The Revision and Expansion of Self-Theory through Preparedness

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Abstract

The present paper examines the psychological pathways by which accumulating experiences of possible self-revision ultimately lead to revision of the core selves that define a broader personal narrative. In so doing, we expand the notion of naïve 'self-theories' by identifying self-serving attributions and possible selves as critical components that extend or undermine the core self-theories of a unique personal narrative written (and revised) over a lifetime. Ultimately, we advance preparedness as the motivational force that drives the road from possible to core self-revision over time.

Introduction

> Imagine there's no heaven, it's easy if you try.
> No hell below us, above us only sky.
> John Lennon (1975)

From John Lennon and Martin Luther King to Kurt Lewin, poets, prophets, and, even scientists can *all* agree on at least one thing – people naturally can and do use the power of human imagination to go past the present to anticipate and prepare for the possibilities of the future. In fact, some scholars suggest that the special features of human consciousness (e.g., personal awareness, mental simulations) support the one adaptive ability that separates man and woman from beasts (other animals, that is) – the ability to mentally time travel (Gilbert, 2006; Tulving, 1983, 1985; Williams, 2002). Specifically, people can mentally travel (1) backward through the timeline of their autobiographical narrative to memories of prior experiences (e.g., When I studied for one night, I failed my last exam) and (2) project those learning experiences (3) forward through the timeline to imagine, anticipate, and prepare for similar future possibilities (if I study for 1 month versus 1 night, I will pass my next final exam) (Tulving, 1983, 1985; Williams, 2002).

Thus, the weight of empirical evidence certainly supports the claim that humans – unlike other animals – have the unique ability to imagine, anticipate, and prepare for the future. More recently, though, scholars have proposed the adaptive motivation – preparedness – that drives the uniquely human ability to imagine, anticipate, and prepare for future possibilities (Carroll, 2010; Carroll, Sweeny, & Shepperd, 2006; Sweeny, Carroll, & Shepperd, 2006). *Preparedness* is an adaptive goal state of readiness to respond to uncertain future outcomes. It can involve a readiness to seize possible opportunities, avoid possible threats, or simply adjust to possible changes before they actually emerge (Carroll, 2010; Carroll et al., 2006). Of course, preparedness for any future possibility – threat,

opportunity, or simply change – requires the construction of a *specific* possible self (PS) who is prepared for each *specific* future possibility one imagines (Markus, Cross, & Wurf, 1990). We begin by defining and distinguishing possible selves and self-schemas before advancing preparedness as the common motivational force that drives the road from possible self-revisions to broader revisions in the self-schemas that define the core of a unique personal narrative (Erikson, 1963) written (and revised) over a lifetime.

The Separate Selves of One Personal Narrative

Possible selves are mental representations of one's aspirations and fears; they are personalized goal representations of the self in desired or undesired future end states (Markus & Ruvolo, 1989). Although people can imagine themselves within any possible future, evidence suggests that *p*ossible selves are more likely to be realized when they *are* (versus are not) generalized from core self-schemas. Core self-schemas are representations developed from one's repeated early life experiences that confer a sense of identity by defining one's particular domains of personal strength and competence (e.g., academics, athletics). Once formed, core self-schemas provide powerful and 'chronically accessible' (Higgins, 1997; Markus, 1977) mental structures that summarize past and present knowledge and allow one to 'go beyond the information given' to generate realistic as well as desired selves in domains of perceived self-competence (Markus et al., 1990). Desired selves are the adaptive subset of possible selves that are realistic as well as desired generalizations (famous scientist) rather than wild fantasies (e.g., famous musician) that are desired but unrealistic generalizations from one's core self-competencies (science versus music).

Desired possible selves serve two adaptive functions – they provide (1) standards for core self-schema evaluation as well as (2) powerful incentives that motivate and guide the pursuit and acquisition of realistic personal opportunities (Ruvolo & Markus, 1992). In particular, these functions of desired selves serve preparedness. For example, desired selves enhance preparedness to capitalize on potential opportunities by providing people with a vivid mental model of personal success that includes concrete plans, intentions, and scripts (e.g., taking the GRE) that help bridge the gap between the present self (e.g., undergraduate student) and desired self (e.g., professor) (Markus & Ruvolo, 1989). Of course, people also revise and adapt possible selves to prepare for new opportunities, threats, and changes that emerge over different phases of life (e.g., college versus retirement). Recent work has specified how and when people revise possible selves to either abandon old possible selves or embrace new possible selves (Carroll, Shepperd, & Arkin, 2009). Moreover, this work suggests that experiences of possible self-revision – like experiences of possible self-formation – affect well-being by directly enhancing or diminishing future preparedness (Carroll et al., 2006; Carroll et al., 2009; Gollwitzer & Sheeran, 2006; Gollwitzer & Oettingen, 2011; Oyserman & James, 2009; Wrosch, Scheier, Miller, Schulz, & Carver, 2003).

