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The Reciprocal Path From Possible Self to Core Self-Revision

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This article brings together work on the causes of possible-self revision with newer work on the consequences of these revisions for revisions in core selves. The first part reviews work on the causes of possible-self revisions. The second part articulates a new model of the interrelationships among core selves, possible selves, and motivated mental strategies to account for growing evidence that earlier revisions of possible selves can produce subsequent revisions in the integrity of core selves. This article closes by unpacking unique implications and future directions of this new account for the reciprocal pathway from revisions of possible selves to revisions in core selves.

Keywords: self-revision, possible selves, core selves

This article examines the ongoing process of revising possible selves and core selves over the life span. Possible selves are mental representations of oneself within positive or negative goal states (Markus & Nurius, 1986). Self-schemas are core-self representations that identify one's perceived competencies (school, athletics, etc.; Markus, 1977).

Rather than adding or removing self-representations, self-revision involves the ongoing adjustment of current self-representations to enhance their correspondence with feedback from the environment (Carroll, Agler, & Newhart, 2015). For example, the downward revision of a possible self occurs when a student forsakes her goal to become a doctor when a faculty advisor cautions that she simply lacks the ability or qualifications to succeed in medicine. Of course, the student may also revise a core self. For example, although she may hold the initial core belief that she has scientific competencies, she may subsequently revise that belief to conclude that she is not as competent as she thought after several later failures. Although prior work shows that possible or core selves change (Kornadt & Rothermund, 2012), this article examines how revisions in possible selves precipitate later revisions in core selves.

Linking Possible Selves Back to Core Selves

Possible selves are more likely to succeed when derived from self-schemas that accurately represent one's actual competencies (Markus & Ruvolo, 1989). Although all self-schemas represent perceived competencies, they are still perceptions that are subject to bias and error. Thus, they may differ in their relative accuracy and, by extension, the extent to which they provide an effective basis for action, including possible-self pursuits.

To illustrate, two people can have a self-schema of having general scientific competencies. However, if one person holds a relatively inaccurate schema flawed by a self-assessment error (competencies in math/computer science vs. all sciences), it is more likely to generate unrealistic possible selves that do not correspond to one's actual competencies (Dunning, Heath, & Suls, 2004). By contrast, relatively accurate self-schemas are more likely to generate realistic possible selves corresponding to, or consistent with, one's actual competencies (Markus, Cross, & Wurf, 1990). Ultimately, possible selves that closely correspond to one's actual competencies are more likely to succeed than possible selves derived from relatively inaccurate self-schemas that do not correspond to one's actual competencies.

Realistic possible selves serve as standards for core self-evaluation and, in addition, incentives that motivate the achievement of attainable opportunities (Ruvolo & Markus, 1992). Together, these functions serve the ultimate end of *preparedness* (Carroll et al., 2015), which is an adaptive state of readiness to react to uncertain future outcomes, including possible opportunities, threats, or changes (Carroll, Sweeny, & Shepperd, 2006; Carroll, Briñol, & Petty, 2017; Galak & Meyvis, 2011; Sweeny, Carroll, & Shepperd, 2006). For instance, realistic possible selves prepare people to seize possible opportunities by providing a rich cognitive representation of success, complete with clear intentions and plans (e.g., applying to graduate schools) that connect the present and possible self (e.g., doctor; Ruvolo & Markus, 1992).

Although prior work has convincingly demonstrated the self-regulatory benefits of forming possible selves, it has neglected of other important questions (Oyserman, Bybee, Terry, & Hart-Johnson, 2010). For example, beyond the benefits of forming possible selves, it also seems important to understand the causes of revisions in possible selves and, more importantly, the ultimate consequences of those revisions for core selves over time. In particular, what are the consequences of accumulating downward possible-self revisions for broader revisions in core selves? After reviewing work on the causes (determinants), I present a new model to account for growing evidence that the revision of possible selves can create broader revisions in core selves.

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Part 1: Possible-Self Revision

This section considers two categories of explanatory accounts for the determinants of possible-self revision. First, we review models of self-initiated revisions that examine the spontaneous use internalized metacognitive strategies to revise possible selves. Next, we review models of socially initiated revisions that examine the effect of social feedback on the revision of possible selves.

With respect to self-initiated possible-self revision, Oettingen and colleagues (Oettingen & Gollwitzer, 2010) have amassed impressive evidence that people may spontaneously abandon unrealistic identity goals via the metacognitive strategy of mental contrasting), whereby people contrast their current with the desired future self and identify obstacles that block the path between the two. In their work, mental contrasting leads to possible-self revision by enhancing the accessibility of the level (low or high) of the expectancy attached to the possible self. When the expectancy is high, people embrace the possible self to "transform free fantasies into binding goal commitments" (Oettingen & Stephens, 2009). By contrast, when the expectancy is low, people abandon the possible self to find more realistic identity goals.

Research on deliberate self-persuasion has identified another form of self-initiated possible-self revision. Building from the tradition of early self-esteem work (e.g., Rosenberg's self-esteem measure), persuasion research has argued that favorable or unfavorable self-views can be cast as attitude representations (Briñol, DeMarree, & Petty, 2010). This work assumes that, like any self-view, people can represent both current and desired possible-self attitudes (Maio & Thomas, 2007; Lu, Lord, & Yoke, 2015). If they become aware of an undesired discrepancy, people can revise current attitudes to align with the desired possible self-attitude. Moreover, when people are committed to the desired attitude, it functions much like a possible self that motivates change in their current attitude to conform to the desired attitude (DeMarree, Clark, Wheeler, Briñol, & Petty, 2016). For example, people may contrast their current negative attitude toward smoking cessation with the more desired possible-self attitude toward quitting.

With respect to the process, prior work distinguishes between epistemic (e.g., reinterpretation, hypothesis testing) and teleological (e.g., distraction, suppression) strategies activated by the awareness of an undesired discrepancy to align the current with the desired attitude. Whereas teleological strategies serve enhancement goals with minimal concern for accuracy, epistemic strategies serve accuracy and enhancement goals to form accurate, yet desirable, conclusions (Maio & Thomas, 2007). Although teleological strategies may work when the attitude object is unimportant or fleeting, epistemic strategies typically provide the optimal route to long-term change given that they satisfy both desirability and accuracy concerns (Maio & Thomas, 2007; Lu et al., 2015). Of course, deliberate self-persuasion to the new possible-self attitude may fail for several reasons. In particular, it is likely to fail and initiate downward revision of the possible-self attitude if one lacks the ability (perceived and actual mental resources) or motivation to align the current with the desired attitude (Lu et al., 2015).

With respect to socially initiated possible-self revision, prior work has examined the conditions and processes that govern the revision of possible selves under social threat or validation from an evaluator (Carroll, Shepperd, & Arkin, 2009; Carroll, 2014). Regarding "when," this work shows that possible-self revision is more likely when evaluators clarify the meaning of a discrepancy for the relative likelihood of attaining the desired self rather than the undesired self of failure (Carroll, 2014; Carroll et al., 2009). Therefore, when the student's grade point average (GPA) exceeds the GPA required for medical school admissions, she will be more likely to revise commitment to her possible self upward if she also learns that it means she will be more likely to succeed to become a top physician in Boston than fail if she pursues medicine. Similarly, when the student's GPA falls short of the required standard, she will be more likely to engage in the downward revision of commitment to her possible self if she also learns that it means she is more likely to waste time and money to ultimately fail than succeed.

Regarding "how," this work integrated early work on self-relevant scenarios (Gregory, Burroughs, & Ainslie, 1985) and recent work on metacognitive confidence (Briñol et al., 2010) to demonstrate both shared and unique features of downward and upward possible-self revision. Although both upward and downward possible-self revision begin with a change in confidence attached to the expected possible self, they still differ in the direction and downstream processes initiated by those initial confidence changes (Carroll, 2014; Carroll et al., 2009). Whereas rising confidence initiated upward possible-self revision by strengthening (validating) the supporting expectation, falling confidence evoked by the vivid prospect of failure initiated downward revision by raising anxiety and weakening (invalidating) the expectation supporting possible-self commitment (Briñol et al., 2010; Carroll et al., 2009).

Beyond direct evaluative feedback, other work suggests that broader cultural metamessages, regarding the suitability of social groups for different possible identities, may provide another important source of social feedback that can initiate possible-self revision (Oyserman & James, 2009). In particular, this work demonstrates that minority students internalize the metamessage that "education is not for people like me" from repeated exposures to negative cultural stereotypes and salient in-group role models that have dropped out of school. This metamessage leads minority students to interpret difficulty as meaning that they should abandon academic possible selves because they are "not realistic for me."

By contrast, higher income majority students internalize the metamessage that "education is for people like me" from repeated exposure to multiple in-group role models who have succeeded in higher education. Thus, unlike minority students, the metamessage applied by majority students leads them to interpret difficulty as a normal and positive sign that they are on the right track toward a better possible self. Moreover, unlike minority students, salient role models of academic success (parents, siblings, teachers) may actually help majority students reinterpret academic difficulty as a normal and healthy experience that everyone, including them, went through on the road to success (Oyserman, Bybee, & Terry, 2006).

Follow-up work provided further evidence for the importance of these different metamessages in determining the likelihood of revising commitment to a possible self. Specifically, minority students trained to apply the alternative metamessage that difficulty is a normal and good thing (no pain; no gain) actually showed increased (vs. decreased) levels of commitment to academic possible selves. Moreover, differences in possible-self re-

vision mediated the effect of the metamessage manipulation on increased academic engagement and performance.

