of a semester. This approach yielded a total of 236 participants, with 99% power to detect an effect.

Procedure and Materials. All participants first nominated instrumental and noninstrumental others for three goal domains. Participants then filled out personality questionnaires that were not the focus of the current project; full details about these measures are in the online supplemental materials. Participants proceeded to answer a series of measures assessing shared reality, relationship evaluations (closeness, liking, epistemic trust), and perceived similarities for each of their nominated individuals.[5] Finally, participants reported perceived goal success in each of the three goal domains.

Instrumental Other Nominations. The nomination procedure was adapted from that used by Fitzsimons and Shah (2008). Participants were first prompted to nominate an instrumental other (IO) and a noninstrumental other (NIO) for three separate goal domains (academic, health and fitness, and social life), for a total of six nominated individuals. Participants were encouraged to "please only include individuals whom you have a positive relationship with and please nominate pairs of people who you spend equally as much time with."

Consistent with the wording used by Fitzsimons and Shah (2008), an instrumental other was defined as "[someone whose] presence in your life makes it more likely that you will achieve your goal." Participants were therefore told that "the essence of instrumentality is that the person's presence in your life makes it more likely that you will achieve your goal. To say someone is not instrumental for a specific goal doesn't imply anything negative about this person or your relationship." When nominating IOs, participants were instructed to "give the first name of a person who is/was instrumental for you in achieving success in [goal domain] (That is, this person makes it more likely that you'll succeed at this goal)." This was in contrast to instructions for NIOs where participants were asked to "give the first name of a person who is/was NOT instrumental for you in achieving success in academics. This doesn't mean that this person actively seeks to hinder your goal, only that they are not instrumental (That is, this person does NOT make it more likely that you'll succeed at this goal)."

For each nominated person, participants reported that individual's name, age, gender, average hours spent with them per week, and the length of their relationship. They also reported whether this person pursues the same goal as them (e.g., nominated person also pursues academic success; yes or no) as well as whether that person makes it more likely that the participant would achieve their goals in that domain (1 = *strongly disagree*, 7 = *strongly agree*), which acted both as a manipulation check and as a way to capture degree of instrumentality. To obscure the purpose of the study and remain consistent with Fitzsimons and Shah (2008), participants were also asked to list names of other close same-gender friends "Please provide a list of names for all close same-gender friends whom you have not yet mentioned." However, they did not complete any additional measures regarding these individuals.

Participants were also asked to list the names of their current Top 5 goals to be sure that our goal domains were accurately tracking active goals that participants had. Ninety-four percent of participants cited academic goals in their Top 5 goals, 80% cited a health and fitness goal, and 63% cited social goals. Seventy percent cited academic goals as their most important goal.[6] Participants then filled out, in a randomized order, a battery of measures (described below) regarding each of these six people they nominated, also in randomized order. For all measures, we averaged across all three IOs and NIOs to create an average score for each instrumental relationship (e.g., score for IO generalized shared reality created by averaging across all three IO nominations). Moreover, all items were rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree*.

Shared Reality. To capture shared reality, we combined three separate measures: generalized, goal-relevant, and ideological shared reality.[7] All three shared reality measures ($\alpha = .77$) were averaged to create the shared reality composite.

To measure generalized shared reality, participants completed the measure of generalized shared reality developed by Rossignac-Milon et al. (2021) used in Study 1 ($.91 < \alpha s < .96$).

To measure goal-relevant shared reality, for each goal domain, participants filled out measures to capture goal-relevant shared reality that started with the stem "[name] and I tend to have the same thoughts and feelings about:." In the academic success domain, there were three items: "the best study tactics," "the number of hours needed to put toward studying to achieve success," and "the importance of academic success relative to other goals" ($86 < \alpha s < .91$). In the health and fitness domain, there were five items (e.g., "what type of diet works best," "the right type of exercise routine needed to get the best results"; $91 < \alpha s < .93$). In the social domain, there were five items (e.g., "how best to meet new people"; "What are the best activities to do with friends"; $\alpha s = .92$).

Finally, to measure ideological shared reality, participants completed a items assessing their agreement with the nominated other about ideological issues in general, as well as with regards to particular political issues (13 items; e.g., [[Name] and I] "have similar political views," "have similar religious views"; [[Name] and I] are in agreement about…] "Trump's presidency," "free speech," "trans rights"); $.93 < \alpha s < .95$).[8]

Closeness, Liking, and Epistemic Trust. Following Fitzsimons and Shah (2008), participants filled out a modified two-item version

[5] We included exploratory measures to assess perceived similarities, including voluntary similarities ("[Name] and I tend to wear similar types of clothes") and involuntary similarities (e.g., "[Name] and I come from a similar background"). We also included a measure of fitness interdependence (Ayers et al., 2022) and inclusion of other in self (Aron et al., 1992; only in Study 2b). Results comparing these measures between IOs and NIOs are available in the online supplemental material.

[6] Participants also rated how difficult it was to nominate the six instrumental and noninstrumental others (1 = *very difficult*, 7 = *very easy*). The average rating was 3.64 ($SD = 1.62$), indicating that participants found it to be between "somewhat difficult" and "neutral" to come up with six individuals.

[7] Results for each individual shared reality measure in each study is provided in the online supplemental material. The results across the three measures were generally similar, but with some differences which we discuss in the online supplemental material. However, the composite measure of shared reality was the most consistent predictor of goal success across all studies, consonant with the idea that the different forms of shared reality all contribute to goal success.

[8] Three exploratory items were removed from the ideological shared reality measure because of significant conceptual overlap with Generalized Shared Reality scale (e.g., [[Name] and I], "Typically interpret and think about current world events in similar ways,"). Results with the inclusion of these items remain the same.

of the Subjective Closeness Inventory: "Relative to your other relationships, how close are you and [Name]?," "Relative to what you know about other people's relationships, how close are you and [Name]?" (1 = *far below average*; 7 = *far above average*; Berscheid et al., 1989; 95 < αs < .98). Similar items were used to measure how much participants liked (two items; "Relative to your other relationships, how much do you like [Name]?," "Relative to what you know about other people's relationships, how much do you like [Name]?" .93 < αs < .99) and epistemically trusted (three items; "Relative to your other relationships, how much do you trust [Name]?," "[Name] is someone whose judgment I generally trust" "Relative to my other relationships, I tend rely on [Name]'s judgment"; from Echterhoff et al., 2008; .87 < αs < .93) the nominated individual.

Goal Success. Participants reported how successful they were and how much progress they made in the three goal domains ([I have been successful in pursuing my] [I have made progress toward achieving my] "academic goals," "health and fitness goals," "social goals"; items first averaged within goal domain, then across goal domains; nine items total; α = .78).

Results

Table 1 presents correlations between the main variables. None of the NIO shared reality measures were correlated with goal success (*p*s > .171; full correlations of individual shared reality variables are available in the online supplemental material).

Perceived Instrumentality (Manipulation Check). To check that IOs were perceived as more instrumental for participants' goals than NIOs, we conducted a manipulation check. IOs (M = 6.10, SD = 0.67) were indeed rated as more instrumental than NIOs (M = 3.15, SD = 1.16), $t(235) = 34.04$, $p < .001$, $d = 2.28$.

Relationship Evaluations. Replicating previous work, participants rated IOs versus NIOs significantly higher in closeness, $t(229) = 11.88$, $p < .001$, $d = 0.79$ and liking, $t(229) = 11.86$, $p < .001$, $d = 0.78$. Participants also reported greater epistemic trust in IOs versus NIOs, $t(229) = 13.68$, $p < .001$, $d = 0.90$ (see Table 2, for descriptives).

Shared Reality. Consistent with our hypotheses, participants reported higher shared reality with IOs (vs. NIOs), $t(229) = 15.43$, $p < .001$, $d = 1.02$ (see Table 2).

Goal Success. To test our prediction that shared reality with IOs (vs. NIOs) is related to goal success, we conducted a series of regression models. IO shared reality was a significant predictor of goal success and remained so when controlling for NIO shared reality, as well as IO closeness, liking, and epistemic trust (see Table 3). No other predictors were significant when IO shared reality was in the model. These findings indicate that IO shared reality was a robust predictor of goal success.

Study 2b

Method

Participants. To replicate results from Study 2a, we recruited a total of 204 undergraduate students (63% women; 35% male; 1% nonbinary; M_{age} = 20.81 years, SD_{age} = 1.98) to complete the online study. All participants completed the same within-subject design in which they nominated instrumental and noninstrumental others for the academic goal domain and answered questions about their relationship with each nominated person. As with Study 2a, the stop rule was to collect data until the end of the semester, which yielded a total of 204 participants, providing 99% power to detect an effect.

Procedure and Materials. The procedure for Study 2b was identical to that of Study 2a, with the exceptions explained below. Notably, we only focused on the academic goal domain in this study, limiting nominations to two people in total, one IO and one NIO.

Shared Reality. The goal-relevant shared reality and generalized shared reality measures remained identical to those in Study 2a. The ideological shared reality measure was changed, introducing some items about religious beliefs (six items; [[Name] and I are in agreement about …], e.g., "The soul," "God," "The afterlife"; α's = .94). We also added nine other items about political issues (total items = 25, [[Name] and I are in agreement about …], e.g., "Tax cuts for corporations," "Invading other countries to spread democracy," "The niqab's place in Canadian society").

Goal Success. Since we were only focusing on one goal domain (academic goals), we expanded the goal success scale, including six

Table 1
Correlations for Primary IO Variables for Study 2a

Variable	1	2	3	4	5
1. IO shared reality	—				
2. NIO shared reality	.31*** [.19, .42]	—			
3. IO closeness	.54*** [.44, .63]	.05 [−.08, .18]	—		
4. IO liking	.51*** [.41, .60]	.06 [−.07, .19]	.74** [.68, .79]	—	
5. IO epistemic trust	.57*** [.48, .65]	.03 [−.10, .16]	.67** [.59, .74]	.70*** [.63, .76]	—
6. Goal success	.22** [.09, .34]	.07 [−.06, .20]	.13 [−.00, .25]	.08 [−.05, .21]	.16* [.03, .28]

Note. Values in square brackets indicate the 95% confidence interval for each correlation. IO = instrumental others; NIO = noninstrumental others.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
Study 2 Within-Participant Comparisons Between IO and NIO Ratings of Shared Reality and Other Relationship Variables

	Study 2a			Study 2b			Study 2c		
Variable	IO *M* (*SD*)	NIO *M* (*SD*)	*d*	IO *M* (*SD*)	NIO *M* (*SD*)	*d*	IO *M* (*SD*)	NIO *M* (*SD*)	*d*
Shared reality	5.39 (0.67)	4.47 (0.85)	1.02***	5.20 (0.79)	4.50 (0.89)	0.64***	5.18 (0.76)	4.54 (0.76)	0.74***
Closeness	5.80 (0.90)	4.70 (1.24)	0.79***	6.02 (1.08)	5.19 (1.48)	0.49***	5.67 (1.02)	5.12 (1.18)	0.39***
Liking	6.26 (0.68)	5.29 (1.23)	0.78***	6.49 (0.77)	5.56 (1.49)	0.59***	6.21 (0.85)	5.29 (1.05)	0.51***
Epistemic trust	5.95 (0.78)	4.70 (1.20)	0.90***	6.12 (0.83)	4.91 (1.39)	0.76***	5.83 (0.91)	4.98 (1.08)	0.69***

Note. IO = instrumental other; NIO = noninstrumental others.
*** $p < .001$.

items overall (all rated on a scale from 1 = *strongly disagree*, 7 = *strongly agree*; four additional items: "I have already succeeded in achieving many academic goals I have set for myself," "I'm well on my way toward achieving my ultimate academic goals," "I have the ability to reach my academic goals," and "I feel capable of achieving my academic goals"). An overall composite score for goal success was calculated by averaging all the items ($\alpha = .85$).

Results

Table 4 presents correlations between the main variables.

Relationship Evaluations. Replicating previous work and Study 2a, participants rated IOs versus NIOs significantly higher in closeness, $t(200) = 6.93$, $p < .001$, $d = 0.49$, and liking, $t(200) = 8.41$, $p < .001$, $d = 0.59$. Participants also reported greater epistemic trust in IOs versus NIOs, $t(200) = 10.84$, $p < .001$, $d = 0.76$ (see Table 2, for descriptives).