But, one important question remains – if the revision of one PS affects preparedness, what are the potential consequences of *accumulating* possible self-revisions over time? For example, relative to someone who has generally held fast to their dreams, would the young man who has repeatedly abandoned possible selves ultimately be less prepared to overcome threats and seize opportunities for self-expansion later in life? Moreover, could students who stumble through a few early possible self-failures only to find their true calling actually fare better than any other group in the long-run – even those who have never failed? This paper addresses this important, yet neglected, question regarding the consequences repeated positive (upward) or negative (downward) revisions of possible

selves over time for positive (growth) or negative (disturbances) patterns of change in the core selves they extend and prepare?

We begin by reviewing prior work that situated core selves and possible selves as complementary components within the broader personal narrative but never resolved the question of how repeated changes in specific possible selves might influence (for better or worse) the core selves from which they are derived. We then present a new model of the personal narrative that describes the specific pathways by which accumulated (downward or upward) changes in possible selves lead to subsequent (downward or upward) changes in core selves. Finally, we advance preparedness as the motivation that drives the process of possible to core self-revision (self-contraction or expansion).

The Theory of Self–Theories

To trace the road from possible to core self-revision, we drew from Epstein's (1973) Cognitive Experiential Self–Theory (CEST), which recast the self as a theory rather than concept to resolve the vexing Jamesian paradox of the self as not really 'the self' but, instead, two different selves within a duplex consisting of the 'I' – the subject, knower, executive – and the 'Me' – the object, concept, known of self-awareness. Epstein argued that, so long as one abandons the notion of the 'I' and 'Me' as two separate selves to, instead, recast them as merely two complementary functions of any theory, it was just as scientific to talk about self theories as it was to talk about scientific theories as being both dynamic and interactive as well as stable and consistent. In addition, Epstein noted that recasting the self as a theory (versus concept) offered the additional benefit of providing a ready-made structure that could explain the *exact* sources of both stability and change in self. As a theory, the self assumed a hierarchical organization with general core self-postulates (I am good – I am good at science) subsuming more specific 'empirical selves' at progressively lower levels of abstraction (I am good in biology, organic chemistry, or physics). As in science, their generalized level of abstraction insulated core self-postulates (I am good in science) from the negative implications of isolated failures in any one empirical self (I am good in biology).

Despite their relative immunity to isolated experiences of failure, Epstein did suggest that core selves could gradually decay and collapse under the cumulative weight of convergent patterns of repeated failure in empirical selves. However, Epstein did not say much more about how such gradual changes would occur over time. And, what little he did say was not clear regarding the exact time-dependent pathways that translate accumulating empirical self-failures (failure in chemistry, biology, and neuropsychology) into the gradual decay and collapse of the core self-schemas (I am good in science) that define the personal narrative.

From Self to Scientific Narratives

To answer the question of how self-theories gradually collapse under the weight of repeated empirical self-failures, we turned from Epstein to the philosophy of science to ask how *scientific* theories gradually collapse over time under the weight of repeated empirical failures. At the time when CEST was proposed, some exciting changes were unfolding within the philosophy of science with a major paradigmatic shift away from Popper's discriminating approach of theories as falsifiable systems to a new approximating approach that situated theories as only one of three components of broader scientific research programs consisting of – (1) a core theory surrounded by (2) a protective belt of explanatory solutions that corrects and protects the young theory by learning from early

predictive failures how to improve the translation of the core theory into stronger new predictions within an expanding (3) positive heuristic that advances the predictive and explanatory power of the scientific research program beyond any other (Lakatos, 1974; Newell, 1990).

One key implication of this approach is that the broader scientific research narrative (not the smaller core theory) becomes the key evaluative unit judged as either progressive (versus degenerative) over time (versus in a single empirical test). Within this framework, the failure of any one (or even two) early predictions does not invalidate the core theory from which it is derived because any one (or even two) predictive failures can be attributed to (1) some temporary error in the translation of the conceptual theory into empirical predictions (failure to account for an important qualifying condition) or testing situation (poor research design or measurement error) rather than (2) dispositional incompetence of the core theory. The logic of this approximating approach was described well by Alan Newell:

> 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).