In sum, possible-self revision can be self or socially initiated. Importantly, both self and social processes contribute to the subsequent maintenance of changes in any self-representation (Kunda, 1990). Relevant to this point, deliberate self-persuasion researchers note that many of the same processes and even outcomes are involved in deliberate self-persuasion and standard role-playing persuasion processes. However, unlike standard role-playing processes, deliberate self-persuasion is an internally driven, volitional, process initiated by a conscious intention to alter their actual attitudes over and above any felt compunction by others to change (Maio & Thomas, 2007). Consistent with this model, the distinction here merely focuses on the initial origin (self or social) of possible-self revision, fully acknowledging that both self and social processes contribute to the ongoing maintenance of that initial revision.

Of course, one could integrate these distinct initial sources of possible-self revision by recognizing that there is likely a developmental relationship between the conditions emphasized in each account category. For example, mentally contrasting representations of present and desired identity states in self-initiated revisions may be socialized via early revisions initiated by the social presentation (vs. self-*re*-presentations) of discrepancies between present and desired identity states. Beyond integrating the conditions, one could even integrate the processes emphasized across self and socially initiated accounts. For example, self-initiated accounts suggest that accessibility changes mediate the effect of mental contrasting on revision (Oettingen, Pak, & Schnetter, 2001). By contrast, socially initiated accounts suggest that confidence changes mediate the effect of social feedback on possible-self revision (Carroll et al., 2009; Carroll, 2014). Although accessibility provides an implicit strength measure, persuasion research suggests that changes in attitude accessibility produce changes in confidence, which in turn, provides the more proximal mediator that translates (a) changes in accessibility into (b) attitude-relevant behavior (Holland, Verplanken, & van Knippenberg, 2003). Thus, confidence changes may provide the more proximal mediator that translates (self or socially initiated) enhanced accessibility of the level of possible-self expectancies (low or high expectations) into possible-self revision.

Part 2: From Possible-Self Revision to Core-Self Revision

Up to this point, we have reviewed work on the causes of possible-self revision. However, as noted earlier, important questions remain regarding the consequences of these revisions in possible selves for core selves. In particular, if possible selves serve to extend core self-schemas, what effects do repeated-downward revisions in possible selves have on core selves? The remaining sections offer a new model to account for growing evidence that revisions in the integrity of core selves result from earlier revisions in possible selves. Before proceeding, I discuss the link between global and core-self integrity.

Global-self integrity refers to the overall sense of moral and adaptive self-adequacy (Fein & Spencer, 1997; Steele, 1988). Although theorists often discuss self-integrity as a global experience, research suggests that it stems from the affirmation of important core selves in different domains (e.g., relational, career) of self-regard/competence. For example, Sherman and Cohen (2006) noted as follows:

> In a difficult situation, reminders of these core qualities can provide people with perspective on who they are and anchor their sense of self-integrity in the face of threat. A "self-affirmation" makes salient one of these important core qualities or sources of identity. (p. 11)

As this quote illustrates, self-affirmation exercises confer global-self integrity by first affirming a core identity that provides a source, or "anchor," of integrity. Thus, self-affirmation does the following two things: (a) affirms the integrity of a valued core self and, in so doing, (b) confers a broader sense of global-self integrity that transcends the particular schematic domain (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009).[1] Although research has demonstrated the benefits of affirming core sources of self-integrity, very little work has examined what determines the degree to which a core self provides a source of integrity.[2]

Thus, the present article addresses this neglected issue by examining the novel possibility that revisions in possible selves could converge over time to influence (a) the integrity of core selves they derive from and, by extension, (b) the degree to which those core selves confer a broader sense of self-integrity. Building from earlier points, the relative accuracy of the core-self schema that initially generates possible selves may determine if and how possible-self revisions could accumulate to influence both core and global-self integrity.

Core-self schemas that provide relatively accurate representations of one's true competencies are more likely to generate possible selves that do correspond to one's actual competencies. Possible selves that do correspond to one's actual competencies are more likely to succeed. Each new possible-self success will further affirm the integrity of the core self and, by extension, the potential of that core self to provide a source of global-self integrity (see Cohen & Sherman, 2014 discussion of propagating adaptive potential over time). By contrast, core selves that provide relatively inaccurate representations of one's true competencies are more likely to generate possible selves that do not correspond to one's actual competencies. In turn, possible selves that do not correspond to one's actual competencies have a greater likelihood of failure than possible selves derived from more accurate core selves that do correspond to one's actual competencies. The down-

[1] Importantly, this link between domain and global integrity seems consistent with research on the effect of break-ups on changes in aspects of core "relational" selves and, in turn, the effects of those self-changes on global measures of self-integrity, like self-clarity (Slotter & Gardner, 2014).

[2] The emphasis on global-self integrity makes sense when one considers that self-affirmation was proposed as an alternative to dissonance and related accounts that focused on resolving a specific threat to specific motives. By contrast, self-affirmation theory provided a broader and more flexible depiction of the self-system that did not necessitate the resolution of any particular threat to restore one's global-self integrity. Despite the value of shifting from the resolution of specific threat to the broader goal of affirming global-self integrity, even self-affirmation theory maintained that the restoration of overall integrity occurred by affirming a specific core-self source of integrity. So, even though the resolution of any specific threat is secondary to the ultimate end of global-self integrity, that ultimate end was originally proposed to occur by first affirming some alternative domain of core-self integrity following threats in other domains.

ward revision of each new possible-self failure will further threaten the integrity of the core self and, by extension, its potential to provide a source of global-self integrity.

Thus, the erosion of possible selves from a relatively inaccurate core self not only threatens the integrity of that core self. As importantly, it further erodes the ability of that core self to confer a broader sense of self-integrity across life domains. Following a review of work on personal narratives and self-theories, I unpack an "expanded self-theory" model to account for evidence that revising possible selves creates broader revisions in core selves.

Personal Narrative That Binds Core Selves and Possible Selves

The personal narrative is arguably the most sophisticated self-representation (McAdams, 1996). It represents the superordinate memory structure that integrates past, present, and future possible selves within a continuous and coherent timeline. Partly due to its sophistication, it is also the last to emerge on the developmental timeline (Fivush & Nelson, 2006; Nelson & Fivush, 2004). Moreover, the personal narrative does not emerge out of thin air. Rather, it develops from the foundation of a slightly less elaborated, yet critical, form of temporal self-representation: the temporally extended self (Peetz & Wilson, 2008).

The temporally extended self emerges with the development of linguistic competencies early in life. By around age 4, the child learns to differentiate and connect their present self to their past and potential future selves. For example, in parent–child conversations, the child begins to refer to their past selves ("me as a baby" or "me in preschool") as distinct from, albeit connected to, their present self ("me in first grade") and, in turn, the future self they could become one day ("me when I grow up"; Fivush & Nelson, 2006). Although it links the selves of the past, present, and future, the temporally extended self does not embody the thematic coherence and sophistication of a fully developed self-narrative.

From adolescence through adulthood, the transition from temporal self-extension to full self-narrative accelerates as the individual learns cultural rules of narrative construction and development (Nelson & Fivush, 2004). For example, in contrast to the simple connections formed earlier in life, the teenager learns to apply cultural rules of narrative coherence to the ongoing development and integration of different story lines within their own life narrative. Now, the selves of past, present, and future are not merely connected—they become seamlessly integrated within a unified personal narrative that displays temporal, causal, and thematic coherence and direction over life (McAdams, 1996; Landau, Greenberg, & Sullivan, 2009). Moreover, recent work shows that the elaboration of new story lines continues to increase during important transitions beyond adolescence. For example, students show an increasing application of culturally based redemptive and contaminated thematic story lines to their narrative (Dunlop, Guo, & McAdams, 2016). Over time, the person continuously elaborates new possible selves that further extend core selves across key life stages within an increasingly coherent "gestalt," or whole, personal narrative (Wilson, Gunn, & Ross, 2009).

Although core selves generally maintain a sense of continuity and stability in the narrative over time despite shifts in the situated identities (e.g., possible selves) of the working self (Markus & Wurf, 1987), recent work suggests that the timing and quality of early interventions can shift the broader narrative experience in an upward or downward trajectory (Cohen & Sherman, 2014). For example, well (vs. poorly) timed affirmation interventions that precede (vs. follow) key developmental transitions (e.g., middle to high school) shift the narrative of minority students upward (vs. downward) to interpret early adversity as a challenge versus a sign of incompetence (Cohen et al., 2009). In turn, these early shifts enhance commitment to new possible selves that motivate greater learning, mastery, and performance which, in turn, further affirm the integrity of the academic identity and the broader sense of self-integrity in an upward cycle of adaptive potential (Cohen et al., 2009; Yeager & Walton, 2011).

Past Work on Stability and Change in Core Selves

Having situated core and possible selves within the personal narrative, we now review past work that has examined the relative stability and malleability of different self-representations and, particularly, core selves. We begin with Epstein's (1973) model that reframed the self-concept as a theory instead. Along with other advantages, the self-theory model offered a clearer account of the precise loci of stability and revision in the self. The self has a hierarchical structure with abstract core self-postulates supported by more concrete "empirical selves" at lower abstraction levels. Like the core postulates of scientific theories, their abstract representation buffered core selves (I am good in science) from isolated empirical self-failure (failure in biology). Thus, empirical selves always changed before core selves under threat simply by virtue of the structural design of self-theories.