Shared Reality. Study 2b replicated Study 2a, again finding that participants reported higher shared reality with IOs (vs. NIOs), $t(200) = 9.03$, $p < .001$, $d = 0.64$ (Table 2).

Goal Success. As with Study 2a, we regressed goal success on IO shared reality. IO shared reality was not significantly related to goal success, $\beta = .13$, $p = .061$, and remained so when controlling for NIO generalized shared reality, $\beta = .13$, $p = .071$ (see Table 3). In addition, and unlike Study 2a, IO shared reality was not a significant predictor in the model that included IO closeness, liking, and epistemic trust.

Thus, consistent with Study 2a, Study 2b revealed that participants reported higher shared reality with instrumental versus noninstrumental others but did not provide strong support that IO shared reality was related to goal success.

Table 3
Regression Analyses for Goal Success in Studies 2 and 3

	IO shared reality	
Outcome	Adjusting for NIO shared reality	Adjusting for IO closeness, liking, and trust
Study 2		
Goal success (Study 2a)	.21 [.08, .35]**,a	.20 [.03, .35]*,a
Goal success (Study 2b)	.13 [−.01, .27]†,a	.02 [−.14, .19]
Short-term goal success (Study 2c)	.33 [.14, .60]**,a	.32 [.06, .64]*,a
Time 2 goal success (Study 2c)	.17 [.01, .36]*,a	.25 [.06, .50]*,a
Study 3		
Goal success	.34 [.21, .47]***	.32 [.16, .48]***,a

Note. VIF for all analyses did not exceed 2.9. Each cell contains the standardized β coefficient and 95% confidence interval. IO = instrumental other; NIO = noninstrumental others; VIF = variance inflation factor.
[a] No other significant predictors in the model.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Study 2c

Method

Participants. Due to participant pool constraints on a two-session study and to guard against attrition, we needed to oversample for Time 1 in order to get an adequate number of participants for Time 2.[9] A priori G*Power calculations (Faul et al., 2014) suggested a sample size of 84 participants to achieve 80% power for a regression analysis included three predictors (two Time 1 predictors variables and one Time 1 mirror variable to the Time 2 dependent variable) to detect a small-to-moderate effect size ($f^2 = 0.12$). For Time 1, we recruited a total of 267 undergraduate students (71% women; 26% men; 1% nonbinary; $M_{age} = 19.24$ years, $SD_{age} = 2.13$) to complete the online study. Since our minimum amount of time between Time 1 and Time 2 was 3 weeks, we decided to close Time 1 signups 3 weeks before the end of the semester. We anticipated between 80 and 150 participants completing Time 2, with the final number being 88 participants (73% women; 22% men; 2% nonbinary; $M_{age} = 19.54$ years, $SD = 2.95$). No significant differences were found between people who did and did not finish Time 2 for any Time 1 shared reality (all $ps > .358$), instrumentality (all $ps > .238$) or goal success variables (all $ps > .215$).

Procedure and Materials. Study 2c was conducted over two time points. Like Study 2a and 2b, participants nominated individuals at Time 1, this time in two goal domains (academic goals and health and fitness goals), totaling four individuals, two (one IO and one NIO) in each goal domain.[10] Participants then filled

[9] It was a requirement that participants be awarded credit separately for Time 1 and Time 2 sessions. This created an obstacle for Time 2 retention rates because many participants had already received their maximum credits by the time they were eligible for Time 2 session. Participants also needed to respond to an email to participate in Time 2 because embedded data from Time 1 (names of nominated others, self-entered short-term goals) needed to be transferred through a unique link.

[10] A replication of the analyses conducted in Studies 2a and 2b are available for Study 2c at Time 1 in the online supplemental materials.

Table 4
Correlations for Main IO Variables for Study 2b

Variable	1	2	3	4	5
1. IO shared reality	—				
2. NIO shared reality	.14* [.00, .27]	—			
3. IO closeness	.46*** [.34, .56]	.12 [−.02, .26]	—		
4. IO liking	.52*** [.41, .61]	.02 [−.11, .16]	.62*** [.53, .70]	—	
5. IO epistemic trust	.46*** [.34, .56]	.02 [−.11, .16]	.60*** [.51, .69]	.57*** [.47, .66]	—
6. Goal success	.13 [−.01, .27]	.02 [−.12, .16]	.19** [.05, .32]	.13 [−.01, .27]	.23** [.09, .36]

Note. Values in square brackets indicate the 95% confidence interval for each correlation. IO = instrumental other; NIO = noninstrumental others.
* $p < .05$. ** $p < .01$. *** $p < .001$.

out the battery of questions about each individual that were used in Study 2b. At Time 2, participants filled out the same measures as Time 1 for each nominated individual and reported their goal success in each goal domain.

Short-Term Goal Success. In addition to filling out our goal success measures (same as in Study 2b) in the two goal domains at Time 1 and Time 2, participants also nominated two short-term goals within each domain that they wished "to achieve in the upcoming weeks (3–4)" at Time 1. At Time 2, participants reported on their progress regarding these four self-nominated goals, using similar items used to measure domain-general goal success (four items for each nominated goal; e.g., "I have been successful in pursuing [nominated goal]"). An overall score of short-term goal success was calculated by averaging all eight items across the two short-term goals ($\alpha = .95$).

Results

Results from Time 1 replicated previous patterns found in Studies 2a and 2b (see Table 2). Details of Time 1 correlation analyses are available in the online supplemental material.

Goal Success. First, we tested whether IO shared reality at Time 1 predicted goal success at Time 2, evaluating both success on short-term goals as well as the overall goal success measure. IO shared reality, but not NIO shared reality, significantly predicted both short-term goal success and Time 2 overall goal success (when controlling for goal success at Time 1; see Table 3). These relationships were maintained when controlling for IO liking, closeness, and epistemic trust.

We also tested whether Time 1 goal success predicted IO shared reality at Time 2. When controlling for Time 1 IO shared reality, Time 1 goal success did not significantly predict Time 2 IO shared reality, $\beta = .07$, $p = 326$. Therefore, shared reality appeared to influence goal success over time, but not vice versa.[11]

Domain-Specific Goal Success. Next, we examined whether goal domain-specific shared reality predicted goal success within that domain at Time 2. For example, did shared reality with the nominated academic IO, but not the health and fitness IO, predict academic goal success? Time 1 shared reality with the academic IO significantly predicted short-term academic goal success, even when controlling for people's shared reality with the health and fitness IO (see Table 5). Academic IO shared reality did not significantly predict Time 2 academic goal success ($\beta = .16$, $p = .064$), and there was no significant relationship when controlling for shared reality with the health and fitness IO.

The results were less clear when looking at what predicted health and fitness goal success. Time 1 shared reality with the health and fitness IO did not significantly predict Time 2 health and fitness goal success ($\beta = .18$, $p = .059$), but did significantly predict short-term health and fitness success (see Table 5). However, there was no significant relationship when controlling for people's shared reality with the academic IO. Instead, shared reality with the academic IO was a stronger predictor for health and fitness goals.

Discussion

Studies 2a–2c all replicated previous work on instrumentality (Fitzsimons & Shah, 2008; Orehek, Forest, & Wingrove, 2018): Participants reported higher levels of closeness and liking toward IOs versus NIOs. This pattern was also observed with epistemic trust, a theoretically important variable linked to shared reality (Echterhoff & Higgins, 2017). Importantly, across Studies 2a–2c, participants reported higher levels of shared reality with IOs relative to NIOs.

Study 2 also found evidence that participants' tendency to share reality with IOs is related to goal success. While Study 2b only found weak evidence linking IO shared reality to goal success, IO shared reality emerged as the only significant predictor of goal success in Studies 2a and 2c, even when controlling for NIO shared reality as well as IO liking, closeness, and epistemic trust. In other words, the more participants experienced shared reality with their IOs, the more they reported goal success. Study 2c also provided some evidence that IO shared reality predicts goal success over time. The more participants shared reality with their IOs at Time 1, the more successful they were at achieving their goals at Time 2 (we discuss nuances in these results below). However, the opposite was not true.

[11] The same pattern emerged for liking and closeness. The more participants shared reality with instrumental others at Time 1, the more they tended to like ($\beta = .27$, $p = .005$; 95% CI [.11, .57]) and feel closer to ($\beta = .15$, $p = .024$; 95% CI [.01, .33]) them at Time 2, even when controlling for how much they liked and felt close to them at Time 1. Vice versa was not true: Neither Time 1 liking nor closeness predicted Time 2 shared reality with instrumental others (all ps > .824).

Table 5
Regression Analyses for Time 1 Predictors of Time 1 Goal-Specific Goal Success in Study 2c

	Health and fitness IO shared reality		Academic IO shared reality	
Outcome	Sole predictor	Adjusting for academic IO shared reality	Sole predictor	Adjusting for health and fitness IO shared reality
Health and fitness goal success (Time 2)	.16 [−.04, .28]†	.09 [−.15, .41]	.20 [.04, .63]*	.17 [−.12, .24]†
Health and fitness short-term goal success	.23 [.02, .67]*	.06 [−.23, .43]	.43 [.42, 1.13]***	.41 [.35, 1.11]***
Academic goal success (Time 2)	.08 [−.10, .29]	.02 [−.18, .24]	.16 [−.01, .44]†	.15 [−.05, .45]
Academic short-term goal success	.12 [−.14, .48]	−.01 [−.33, .32]	.32 [.18, .87]**	.32 [.15, .91]**

Note. All analyses with a Time 2 goal success variable control for Time 1 goal success. VIF for all analysis did not exceed 1.3. Each cell contains the standardized β coefficient and 95% CI. IO = instrumental other; VIF = variance inflation factor.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. $^{\dagger}p < .10$.

Participants who reported being more successful in their goals at Time 1 did not report increased shared reality with their IOs at Time 2. These findings suggest that shared reality with IOs leads to goal success but not vice versa.

Study 2c also explored whether shared reality with IOs in a specific goal domain predicted goal success in that same domain over time. For the academic goal domain, only academic IO shared reality predicted success in academic goals over time—this relationship held when controlling for health and fitness IO shared reality. However, while shared reality with health and fitness IOs predicted health and fitness goal success over time on its own, this relationship disappeared when shared reality with academic IOs was included in the model, which itself predicted health and fitness goal success over time.

One reason for this result could be that the benefits of IO shared reality for goal pursuit are largely perceptual. If one perceives greater shared reality with an instrumental others in a key domain, and this boosts self-efficacy (as we speculated in the introduction), that sense of self-efficacy might have spillover effects in other goal domains, thus benefiting an individual's goals across the board. Another possibility might be the paramount importance of academic goals over health and fitness goals for our undergraduate sample. Participants rated academic IOs ($M = 6.07$, $SD = 0.91$) as significantly more instrumental than health and fitness IOs ($M = 5.78$, $SD = 0.90$, $p < .001$), and reported that their academic goals ($M = 6.46$, $SD = 0.85$) were more important to them than their health and fitness goals ($M = 5.63$, $SD = 1.05$, $p < .001$). Therefore, given the focus on academic goals, it could be that success in health and fitness was primarily determined by whether academic goals were first achieved (a common goal conflict strategy; Kung & Scholer, 2020; Orehek & Vazeou-Nieuwenhuis, 2013). Time and effort would be spent at the gym or focusing on food consumption only if successful assignments and test grades were achieved.

If that were the case, participants' success in both goal domains could be contingent on a successful relationship with the academic IO who would be facilitating paramount academic goals. That would then explain why academic IO shared reality was more predictive of health and fitness goal success. Indeed, when controlling for the degree to which participants were successful in their academic goals (Time 2 academic success) in a regression model, Time 1 IO health and fitness, $\beta = .22$, $p = .035$, but not Time 1 IO academic shared reality, $\beta = .18$, $p = .094$, emerged as a significant predictor of Time 2 health and fitness goals. The case for this interpretation is further strengthened by the fact that participants did not make much progress on their health and fitness goals. Participants reported less success on their Time 2 health and fitness goals ($M = 4.44$, $SD = 1.25$; measured on a 7-point scale with 4 being a "neutral" state of progress) relative to their Time 2 academic goals ($M = 5.24$, $SD = 1.04$, $p < .001$), a pattern that was replicated for the short terms goal participants set for themselves (health and fitness $M = 4.28$, $SD = 1.36$; academic $M = 4.75$, $SD = 1.26$, $p = .001$). Therefore, those who progressed on their academic goals might feel like they are closer to addressing their health and fitness goals relative to those who progressed on neither. Although speculative, this dynamic could make shared reality with academic IOs the key determinant on perceived progress on both goals for these kinds of individuals for whom making academic progress is a priority.