As this quote illustrates, theories are not expected (nor intended) to be perfect. Instead, like young students, theories are expected to stumble at first through a few early predictive failures but – like those young students – we expect that they can learn from their early mistakes to yield bigger and better new predictions over time. Over time (versus in a single empirical test), the quality of the broader scientific research narrative ultimately boils down to the quality of its protective belt to provide a true problem–solving (versus producing) machine that corrects as well as protects the young theory by resolving any deeper translational errors that lead to early predictive failures and – if left unresolved – would certainly lead to later predictive failures that can slowly build up to ultimately collapse the core theory over time.

The Ingredients of the Protective Belt and Positive Heuristic of Personal Narratives

In order to view the self as a theory, it is necessary to identify the self-variables that correspond to the positive heuristic and protective belt that complement all theories within a broader personal (versus scientific) narrative (versus the self-theory) that one builds and evaluates over a lifetime. In so doing, we intend to resolve the questions surrounding the pathways linking possible to core self-changes over time.

The self-protective belt: remedial attributions as explanatory solutions

First, we propose that self-serving attributions (SSAs) provide the explanatory solutions that protect self-theories (Epstein, 1973). As in science, SSAs protect core selves by attributing personal failure to some temporary situational or personal handicap rather than the dispositional incompetence of the core self (Sedikides & Campbell, 1999). But, as in science, SSAs should do more than just protect – rather, they should also *correct* the core self by identifying and resolving any deeper self-assessment errors that may have lead to the early possible self-failure in order to improve the subsequent translation of one's core self-competencies into stronger new desired selves that can sustain personal growth over time.

The positive self-heuristic: possible selves as self-predictions

Second, we propose that possible selves provide the natural equivalent of empirical predictions within the positive self–heuristic. Like scientific predictions, possible self-predictions are more vulnerable to failure given that they are plausible generalizations that extend but are not directly supported by core self–competency schemas in different life domains (career, family, etc.) (Cross & Markus, 1994). Of course, the lack of any direct connection between possible and core selves provides a logical 'secure base' through which core self-schemas can (1) expand through the generation of new possible self-successes without (2) running any risk of being falsified – or 'shot down' – by any single possible self-failure. Indeed, as in science, the failure of any one (or even two) possible self-predictions cannot directly implicate the core self-schema they were generalized from because, like scientific predictions (Newell, 1990), specific possible self-failures can be attributed to some situational factor (e.g., 'I performed poorly on the test because I was sick'.) rather than the incompetence of the core self (e.g., 'I am stupid').

Combining the Elements into Dynamic Pathways of Core Self-Expansion or Decline

Having defined these elements of the protective belt and positive heuristic of self, we can turn to the process by which these elements combine to extend or collapse core self–postulates within the broader personal narrative written (and revised) over a lifetime. We begin by clarifying how the motivational priorities of preparedness shape the extension and revision of past, present, and future possible selves over time. As noted at the outset, although all organisms strive to meet their needs in the present and immediate future, preparedness drives the uniquely human ability to project self-regulation beyond the current moment to maximize need satisfaction over uncertain future outcomes (Carroll, 2010; Carroll et al., 2006). Although the self (and its component parts) is not necessary for all self-regulated processes (e.g., involuntary shivering to regulate body temperature), the self is likely the most significant tool of self-regulation because it is the only constant of life experience (Epstein, 1973; Higgins, 1996). That is, you can always leave people, jobs, or cities – but, you can't just break–up with yourself, quit yourself, or move away from yourself for a fresh start. Although self-permanence may seem stifling, it may actually serve to encourage individuals to make the best of the situation and do what they can to nurture, refine, and expand their self or, personal, narrative given that is the only tool one can count on throughout life to advance self-regulatory ends.

  As with scientific research narratives, the quality of the personal narrative ultimately boils to the quality of its protective belt to do more than just protect – it should also correct core self-postulates to transform early personal failures into positive learning experiences that can improve the translation of core self-postulates into realistic new desired selves that advance preparedness for personal growth and expansion (Oettingen & Kappes, 2009; Blackwell, Trzesniewski, & Dweck, 2007). Preparedness sometimes requires the protective belt to forego defensive attributions that merely dismiss the failure to satisfy immediate needs (protecting self-esteem and competence) in favor of attributions that serve long-term need fulfillment. Before resorting to defensive attributions, effective protective belts *first* attempt to generate remedial attributions that turn early possible self-failures into successful learning experiences that correct and improve the translation of one's true core competencies into realistic new possible selves that one is prepared to seize in an upward spiral of personal success and growth over time (Nussbaum & Dweck,

2008; Oettingen & Kappes, 2009). Unlike defensive attributions, remedial attributions involve the (1) initial encoding of negative feedback, (2) optimistic causal attributions that maintain a core belief of competence while (3) extracting critical self-improvement information (identifying early self-assessment errors) that can help people to learn (versus run) from early failure to become better in the future (Dweck, 1999; Nussbaum & Dweck, 2008; Bargh, Gollwitzer, & Oettingen, 2010; Oettingen & Kappes, 2009).