Although relatively immune to isolated failure, he speculated that repeated failures in empirical selves might slowly change core selves. However, he never fully clarified the mechanism that would turn multiple failures into changes in core selves. Since Epstein, other scholars have offered similar speculations regarding gradual core-self change. For example, Markus and Kunda (1986) noted the following:

> If situations repeatedly arise that require the individual to activate self-conceptions that are at variance with certain core self-conceptions, we can imagine that these core conceptions, too, would eventually change. (p. 865)

Although these theorists suggest that repeated experiences of specific self-revision could trigger core-self revisions, they focused only on specific self-revisions without testing if and, if so, how the cumulative effect of repeated experiences of specific self-revision (failure in biology, chemistry, etc.,) are translated into the "eventual" changes in core selves ("I am good in science").

At least with respect to differences between the direction of specific change experiences, Heatherton and Nichols (1994) examined successful and unsuccessful life change attempts on broader changes in the core selves of a personal narrative. They noted that successful change attempts were more likely than unsuccessful ones to reference intense emotional experiences, external threats, and focal events that culminated into the "crystallization of discontent," reevaluation of life goals, meaning, and an increased motivation to change. The increased motivation to change produced successful actual change when respondents reported social support, internal control attributions, blaming exter-

nal events for failure, and development of a new sense of core identity that incorporated the life change into the narrative.

By contrast, unsuccessful change narratives were more likely to describe change in terms of willpower and an active participation in maintaining the status quo. Although this work distinguished between successful and unsuccessful changes, they too were silent as to the precise temporal process that turns these specific life changes into broader revisions in core identity.

From Self to Scientific Narratives: The Expanded Self-as-Theory Model

Although the foregoing work provides important precedence, the model presented and evaluated in the remaining sections goes further (a) to identify the specific life experiences that predict these broader changes and, in addition, (b) the pathways that translate the specific self-relevant experiences into these broader changes in core selves.

To address how repeated empirical-self failures could gradually undermine core-self theories, we turn from past work on stability and change in self to ask how repeated empirical failures could gradually undermine core-scientific theories over time. When Epstein proposed CEST, the philosophy of science turned from Popper's discriminating paradigm to a new approximating paradigm that situated theories as one of several elements of a larger research program or, scientific narrative (Lakatos, 1974). Within this approach, the scientific research program consists of (a) a core theory, (b) a protective belt designed to protect and improve the core theory following early predictive failures, and a (c) positive heuristic that extends the predictive ability of the research program beyond alternative programs.

Among other things, this approach shifted the focus away from evaluating the core theory as either valid or invalid in a single test to focus, instead, on evaluating the broader research narrative as either progressive or degenerative over time. According to this approach, isolated failures in predictions cannot invalidate the core theory because one can attribute any given predictive failure to multiple situational causes other than the inadequacy of the core theory. For example, they may fail because of some momentary flaw in the derivation of predictions from the core theory (overlooking an important qualifying factor) or testing situation (measurement problem) that have nothing to do with the integrity of the core theory. Alan Newell (1990) nicely captured the spirit of this approximating approach in the following quotation:

> Working with theories is not like skeet-shooting—where theoretical predictions are lofted up and—BANG—shot down with a single falsification bullet, and that's the end of the theory. Theories are more like graduate students—once admitted, you try hard to avoid flunking them out. . . . They are things to be nurtured and developed and built up. One is happy to change them if it will make them more useful. (pp. 13–14)

The preceding quote eloquently illustrates the point that we do not expect theories to be flawless. Instead, as with young students, we expect young theories will experience some initial failures. Nonetheless, we also expect that those young theories, like students, can learn from initial failures how to produce stronger subsequent predictions. Thus, the integrity of a scientific research narrative depends upon the integrity of the protective belt to correct the core theory over time by correcting any unresolved errors that set up early failure and, unless resolved, could set up later failures that that can accumulate to collectively undermine the integrity of the core theory. Having set the conceptual table with a review of work on personal and scientific narratives, I now propose an "expanded self-theory" model that identifies the self-aspects corresponding to the positive heuristic and protective belt that complement self-theories to account for the reciprocal effect of revisions in possible selves on revisions in core selves.

First, possible selves function like scientific predictions in the positive heuristic. Possible selves, like predictions, are more likely to fail than other selves given that, unlike *actual* selves rooted in actual self-knowledge (e.g., I am a premed student), they are only plausible generalizations consistent with but not directly supported by actual self-knowledge (e.g., I am premed student who could become a doctor; Cross & Markus, 1994). However, like scientific predictions (failure of all inconsistencies to produce dissonance), isolated failures in possible selves cannot invalidate a core self because one can attribute any one or two possible-self failures to a range of momentary situational problems (e.g., "I was stressed") other than core self-incompetence (e.g., "I am inadequate).

Second, I propose that motivated epistemic (vs. teleological) strategies provide the natural equivalent of the problem-solving machinery in effective (vs. ineffective) self-protective belts (Maio & Thomas, 2007). Whereas teleological strategies serve enhancement goals with minimal concern for accuracy, epistemic strategies serve accuracy and enhancement goals to form accurate, yet desirable, conclusions (Maio & Thomas, 2007). Epistemic processes include motivated learning attribution, hypothesis testing/retesting, reinterpretation, reintegration, changing comparators, and changing dimensions of comparison whereas teleological processes include motivated defensive attributions, suppression, preemption, distraction, and concentration (Lu et al., 2015). That is, rather than a specific strategy, both epistemic and teleological refer to an arsenal of different motivated mental strategies that serve accuracy and desirability concerns (epistemic) or primarily desirability concerns (teleological), respectively.

Importantly, both epistemic and teleological strategies involve subjective interpretation and response to possible-self revision. However, they differ in terms of the quality of those interpretations and, in turn, the quality of subsequent responses (e.g., new possible-self pursuits) to those interpretations. Indeed, prior work shows that the epistemic strategy of learning (vs. defensive) attributions can effectively guide responses to early possible-self failure to maintain the integrity of core selves (Carroll et al., 2015). Learning attributions involve the (a) accurate processing of unfavorable feedback, (b) positive attribution that protects competency beliefs in short-term while (c) selecting out key remedial information to promote learning and improvement from the failure (Nussbaum & Dweck, 2008; Oettingen & Kappes, 2009).

Whereas prior work focused exclusively on motivated attributions (Carroll et al., 2015), the present case offers a broader account that situates motivated learning attributions as just one of many epistemic strategies within effective protective belts and, in turn, defensive attributions as just one of many teleological strategies within ineffective protective belts (Maio & Thomas, 2007). In so doing, it provides a coherent framework for understanding how epistemic strategies can operate in a complementary fashion within effective self-protective belts as well as how teleological

strategies operate within ineffective self-protective belts. To illustrate, I now discuss motivated learning attributions and, then, how they naturally segue into the complementary epistemic strategy of motivated hypothesis testing within effective self-protective belts.

Motivated attributions protect core selves by attributing personal failure to some temporary situational or personal error rather than the basic inadequacy of the core self (Sedikides & Campbell, 1999).[3] However, beyond protecting the core self, motivated attributions should also correct any deeper self-assessment errors in the core self that set up an early personal failure and, if unresolved, will likely set up later ones that can accumulate over time to undermine the integrity of the core theory. Thus, the integrity of the core self and the broader narrative depends upon the quality of the self-protective belt to generate learning (vs. defensive) attributions that correct old errors to enhance the translation of realistic possible selves from the refined core self.

Consistent with the proposed complementary nature of self-protective strategies, evidence shows that motivated attributions naturally segue into motivated hypothesis generation and testing (Kunda, 1990). In fact, the motivated reasoning model represented a variant of an earlier model of the motivated attribution process as one of hypothesis generation and testing (Pyszezynski & Greenberg, 1987). Similarly, the present model posits that motivated learning attributions provide the initial response to failure that segues into the complementary hypotheses-testing strategy to optimize responses to early failure.

To illustrate, let us reconsider the young woman who forsakes her career goal of becoming a medical scientist in response to her rejection from medical school. If she generates a learning attribution, it may uncover an error in the core-self representation that generated the initial possible self. She may realize that she has scientific competencies but they are limited to mathematical/computer sciences rather than all sciences. Importantly, this learning attribution leads to the correction of her core self and, in turn, naturally segues into motivated hypothesis testing of a new possible-self prediction. That is, once her learning attribution reveals the error in her core self, she can correct it to enhance the translation of her refined core-self representation via motivated hypothesis testing into a realistic new possible-self prediction (e.g., biostatistician) corresponding to or, consistent with, her true competencies.

Importantly, such a functional relationship between motivated attributions and hypothesis testing would naturally parallel the functional relationship between protective attributions and hypothesis generation in scientific research narratives. For example, dissonance theory initially predicted that any inconsistency would evoke dissonance. However, after initial predictive failures, dissonance theorists attributed the failures to the fact that prior tests failed to account for the qualifying condition of self-relevance in predicting when inconsistency would arouse dissonance. That is, they suggested that dissonance would only arise from self-relevant inconsistencies with foreseeable negative consequences (vs. all inconsistencies). This protective attribution naturally segued into the revised "dissonance" hypothesis that dissonance would only arise from self-relevant inconsistencies with foreseeable negative consequences.[4]

Just as these complementary responses of dissonance redirected core theory into better new predictions, complementary epistemic responses optimize responses to early possible-self failure. Moreover, people may use other epistemic strategies along with motivated learning attributions and hypothesis testing (Maio & Thomas, 2007). In particular, this model posits that epistemic strategies represent ideal tools of self-protective belts because they serve enhancement motives without sacrificing accuracy motives (Lu et al., 2015).

Indeed, the overall quality of the self-protective belt would diminish as one shifts from epistemic to more teleological strategies. For example, the protective belt of the young student creates (vs. resolves) problems when it primarily generates defensive attributions, to indiscriminately discount a series of failures as all caused by an unlucky string of different handicaps rather than any self-error. Whereas learning attributions represent an epistemic strategy that serves accuracy and enhancement motives (Dweck, 1999), defensive attributions represent a teleological strategy that exclusively serves enhancement motives.