Overall, results from Study 2 suggest that people experience greater shared reality with IOs relative to NIOs and that the more they do this, the more they tend to be successful at their goals.

Study 3

Studies 2a–c found consistent evidence that shared reality with IOs predicts goal success. But how exactly might shared reality with IOs make goal success more likely? In Study 3, we aimed to explore possible mechanisms linking IO shared reality and goal success. As recommended by Fiedler et al. (2018), we included multiple theoretically informed mediator candidates in an initial pilot study (Study S1; see online supplemental material). This bottom-up approach helps to ensure that emergent mechanisms are robust to direct statistical comparisons to other plausible mechanism candidates. Overall, we identified seven mechanisms as most promising (full study details, including the systematic process used to identify the seven possible mechanisms to further test, are available in the online supplemental material).

These potential mechanisms fall into three types. First, experiencing shared reality with others can make the world feel more objective and real (Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996). Indeed, "shared realities with others are attractive because they allow individuals to experience a more valid and reliable view of the world" (Echterhoff, Higgins, & Levine, 2009, p. 500). Recent research confirmed that dyads who created a greater sense of shared reality felt more certain of their perceptions (Rossignac-Milon et al., 2021). In the case of pursuing a goal, becoming immersed in a strong shared reality with an IO might make a goal feel more objectively important, attainable, and worth pursuing. For example, experiencing shared reality with an instrumental other who supports one's academic goals might make one value academic success more, believe that one can

truly succeed in one's academic goals, and see academic pursuit as something truly worthy of investment. Therefore, the stronger people's shared reality with IOs, the more they might see their goal as truly important (goal importance), achievable (self-efficacy), and deserving of more effort (goal effort)—three possible mechanisms that might make goal success itself more likely (Abele & Spurk, 2009; Bell & Kozlowski, 2002; Nurmi et al., 2002; Plante et al., 2013). This type of mechanism may support goal success by directly affecting the individual's perceptions of and engagement in goal pursuit.

In contrast, the next two types of mechanisms may support goal success via relational dynamics with the IO. One way this might happen is through direct support. When people experience shared reality with an IO, the IO is more likely to be perceived as providing effective support for goal pursuit. Shared reality with a close partner is associated with greater perceptions of support from that partner (Enestrom & Lydon, 2021; Rossignac-Milon et al., 2021) and with perceiving that a partner responded constructively to one's disclosures of stressful events (Bar-Shachar & Bar-Kalifa, 2021). Therefore, experiencing a greater sense of shared reality with an IO may increase goal success by making it more likely for the IO to be perceived as providing effective support.

The third possible mechanism type explores how shared reality might facilitate communication and coordination with the instrumental other to achieve the goal. A large part of mental and social life is devoted to better anticipating what other people are thinking and how they will act (Clark, 2013; Theriault et al., 2021). In close relationships, developing a strong shared reality has been theorized to facilitate effective coordination of goal systems (Rossignac-Milon & Higgins, 2018), in which partners shape each other's goal pursuit and more effectively pursue joint goals (Fitzsimons et al., 2015). Indeed, shared reality between close partners is associated with more active participation in a joint decision and greater satisfaction with the joint decision (Rossignac-Milon et al., 2021). This enhanced coordination should facilitate learning from the IO, communicating with the IO, and coordinating with the IO—all of which could make goal success more likely (FeldmanHall & Shenhav, 2019; Finkel et al., 2006; Török et al., 2019).

We also modified the goal success measure that was used in Study 2 to remove items with overlapping content with self-efficacy. We noticed that two of the six items in the goal success measure used in Study 2 likely also tapped perceptions of self-efficacy (e.g., "I have the ability to reach my academic goals"). Since increased self-efficacy is one of the mechanisms we wanted to explore in this study, we took those two items out to make sure the goal success-dependent variable was distinct from potential mediators.

Finally, in contrast to Study 2, Study 3 drew from a MTurk sample, which allowed us to examine the extent to which the prior results are generalizable to older populations focused on other goal domains (specifically career goals). Our analyses were preregistered on OSF (https://osf.io/udcey/?view_only=bf4a61dc7aca4fe3b9afe6dc34241b5e).

Method

Participants

A total of 205 MTurk workers completed the study online in return for $3.00 USD (41% women, 58% men 1% nonbinary; $M_{age} = 37.12$ years, $SD_{age} = 10.9$). A preregistered a priori G*Power calculations (Faul et al., 2014) suggested a sample size of at least 114 participants to achieve 80% power for a linear multiple regression (four predictors) with a partial $R^2 = 0.066$, which was the effect size of IO shared reality on self-reported goal success in our initial pilot study (details available in the online supplemental material). To maximize power, we aimed to collect data from 200 participants, with a total of 205 completing the survey through MTurk.

Procedure and Materials

Since participants were from a nonstudent MTurk participant pool, we adapted our materials from Study 2b to be focused on career goals instead of academic goals. As such, all participants were asked to nominate one IO and one NIO for their career goal domain. Participants then went on to fill out the same battery of questions regarding each nominated individual that were used in Study 2b, with the exception of the shared reality and goal success measures, which were altered.

Shared Reality. In contrast to the specificity of the items used in Study 2, the measure of goal-relevant shared reality used three more abstract items: "[name] and I tend to have the same thoughts and feelings about …: "The best tactics to use to achieve my career goals," "The amount of effort needed to achieve my career goals.," "The proper way to achieve my career goals" ($.86 < \alpha s < .91$).

Goal Success. Two of the six items in the goal success measure used in Study 2 were removed ("I have the ability to reach my academic goals," "I feel capable of achieving my academic goals") due to their potential conceptual overlap with self-efficacy (a potential mediator), leaving four total items ($\alpha = .87$).

Candidate Shared Reality and Goal Success Mechanisms. Participants also filled out the following measures, all of which served as candidate mechanisms between shared reality and goal success.

Goal Importance. To measure goal importance, participants answered three items starting with the stem "Being around [name] …," "allows me to see why achieving my career goals really matter," "makes me feel like my career goals are very important," "reminds me of why my career goals are worthwhile" ($\alpha = .89$).

Goal Effort. To measure goal effort, participants filled out the goal effort scale (Ryan, 1982) with regards to their career goals: five items, for example, "I will put a lot of effort into this goal," "I will try very hard on this activity" ($\alpha = .82$).

IO Goal Support. Participants answered seven items designed to measure how much IOs provided direct goal support to the participant: for example, "When I'm struggling with my career goals, [name] supports me," "I can count on [name] when career-related things go wrong" ($\alpha = .91$).

Self-Efficacy. We measured self-efficacy for career goals using the Generalized Self-Efficacy scale (Schwarzer & Jerusalem, 1995), adapted for people's career goals: eight items, for example, "I will be able to achieve my career goals," "When facing difficult tasks for my career goals, I am certain that I will accomplish them" ($\alpha = .94$).

Ease of Learning From IO. Participants completed three items: "[name] helps me understand exactly what to do in order to pursue my career goals," "I learn things from [name]that will help me achieve my career goals," "[name] teaches me a great deal about topics related to my career goals" ($\alpha = .89$).

Ease of Communicating With IO. Participants completed four items, adapted from (Finley et al., 2013): for example,"Difficult

problems with [name] are usually solved through face-to-face discussion," "Both [name] and I are willing to change how we do things in response to feedback from each other" (α = .83).

Ease of Coordinating With IO. To measure ease of coordinating with IO, participants completed five items: for example, "I find it easy to work with [name]," "Both [name] and I know how to best work with each other," "[name] and I know how to divide tasks between us" (α = .89). Since some instrumental relationships might not involve coordinating (e.g., someone lending you their class notes), participants had the option of listing "N/A" as an option for all items in this scale.

Results

In line with our preregistered predictions, and replicating results from Study 2, we found that IO shared reality significantly predicted goal success, including when controlling for NIO shared reality as well as IO closeness, liking, and epistemic trust (see Table 3).

Next, we examined if any of the potential mediators statistically mediated the effect of IO shared reality on goal success (see Table 6, for correlations between all key variables). As preregistered, all mediators were independently tested to see if they successfully mediated the effects of IO shared reality on goal success.

Five of the seven tested mediators successfully mediated the effect of IO shared reality on goal success, with IO goal support and ease of communication with IO being the two exceptions (see Table 7). We then entered the five successful mediators into a simultaneous mediation using PROCESS Model 4 (Hayes, 2017). The effect of IO shared reality was mediated ($c' = 0.13$, $p = .219$; $c = 0.62$, $p < .001$), with self-efficacy again being the only mediator positively mediating the effect individually ($ab = .50$; 95% CI [0.29, 0.74]).

Discussion

Study 3 replicated findings from Study 2, with IO shared reality consistently predicting goal success when controlling for NIO shared reality as well as IO liking, closeness, and epistemic trust. These results replicated the patterns from Study 2 using a different sample (MTurk) and a different goal domain (career success) from those used in Study 2.

For the mediational analyses, most of the tested mediators mediated the effects of IO shared reality on individual goal success (with the exception of IO goal support and ease of communication). However, when included in a simultaneous mediation, self-efficacy emerged as the most robust individual variable that successfully mediated the effect of IO shared reality on goal success. These initial results are consistent with the idea that shared reality with IOs may contribute to goal success by making people feel more efficacious in their goal pursuit. Unlike some of the other mechanisms that capture relationship dynamics (e.g., ease of learning from the IO), a sense of self-efficacy has more to do with an individual's perceptions. This suggests that even perceptions of shared reality that are not fully shared by the IO—perceptions that are too optimistic, for example—could still be beneficial for goal success if those perceptions translate into an increased sense of self-efficacy. A significant limitation in this study, however, is that self-efficacy was highly correlated with goal success, $r = .75$ (see Table 6). As a result, it is possible that the successful mediational analyses are an artifact of the two constructs being highly related. We addressed this and other concerns in Study 4.

Study 4

Studies 2 and 3 provided consistent evidence that shared reality with IOs is related to goal success, with Study 3 providing initial evidence for possible mechanisms (e.g., self-efficacy). However, thus far, our measures of goal success have all been based on self-report. While self-reported goal success typically correlates with objective measures of success (e.g., Cassidy & Eachus, 2000; Tangney et al., 2004), we cannot rule out the possibility that shared reality with an IO is primarily linked with people's perceptions of success instead of objective goal success. To address this limitation, Study 4 explored

Table 6
Correlations for Study 3 Variables

Variable	1	2	3	4	5	6	7	8
1. IO shared reality	—							
2. Goal importance	.61*** [.51, .69]	—						
3. Goal effort	.30*** [.16, .42]	.48*** [.36, .58]	—					
4. IO goal support	.54*** [.44, .63]	.75*** [.68, .81]	.50*** [.38, .59]	—				
5. Self-efficacy	.38*** [.26, .49]	.43*** [.31, .54]	.54*** [.43, .63]	.35*** [.22, .46]	—			
6. Ease of learning from IO	.54*** [.43, .63]	.67*** [.59, .74]	.32*** [.19, .44]	.64*** [.55, .71]	.41*** [.29, .52]	—		
7. Ease of communication with IO	.54*** [.43, .63]	.65*** [.56, .72]	.45*** [.34, .56]	.71*** [.63, .77]	.46*** [.35, .57]	.55*** [.45, .64]	—	
8. Ease of coordination with IO	.52*** [.41, .62]	.66*** [.57, .73]	.43*** [.30, .53]	.70*** [.62, .76]	.42*** [.30, .53]	.58*** [.48, .67]	.71*** [.63, .77]	—
9. Goal success	.35*** [.23, .47]	.34*** [.21, .46]	.31*** [.18, .43]	.21** [.08, .34]	.75*** [.68, .80]	.35*** [.22, .47]	.31*** [.18, .43]	.34*** [.21, .46]

Note. Values in square brackets indicate the 95% confidence interval for each correlation. IO = instrumental other.
** $p < .01$. *** $p < .001$.