To illustrate, consider the young man with the core self-schema of having general scientific competencies who is forced to abandon his dream of becoming a medical scientist (PS) when he is rejected from medical schools. In the face of this failure, the student will likely generate a self-serving attribution to protect his core self-schema by attributing the failure to some temporary personal (e.g., self-assessment error) or situational (prejudice) problem rather than his dispositional incompetence (Sedikides & Campbell, 1999). Now, whether or not this provides quick–fix or a long–term explanatory solution ultimately depends upon whether it is a true remedial (versus defensive) attribution that goes beyond the painful symptoms of the failure to identify and correct any deeper translational errors that may have led to that early personal failure. Thus, the young man can generate a remedial (versus defensive) attribution that effectively reveals an early self–assessment error – that is, he may realize that his scientific competencies are not general as he initially thought but, instead, qualified by 'scientific area' with his core competencies restricted to mathematical/computer (versus all) sciences. Now, having identified the early error via a remedial attribution, he can effectively resolve it to refine and improve the translation of his true core competencies in mathematical/computer science into a stronger desired self (e.g., Biostatistician) that he is actually prepared to seize in the future.

It is worth noting that increasing feelings of self–confidence, pride, and momentum may result as the resolution of translational errors by his effective remedial attributions transforms early possible self–failures into positive opportunities for learning and personal growth (Csikszentmihalyi & Nakamura, 1989; Higgins, 2006; Markman & Guenther, 2007). Of course, the positive emotional experiences (pride, confidence, momentum etc.) stemming from the effective use of his protective belt (of remedial attributions) would roll over to compound the positive emotions evoked by every new possible self–success. In turn, these compounding positive emotional experiences snowball over time to further broaden and build the field of mental possibilities (Fredrickson, 2000, 2001) to inspire new problem–solving strategies and even bigger and better desired possible selves (e.g., why settle with just becoming a biostatistician, when I could become a biostatistics professor who teaches others to become one) within an upward spiral of personal success and growth (Fredrickson, 2000, 2001). But, the important point is this – the self–perpetuating cycle of later personal *success* often begins with an early personal *failure* that is transformed by his effective protective belt (of remedial attributions) into a positive learning experiences that improves the subsequent extension of his current core competencies (math and computer sciences) into realistic new possible self–competencies that he is prepared to seize within a broader personal narrative that he builds over time. In this way, the effective use of remedial attributions does more than just set up future possible self–success – it is the *first* success that paves the road to subsequent possible self–success. Indeed, it becomes *the* critical turning point in his personal narrative when he reclaimed his sense of personal pride and self–competence by successfully turning a bitter early failure (not getting into med school) into a positive learning experience (realizing his core skills are computer/mathematical sciences) that inspired the growth of his positive self–heuristic of realistic new desired selves (e.g., becoming a biostatistician) that he was better prepared to seize.

When Self–Protective Belts become the Problem–Producing versus Problem–Solving Machinery of Self

The protective belt of the young student breaks down when it primarily depends on defensive (versus remedial) attributions to merely dismiss (rather than learn from) one, two, three, etc., early possible self–failures as all due to some situational handicap (e.g., bad professor, break–up, illness, etc.) rather than any error in personal judgment or ability. Defensive (versus remedial) attributions are not only bad because they run the risk of ignoring (versus resolving) deeper errors that may have led to the early possible self–failures – they are bad because, by ignoring (versus resolving) these deeper errors, defensive attributions extend those errors into new possible self–failures that will ultimately require new defensive attributions to explain. In fact, a sadly ironic predicament may arise when the young man is forced to explain a new possible self–failure (failing to get into a neuroscience graduate program) that was ironically inspired by his last excuse for his last failure to get into medical school to become a medical scientist (well, doctors are more practioners than real scientists whereas neuroscientists are real scientists who will better appreciate my 'real' scientific competencies). The consequences of this downward spiral of (defensive attributions) explanatory and (possible self) predictive failure would be sudden and severe. For the first time, his protective belt actually begins to push the balance of possible self (predictive) success (his positive self–heuristic) backward (versus forward) into overdraft as the number of possible self–failures exceeds possible self–successes.