By ignoring accuracy concerns, defensive attributions risk overlooking deeper errors that produced the initial failure. More importantly, though, they risk extending those errors into subsequent failures. As possible-self failures rise, she may find it harder to explain away and suppress all of the different failures as due to a random series of different situational handicaps rather than the core self that they all derived from. Over time, his ineffective protective belt perpetuates errors across old and new failures that converge to collectively undermine the integrity of the core self they derived from.

Summary and Evaluation of the Model

One can summarize the hypothesized model in the following four propositions. First, just as theories that less accurately represent actual evidence often lead to predictions that do not correspond to that evidence, core selves that less accurately represent one's actual competencies (including limitations) are more likely to lead to possible selves that do not correspond one's actual competencies. Second, possible selves that do not correspond to one's actual competencies have a greater likelihood of failure than possible selves derived from more accurate core selves that do correspond to one's actual competencies.

Third, when possible selves do fail, the downward revision of these possible selves may be self or socially initiated. Fourth, the quality of initial motivated responses mediates the effect of early downward revisions in failed possible selves on subsequent revisions in the integrity of core selves. Whereas epistemic responses promote learning and self-integrity by resolving errors in core selves and their translation into more realistic possible selves, teleological responses perpetuate self-assessment errors across old and new failures that slowly erode the integrity of the core self

[3] Of course, the most compelling evidence for the protective value of these motivated attributions comes from studies on the consequences of not showing it. For example, copious evidence now suggests that the absence of these motivated attribution responses to self-threat contributes to self-image disturbances (e.g., depressive schemata; Seligman, 1975).

[4] For the sake of brevity, I have omitted the review of other intermediate reformulations of dissonance theory into new predictions (e.g., only self-relevant inconsistencies evoke dissonance) that followed the original proposal only to fall under their own predictive failures and increasing support for the refined dissonance hypothesis that only self-relevant inconstancies with foreseeable negative consequences suffice to evoke dissonance.

they derived from. For illustrative purposes, Figure 1 shows the full model of the pathway from inaccurate core selves and initial failure to revisions in core-self integrity through motivated response strategies.

In this section, I review evidence for the proposed model. I first review indirect evidence before turning to direct evidence that revisions in possible selves influence the core selves they derived from. Moreover, I review recent findings supporting the proposed role of motivated response strategies in mediating the effect of earlier revisions in possible selves on broader subsequent revisions in the integrity of core selves. Although no published self-integrity measure exists, the studies reviewed used validated measures (e.g., self-esteem) used in prior affirmation work to tap self-integrity (Fein & Spencer, 1997; Chen & Boucher, 2008).

Indirect evidence for the reciprocal pathway from possible to core self-changes. Consistent with the claim that possible selves might influence core selves, recent research demonstrated that possible selves play a role in restructuring core identity aspects across two life transitions (Manzi, Vignoles, & Regalia, 2009). Specifically, pretransition possible selves about anticipated identity changes (becoming a parent) predicted posttransition actual identity structures, controlling for baseline identity content. Moreover, the degree of alignment (low vs. high) between pretransition possible selves and posttransition actual selves predicted well-being across both samples. Importantly, because the possible self-measures occurred prior to the posttransition changes in core identity, these findings suggest that possible selves can create revisions in core identity.

Prior work has also studied associations between possible identities and well-being of recently divorced women, distinguishing possible identities that were currently possible from those that were lost and no longer attainable due to divorce (King & Raspin, 2004). For our purposes, the loss a possible self represents an experience of downward possible-self revision. In this work, those with clear and easy to imagine current possible identities reported higher well-being and life satisfaction two years later than those with lost possible identities that were clear and easy to imagine but unattainable. Although this study did not directly test the effect of downward revision on core-self integrity, past work shows strong positive associations between self-integrity measures (e.g., self-esteem) and the well-being and life satisfaction measures that the downward revision, or loss, of the unattainable possible identity did diminish in this study.

Of course, Slotter, Gardner, and Finkel (2010) have argued that break-ups may reduce well-being via changes in the content and clarity of one's self-concept. Specifically, they claim that break-ups may involve discarding shared possible self-goals (building a family together) as well as shared values, activities, social circles. These changes in the size of the self-concept content (due to having to discard shared identities and adopt new ones) can create reductions in the self-clarity measure of integrity given that one must renegotiate their sense of self without the former self-aspects associated with the relationship. More relevant for the present argument, however, Lewandowski and colleagues (Lewandowski, Aron, Bassis, & Kunak, 2006) have shown that participants who merely imagined a possible future relationship loss as well as experienced an actual loss reported lower subsequent self-concept clarity. Moreover, this work shows that changes in core self-clarity mediated the effect of possible as well as actual relationship loss on distress.

Other work has focused explicitly on the link between disruptions in possible selves and core selves. Specifically, scholars have discussed how the outcome of possible self-validation efforts influences core identity growth (Kerpelman & Pittman, 2001). First, they note that threats to important identities can disrupt identity control. Moreover, they suggest these experiences evoke identity control processes that motivate the person to verify the threatened identity. In addition to actual "identity disruptions," this work suggested that "potential identity disruptions" associated with the invalidation of important possible selves can disrupt core identity and, in turn, motivate the same identity control processes. We shall revisit this point in the next section.

Although intriguing, the above work only provides evidence that possible selves influence well-being by shaping the centrality and importance of core self-content (Manzi et al., 2009), that possible self-revision influences well-being (King & Raspin, 2004), that

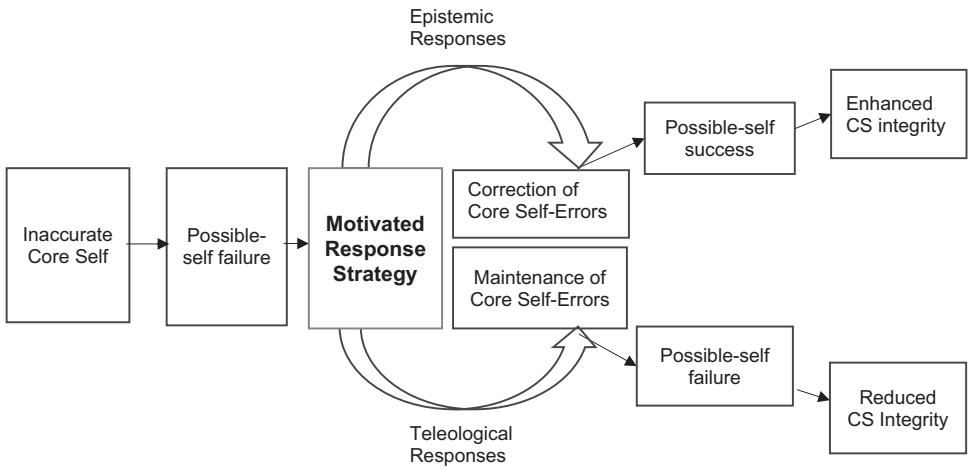

Figure 1. The pathway from inaccurate core selves and the downward revision of failed possible selves to broader revisions in core-self integrity via motivated response strategies.

imagining or experiencing relational loss affects core self-content and clarity (Lewandowski et al., 2006), or that revisions in possible selves create disruptions in core identity. However, it does not provide direct evidence for the proposed pathway from revisions in possible selves to broader revisions in self-integrity. In particular, it is open to alternative interpretations given that many did not measure self-integrity let alone demonstrate that revisions in possible selves uniquely predicted revisions in self-integrity, controlling for other transition experiences. Thus, I now turn to direct evidence that directly measured and support the proposed reciprocal path from changes in possible selves to changes in core selves.

Direct evidence for the reciprocal pathway from possible to core self-change. With respect to direct evidence for the proposed pathway, recent work demonstrated that the revision of goals influences self-integrity only when goals fuse with core identity (Burkley, Curtis, Burkley, & Hatvany, 2015). Of course, considering that goal fusion refers to the perceived integration of a goal with the self-concept (Burkley et al., 2015), possible selves would arguably represent the prototypical case of goal fusion. That is, by definition, possible selves are more than just abstract goals. Rather, they are personalized (self) goals derived from core-self schemas that represent the self in desired and undesired future end states (Markus & Ruvolo, 1989). This work showed that goal fusion moderated the impact of goal failure or success on broader revisions in self-clarity. Consistent with the proposed model, self-clarity diminished after failure or increased after success only when goal fusion was high.

Moreover, recent work on the effect of job loss on self-clarity provides additional direct evidence for the reciprocal pathway (McIntyre, Mattingly, Lewandowski, & Simpson, 2014). This work suggests that one may experience a self-expanding relationship between their current self and a possible-self career pursuit in the same way that one may experience self-expanding relationships between the self and others. Specifically, the active pursuit of a rewarding career promotes the expansion of core selves into new possible job roles and commitments (e.g., law student pursuing a legal career). Thus, the loss of a self-expanding career would diminish self-integrity measures (self-esteem and clarity) partly because one loses the possible self-opportunities promised by the ongoing pursuit of that career. As predicted, the results showed that the loss of a self-expanding career possible self produces declines in self-clarity and self-esteem. Moreover, unlike the prior studies that examined the effects of relational loss, these findings directly examine the effect of losing a possible career self on changes in self-esteem and clarity. In addition to the effect of single job losses, evidence shows that repeated job losses and role exits further predicted self-clarity declines over a year, controlling for other factors (Light & Visser, 2013).