Table 7
Mediational Analyses for Potential Mechanisms Between IO Shared Reality and Goal Success in Studies 3 and 4c

	Study 3		Study 4c			
	Self-reported goal success				GPA	
Variable	*ab* path	*c′* path	*ab* path	*c′* path	*ab* path	*c′* path
1. Goal importance	.20 [.04, .39]	.39 [.12, .65]**	.14 [.06, .26]	.09 [−.08, .26]	−.06 [−.15, .02]	.27 [.09, .45]**
2. Goal effort	.11 [.03, .22]	.47 [.26, .70]***	.05 [.00, .12]	.19 [.02, .35]*	.07 [.02, .16]	.14 [−.02, .31]
3. IO goal support	.03 [−.11, .19]	.56 [.30, .81]***	.20 [.07, .34]	.03 [−.18, .24]	.16 [.00, .29]	.06 [−.15, .27]
4. Self-efficacy	.46 [.26, .66]	.12 [−.04, .29]	.33 [.22, .45]	−.10 [−.29, .09]	.14 [−.02, .31]	.07 [−.14, .28]
5. Ease of learning from IO	.20 [.07, .36]	.38 [.13, .63]**	.12 [.02, .24]	.11 [−.08, .30]	.05 [−.06, .17]	.16 [−.03, .35]
6. Ease of communication with IO	.16 [−.00, .32]	.43 [.18, .68]**	.10 [−.01, .22]	.13 [−.06, .32]	.01 [−.11, .14]	.21 [.01, .40]*
7. Ease of coordination with IO	.17 [.00, .37]	.45 [.20, .71]***	.15 [−.00, .27]	.10 [−.10, .30]	.09 [−.04, .23]	.14 [−.04, .23]

Note. IO = instrumental other; GPA = grade point average. Indirect effect (ab) paths are not labelled with significance stars.
* $p < .05$. ** $p < .01$. *** $p < .001$.

whether IO shared reality predicts students' academic GPA, an important and objective measure of goal success.

Study 4 used two approaches to explore the possible link between IO shared reality and GPA: one retrospective (4a and 4b) and one prospective (4c). Due to constraints from the registrar's office at the university where we were collecting data,[12] we were limited in the sample size available for a prospective GPA study—one where we could measure IO shared reality during a semester and then obtain the GPA results at the end of that semester. Therefore, we also employed a variation on this methodology to increase sample size. Studies 4a and 4b adapted the methodology from Study 2b and asked participants to report the extent to which they had experienced shared reality with instrumental and noninstrumental others in the previous semester. They were then asked to upload their unofficial transcript from the previous semester which included the semester GPA calculation from the registrar's office. Study 4a was an initial pilot study of this paradigm, and Study 4b was a preregistered replication of this approach. For Study 4c—the preregistered prospective study—we were able to collect data from participants during a semester and then obtain their end-of-term GPA afterward. To maximize power (Curran & Hussong, 2009), we also merged the data from all three studies to conduct an exploratory mega-analysis (with $N = 387$).

Study 4c also included mechanism measures from Study 3 to explore whether the mechanisms that linked IO shared reality to self-reported goal success would also mediate the effects on GPA. Moreover, Study 4c also addressed a methodological concern with the measurement of one of these potential mechanisms: self-efficacy. In Study 3, we used a standard self-efficacy measure (Schwarzer & Jerusalem, 1995). While this measure mediated the effect of IO shared reality on goal success, the measure itself was highly correlated with the measure of goal success, $r = .75$. Thus, there could be concerns that the mediator shared too much variance with the measure of goal success. Therefore, in Study 4 we used a different measure of self-efficacy (from the initial mechanism pilot study) that had a more modest correlation with goal success, $r = .53$ (see online supplemental material for details of the pilot study, Study S1).

Our preregistered predictions for both Studies 4b (https://osf.io/8yswv/?view_only=96c70abd03d242038b2c7d0b07b10659) and 4c (https://osf.io/puwr5/?view_only=236752ef77c84849a84294dcc71efa00) were that IO shared reality would predict (a) self-reported goal success and (b) academic GPA.[13] Moreover, Study 4c also preregistered analyses to explore the possible mechanisms linking IO shared reality and GPA.

Method

Study 4a

Participants. A total of 99 undergraduate students at a large Canadian university completed the online study in return for course credit. For this pilot study, we aimed to collect data from approximately 100 participants within a relatively short time frame in order to establish whether this retrospective approach would replicate the core findings from earlier studies (i.e., greater shared reality for instrumental vs. noninstrumental others) and to learn what percentage of participants would upload their transcripts. Out of 99 participants, 49 either did not upload their unofficial transcript (41 participants) or did not have a Fall 2021 term GPA (8 participants), leaving a total of 50 viable participants (82% women, 16% men, 2% nonbinary; $M_{age} = 19.82$ years, $SD_{age} = 2.5$).

Procedure and Materials. Using adapted instructions from Study 2b, all participants first nominated instrumental and noninstrumental others for their academic goals, indicating individuals who played those roles in the Fall 2021 semester. Participants then went on to fill out the same battery of questions regarding each nominated individual that were used in Study 2b.

In addition, we adapted the self-reported goal success measure used in Study 3, with items now asking about the Fall 2021 semester; "I was successful in pursuing my academic goals during the Fall 2021 semester"; "During the Fall 2021 semester, I made progress toward achieving my academic goals"; "I succeeded in achieving many academic goals I set for myself during the Fall 2021 semester"; "I'm well on my way toward achieving my ultimate academic goals because of my progress during the Fall 2021 semester"; $\alpha = .92$). Participants were also asked to upload their unofficial transcripts so that researchers could access their Fall 2021 term GPA.

[12] Due to the labor involved, our university registrar's office agreed to provide GPA data for a maximum of 150 students for our prospective study (Study 4c).

[13] We had an additional preregistered prediction that people would report greater shared reality with IOs compared with NIOs. Replicating our previous results, Study 4 did indeed find that people shared reality with IOs more than NIOs—the full results are available in the online supplemental material.

Study 4b

Participants. A total of 291 undergraduate students at a large Canadian university completed the online study in return for course credit. A preregistered a priori G*Power calculation suggested a sample size of at least 150 participants to achieve 80% power for a linear multiple regression (four predictors) with a partial $R^2 = 0.066$, which was the effect size of IO shared reality on self-reported goal success in our previous studies.[14] Our stop rule was to stop collecting data if we had full data (i.e., including uploaded transcripts) for at least 150 participants by the end of the semester. At the end of the semester, out of the 291 participants who participated, 98 either did not upload their unofficial transcript (73 participants) or did not have a Fall 2021 term GPA (25 participants), leaving a total of 193 viable participants (72% women, 26% men, 1% nonbinary; $M_{age} = 20.06$ years, $SD_{age} = 2.9$). This met our preregistered criteria so we proceeded with analysis.

Procedure and Materials. Procedure and materials were identical to those used in Study 4a.

Study 4c

Participants. A total of 153 undergraduate students at a large Canadian university completed the online study in return for course credit. A preregistered a priori G*Power calculation suggested a sample size of at least 150 participants to achieve 80% power for a linear multiple regression (four predictors) with a partial $R^2 = 0.066$. We limited our sample size to approximately 150 due to the university registrar office's constraint that they would not provide GPA data for more than 150 students. Out of the 153 participants who participated, nine did not have a Winter 2022 term GPA, leaving a total of 144 viable participants (69% women, 29% men, 1% nonbinary; $M_{age} = 20.02$ years, $SD_{age} = 2.1$).

Procedure and Materials. We used the same procedure and materials as in Study 2b. In addition, participants also filled out potential mechanism measures as in Study 3, now adapted for academic goals. As noted in the study introduction, the only change was to the self-efficacy measure.

Self-Efficacy. We replaced the self-efficacy measure used in Study 3 in an attempt to reduce potential construct overlap with our self-reported goal success measure. In order to capture the boost in self-efficacy specifically derived from one's relationship with the IO, we added the stem "Being around [name] makes me feel like …," before four items: "I will be able to achieve my academic goals," "I will be able to successfully overcome many challenges in pursuit of my academic goals," "I can succeed at my academic goals," "Even when things are tough when pursuing my academic goals, I can perform quite well," $\alpha = .92$. Indeed, in contrast to Study 3, we found that this self-efficacy measure had a much more moderate correlation with self-reported goal success in this study, $r = .46$, thus helping to address concerns of construct overlap.

Results

We first explored the correlations between IO shared reality, self-reported goal success, and GPA (see Table 8, for Study 4 correlations using the full collapsed sample; separate Study 4a, 4b, and 4c correlations are available in the online supplemental material). IO shared reality was significantly correlated with self-reported goal success (replicating our earlier studies) and with GPA. That is, the more a person experienced a shared reality with IOs, the higher their self-reported goal success and GPA.

In addition, self-reported goal success was significantly correlated with GPA, $r = .35$, $p < .001$. This correlation suggests that the self-reported goal success measure used in Studies 2 and 3 is indeed related to participants' objective success.

Self-Reported Goal Success

For Study 4a, IO shared reality did not predict self-reported goal success in our tested regression models (see Table 9). Since the sample size for this pilot study was quite modest ($N = 50$), these results might be due to lack of adequate power.

Indeed, consistent with our preregistered predictions, Study 4b, Study 4c, and the collapsed Study 4 sample all found that IO shared reality predicted self-reported goal success when controlling for NIO shared reality as well as IO liking, closeness, and epistemic trust. The only exception was in Study 4c, where IO shared reality measures did not predict self-reported goal success in the model controlling for IO liking, closeness, and epistemic trust. However, it is important to note that these variables (IO liking, closeness, and epistemic trust) were not significant predictors of self-reported goal success in any of the models tested.

GPA

For Study 4a, IO shared reality did not significantly predict GPA when controlling for NIO shared reality, $\beta = .28$, $p = .050$ (see Table 9), and when controlling for IO liking, closeness, and epistemic trust, $\beta = .32$, $p = .055$.

For Study 4b, we did not find evidence for our preregistered prediction, as IO shared reality did not significantly predict GPA in our models (neither did any of the other included measures).[15]

In line with our preregistered prediction, Study 4c found that the more participants reported a shared reality with their IOs during the semester, the higher their GPAs were at the end of that same semester. This effect held when controlling for NIO shared reality. IO shared reality did not predict GPA when controlling for IO liking, closeness, and epistemic trust.

When analyzing the collapsed Study 4 sample, we found that IO shared reality predicted GPA when controlling for NIO shared reality. Moreover, IO shared reality was the only significant predictor of GPA when controlling for IO liking, closeness, and epistemic trust. Therefore, the results found with the additional power afforded by our collapsed Study 4 sample suggest that IO shared reality was related to GPA.

[14] The effect size of IO generalized shared reality on GPA in Study 4a was partial $R^2 = .09$. However, since our sample size was small, we decided to use the more conservative estimate from our previous results.

[15] We also conducted an analysis collapsing our samples from Studies 4a and 4b that used the same retrospective approach (results available in the online supplemental material). In that analysis, Study 4b IO shared reality significantly predicted GPA, even when controlling for NIO shared reality but not when controlling for IO liking, closeness, and epistemic trust.

Table 8

Correlations for Shared Reality Variables for the Combined Study 4 Sample

Variable	1	2	3
1. IO shared reality	—		
2. NIO shared reality	.11* [.01, .21]	—	
3. Self-reported goal success	.27*** [.18, .36]	.11* [.01, .20]	—
4. GPA	.18*** [.08, .27]	.04 [−.06, .14]	.35*** [.26, .43]

Note. Total N = 387. Values in square brackets indicate the 95% confidence interval for each correlation. IO = instrumental other; NIO = noninstrumental others; GPA = grade point average.
* $p < .05$. *** $p < .001$.

Mediational Analyses

Five of the seven tested mediators successfully mediated the effect of IO shared reality on self-reported goal success, with ease of communication and coordination with IO being the two exceptions (see Table 7). We then entered the five successful mediators into a simultaneous mediation using PROCESS Model 4 (Hayes, 2017). The effect of IO shared reality was mediated ($c' = -0.12$, $p = .263$; $c = 0.23$, $p = .005$), with self-efficacy again being the only mediator positively mediating the effect individually: (ab = .27; 95% CI [0.11, 0.46]).