Unfortunately, things quickly go from bad to worse (versus better) for the young man. As possible self–failures accumulate over successes, he will experience rising doubt and anxiety as it becomes increasingly difficult to generate defensive attributions that can convincingly explain every new and old failure as all due to some common, yet unseen, situational handicap rather than the one thing they *all* definitely had in common – the core self that inspired them. And, just as positive emotions compound over time, these negative emotional experiences evoked by the ineffective use of his protective belt quickly snowball to compound (versus alleviate) the rising doubt and anxiety evoked by each new personal failure. But, unlike positive emotions, these compounding negative emotions would further limit (versus broaden) his already limited ability to generate new remedial (versus defensive) attribution that could potentially help set him back on the road to personal redemption and success. Of course, just as the effective use of his protective belt would have initiated an upward spiral of success, the ineffective use of his protective belt does more than just set up future personal failure – it is the *first* personal failure that each new and old failure stems from. In the end, his ineffective protective belt becomes a problem–producing (versus solving) machine that extends (versus resolves) the legacy of early (self–assessment) errors from old to new possible self–failure that slowly converge over time into a broader pattern of personal failure and despair that ultimately collapses the core self–competency schemas at the heart of his personal narrative.

Practical Educational Interventions: Building Smarter Protective Belts

Of course, improving bad protective belts is no easy task. Although it is difficult to come to grips with losing a dream, it is even tougher to meta–cognitively trace overtime that the hard road from (1) one's past (and possible future) failures to the decay of (2) one's core self–image was paved in (3) one's own self–serving excuses for old personal failures to protect, maintain, enhance (or whatever else) core selves. But, if it is early enough in the process of possible self–exploration, the payoff for such improvements to one's

protective belt is well worth the hard road that must be walked given that it is the key prob-lem solving machinery of self that ultimately determines whether the road from early possible self-failure (1) continues downward on the path of ignorance toward additional possible self-failures and core self-disturbances or (2) turns upward on the path of learning toward prepa-redness for greater possible self-successes and core self-expansion and over time.

Moreover, exciting new translational research may be able to show how very subtle interventions could provide very powerful, yet simple (and practical), solutions to the seemingly unsolvable problem of improving bad protective belts (Oettingen & Gollwit-zer, 2002; Oettingen & Stephens, 2009). For instance, this work suggests that people can learn 'smart–goal regulation' strategies (mental contrasting, implementation intentions, MCII couplings) to solve complex goal-management problems such as exchanging futile fantasies for realistic new desired selves that are (versus are not) generalized from one's core self-competencies. It is worth noting that these theorists do not restrict 'smart' goal-regulation strategies to mental contrasting, implementation intentions, or MCII coupling interventions. In fact, other translational work has also found that subtle interventions that manipulate context-specific beliefs about the meaning of difficulty have 'big effects' in terms of predicting self-expansion outcomes such as improved motivation and achieve-ment of academic possible selves (Oyserman, 2009a; Oyserman & James, 2009). Although the specifics of these approaches differ, they all showcase how very small interventions can have the very big practical benefits of equipping students with 'smarter' problem-solving strategies for turning their early personal failures into positive learning experiences that promote long-term personal growth and improvement. Whether contrasting (versus indulging) desired with present reality, reinterpreting difficulty as 'true' (versus false) for me, or generating remedial attributions to learn (versus run) from early personal failures, all of these strategies focus on the refinement, correction, and improvement of translation errors from core self-competencies into more precise desired selves that advance greater self-insight and personal growth.

Of critical importance, this work shows that the very big practical benefits of these very simple interventions on 'smart regulatory strategies' extend far beyond the lab to provide real solutions to real life problems faced by youth today. This work shows that, with repeated practice, even young people can learn to automatically apply these meta-cogni-tive strategies in daily life to improve the translation of core current competencies into better possible self-competencies even under adverse conditions (e.g., stress, distraction, ego depletion) created by distressing experiences like painful personal failures (Oettingen & Gollwitzer, 2002; Oettingen & Stephens, 2009). This work continues to advance our understanding of how people can be trained to add and automatically apply effective meta-cognitive strategies to learn (versus run) from personal failures to refine and tighten the translation of their core self-competencies into realistic new desired selves that one is actually prepared to seize in upward spiral of self-expansion and growth over time.