Beyond the impact of career loss, some research has demonstrated that imagining the loss of a possible group identity can diminish self-esteem as well as self-clarity (Slotter, Winger, & Soto, 2015). In this work, students first reported the importance of their university (group) identity. Next, researchers randomly assigned participants to a group identity threat or control condition. Whereas participants in the control condition imagined realizing the possible group identity as valued university alums, those in the threat condition imagined losing their possible group identity after graduation. After writing about the anticipated identity realization or loss, all participants completed measures of anticipated self-change upon graduation. Finally, all participants completed the post self-esteem and self-clarity measures. Consistent with the prior studies on fusion, when highly identified with their group, participants showed diminished self-esteem and self-clarity after exposure to the possible group identity threat (loss) condition. Moreover, the final study demonstrated that anticipated self-change mediated the interactive effect of identity importance and threat (loss) on both self-esteem and self-concept clarity.

An important point is worth making about these findings and the type of identity presumed to drive these effects. Although interpreted as evidence for the effect of actual group identity loss, the studies actually measured and, thus, demonstrated the unique effect of possible identity loss (valued alumni possible self) on self-clarity and self-esteem. To their credit, the authors acknowledge this under limitations, though they suggest that the effects would only be stronger for actual identity loss. Although I agree that actual identity loss should produce bigger effects, that in no way diminishes the empirical fact that possible identity loss *did* produce changes in self-clarity and esteem in this study.

Although the above work speaks to the unique impact of possible-self revisions on core-self revisions, other evidence provides evidence of the mechanism (quality of motivated response strategies) that governs the reciprocal pathway. As noted earlier, epistemic strategies serve both accuracy and desirability concerns whereas teleological strategies serve desirability concerns exclusively. Consistent with proposition four, the following work shows that the use of epistemic versus teleological strategies optimizes the link between early revisions in possible selves and subsequent changes in the integrity of core selves.

For example, prior work indicates that age-related stereotypes influence core self-evaluations (esteem) through changes in possible selves (Kornadt & Rothermund, 2012). This work shows that possible self-changes (I will slowly lose my ability to work) mediate the increasing salience of negative aging stereotypes in work domains on broader changes in core self-evaluation. This work has also shown that changes in global control and efficacy depend upon one's ability to adjust personal goals to match one's core self-resources. Although not classified as an epistemic response strategy, the process of adjusting one's standards downward to match one's current ability represents the epistemic strategy of changing comparators. Consistent with the present argument, the inability to adjust one's possible-self pursuits downward to match current actual competencies can further undermine the integrity of the core selves they derive from and, by extension, the broader sense of global-self integrity those core selves once provided.

This work also shows that goal losses affect general control perceptions, self-esteem, and depression to a greater degree if one maintains the importance of the unrealistic domain of self-definition (Brandtstädter & Rothermund, 1994, 2002). Although not classified as such, the response of lowering the importance of an unrealistic domain of self-definition represents the epistemic strategy of changing dimensions of self-evaluation. In the case of both changing the dimensions of self-evaluation and changing comparators, the strategies serve both accuracy and desirability concerns rather than exclusively desirability concerns. By contrast, participants who relied upon teleological strategies of denial and suppression of age-related declines in response to goal losses

showed greater subsequent declines in measures of self-integrity over time.

Similarly, Slotter and Gardner (2014) provided further support for the reciprocal pathway in a series of studies focusing on the benefits of social support for helping an individual to reconfirm a threatened aspect of self and recover any losses in self-concept clarity. Compared with premed students that received emotional support (reassurance with acceptance after threat), premed students who received evidentiary support (direct support for threatened self-knowledge) reported significantly greater confidence in their threatened self-aspect of "becoming a doctor" and, in turn, significantly lower declines in self-clarity. Even though it does not refer to possible selves, it is clear that these studies all threatened premed (vs. control) students' possible self of "becoming a doctor". As such, this work provides further direct evidence for unique reciprocal link from possible-self change and changes in the integrity of core selves.

In addition, though, this work provides evidence for the role of motivated response strategies in mediating responses to possible-self failure. For example, although not classified as such, the evidentiary support tactic represents the epistemic strategy of hypothesis testing and retesting. Specifically, the cooperative recruitment of prior evidentiary support for the possible self satisfies both accuracy and desirability concerns in response to threat. By contrast, the emotional support tactic represents the teleological strategy of distraction in that it does not address the actual problem but, instead, merely serves the desirability concern of emotional repair. Consistent with the proposed mechanism, the evidentiary (epistemic hypothesis testing/restesting strategy) support tactic led to the restoration of possible self-confidence and self-concept clarity whereas emotional affirmation (teleological distraction strategy) led to declines in self-concept clarity through initial declines in confidence for possible self.

Moreover, given this focus on the responses to possible self-validation (or invalidation), this work has relevance to the work on identity control and verification processes evoked by possible self-disruptions as well as core self-disruptions (Kerpelman et al., 1997, 2001). Although that work suggested that possible and actual identity disruptions evoke the same identity control processes independently, this work is more consistent with the present claim that possible-self disruptions evoke distress primarily because they disrupt the integrity of the core selves they derive from.

In particular, two findings support the latter claim. First, the failure to resolve threats to important possible selves diminished both specific possible self-confidence and self-concept clarity. Moreover, increases in possible self-confidence mediated the effect of successful threat resolution into increased self-concept clarity. It is worth noting that, like self-confidence, self-concept clarity is a metacognitive experience of having a certain and clear sense of self. Moreover, because it is a metacognitive experience like self-confidence, one can experience momentary fluctuations in self-concept clarity in response to possible self-changes. Taken together, the work on confidence changes in possible-self revision and this recent work suggests that declines in self-concept clarity may be the first symptom of core-self integrity revision following possible-self revision initiated by the metacognitive experience of falling confidence.

Although several of the foregoing studies demonstrate changes in self-integrity measures (self-clarity and esteem) with one experience of possible-self revision, this model predicts that repeated experiences of downward possible-self revisions will evoke stronger patterns of revision in core self-integrity measures. As in science, although bad, one can recover from one possible-self failure because one can attribute any single possible-self failure to multiple factors (situational or temporary personal) other than core self-incompetence. However, repeated experiences of possible-self failure can accumulate to collectively undermine the integrity of the core self they derived from and, by extension, the degree to which it provides a source of global-self integrity. Moreover, consistent with the proposed mechanism, the relatively greater use of teleological (vs. epistemic) strategies, like defensive (vs. learning) attributions, should mediate the total effect of repeated downward possible-self revisions on broader declines in core-self integrity.

Indeed, recent work showed that greater experiences of downward possible-self revision (or failure) uniquely predicted greater subsequent declines in self-doubt (Study 1) and self-esteem (Study 2; Carroll, McCaslin, & Norman, 2011; Carroll et al., 2015), even after controlling for other transitional experiences (e.g., move). Moreover, the second study employed a longitudinal design to demonstrate the proposed temporal process that turns increasing revisions in possible selves into later losses in self-esteem. Consistent with this model, the greater reliance on defensive attributions (teleological strategy) for early possible-self losses translated the cumulative effect of increasing experiences of downward possible-self revision into greater losses in self-esteem 3 months later.

In fact, participants who experienced one to two early failures but, in turn, generated more learning attributions (epistemic strategy) showed higher levels of self-esteem than those who had the same number of changes but generated more defensive attributions (teleological strategy). Moreover, the self-esteem of these students who made learning attributions were just as high as students who reported no prior downward possible-self revisions.

Taken together, the work on goal accommodation responses in aging, cooperative responses to identity threat, and motivated attribution responses to repeated possible-self failure support the final proposition regarding the importance of motivated mental responses to failure. This work suggests that the quality of your response to early failures is more important than the mere experience of possible-self failure.

Comparison to past work and implications. Importantly, the present article complements prior work in several ways. For example, Heatherton and Nichols (1994) examined how "repeated experiences of emotional distress" culminated into the broader "crystallization of discontent" within narratives of change. The present model adds to this work by replacing the vague conceptual variables of "repeated experiences of emotional distress" and "crystallization of discontent" with the more specific factors of repeated experiences of possible-self revision and revisions in core-self integrity. Thus, this model goes beyond the claim that core selves change in response to any experience or any experience of change or distress. Rather, consistent with recent findings (Carroll et al., 2015), it clarifies that the particular experience of career possible-self revision uniquely predicts revisions in core selves, even after controlling for other life transition experiences (e.g., moves). Although important, the present review integrates these findings within a wider body of evidence that revisions in

core selves can stem from revisions in a range of different possible selves, including group and relational possible selves (Slotter et al., 2015; Lewandowski et al., 2006) as well as career possible selves (Carroll et al., 2015).

Moreover, this model adds greater resolution to the exact role of motivated response strategies in mediating the path from early revisions in possible selves to later revisions in core selves (Carroll et al., 2015). Although prior work suggests that external failure attributions may carry short-term emotional benefits (Heatherton & Nichols, 1994), the work reviewed here suggests that an initial tendency to use teleological (vs. epistemic) response strategies carries the potential long-term cost of perpetuating self-assessment errors across old and new failures that collectively undermine core-self integrity (Carroll et al., 2015; Kornadt & Rothermund, 2012). Importantly, although this prior work has focused on one or two specific strategic responses (e.g., changing comparators vs. denial or learning vs. defensive attributions), the present review situates each strategy within the broader classes of epistemic or teleological strategies that either optimize or diminish the quality of the path from revisions in possible selves to revisions in core selves. Moreover, even with the class of smart regulation tactics, these strategies focus on the maintenance and regulation of goal representations. By contrast, the present model situates tactics for regulating goals as one type of the broader epistemic strategies for maintaining and controlling any (goal or core-self representations). That is, whereas smart regulation tactics account for formation and change in possible selves, epistemic strategies explain the formation and shift in possible selves (via hypothesis testing, changing comparators) along with the added ability to account for the correction of core selves to improve their translation into more realistic possible selves (via learning attributions, changing dimensions, reinterpretation, or reintegration).