For GPA, the results differed. Specifically, only goal effort and IO goal support successfully mediated the effect of IO shared reality on GPA (see Table 7). When both measures were entered into a simultaneous mediation, the effect of IO shared reality was mediated ($c' = 0.05$, $p = .666$; $c = 0.21$, $p = .010$), with goal effort emerging as the only mediator positively mediating the effect individually, ab = .06; 95% CI [0.01, 0.14]. We discuss possible reasons for this in the discussion. Overall, the results suggest that shared reality with IOs might make people feel more efficacious about achieving their goals, thus increasing the likelihood of success.

Table 9

Regression Analyses for Predictors of Self-Reported Goal Success and GPA in Study 4

	IO shared reality	
Outcome	Adjusting for NIO shared reality	Adjusting for IO closeness, liking, and trust
Self-reported goal success		
Study 4a	.21 [−.10, .62][a]	.22 [−.13, .69][a]
Study 4b	.29 [.15, .44]***,[a]	.31 [.13, .50]**,[a]
Study 4c	.23 [.07, .40]**,[a]	.14 [−.19, .33][a]
Study 4—collapsed sample	.26 [.17, .36]***,[a]	.25 [.12, .37]***,[a]
GPA		
Study 4a	.28 [−.00, .56]†,[a]	.32 [−.01, .64]†,[a]
Study 4b	.11 [−.03, .26][a]	.07 [−.12, .26][a]
Study 4c	.21 [.05, .38]*,[a]	.17 [−.03, .37]†,[a]
Study 4—collapsed sample	.17 [.08, .27]**,[a]	.15 [.02, .27]*,[a]

Note. Each cell contains the standardized β coefficient and 95% confidence interval. IO = instrumental other; NIO = noninstrumental others; GPA = grade point average.
[a] No other significant predictors in the model.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

Study 4 replicated our previous findings, with IO shared reality consistently predicting self-reported goal success when controlling for NIO shared reality as well as for IO liking, closeness, and epistemic trust.

When looking at each individual sample within Study 4 (4a–4c), we found some associations between IO shared reality and GPA in Studies 4a and 4c, but did not find evidence of an association in Study 4b. That some participants chose not to upload their transcript in Studies 4a and b is an important limitation to note given the possibility of a selection effect. However, we did not find any significant differences between those that did versus did not upload their transcripts on any of the key variables (shared reality, self-reported goal success, liking, closeness, epistemic trust) across the two studies (all ps > .109). The strongest evidence came from Study 4c, where IO shared reality significantly predicted goal success even when controlling for NIO shared reality.

Notably, the collapsed sample (which represents all studies we have conducted to test this effect) allows us to test our hypotheses most powerfully, an approach that is increasingly recommended in the literature (Fabrigar & Wegener, 2016; Goh et al., 2016; McShane & Böckenholt, 2017). Here, when looking at the combined Study 4 sample, we found consistent evidence that IO shared reality was related to participants' academic GPA, lending greater support for the effect. IO shared reality significantly predicted GPA when controlling for NIO shared reality as well as when controlling for IO liking, closeness, and epistemic trust. While significant, the effect of IO shared reality on GPA is noticeably smaller compared to those found for self-reported goal success across Studies 2 and 3. One reason for this could be that academic success means different things to different people. Participants nominated IOs who supported their academic goals, which likely include a high GPA for most, but could also encompass a range of other metrics such as acquiring internship opportunities, developing transferable skills for the job market, passing required courses, or taking more difficult courses to enhance learning (despite that taking a toll on one's GPA). Participants could also be nominating IOs who are helping them with only one particular class or a certain assignment that is salient at time of the study. Thus, GPA represents a conservative metric of academic success.

Finally, in contrast to Studies 2 and 3, these measures were taken while students had reduced contact due to COVID-19 restrictions, making it possible that the typical dynamics between students and their IOs were muted during this time. Therefore, we believe that finding an effect of IO shared reality on cumulative GPA was a stringent test of our hypothesis, making the small effect meaningful. To further test the importance of IO shared reality, future work should look to measure other objective markers of goal success that are directly tied to the salient outcomes that are most relevant for participants' academic goals.

Replicating findings from Study 3, Study 4c also found evidence for self-efficacy being a strong mediator. Self-efficacy mediated the relationships between IO shared reality on self-reported goal success and was the only significant mediator when entered into a simultaneous mediation with other individually successful

mediators. However, unlike Study 3, goal effort was the only successful mediator of the effect of IO shared reality on GPA. Supplemental analyses available in the online supplemental material found that, when looking at individual shared reality measures, this effect seems to be driven by ideological shared reality (for generalized of goal-relevant shared reality, self-efficacy successfully mediated the effect of IO shared reality on GPA). Therefore, it is possible that ideological shared reality functions through a distinct mechanism compared to the other two shared reality variables. Having strong shared ideological commitments with an IO might cause one to perceive some goals as morally important (e.g., seeing career success as a way to serve God or change society), thus leading to increased effort in pursuit of one's goals (Celniker et al., 2023). Indeed, a serial mediation through increased goal importance and effort (IO ideological shared reality leading to goal importance and then goal effort, ultimately increasing GPA) was successful (ab = .02; 95% CI [0.00, 0.05]). Alternatively, this result could simply be noise, given that this was the only mediational analysis in which it emerged. Future work will need to further test whether IO ideological shared reality has a distinct mechanistic connection to goal success.

Despite this, overall, the results across Studies 3 and 4c are consistent with self-efficacy being an important mediator of the effect of IO shared reality on goal success. This mechanism suggests that the benefits of shared reality with IOs may primarily affect an individual's perceptions of and engagement in goal pursuit (i.e., vs. affecting goal-relevant relational dynamics). It is interesting to consider this in conjunction with the Study 1 findings in which actor, but not partner, effects were found. An individual's perceptions of shared reality, even if not fully aligned with a partner's reports, may be important insofar as they make the actor feel like they can achieve their goal (i.e., boost self-efficacy). However, this does not negate the possibility that other mechanisms could be involved. Both goal effort and ease of coordinating with the IO also emerged as potential candidates across Studies 3 and 4c. We discuss this further in the General Discussion section.

General Discussion

The present research first established a connection between instrumentality and shared reality. Participants who viewed their romantic partner as more (vs. less) instrumental perceived greater shared reality with them (Study 1). Participants also reported more shared reality with IOs versus NIOs (Study 2), a pattern that applied to how they saw the world generally (generalized shared reality), how they viewed their goals (goal-relevant shared reality), and even how they perceived political and religious truths (ideological shared reality).

We also found that people's tendency to experience shared reality with IOs predicted goal success. Participants who experienced greater shared reality with their IOs reported greater goal success (Studies 2–4) and were more likely to have higher GPAs (Study 4), a pattern that held when accounting for their shared reality with NIOs and their liking, closeness, and trust for their IOs (when looking at the combined Study 4 sample). Finally, we identified self-efficacy as a central mechanism underlying this effect (Study 3, 4c).

Taken together, this work suggests that people experience a greater sense of shared reality with instrumental others compared to noninstrumental others, and that shared reality predicts both self-report and objective goal success. These results contribute to several distinct literatures.

Contribution to Understanding the Interpersonal Influences on Goal Success

Past work on instrumentality has emphasized the role of closeness and liking in successful regulation: People like and feel closer to instrumental others (Orehek, Forest, & Wingrove, 2018; vanDellen et al., 2015), an association that is linked to goal success (Fitzsimons & Shah, 2008). We replicated these patterns in our studies. In Studies 2a and 2b, participants reported liking and feeling closer to instrumental others relative to noninstrumental others. However, shared reality appeared to be more strongly linked to goal success initially (Studies 2a and 2b) and over time (Study 2c) than did closeness and liking. This finding highlights the importance of examining shared reality in understanding the dynamics of social self-regulation. Indeed, there is some suggestion that liking and closeness may often emerge from a foundation of shared reality (Koudenburg et al., 2017; Launay & Dunbar, 2015; Rossignac-Milon et al., 2021). Rossignac-Milon et al. (2021) found that strangers who were able to spontaneously create a shared reality liked and felt closer to each other, an effect that, notably, could not be reduced to just perceived similarity. Likewise, in Study 2c, shared reality predicted increased liking and closeness over time, but not vice versa (see Footnote 11). Therefore, shared reality might facilitate a sense of social connection, helping to account for why people tend to like and feel close to instrumental others.

While shared reality facilitates a sense of connection to others, it also critically supports people's epistemic needs (Higgins, 2019). Shared reality with others is a critical way for people to relate to other minds and jointly determine what is real in the world (Echterhoff, Higgins, & Levine, 2009). Indeed, our studies consistently found that IO shared reality was predictive of goal success (both self-reported and GPA) when controlling for IO liking and closeness. These findings suggest that the effect of shared reality on goal success is not explained by liking or closeness per se. While liking and closeness might play a role when people attempt to relate to both instrumental people and nonsocial objects (Ferguson, 2008; Fitzsimons & Shah, 2008; Moore et al., 2011), the experience of shared reality may play a unique role when relating to IOs and their minds. What remains unclear in the literature, however, is the relative importance of having strong associations with instrumental people as opposed to nonsocial objects. For goal success (e.g., building a business), for example, is it more important for people to have a strong positive relationship with an instrumental object (e.g., money) or an instrumental person (e.g., a business partner)? This will be an interesting question for future work.

When looking at how IO shared reality might connect to goal success, self-efficacy emerged as a mediator. For Studies 3 and 4c, self-efficacy generally mediated the relation between IO shared reality and self-reported goal success. This finding aligns with the idea that the epistemic effect of shared reality in making subjective experiences feel more objective and valid might have motivational benefits (see Echterhoff, Higgins, & Levine, 2009; Hardin & Higgins, 1996). Since self-efficacy is primarily a perceptual phenomenon (Bandura, 1982), people might be able to draw on these motivational benefits even if they overperceive how much shared reality they have with their partner. Heading into a crucial

work presentation, a person can draw on the pep talk their partner gave them early that morning to boost their efficacy. In this context, it does not matter if their partner secretly harbors doubt, only that they perceive that their partner shares a sense of confidence in their presentation-giving abilities. In this way, the motivational benefits of sharing a reality with an IO need not always be a two-way street. The idea that perceptual biases can have motivational benefits is not a new one in social psychology (Balcetis & Dunning, 2006; Bruner & Goodman, 1947; Dunning & Balcetis, 2013; Greenwald, 1980; Rusbult et al., 2009). People also seem to have a perceptual bias toward seeing others as more like them than is actually the case (Holtz & Miller, 1985; Lee et al., 2009; Thielmann et al., 2020), especially those who are instrumental (Toma et al., 2010). Therefore, it could be that overperceiving one's shared reality has inherent motivational benefits and sets up a self-fulfilling prophecy where this initial bias actually leads to more shared reality in the relationship, or even a greater willingness for people to be instrumental (see Rusbult et al., 2009 for an example of self-fulfilling prophecies in relationships). Future research will need to further probe the effects of the accuracy of shared reality perceptions on goal success.

Moreover, there are still several open questions about the mechanisms connecting shared reality and goal success. While self-efficacy was the most consistent mediator between IO shared reality and goal success, there were other potential mediators that could still prove to be important for understanding the underlying effect. For example, there was some evidence suggesting that people's reported ease of coordinating with IO was also a mediator between IO shared reality and goal success. Here, accuracy could be key. A person who is inaccurate about how much shared reality they have with an IO could lead to problems when trying to successfully coordinate with the IO. Therefore, future work should explore whether the accuracy of shared reality perceptions affects the link between shared reality and goal success via distinct mechanisms. In addition, future work should also explore the causal relationship between shared reality and our proposed mechanisms. The mechanistic evidence provided in this article is correlational and is therefore compatible with other statistical relationships between the variables (Fiedler et al., 2018). Future work might look to experimentally manipulate people's sense of shared reality and see if that causally induces heightened feelings of efficacy or capacity to coordinate with an IO. Alternatively, manipulating a potential mechanism could provide further triangulation around the specific processes at play. For example, future work could manipulate self-efficacy to see if such a manipulation moderates the relationship between IO shared reality and goal success.