In our view, this work underscores the vital role that parents, teachers (or psychologi-cal scientists) can play in socializing and expanding the meta-cognitive tool boxes of youth so that they are better prepared to solve adaptive problems like turning early per-sonal failure into learning opportunities for personal growth and expansion. Early inter-ventions that train kids to build and strengthen their protective belts will enhance their preparedness for greater core self-expansion as well as greater self-insight and discovery over the course of their life. In our view, the work can help parents and educators to strengthen a child's protective belt with 'smarter' problem solving strategies that teach kids how to turn the dark water of their early personal failures into the sacred wine of greater personal growth and insight over the lifespan.

Conceptual Implications and Future Directions

Although the neural machinery of the human brain provides for the protective belt to advance preparedness under most conditions, dispositional or situational factors may arise that diminish (or enhance) the effectiveness of protective belts. For example, under certain conditions, the immediate need to deflect the implications of possible self-failure (*via* defensive rather than remedial attributions) may override the protracted desire to consider and learn from the negative experience to improve the subsequent translation of core self-competencies into desired possible self-competencies. Beyond situational conditions, certain developmental and personality variables, such as constructive thinking (Epstein & Meier, 1989) may moderate the effectiveness of self-protective belts in daily life.

Using prospective longitudinal designs, future work could examine the dispositional or situational factors that diminish (or enhance) the effectiveness of the self-protective belt in expanding core selves into better new possible selves that advance growth in the positive heuristic of one's personal narrative. In addition, by using a longitudinal design, future work could test the temporal pathways predicted to run from patterns of possible self-revision to patterns of core self-disturbance or expansion through changes in the efficacy of protective belt solutions. For example, would enhanced (remedial) attribution efficacy translate accumulating possible self-successes into greater core self-expansion in the same way that diminished (defensive) attribution efficacy translates accumulating possible self-failures into greater core self-disturbances?

Of course, perhaps the most intriguing prediction of the present model is that those people who effectively use their protective belt to turn early possible self-failures into positive learning experiences may actually fare better than any other group in the long-run – *even* those who have never experienced personal failure. Although spared the pain of those early stumbles, those who have never experienced personal failure will also never experience the validation of knowing that he/she had successfully transformed early failures into long-term growth and self-expansion. This resulting sense of personal integrity would be the ultimate prize reserved for those who have overcome and risen above personal failure to pave their own road to personal success and growth in life.

Extending the Past into the Present Model

In closing, we realize that this is not the first paper to suggest that possible selves serve to extend core self-schemas they are derived from (Klinger, 1975; Markus & Ruvolo, 1989). Nor, is it the first to propose that SSAs serve to protect core self-images from failure by attributing the failure to temporary personal (stress, fatigue) or situational (prejudice, unfair test) handicaps rather than the dispositional incompetence of self (Sedikides & Campbell, 1999). But, at least to our knowledge, this *is* the first paper to tie possible selves and self-attributions together as (basic ingredients of) the positive heuristic and protective belt that either expand or undermine the core self-theories of a broader personal narrative written (and revised) over a lifetime.

Short Biographies

Patrick J. Carroll, PhD, is currently an assistant professor of psychology at The Ohio State University-Lima. He was a National Institute of Mental Health Postdoctoral Fellow in the Social Psychology program at The Ohio State University from 2004 to 2007. He

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Michael J. McCaslin, Ph.D, is a research analyst in the Customer Insights & Analytics division at Nationwide Insurance Company in Columbus, OH. He earned his Bachelor's (2003) degee in Psychology from Saint Louis University and his Master's (2005) and Doctoral (2010) degrees in Social Psychology from The Ohio State University (OSU). He was the chair of the 2008-09 OSU Social & Behavioral Interest Group Colloquium Series, and in 2009-10 he served as a graduate research assistant at the Nationwide Center for Advanced Customer Insights, an interdisciplinary research center based in OSU's Fisher College of Business. He has presented his empirical work at various regional and national conferences, including the Midwestern Psychological Association and Society for Personality and Social Psychology annual meetings. His research interests lie in understanding how implct and explicit attitudinal processes influence judgments and decision-making in various self, intergroup, and consumer behavior contexts.

Greg J. Norman received his Ph.D in 2010 from The Ohio State University and is now a postdoctoral research scholar at the University of Chicago. Dr. Norman's research interests include social neuroscience and behavioral endocrinology with a specific emphasis on multilevel research that recognizes the reciprocal interactions of biological and social levels of analysis.

Endnote

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