Just as the motivated reasoning model drew from but extended the earlier model of attribution processes, the present model builds from but extends this prior work by unifying each tactic as one of many epistemic or teleological response strategies deployed by effective or ineffective protective belts following early failure. Taken together, this work converges to support the fourth proposition regarding the importance of epistemic over teleological strategies in optimizing the link between the revision of possible selves and revisions in core selves.

Of course, the foregoing points segue nicely into perhaps the biggest distinction between this work and past work. Namely, its ability to integrate the two processes of possible and core self-revision. Rather than two disparate processes, this model integrates both forms of self-revision within a continuous temporal process running from (a) possible-self revisions (via metacognitive strategies and experiences, affect, and expectations) to (b) gradual revisions in core selves through the quality of initial motivated responses (epistemic vs. teleological metacognitive strategies) to early revisions in possible selves (see Figure 1). In this regard, it is also worth noting that the prior work on the determinants of possible-self revisions converges with the recent work on the consequences for broader core-self revisions in terms of the importance of epistemic over teleological strategies in optimizing the link between possible selves and core selves. Specifically, we began by reviewing evidence that epistemic rather than teleological strategies optimize the likelihood of upward possible-self revision to successfully achieve possible selves derived from core selves (Maio & Thomas, 2007). Next, we turned to evidence that, when downward possible-self revision occurs, epistemic rather than teleological strategies optimize responses to failure to improve the translation of core selves into realistic possible selves (Brandtstädter & Rothermund, 2002; Carroll et al., 2015; Kornadt & Rothermund, 2012). Thus, whether one considers the initial translation of possible selves from core selves or the corrected translation of possible selves from core selves following downward revisions, epistemic rather than teleological metacognitive strategies represent the ideal tools of the self-protective belt that optimize the development of possible selves from core selves over time.

The present model also adds to prior work on self-affirmation. Prior work focused on the benefits of affirming core-self sources of self-integrity to the relative neglect of questions over what determines the degree to which an important core self-schema provides a source of self-integrity. Although my own prior work proposed that prior possible-self revisions influence self-integrity (Carroll et al., 2015), it did not distinguish between global and core-self integrity. In this model, global-self integrity stems from sources of core-self integrity in particular domains. As noted earlier, self-affirmation research suggests that the affirmation of important core selves neutralizes threats in other areas by first affirming the integrity of that core self which, in turn, provides an anchor or source of global-self integrity. Unlike past work, this model examines whether the revision of possible selves, in particular, may be one determinant of the integrity of core selves and, in turn, the degree to which a core self provides an ongoing source of global-self integrity.

More specifically, the degree to which important core self-beliefs provide a source of global-self integrity should depend partly on its relative accuracy and, by extension, the extent to which the possible selves derived from them succeed or fail. Relatively accurate core selves are more likely to produce possible-self successes and continue to provide a source of self-integrity. By contrast, relatively inaccurate core selves are more likely to produce possible-self failure and, by extension, cease to provide a source of self-integrity. To summarize, prior work has demonstrated that core selves influence possible selves and, in addition, that people revise both possible selves and core selves. However, this article extends prior work to consider the unique importance of the reciprocal pathway connecting revisions in possible selves to subsequent revisions in the integrity of core selves.

Practical interventions. A key implication of the present approach is that the quality of the self-protective belt ultimately determines the quality of the link from core selves to possible selves. That is, even when core selves initially produce possible-self failure, the use of epistemic response strategies can improve the subsequent translation of the core self into more realistic new possible selves that correspond to one's true competencies. Although it may seem difficult, promising new research illustrates how very simple interventions could have surprisingly big benefits in terms of optimizing the development of effective self-protective belt responses to possible-self failure.

For example, this work suggests that people can learn to combine mental contrasting and implementation intentions (i.e., MCII couplings) to solve challenging goal problems, like replacing unrealistic possible selves with realistic ones that correspond to one's

actual competencies. Moreover, in prior work, short interventions that varied naïve beliefs about the meaning of difficulty or the malleability of intelligence produce dramatic improvements in motivation and achievement of academic possible selves (Oyserman & James, 2009). Finally, deliberate self-persuasion researchers have also demonstrated how subtle interventions can train people to apply epistemic strategies to effectively initiate and maintain possible-self attitude change (Lu et al., 2015; Maoi & Thomas).

Importantly, this work shows that the benefits of these subtle interventions generalize beyond the lab to prepare students to solve challenging goal problems even under adverse circumstances in real life. For instance, although they may initially apply these strategies only if they have sufficient mental resources, students can learn to automatically apply MCII strategies with repeated practice to replace unrealistic old possible selves with more realistic new ones even under mental load, stress, or self-control depletion (Oettingen & Gollwitzer, 2010; Oettingen & Stephens, 2009). Similarly, deliberate self-persuasion work demonstrates that subtle interventions can train people to automatically apply a variety of metacognitive epistemic strategies to effectively initiate and maintain possible self-attitude change (Lu et al., 2015; Maio & Thomas, 2007).

Thus, although self-protective belts will operate (effectively or otherwise) in the absence of early interventions, one point of this work is to propose that parents and educators can improve the development of these self-protective belts with very cost-effective early interventions. Although unique in their own right, these different approaches all converge to show how very simple and inexpensive interventions can go a long way toward improving students' protective belt responses to early possible-self failure.

Future work. Although the evidence reviewed here supports the claim that possible-self revisions affect core-self revisions, future work could further map out the exact mechanisms through which possible self-change can shape core-self aspects over time. For example, differences in the quality of motivated attribution responses to early possible-self failure transmits the influence of prior possible-self revisions on core-self revisions. Of course, as argued earlier, it is likely that motivated learning attributions represent one of several epistemic strategies that operate in a complementary (vs. mutually exclusive) manner (Maio & Thomas, 2007). Moreover, though not classified as such, mental contrasting and implementation intentions may represent epistemic mental strategies that serve accuracy and enhancement motives by exchanging unattainable goals for realistic ones. Although studied independently, future work could examine if and, if so, how people might creatively combine these motivated mental responses to optimize responses to possible-self failure. Of course, beyond how people spontaneously combine these strategies, this work could also systematically manipulate these combinations to test their relative efficacy in optimizing responses to early possible-self failure.

Future work should also consider whether repeated possible-self revisions undermine sources of global-self integrity other than core self-competency schemas. For example, the affirmation of core values have been shown to be an equally, if not more, potent source of global-self integrity than the affirmation of core self-schemas (Cohen & Sherman, 2014). Unlike core self-schemas that define domains of perceived competence that one should succeed in, core values merely define what one considers good or moral. Thus, whereas self-schemas require the demonstration of actual or possible competencies, core values (kindness) may require nothing more than expression (acting kind) to remain beneficial to the individual. Thus, future work should explore whether core values remain a source of global-self integrity even in the face of repeated possible-self revisions.

Future work could examine the moderators of the likelihood and impact of new possible-self revisions on core-self integrity. For example, the likelihood that a student will revise a new possible self may depend on the number of possible-self revision he or she has experienced in the past. Although the single experience is unlikely to have a very profound effect, it seems reasonable to expect that the cumulative body of all possible-self revision experiences would powerfully shape the likelihood of future revisions and, in turn, the impact of each new revision on broader revisions in core selves. In addition, future work could test whether the effect of greater experiences of downward possible-self revision differs depending upon the subjective quality or, temporal appraisal, the individual assigns to those prior changes. For example, one may imagine that a student may experience only slight (or even no) adverse effects of repeated downward possible-self revisions if they appraise those prior changes as leading to something better. Indeed, if one can compartmentalize prior changes via a redemptive narrative as necessary losses that led to growth, one may even experience enhanced core-self integrity.

Beyond the subjective quality, the objective quality of possible-self revisions would seem to moderate their influence on core selves. Specifically, unlike subjective quality, objective quality of possible-self revisions refers to the fit between the revised possible self and actual ability following motivated responses to initial failure. Thus, holding quantity of revisions constant, the effect of possible-self revision may depend partly on the extent to which one corrects early core-self errors to generate new possible selves that have a greater likelihood of success because they correspond to one's actual core competencies.

To illustrate, consider two individuals who make a downward possible-self revision. Imagine that the first person goes from wanting to be the President to wanting to be Secretary of State when his true ability suggests he could be a district attorney. In this case, the objective quality of the downward self-revision is low given that his actual ability does not support the new possible self. By contrast, the second person has the same ability level (to become a district attorney) but goes from wanting to become the secretary of State to wanting to become a district attorney after realizing that his true competencies are better suited to support the latter pursuit. Here, both individuals have equal ability and one experience of downward possible-self revision. However, that revision will have very different implications for their self-perceptions given the difference in objective quality, particularly if the first person does not attain the revised self.

Finally, future work should further consider how others might optimize responses to possible-self setback. The work reviewed on the role of others in providing evidentiary support to inhibit possible-self revision opens the door to new future directions on the cooperative management of early possible-self loss (Slotter & Gardner, 2014). For example, if others inhibit possible-self loss, they may also help individuals effectively respond to possible-self loss when it does happen and, in addition, help socialize individ-

uals to internalize particular strategies (motivated attributions, hypothesis testing) to effectively respond to on their own to subsequent possible-self loss. Although not exhaustive, these offer a few intriguing lines of inquiry that can reveal new insights on how people manage the path from possible to core-self revision.