Advancing Our Understanding of Shared Reality

The current studies also provide new insights into when and why people experience shared reality with others. Past work has revealed that people do not create a shared reality with just anybody. For instance, people create a shared reality with ingroup over outgroup members (Echterhoff et al., 2005; Echterhoff, Lang, et al., 2009), and with those they trust over those they do not (Echterhoff et al., 2005, 2017). To explain these effects, shared reality researchers have pointed to people's motivated desire to connect with trusted ingroup members (Echterhoff, Higgins, & Levine, 2009).

The results from our studies offer an additional explanation. People might be motivated to experience shared reality with ingroup members and those they trust because they assume that these others could be instrumental for their goals. Indeed, past work finds that people stop paying attention to traditional ingroup markers, like those of race, when they were in a situation where more reliable markers of instrumentality were salient (Pietraszewski, 2013; Pietraszewski et al., 2014; Rhodes & Chalik, 2013). In other words, people are more likely to see others as ingroup members when they think those members are potentially instrumental, something that might extend to shared reality. Future work should look to manipulate people's salient motivational needs to see if that results in greater shared reality with IOs (relative to NIOs; see Fitzsimons & Shah, 2008).

If people create a shared reality with instrumental others to improve their chances at goal success, people might also be especially motivated to guard against any threats to that shared reality. For example, if someone's successful goal pursuit at work depends on sharing a specific view of the world with key work colleagues, they might be particularly resistant to anything that calls that reality into question; any threat to that shared reality is also a threat to their goals. This possibility is consistent with past work finding that people defend shared realities when their sense of shared reality is threatened (Rossignac-Milon et al., 2021), especially when such beliefs have practical implications for their goals (Campbell & Kay, 2014; Jonas et al., 2014). Indeed, when people are asked to think about a close (likely instrumental) other in their life, they spontaneously think about, and look to defend, the worldview they share with them (Przybylinski & Andersen, 2015). This relation between goal pursuit and shared reality may also shed new light on when and why people sometimes become more extreme in their views. If instrumentality promotes shared reality, support for even totally unrelated goals may become a gateway for the adoption of new worldviews.

Limitations and Future Directions

We have argued that shared reality with an IO is linked to goal success. However, is it ever the case that shared reality with an IO could be harmful to goal pursuit? One might argue that shared reality with an instrumental other could at times harm goal pursuit, if it supports group think or limits diversity of thought during goal pursuit. If people are less likely to disagree when they experience shared reality, this could stifle goal progress when the means of goal pursuit are not as clear (e.g., working to start a company that caters to a new market). On the other hand, it is also possible that a strong shared reality helps people to feel comfortable enough to air disagreements, augmenting rather than stifling diverse perspectives. In Studies 3 and 4c, we found that people who had a strong shared reality with their IOs tended to also report being easily able to communicate their differences (e.g., "Both [name] and I are willing to change how we do things in response to feedback from each other"). Future work should explore when a strong shared reality with IOs has a negative impact on goal success.

Our studies relied on North American samples (Henrich et al., 2010), and so caution must be taken in generalizing these patterns to other cultural contexts. There is some reason to believe that people might experience shared reality with instrumental others more in relationally mobile cultures such as North America. Relationally

mobile cultures offer many opportunities for individuals to find and change relational partners (Schug et al., 2009). Past work finds that people in relationally mobile cultures, like the United States, tend to be more similar to their friends: "Because Americans have more opportunities to select their own interaction partners, they are more likely to select and be selected by similar others" (Schug et al., 2009, p. 100; see also Heine et al., 2009). Thus, it is possible that the role of shared reality in relating to instrumental others may be stronger in relationally mobile cultures, which would be an interesting direction for future work.

Conclusion

When trying to understand why some people are successful, it can be tempting to chalk it up to personal strengths. Some people just have "it." The current work adds to a growing body of literature highlighting that the "it" is often an "us"; that is, success in goal pursuit is rarely a solo endeavor. Specifically, we found that people tended to experience greater shared reality with instrumental others, and this tendency was associated with reaching one's goals. These studies highlight the importance of relating to the minds of instrumental others as well as the dynamic way people's goal pursuit is shaped by the extent to which they experience a shared reality with others.

References

Abele, A. E., & Spurk, D. (2009). The longitudinal impact of self-efficacy and career goals on objective and subjective career success. *Journal of Vocational Behavior*, *74*(1), 53–62. https://doi.org/10.1016/j.jvb.2008.10.005

Allen, T. D., Eby, L. T., Poteet, M. L., Lentz, E., & Lima, L. (2004). Career benefits associated with mentoring for proteges: A meta-analysis. *Journal of Applied Psychology*, *89*(1), 127–136. https://doi.org/10.1037/0021-9010.89.1.127

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of Other in the Self Scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, *63*(4), 596–612. https://doi.org/10.1037/0022-3514.63.4.596

Arslan, A. (2012). Predictive power of the sources of primary school students' self-efficacy beliefs on their self-efficacy beliefs for learning and performance. *Educational Sciences: Theory & Practice*, *12*(3), 1915–1920. https://files.eric.ed.gov/fulltext/EJ1000903.pdf

Auger, E. (2018). *Identity in relationships: Its development and role in daily life* (Publication No. 28248548) [Doctoral dissertation, McGill University Libraries]. ProQuest Dissertations & Theses Global.

Ayers, J. D., Sznycer, D., Sullivan, D., Guevara Beltrán, D., van den Akker, O. R., Muñoz, A. E., Hruschka, D. J., Cronk, L., & Aktipis, A. (2022). Fitness interdependence as indexed by shared fate: Factor structure and validity of a new measure. *Evolutionary Behavioral Sciences*. Advance online publication. https://doi.org/10.1037/ebs0000300

Balcetis, E., & Dunning, D. (2006). See what you want to see: Motivational influences on visual perception. *Journal of Personality and Social Psychology*, *91*(4), 612–625. https://doi.org/10.1037/0022-3514.91.4.612

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, *37*(2), 122–147. https://doi.org/10.1037/0003-066X.37.2.122

Bar-Shachar, Y., & Bar-Kalifa, E. (2021). Responsiveness processes and daily experiences of shared reality among romantic couples. *Journal of Social and Personal Relationships*, *38*(11), 3156–3176. https://doi.org/10.1177/02654075211017675

Bar-Tal, D. (2000). *Shared beliefs in a society: Social psychological analysis*. Sage Publications. https://doi.org/10.4135/9781452204697

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, *74*(5), 1252–1265. https://doi.org/10.1037/0022-3514.74.5.1252

Bell, B. S., & Kozlowski, W. J. (2002). Goal orientation and ability: Interactive effects on self-efficacy, performance, and knowledge. *Journal of Applied Psychology*, *87*(3), 497–505. https://doi.org/10.1037/0021-9010.87.3.497

Berscheid, E., Snyder, M., & Omoto, A. M. (1989). The relationship closeness inventory: Assessing the closeness of interpersonal relationships. *Journal of Personality and Social Psychology*, *57*(5), 792–807. https://doi.org/10.1037/0022-3514.57.5.792

Boudreaux, M. J., & Ozer, D. J. (2013). Goal conflict, goal striving, and psychological well-being. *Motivation and Emotion*, *37*(3), 433–443. https://doi.org/10.1007/s11031-012-9333-2

Briskin, J. L., Kopetz, C. E., Fitzsimons, G. M., & Slatcher, R. B. (2019). For better or for worse? Outsourcing self-regulation and goal pursuit. *Social Psychological & Personality Science*, *10*(2), 181–192. https://doi.org/10.1177/1948550617736112

Bruner, J. S., & Goodman, C. C. (1947). Value and need as organizing factors in perception. *Journal of Abnormal Psychology*, *42*(1), 33–44. https://doi.org/10.1037/h0058484

Campbell, T. H., & Kay, A. C. (2014). Solution aversion: On the relation between ideology and motivated disbelief. *Journal of Personality and Social Psychology*, *107*(5), 809–824. https://doi.org/10.1037/a0037963

Carnegie, D. (1936). *How to win friends and influence people*. Simon & Schuster.

Cassidy, S., & Eachus, P. (2000). Learning style, academic belief systems, self-report student proficiency and academic achievement in higher education. *Educational Psychology*, *20*(3), 307–322. https://doi.org/10.1080/713663740

Celniker, J. B., Gregory, A., Koo, H. J., Piff, P. K., Ditto, P. H., & Shariff, A. F. (2023). The moralization of effort. *Journal of Experimental Psychology: General*, *152*(1), 60–79. https://doi.org/10.1037/xge0001259

Clark, A. (2013). Whatever next? Predictive brains, situated agents, and the future of cognitive science. *Behavioral and Brain Sciences*, *36*(3), 181–204. https://doi.org/10.1017/S0140525X12000477

Cohen, S. (2004). Social relationships and health. *American Psychologist*, *59*(8), 676–684. https://doi.org/10.1037/0003-066X.59.8.676

Converse, B. A., & Fishbach, A. (2012). Instrumentality boosts appreciation: Helpers are more appreciated while they are useful. *Psychological Science*, *23*(6), 560–566. https://doi.org/10.1177/0956797611433334

Curran, P. J., & Hussong, A. M. (2009). Integrative data analysis: The simultaneous analysis of multiple data sets. *Psychological Methods*, *14*(2), 81–100. https://doi.org/10.1037/a0015914

Davis, K. E., & Florquist, C. C. (1965). Perceived threat and dependence as determinants of the tactical usage of opinion conformity. *Journal of Experimental Social Psychology*, *1*(3), 219–236. https://doi.org/10.1016/0022-1031(65)90027-2

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology*, *92*(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Dunning, D., & Balcetis, E. (2013). Wishful seeing: How preferences shape visual perception. *Current Directions in Psychological Science*, *22*(1), 33–37. https://doi.org/10.1177/0963721412463693

Dweck, C. S. (2008). *Mindset: The new psychology of success*. Random House Digital.

Eby, L. T., Allen, T. D., Evans, S. C., Ng, T., & Dubois, D. (2008). Does mentoring matter? A multidisciplinary meta-analysis comparing mentored and non-mentored individuals. *Journal of Vocational Behavior*, *72*(2), 254–267. https://doi.org/10.1016/j.jvb.2007.04.005

Echterhoff, G., & Higgins, E. T. (2017). Creating shared reality in interpersonal and intergroup communication: The role of epistemic processes and their

interplay. *European Review of Social Psychology*, *28*(1), 175–226. https://doi.org/10.1080/10463283.2017.1333315

Echterhoff, G., Higgins, E. T., & Groll, S. (2005). Audience-tuning effects on memory: The role of shared reality. *Journal of Personality and Social Psychology*, *89*(3), 257–276. https://doi.org/10.1037/0022-3514.89.3.257

Echterhoff, G., Higgins, E. T., Kopietz, R., & Groll, S. (2008). How communication goals determine when audience tuning biases memory. *Journal of Experimental Psychology: General*, *137*(1), 3–21. https://doi.org/10.1037/0096-3445.137.1.3

Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared reality experiencing commonality with others' inner states about the world. *Perspectives on Psychological Science*, *4*(5), 496–521. https://doi.org/10.1111/j.1745-6924.2009.01161.x

Echterhoff, G., Kopietz, R., & Higgins, E. T. (2017). Shared reality in intergroup communication: Increasing the epistemic authority of an outgroup audience. *Journal of Experimental Psychology: General*, *146*(6), 806–825. https://doi.org/10.1037/xge0000289

Echterhoff, G., Lang, S., Krämer, N., & Higgins, E. T. (2009). Audience-tuning effects on memory: The role of audience status in sharing reality. *Social Psychology*, *40*(3), 150–163. https://doi.org/10.1027/1864-9335.40.3.150

El-Abd, M., & Chaaban, Y. (2021). The role of vicarious experiences in the development of pre-service teachers' classroom management self-efficacy beliefs. *International Journal of Early Years Education*, *29*(3), 282–297. https://doi.org/10.1080/09669760.2020.1779669

Enestrom, M. C., & Lydon, J. E. (2021). Relationship satisfaction in the time of COVID-19: The role of shared reality in perceiving partner support for frontline health-care workers. *Journal of Social and Personal Relationships*, *38*(8), 2330–2349. https://doi.org/10.1177/02654075211020127

Fabrigar, L. R., & Wegener, D. T. (2016). Conceptualizing and evaluating the replication of research results. *Journal of Experimental Social Psychology*, *66*, 68–80. https://doi.org/10.1016/j.jesp.2015.07.009

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2014). *G*Power* (Version 3.1.9.2) [Computer software]. Uiversität Kiel. https://www.psychologie.hhu.de/arbeitsgruppen/allgemeine-psychologie-und-arbeitspsychologie/gpower

Feeney, B. C. (2004). A secure base: Responsive support of goal strivings and exploration in adult intimate relationships. *Journal of Personality and Social Psychology*, *87*(5), 631–648. https://doi.org/10.1037/0022-3514.87.5.631

Feeney, B. C., & Collins, N. L. (2015). A new look at social support: A theoretical perspective on thriving through relationships. *Personality and Social Psychology Review*, *19*(2), 113–147. https://doi.org/10.1177/1088868314544222

FeldmanHall, O., & Shenhav, A. (2019). Resolving uncertainty in a social world. *Nature Human Behaviour*, *3*, 426–435. https://doi.org/10.1038/s41562-019-0590-x

Ferguson, M. J. (2008). On becoming ready to pursue a goal you don't know you have: Effects of nonconscious goals on evaluative readiness. *Journal of Personality and Social Psychology*, *95*(6), 1268–1294. https://doi.org/10.1037/a0013263

Ferguson, M. J., & Bargh, J. A. (2004). Liking is for doing: The effects of goal pursuit on automatic evaluation. *Journal of Personality and Social Psychology*, *87*(5), 557–572. https://doi.org/10.1037/0022-3514.87.5.557

Festinger, L. (1950). Informal social communication. *Psychological Review*, *57*(5), 271–282. https://doi.org/10.1037/h0056932

Fiedler, K., Harris, C., & Schott, M. (2018). Unwarranted inferences from statistical mediation tests—An analysis of articles published in 2015. *Journal of Experimental Social Psychology*, *75*, 95–102. https://doi.org/10.1016/j.jesp.2017.11.008

Finkel, E. J. (2018). *The all-or-nothing marriage: How the best marriages work*. Dutton.

Finkel, E. J., Campbell, W. K., Brunell, A. B., Dalton, A. N., Scarbeck, S. J., & Chartrand, T. L. (2006). High-maintenance interaction: Inefficient social coordination impairs self-regulation. *Journal of Personality and Social Psychology*, *91*(3), 456–475. https://doi.org/10.1037/0022-3514.91.3.456

Finley, E. P., Pugh, J. A., Lanham, H. J., Leykum, L. K., Cornell, J., Veerapaneni, P., & Parchman, M. L. (2013). Relationship quality and patient-assessed quality of care in VA primary care clinics: Development and validation of the work relationships scale. *Annals of Family Medicine*, *11*(6), 543–549. https://doi.org/10.1370/afm.1554

Fitzsimons, G. M., & Finkel, E. J. (2018). Transactive-goal-dynamics theory: A discipline-wide perspective. *Current Directions in Psychological Science*, *27*(5), 332–338. https://doi.org/10.1177/0963721417754199

Fitzsimons, G. M., Finkel, E. J., & vanDellen, M. R. (2015). Transactive goal dynamics. *Psychological Review*, *122*(4), 648–673. https://doi.org/10.1037/a0039654

Fitzsimons, G. M., & Fishbach, A. (2010). Shifting closeness: Interpersonal effects of personal goal progress. *Journal of Personality and Social Psychology*, *98*(4), 535–549. https://doi.org/10.1037/a0018581

Fitzsimons, G. M., & Shah, J. Y. (2008). How goal instrumentality shapes relationship evaluations. *Journal of Personality and Social Psychology*, *95*(2), 319–337. https://doi.org/10.1037/0022-3514.95.2.319

Fitzsimons, G. M., & Shah, J. Y. (2009). Confusing one instrumental other for another: Goal effects on social categorization. *Psychological Science*, *20*(12), 1468–1472. https://doi.org/10.1111/j.1467-9280.2009.02475.x

Gai, P. J., & Bhattacharjee, A. (2022). Willpower as moral ability. *Journal of Experimental Psychology: General*, *151*(8), 1999–2006. https://doi.org/10.1037/xge0001169

Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social and Personality Psychology Compass*, *10*(10), 535–549. https://doi.org/10.1111/spc3.12267

Gomillion, S., Murray, S. L., & Lamarche, V. M. (2015). Losing the wind beneath your wings: The prospective influence of romantic breakup on goal progress. *Social Psychological & Personality Science*, *6*(5), 513–520. https://doi.org/10.1177/1948550614568160

Greenwald, A. G. (1980). The totalitarian ego: Fabrication and revision of personal history. *American Psychologist*, *35*(7), 603–618. https://doi.org/10.1037/0003-066X.35.7.603

Hardin, C. D., & Higgins, E. T. (1996). Shared reality: How social verification makes the subjective objective. In E. T. Higgins & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition, Vol. 3: The interpersonal context* (pp. 28–84). Guilford Press.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Heine, S. J., Foster, J. A. B., & Spina, R. (2009). Do birds of a feather universally flock together? Cultural variation in the similarity-attraction effect. *Asian Journal of Social Psychology*, *12*(4), 247–258. https://doi.org/10.1111/j.1467-839X.2009.01289.x

Henrich, J. (2015). *The secret of our success: How culture is driving human evolution, domesticating our species, and making us smarter*. Princeton University Press. https://doi.org/10.2307/j.ctvc77f0d

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). Most people are not WEIRD. *Nature*, *466*(7302), Article 29. https://doi.org/10.1038/466029a

Higgins, E. T. (1992). Achieving 'shared reality' in the communication game: A social action that create; meaning. *Journal of Language and Social Psychology*, *11*(3), 107–131. https://doi.org/10.1177/0261927X92113001

Higgins, E. T. (2019). *Shared reality: What makes us strong and tears us apart*. Oxford University Press. https://doi.org/10.1093/oso/9780190948054.001.0001

Higgins, E. T., & Rholes, W. S. (1978). "Saying is believing": Effects of message modification on memory and liking for the person described. *Journal of Experimental Social Psychology*, *14*(4), 363–378. https://doi.org/10.1016/0022-1031(78)90032-X

Higgins, E. T., Rossignac-Milon, M., & Echterhoff, G. (2021). Shared reality: From sharing-is-believing to merging minds. *Current Directions in*

Psychological Science, *30*(2), 103–110. https://doi.org/10.1177/0963721421992027

Hofmann, W., Finkel, E. J., & Fitzsimons, G. M. (2015). Close relationships and self-regulation: How relationship satisfaction facilitates momentary goal pursuit. *Journal of Personality and Social Psychology*, *109*(3), 434–452. https://doi.org/10.1037/pspi0000020

Holtz, R., & Miller, N. (1985). Assumed similarity and opinion certainty. *Journal of Personality and Social Psychology*, *48*(4), 890–898. https://doi.org/10.1037/0022-3514.48.4.890

Huang, S., Broniarczyk, S. M., Zhang, Y., & Beruchashvili, M. (2015). From close to distant: The dynamics of interpersonal relationships in shared goal pursuit. *The Journal of Consumer Research*, *41*(5), 1252–1266. https://doi.org/10.1086/678958

Huneke, M., & Pinel, E. C. (2016). Fostering selflessness through I-sharing. *Journal of Experimental Social Psychology*, *63*, 10–18. https://doi.org/10.1016/j.jesp.2015.11.003

Jackson, S. E., Steptoe, A., & Wardle, J. (2015). The influence of partner's behavior on health behavior change: The English Longitudinal Study of Ageing. *JAMA Internal Medicine*, *175*(3), 385–392. https://doi.org/10.1001/jamainternmed.2014.7554

Jakubiak, B. K., & Feeney, B. C. (2016). Daily goal progress is facilitated by spousal support and promotes psychological, physical, and relational well-being throughout adulthood. *Journal of Personality and Social Psychology*, *111*(3), 317–340. https://doi.org/10.1037/pspi0000062

Jonas, E., McGregor, I., Klackl, J., Agroskin, D., Fritsche, I., Holbrook, C., Nash, K., Proulx, T., & Quirin, M. (2014). Threat and defense: From anxiety to approach. In J. M. Olson & M. P. Zanna (Eds.), *Advances in experimental social psychology* (Vol. 49, pp. 219–286). Academic Press.

Karney, B. R., & Bradbury, T. N. (1995). The longitudinal course of marital quality and stability: A review of theory, method, and research. *Psychological Bulletin*, *118*(1), 3–34. https://doi.org/10.1037/0033-2909.118.1.3

Kashy, D. A., & Kenny, D. A. (2000). The analysis of data from dyads and groups. In H. T. Reis & C. M. Judd (Eds.), *Handbook of research methods in social psychology* (pp. 451–477). Cambridge University Press.

Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relationships: A theory of interdependence*. Wiley.

Koudenburg, N., Postmes, T., & Gordijn, E. H. (2017). Beyond content of conversation: The role of conversational form in the emergence and regulation of social structure. *Personality and Social Psychology Review*, *21*(1), 50–71. https://doi.org/10.1177/1088868315626022

Krueger, J., & Clement, R. W. (1994). The truly false consensus effect: An ineradicable and egocentric bias in social perception. *Journal of Personality and Social Psychology*, *67*(4), 596–610. https://doi.org/10.1037/0022-3514.67.4.596

Kruglanski, A. W., Pierro, A., Mannetti, L., & De Grada, E. (2006). Groups as epistemic providers: Need for closure and the unfolding of group-centrism. *Psychological Review*, *113*(1), 84–100. https://doi.org/10.1037/0033-295X.113.1.84

Kung, F. Y. H., & Scholer, A. A. (2020). The pursuit of multiple goals. *Social and Personality Psychology Compass*, *14*(1), Article e12509. https://doi.org/10.1111/spc3.12509

Langfield-Smith, K., & Smith, D. (2003). Management control systems and trust in outsourcing relationships. *Management Accounting Research*, *14*(3), 281–307. https://doi.org/10.1016/S1044-5005(03)00046-5

Launay, J., & Dunbar, R. I. (2015). Playing with strangers: Which shared traits attract us most to new people? *PLOS ONE*, *10*(6), Article e0129688. https://doi.org/10.1371/journal.pone.0129688

Laurin, K. (2016). Interpersonal influences on goals: Current and future directions for goal contagion research. *Social and Personality Psychology Compass*, *10*(11), 668–678. https://doi.org/10.1111/spc3.12289

Lee, K., Ashton, M. C., Pozzebon, J. A., Visser, B. A., Bourdage, J. S., & Ogunfowora, B. (2009). Similarity and assumed similarity in personality reports of well-acquainted persons. *Journal of Personality and Social Psychology*, *96*(2), 460–472. https://doi.org/10.1037/a0014059

Lovakov, A., & Agadullina, E. R. (2021). Empirically derived guidelines for effect size interpretation in social psychology. *European Journal of Social Psychology*, *51*(3), 485–504. https://doi.org/10.1002/ejsp.2752

Martin, A. J., & Dowson, M. (2009). Interpersonal relationships, motivation, engagement, and achievement: Yields for theory, current issues, and educational practice. *Review of Educational Research*, *79*(1), 327–365. https://doi.org/10.3102/0034654308325583

McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, *38*(1), 24–59. https://doi.org/10.2307/256727

McCullough, M. E., & Carter, E. C. (2013). Religion, self-control, and self-regulation: How and why are they related? In K. I. Pargament, J. J. Exline, & J. W. Jones (Eds.), *APA handbook of psychology, religion, and spirituality (Vol. 1): Context, theory, and research* (pp. 123–138). American Psychological Association. https://doi.org/10.1037/14045-006

McGregor, I., Nail, P. R., Marigold, D. C., & Kang, S.-J. (2005). Defensive pride and consensus: Strength in imaginary numbers. *Journal of Personality and Social Psychology*, *89*(6), 978–996. https://doi.org/10.1037/0022-3514.89.6.978

McShane, B. B., & Böckenholt, U. (2017). Single-paper meta-analysis: Benefits for study summary, theory testing, and replicability. *The Journal of Consumer Research*, *43*(6), 1048–1063. https://doi.org/10.1093/jcr/ucw085

Meltzer, A. L., McNulty, J. K., & Karney, B. R. (2012). Social support and weight maintenance in marriage: The interactive effects of support seeking, support provision, and gender. *Journal of Family Psychology*, *26*(5), 678–687. https://doi.org/10.1037/a0029364

Mischel, W., Cantor, N., & Feldman, S. (1996). Principles of self-regulation: The nature of willpower and self-control. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 329–360). Guilford Press.