Conclusion

In closing, although future work should further evaluate the relative value of the proposed model over alternative explanations, recent evidence does support several key claims of this model. First, it is clear that the pathway from core to possible selves is reciprocal rather than unidirectional. Specifically, multiple studies converge to show that revisions to possible selves can induce broader revisions in core selves (Carroll et al., 2015; Slotter & Gardner, 2014; Slotter et al., 2015). Moreover, some evidence even supports the claim that the quality of motivated mental responses to failure (e.g., changing vs. maintaining comparators, changing vs. maintaining evaluative dimensions; hypothesis testing/retesting vs. distraction, learning vs. defensive attributions) mediates the impact of possible-self revisions on revisions in core selves (Brandtstädter & Rothermund, 2002; Carroll et al., 2015; Slotter & Gardner, 2014).

Importantly, the point of this article is not to suggest that core-self revisions only or even primarily stem from possible-self revision. Rather, it is merely to add possible-self revisions to the list of established determinants and, in turn, to propose a tentative model of the pathway from possible-self revisions to revisions in core selves. Although other experiences (e.g., actual identity threats) may account for some indirect evidence, they cannot account for the direct evidence that measures of possible-self revision did uniquely predict changes in measures of core self-integrity (Carroll et al., 2015; Slotter & Gardner, 2014; Slotter et al., 2015). Thus, this model extends prior work to add possible-self revisions to the list of already established determinants of broader revisions in core selves.

References

Brandtstädter, J., & Rothermund, K. (1994). Self-percepts of control in middle and later adulthood: Buffering losses by rescaling goals. *Psychology and Aging, 9,* 265–273. http://dx.doi.org/10.1037/0882-7974.9.2.265

Brandtstädter, J., & Rothermund, K. (2002). The life-course dynamics of goal pursuit and goal adjustment: A two-process framework. *Developmental Review, 22,* 117–150. http://dx.doi.org/10.1006/drev.2001.0539

Briñol, P., DeMarree, K. G., & Petty, R. E. (2010). Processes by which confidence (vs. doubt) influence the self. In R. Arkin, K. Oleson, & P. Carroll (Eds.), *The handbook of the uncertain self* (pp. 13–35). New York, NY: Psychology Press.

Burkley, E., Curtis, J., Burkley, M., & Hatvany, T. (2015). Goal fusion: The integration of goals within the self-concept. *Self and Identity, 14,* 348–368. http://dx.doi.org/10.1080/15298868.2014.1000959

Carroll, P. J. (2010). Preparedness. In R. Arkin, K. Oleson, & P. Carroll (Eds.), *The handbook of the uncertain self* (pp. 266–290). New York, NY: Psychology Press.

Carroll, P. J. (2014). Upward self-revision: Constructing possible selves. *Basic and Applied Social Psychology, 36,* 377–385. http://dx.doi.org/10.1080/01973533.2014.934451

Carroll, P. J., Agler, R. A., & Newhart, D. W. (2015). Beyond cause to consequence: The road from possible to core self-revision. *Self and Identity, 14,* 482–498. http://dx.doi.org/10.1080/15298868.2015.1026385

Carroll, P. J., Briñol, P. T., & Petty, R. (2017). Preparedness and self-validation. *Journal of Experimental Social Psychology*. Manuscript submitted for publication.

Carroll, P. J., McCaslin, M., & Norman, G. (2011). The revision and expansion of self-theory through preparedness. *Social and Personality Psychology Compass, 10,* 1–15.

Carroll, P. J., Shepperd, J. A., & Arkin, R. M. (2009). Downward self-revision: Erasing possible selves. *Social Cognition, 27,* 550–578. http://dx.doi.org/10.1521/soco.2009.27.4.550

Carroll, P. J., Sweeny, K., & Shepperd, J. A. (2006). Forsaking optimism. *Review of General Psychology, 10,* 56–73. http://dx.doi.org/10.1037/1089-2680.10.1.56

Chen, S. A., & Boucher, H. C. (2008). Relational selves as self-affirmational resources. *Journal of Research in Personality, 42,* 716–733. http://dx.doi.org/10.1016/j.jrp.2007.09.006

Cohen, G. L., Garcia, J., Purdie-Vaughns, V., Apfel, N., & Brzustoski, P. (2009). Recursive processes in self-affirmation: Intervening to close the minority achievement gap. *Science, 324,* 400–403. http://dx.doi.org/10.1126/science.1170769

Cohen, G. L., & Sherman, D. K. (2014). The psychology of change: Self-affirmation and social psychological intervention. *Annual Review of Psychology, 65,* 333–371. http://dx.doi.org/10.1146/annurev-psych-010213-115137

Cross, S. E., & Markus, H. R. (1994). Self-schemas, possible selves, and competent performance. *Journal of Educational Psychology, 86,* 423–438. http://dx.doi.org/10.1037/0022-0663.86.3.423

DeMarree, K. G., Clark, C. J., Wheeler, S. C., Brĩnol, P., & Petty, R. E. (2016). *On the pursuit of desired attitudes*. (Unpublished manuscript). Buffalo, NY: Department of Psychology, University at Buffalo.

DeMarreee, K. G., & Rios, K. (2014). Understanding the relationship between self-esteem and self-clarity: The role of desired self-esteem. *Journal of Experimental Social Psychology, 50,* 202–209. http://dx.doi.org/10.1016/j.jesp.2013.10.003

Dunlop, W. L., Guo, J., & McAdams, D. (2016). The autobiographical author through time examining the degree of stability and change in redemptive and contaminated personal narratives. *Journal of Social Psychological and Personality Science, 7,* 428–436. http://dx.doi.org/10.1177/1948550616644654

Dunning, D., Heath, C., & Suls, J. M. (2004). Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest, 5,* 69–106. http://dx.doi.org/10.1111/j.1529-1006.2004.00018.x

Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. New York, NY: Psychology Press.

Epstein, S. (1973). The self-concept revisited. Or a theory of a theory. *American Psychologist, 28,* 404–416. http://dx.doi.org/10.1037/h0034679

Epstein, S. (1990). Cognitive-experiential self-theory. In L. Pervin (Ed.), *Handbook of personality theory and research: Theory and research* (pp. 165–192). New York, NY: Guilford Press.

Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology, 73,* 31–44. http://dx.doi.org/10.1037/0022-3514.73.1.31

Fivush, R., & Nelson, C. (2006). Parent–child reminiscing locates the self in the past. *British Journal of Developmental Psychology, 24,* 235–251. http://dx.doi.org/10.1348/026151005X57747

Fujita, K. (2008). Seeing the forest beyond the trees: A construal level approach to self-control. *Social and Personality Psychology Compass, 2,* 1475–1496. http://dx.doi.org/10.1111/j.1751-9004.2008.00118.x

Galak, J., & Meyvis, T. (2011). The pain was greater if it will happen again: The effect of anticipated continuation on retrospective discomfort.

Journal of Experimental Psychology: General, 140, 63–75. http://dx.doi.org/10.1037/a0021447

Gollwitzer, P. M. (1999). Implementation intentions: Strong effects of simple plans. *American Psychologist, 54,* 493–503. http://dx.doi.org/10.1037/0003-066X.54.7.493

Gollwitzer, P. M., & Schaal, B. (1998). Metacognition in action: The importance of implementation intentions. *Personality and Social Psychology Review, 2,* 124–136. http://dx.doi.org/10.1207/s15327957pspr0202_5

Gregory, W. L., Burroughs, W. J., & Ainslie, F. M. (1985). Self-relevant scenarios as an indirect means of attitude change. *Personality and Social Psychology Bulletin, 11,* 435–444. http://dx.doi.org/10.1177/0146167285114009

Heatherton, T. F., & Nichols, P. A. (1994). Personal accounts of successful versus failed attempts at life change. *Personality and Social Psychology Bulletin, 20,* 664–675. http://dx.doi.org/10.1177/0146167294206005

Higgins, E. T. (1996). The "self digest": Self-knowledge serving self-regulatory functions. *Journal of Personality and Social Psychology, 71,* 1062–1083. http://dx.doi.org/10.1037/0022-3514.71.6.1062

Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist, 52,* 1280–1300. http://dx.doi.org/10.1037/0003-066X.52.12.1280

Holland, R. W., Verplanken, B., & van Knippenberg, A. (2003). From repetition to conviction: Attitude accessibility as a determinant of attitude certainty. *Journal of Experimental Social Psychology, 39,* 594–601. http://dx.doi.org/10.1016/S0022-1031(03)00038-6

Kerpelman, J. L., & Lamke, L. K. (1997). Anticipation of future identities: A control theory approach to identity development within the context of serious dating relationships. *Personal Relationships, 4,* 47–62. http://dx.doi.org/10.1111/j.1475-6811.1997.tb00130.x

Kerpelman, J. L., & Pittman, J. F. (2001). The instability of possible selves: Identity processes within late adolescents' close peer relationships. *Journal of Adolescence, 24,* 491–512. http://dx.doi.org/10.1006/jado.2001.0385

Ketalaar, T., & Ellis, B. (2000). Are evolutionary explanations unfalsifiable? Evolutionary psychology and the Lakatosian philosophy of science. *Psychological Inquiry, 11,* 1–21. http://dx.doi.org/10.1207/S15327965PLI1101_01

King, L. A., & Raspin, C. (2004). Lost and found possible selves, subjective well-being, and ego development in divorced women. *Journal of Personality, 72,* 603–632. http://dx.doi.org/10.1111/j.0022-3506.2004.00274.x

Kornadt, A. E., & Rothermund, K. (2012). Internalization of age stereotypes into the self-concept via future self-views: A general model and domain-specific differences. *Psychology and Aging, 27,* 164–172. http://dx.doi.org/10.1037/a0025110

Kunda, Z. (1987). Motivated inference: Self-serving generation and evaluation of causal theories. *Journal of Personality and Social Psychology, 53,* 636–647. http://dx.doi.org/10.1037/0022-3514.53.4.636

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin, 108,* 480–498. http://dx.doi.org/10.1037/0033-2909.108.3.480

Lakatos, I. (1974). Popper on demarcation and induction. In P. A. Schilpp (Ed.), *The philosophy of Karl Popper* (pp. 241–273). La Salle, IL: Open Court.