Moore, S. G., Ferguson, M. J., & Chartrand, T. L. (2011). Affect in the aftermath: How goal pursuit influences implicit evaluations. *Cognition and Emotion*, *25*(3), 453–465. https://doi.org/10.1080/02699931.2010.538598

Motyl, M., Iyer, R., Oishi, S., Trawalter, S., & Nosek, B. A. (2014). How ideological migration geographically segregates groups. *Journal of Experimental Social Psychology*, *51*, 1–14. https://doi.org/10.1016/j.jesp.2013.10.010

Muthukrishna, M., & Henrich, J. (2016). Innovation in the collective brain. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *371*(1690), Article 20150192. https://doi.org/10.1098/rstb.2015.0192

Nicolas, G., Fiske, S. T., Koch, A., Imhoff, R., Unkelbach, C., Terache, J., Carrier, A., & Yzerbyt, V. (2022). Relational versus structural goals prioritize different social information. *Journal of Personality and Social Psychology*, *122*(4), 659–682. https://doi.org/10.1037/pspi0000366

Nurmi, J.-E., Salmela-Aro, K., & Koivisto, P. (2002). Goal importance and related achievement beliefs and emotions during the transition from vocational school to work: Antecedents and consequences. *Journal of Vocational Behavior*, *60*(2), 241–261. https://doi.org/10.1006/jvbe.2001.1866

Orehek, E., & Ferrer, R. (2019). Parent instrumentality for adolescent eating and activity. *Annals of Behavioral Medicine*, *53*(7), 652–664. https://doi.org/10.1093/abm/kay074

Orehek, E., Forest, A. L., & Barbaro, N. (2018). A people-as-means approach to interpersonal relationships. *Perspectives on Psychological Science*, *13*(3), 373–389. https://doi.org/10.1177/1745691617744522

Orehek, E., Forest, A. L., & Wingrove, S. (2018). People as means to multiple goals: Implications for interpersonal relationships. *Personality and Social Psychology Bulletin*, *44*(10), 1487–1501. https://doi.org/10.1177/0146167218769869

Orehek, E., & Vazeou-Nieuwenhuis, A. (2013). Sequential and concurrent strategies of multiple goal pursuit. *Review of General Psychology*, *17*(3), 339–349. https://doi.org/10.1037/a0032584

Pietraszewski, D. (2013). What is group psychology? Adaptations for mapping shared intentional stances. In M. Banaji & S. Gelman (Eds.),

Navigating the social world: What infants, children, and other species can teach us (pp. 253–257). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199890712.003.0046

Pietraszewski, D., Cosmides, L., & Tooby, J. (2014). The content of our cooperation, not the color of our skin: An alliance detection system regulates categorization by coalition and race, but not sex. *PLOS ONE*, *9*(2), Article e88534. https://doi.org/10.1371/journal.pone.0088534

Pinel, E. C., Long, A. E., Landau, M. J., Alexander, K., & Pyszczynski, T. (2006). Seeing I to I: A pathway to interpersonal connectedness. *Journal of Personality and Social Psychology*, *90*(2), 243–257. https://doi.org/10.1037/0022-3514.90.2.243

Plante, I., O'Keefe, P. A., & Théorêt, M. (2013). The relation between achievement goal and expectancy-value theories in predicting achievement-related outcomes: A test of four theoretical conceptions. *Motivation and Emotion*, *37*(1), 65–78. https://doi.org/10.1007/s11031-012-9282-9

Poldin, O., Valeeva, D., & Yudkevich, M. (2016). Which peers matter: How social ties affect peer-group effects. *Research in Higher Education*, *57*(4), 448–468. https://doi.org/10.1007/s11162-015-9391-x

Prinzing, M., Le Nguyen, K., & Fredrickson, B. L. (2023). Does shared positivity make life more meaningful? Perceived positivity resonance is uniquely associated with perceived meaning in life. *Journal of Personality and Social Psychology*. Advance online publication. https://doi.org/10.1037/pspi0000418

Przybylinski, E., & Andersen, S. M. (2015). Systems of meaning and transference: Implicit significant-other activation evokes shared reality. *Journal of Personality and Social Psychology*, *109*(4), 636–661. https://doi.org/10.1037/pspi0000029

Reis, H. (2003). *A self-report measure of perceived partner responsiveness* [Unpublished data]. University of Rochester.

Rhodes, M., & Chalik, L. (2013). Social categories as markers of intrinsic interpersonal obligations. *Psychological Science*, *24*(6), 999–1006. https://doi.org/10.1177/0956797612466267

Righetti, F., Kumashiro, M., & Campbell, S. B. (2014). Goal difficulty and openness to interpersonal goal support. *Personality and Social Psychology Bulletin*, *40*(9), 1107–1118. https://doi.org/10.1177/0146167214535954

Roksa, J., & Kinsley, P. (2019). The role of family support in facilitating academic success of low-income students. *Research in Higher Education*, *60*(4), 415–436. https://doi.org/10.1007/s11162-018-9517-z

Ross, L., Greene, D., & House, P. (1977). The "false consensus effect": An egocentric bias in social perception and attribution processes. *Journal of Experimental Social Psychology*, *13*(3), 279–301. https://doi.org/10.1016/0022-1031(77)90049-X

Rossignac-Milon, M., Bolger, N., Zee, K. S., Boothby, E. J., & Higgins, E. T. (2021). Merged minds: Generalized shared reality in dyadic relationships. *Journal of Personality and Social Psychology*, *120*(4), 882–911. https://doi.org/10.1037/pspi0000266

Rossignac-Milon, M., & Higgins, E. T. (2018). Epistemic companions: Shared reality development in close relationships. *Current Opinion in Psychology*, *23*, 66–71. https://doi.org/10.1016/j.copsyc.2018.01.001

Rusbult, C. E., & Arriaga, X. B. (1997). Interdependence theory. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research and interventions* (2nd ed., pp. 221–250). Wiley.

Rusbult, C. E., Kumashiro, M., Kubacka, K. E., & Finkel, E. J. (2009). "The part of me that you bring out": Ideal similarity and the Michelangelo phenomenon. *Journal of Personality and Social Psychology*, *96*(1), 61–82. https://doi.org/10.1037/a0014016

Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, *43*(3), 450–461. https://doi.org/10.1037/0022-3514.43.3.450

Scales, P. C., Van Boekel, M., Pekel, K., Syvertsen, A. K., & Roehlkepartain, E. C. (2020). Effects of developmental relationships with teachers on middle-school students' motivation and performance. *Psychology in the Schools*, *57*(4), 646–677. https://doi.org/10.1002/pits.22350

Schäfer, T., & Schwarz, M. A. (2019). The meaningfulness of effect sizes in psychological research: Differences between sub-disciplines and the impact of potential biases. *Frontiers in Psychology*, *10*, Article 813. https://doi.org/10.3389/fpsyg.2019.00813

Schug, J., Yuki, M., Horikawa, H., & Takemura, K. (2009). Similarity attraction and actually selecting similar others: How cross-societal differences in relational mobility affect interpersonal similarity in Japan and the USA. *Asian Journal of Social Psychology*, *12*(2), 95–103. https://doi.org/10.1111/j.1467-839X.2009.01277.x

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35–37). nferNelson.

Sebanz, N., Bekkering, H., & Knoblich, G. (2006). Joint action: Bodies and minds moving together. *Trends in Cognitive Sciences*, *10*(2), 70–76. https://doi.org/10.1016/j.tics.2005.12.009

Shea, C. T., & Fitzsimons, G. M. (2016). Personal goal pursuit as an antecedent to social network structure. *Organizational Behavior and Human Decision Processes*, *137*, 45–57. https://doi.org/10.1016/j.obhdp.2016.07.002

Simpson, J. A. (2007). Psychological foundations of trust. *Current Directions in Psychological Science*, *16*(5), 264–268. https://doi.org/10.1111/j.1467-8721.2007.00517

Sinclair, S., Huntsinger, J., Skorinko, J., & Hardin, C. D. (2005). Social tuning of the self: Consequences for the self-evaluations of stereotype targets. *Journal of Personality and Social Psychology*, *89*(2), 160–175. https://doi.org/10.1037/0022-3514.89.2.160

Sinclair, S., Lowery, B. S., Hardin, C. D., & Colangelo, A. (2005). Social tuning of automatic racial attitudes: The role of affiliative motivation. *Journal of Personality and Social Psychology*, *89*(4), 583–592. https://doi.org/10.1037/0022-3514.89.4.583

Sorrentino, R. M., Holmes, J. G., Hanna, S. E., & Sharp, A. (1995). Uncertainty orientation and trust in close relationships: Individual differences in cognitive styles. *Journal of Personality and Social Psychology*, *68*(2), 314–327. https://doi.org/10.1037/0022-3514.68.2.314

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*(2), 271–324. https://doi.org/10.1111/j.0022-3506.2004.00263.x

Theriault, J. E., Young, L., & Barrett, L. F. (2021). The sense of should: A biologically-based framework for modeling social pressure. *Physics of Life Reviews*, *36*, 100–136. https://doi.org/10.1016/j.plrev.2020.01.004

Thielmann, I., Hilbig, B. E., & Zettler, I. (2020). Seeing me, seeing you: Testing competing accounts of assumed similarity in personality judgments. *Journal of Personality and Social Psychology*, *118*(1), 172–198. https://doi.org/10.1037/pspp0000222

Toma, C., Yzerbyt, V., & Corneille, O. (2010). Anticipated cooperation vs. competition moderates interpersonal projection. *Journal of Experimental Social Psychology*, *46*(2), 375–381. https://doi.org/10.1016/j.jesp.2009.11.005

Tomasello, M. (2009). *The cultural origins of human cognition*. Harvard University Press. https://doi.org/10.2307/j.ctvjsf4jc

Tomasello, M. (2010). *Origins of human communication*. MIT Press.

Tomasello, M. (2014). The ultra-social animal. *European Journal of Social Psychology*, *44*(3), 187–194. https://doi.org/10.1002/ejsp.2015

Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences*, *28*(5), 675–691. https://doi.org/10.1017/S0140525X05000129

Tomlinson, J. M., Feeney, B. C., & Van Vleet, M. (2016). A longitudinal investigation of relational catalyst support of goal strivings. *The Journal of Positive Psychology*, *11*(3), 246–257. https://doi.org/10.1080/17439760.2015.1048815

Török, G., Pomiechowska, B., Csibra, G., & Sebanz, N. (2019). Rationality in joint action: Maximizing coefficiency in coordination. *Psychological Science*, *30*(6), 930–941. https://doi.org/10.1177/0956797619842550

Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, *4*(3), 236–255. https://doi.org/10.1111/j.1745-6924.2009.01122.x

vanDellen, M. R., Shah, J. Y., Leander, N. P., Delose, J. E., & Bornstein, J. X. (2015). In good company: Managing interpersonal resources that support self-regulation. *Personality and Social Psychology Bulletin*, *41*(6), 869–882. https://doi.org/10.1177/0146167215580778

Wiese, B. S. (2007). Successful pursuit of personal goals and subjective well-being. In B. R. Little, K. Salmela-Aro, & S. D. Phillips (Eds.), *Personal project pursuit: Goals, action, and human flourishing* (pp. 301–328). Lawrence Erlbaum.

Wise, J. B., & Trunnell, E. P. (2001). The influence of sources of self-efficacy upon efficacy strength. *Journal of Sport & Exercise Psychology*, *23*(4), 268–280. https://doi.org/10.1123/jsep.23.4.268

Zaheer, A., McEvily, B., & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, *9*(2), 141–159. https://doi.org/10.1287/orsc.9.2.141

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Received August 11, 2021
Revision received April 1, 2023
Accepted April 26, 2023 ■