Landau, M. J., Greenberg, J., & Sullivan, D. (2009). Defending a coherent autobiography: When past events appear incoherent, mortality salience prompts compensatory bolstering of the past's significance and the future's orderliness. *Personality and Social Psychology Bulletin, 35,* 1012–1020. http://dx.doi.org/10.1177/0146167209336608

Lewandowski, G., Aron, A., Bassis, S., & Kunak, J. (2006). Losing a self-expanding relationship: Implications for the self-concept. *Personal Relationships, 13,* 317–331. http://dx.doi.org/10.1111/j.1475-6811.2006.00120.x

Light, A. E., & Visser, P. S. (2013). The ins and outs of the self: Contrasting role exits and role entries as predictors of self-concept clarity. *Self and Identity, 12,* 291–306. http://dx.doi.org/10.1080/15298868.2012.667914

Lu, T., Lord, C. G., & Yoke, K. (2015). Behind the stage of deliberate self-persuasion: When changes in valence of associations to an attitude object predict attitude change. *British Journal of Social Psychology, 54,* 767–786. http://dx.doi.org/10.1111/bjso.12111

Maio, G. R., & Thomas, G. (2007). The epistemic-teleologic model of deliberate self-persuasion. *Personality and Social Psychology Review, 11,* 46–67. http://dx.doi.org/10.1177/1088868306294589

Manzi, C., Vignoles, V. L., & Regalia, C. (2009). Accommodating a new identity: Possible selves, identity change and well-being across two life-transitions. *European Journal of Social Psychology, 40,* 970–984. http://dx.doi.org/10.1002/ejsp.669

Markus, H. R. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology, 35,* 63–78. http://dx.doi.org/10.1037/0022-3514.35.2.63

Markus, H., Cross, S. E., & Wurf, E. (1990). The role of the self-system in competence. In R. J. Sternberg & J. Kolligan, Jr., (Eds.), *Competence considered* (pp. 205–226). New Haven, CT: Yale University Press.

Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology, 51,* 858–866. http://dx.doi.org/10.1037/0022-3514.51.4.858

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41,* 954–969. http://dx.doi.org/10.1037/0003-066X.41.9.954

Markus, H., & Ruvolo, A. (1989). Possible selves: Personalized representations of goals. In L. S. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 211–241). Hillsdale, NJ: Lawrence Erlbaum.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology, 38,* 299–337. http://dx.doi.org/10.1146/annurev.ps.38.020187.001503

McAdams, D. P. (1996). Narrating the self in adulthood. In J. Birren, G. Kenyon, J. E. Ruth, J. J. F. Shroots, & J. Svendson (Eds.), *Aging and biography: Explorations in adult development* (pp. 131–148). New York, NY: Springer.

McIntyre, K. P., Mattingly, B. A., Lewandowski, G. W., Jr., & Simpson, A. (2014). Workplace self-expansion: Implications for job satisfaction, commitment, self-concept clarity, and self-esteem among the employed and unemployed. *Basic and Applied Social Psychology, 36,* 59–69. http://dx.doi.org/10.1080/01973533.2013.856788

Nelson, K., & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111,* 486–511. http://dx.doi.org/10.1037/0033-295X.111.2.486

Newell, A. (1990). *Unified theories of cognition*. Cambridge, MA: Harvard University Press.

Nussbaum, A. D., & Dweck, C. (2008). Situational disengagement and persistence in the face of adversity. *Personality and Social Psychology Bulletin, 34,* 599–612. http://dx.doi.org/10.1177/0146167207312960

Oettingen, G., & Gollwitzer, P. M. (2010). Strategies of setting and implementing goals: Mental contrasting and implementation intentions. In J. E. Maddux & J. P. Tangney (Eds.), *Social psychological foundations of clinical psychology* (pp. 114–135). New York, NY: Guilford Press.

Oettingen, G., & Kappes, A. (2009). Mental contrasting of the future and reality to master negative feedback. In K. D. Markman, W. M. P. Klein, & J. A. Suhr (Eds.), *Handbook of imagination and mental simulation* (pp. 395–412). New York, NY: Psychology Press.

Oettingen, G., Pak, H., & Schnetter, K. (2001). Self-regulation of goal setting: Turning free fantasies about the future into binding goals. *Journal of Personality and Social Psychology, 80,* 736–753. http://dx.doi.org/10.1037/0022-3514.80.5.736

Oettingen, G., & Stephens, E. J. (2009). Fantasies and motivationally intelligent goal setting. In G. B. Moskowitz & H. Grant (Eds.), *The psychology of goals* (pp. 153–178). New York, NY: Guilford Press.

Oyserman, D., Bybee, D., & Terry, K. (2006). Possible selves and academic outcomes: How and when possible selves impel action. *Journal of Personality and Social Psychology, 91,* 188–204. http://dx.doi.org/10.1037/0022-3514.91.1.188

Oyserman, D., Bybee, D., Terry, K., & Hart-Johnson, T. (2010). Possible selves as road maps. *Journal of Research in Personality, 38,* 130–149. http://dx.doi.org/10.1016/S0092-6566(03)00057-6

Oyserman, D., & James, L. (2009). Possible selves: From content to process. In K. Markman, W. M. P. Klein, & J. A. Suhr (Eds.), *The handbook of imagination and mental stimulation* (pp. 373–394). New York, NY: Psychology Press.

Peetz, J., & Wilson, A. E. (2008). The temporally extended self: The relation of past and future selves to current identity, motivation, and goal pursuit. *Social and Personality Psychology Compass, 2,* 2090–2106. http://dx.doi.org/10.1111/j.1751-9004.2008.00150.x

Petty, R. E., & Briñol, P. (2015). Emotion and persuasion: Cognitive and meta-cognitive processes impact attitudes. *Cognition and Emotion, 29,* 1–26. http://dx.doi.org/10.1080/02699931.2014.967183

Price, R., Friedland, D., & Vinokur, A. (1998). Job loss: Hard times and eroded identity. In J. H. Harvey (Ed.), *Perspectives on loss: A sourcebook* (pp. 303–316). Philadelphia, PA: Taylor & Francis.

Pyszezynski, T., & Greenberg, J. (1987). Toward and integration of cognitive and motivational perspectives on social inference: A biased hypothesis-testing model. In L. Berkowitz (Ed.), Vol. 20, pp. 297–340). *Advances in experimental social psychology*. New York, NY: Academic Press. http://dx.doi.org/10.1016/S0065-2601(08)60417-7

Ruvolo, A. P., & Markus, H. R. (1992). Possible selves and performance: The power of self-relevant imagery. *Social Cognition, 10,* 95–124. http://dx.doi.org/10.1521/soco.1992.10.1.95

Sedikides, C., & Campbell, K. (1999). Self-threat magnifies self-serving biases: A meta-analytic integration. *Review of General Psychology, 3,* 1–23.

Seligman, M. E. P. (1975). *Helplessness: On depression, development, and death*. San Francisco, CA: Freeman.

Sherman, D. K., & Cohen, G. L. (2006). The psychology of self-defense: Self-affirmation theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 38, pp. 183–242). San Diego, CA: Academic Press.

Slotter, E. B., & Gardner, W. L. (2014). Remind me of who I am: Social interaction strategies for maintaining the threatened self-concept. *Personality and Social Psychology Bulletin, 40,* 1148–1161. http://dx.doi.org/10.1177/0146167214537685

Slotter, E. B., Gardner, W. L., & Finkel, E. J. (2010). Who am I without you? The influence of romantic breakup on the self-concept. *Personality and Social Psychology Bulletin, 36,* 147–160. http://dx.doi.org/10.1177/0146167209352250

Slotter, E. B., Winger, L., & Soto, N. (2015). Lost without each other: The influence of group identity loss on the self-concept. *Group Dynamics, 19,* 15–30. http://dx.doi.org/10.1037/gdn0000020

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 21, pp. 261–302). New York, NY: Academic Press. http://dx.doi.org/10.1016/S0065-2601(08)60229-4

Sweeny, K., Carroll, P. J., & Shepperd, J. A. (2006). Is optimism always the best? Future outlooks and preparedness. *Current Directions in Psychological Science, 15,* 302–306. http://dx.doi.org/10.1111/j.1467-8721.2006.00457.x

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66,* 297–333. http://dx.doi.org/10.1037/h0040934

Wilson, A. O., Gunn, G. R., & Ross, M. (2009). The role of subjective time in identity regulation. *Applied Cognitive Psychology, 23,* 1164–1178. http://dx.doi.org/10.1002/acp.1617

Wrosch, C., Scheier, M. F., Miller, G. E., Schulz, R., & Carver, C. S. (2003). Adaptive self-regulation of unattainable goals: Goal disengagement, goal reengagement, and subjective well-being. *Personality and Social Psychology Bulletin, 29,* 1494–1508. http://dx.doi.org/10.1177/0146167203256921

Yeager, D. S., & Walton, G. M. (2011). Social-psychological interventions in education: They're not magic. *Review of Educational Research, 81,* 267–301. http://dx.doi.org/10.3102/0034654311405999

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