

Why Does Awe Have Prosocial Effects? New Perspectives on Awe and the Small Self

Perspectives on Psychological Science
 2020, Vol. 15(2) 291–308
 © The Author(s) 2020
 Article reuse guidelines:
sagepub.com/journals-permissions
 DOI: 10.1177/1745691619886006
www.psychologicalscience.org/PPS



Joshua D. Perlin^{id} and Leon Li^{id}

Department of Psychology and Neuroscience, Duke University

Abstract

Awe is an emotional response to stimuli that are perceived to be vast (e.g., tall trees, sunsets) and that defy accommodation by existing mental structures. Curiously, awe has prosocial effects despite often being elicited by nonsocial stimuli. The prevailing explanation for why awe has prosocial effects is that awe reduces attention to self-oriented concerns (i.e., awe makes the self small), thereby making more attention available for other-oriented concerns. However, several questions remain unaddressed by the current formulation of this small-self hypothesis. How are awe researchers defining the self, and what implications might their theory of selfhood have for understanding the “smallness” of the self? Building on theories regarding psychological selfhood, we propose that awe may interact with the self not just in terms of attentional focus but rather at multiple layers of selfhood. We further reinterpret the small self using the notion of the quiet ego from personality psychology. Linking awe to an enriched model of the self provided by personality psychology may be fruitful for explaining a range of phenomena and motivating future research.

Keywords

awe, prosociality, small self, personality, narrative identity, ego development

Awe can transform people and reorient their lives, goals, and values. . . . Awe-inducing events may be one of the fastest and most powerful methods of personal change and growth. The potential power of awe, combined with the mystery of its mechanisms, may itself be a source of awe.

—Keltner and Haidt (2003, p. 312)

In 2003, Dacher Keltner and Jonathan Haidt revived an area of study that has, for the vast majority of psychology’s intellectual history, been given short shrift. Building on the work of just a few bygone pioneers (e.g., Maslow, 1964; McDougall, 1910), Keltner and Haidt (2003) defined awe in terms of two prototypical features: perception of vastness and need for accommodation. In short, awe is elicited by stimuli that are perceived to be greater than the self (i.e., vast), and this perceived vastness requires new mental representations to make sense of the experience (i.e., accommodation).

Recent work found that awe produces profound social effects. Awe leads people to feel connected with others (Bai et al., 2017; Van Cappellen & Saroglou,

2012), identify with broad group categories such as “humanity” or “inhabitant of the Earth” (Shiota, Keltner, & Mossman, 2007; Van Cappellen & Saroglou, 2012), and behave prosocially (Piff, Dietze, Feinberg, Stancato, & Keltner, 2015; Prade & Saroglou, 2016; Rudd, Vohs, & Aaker, 2012; Stellar et al., 2017). It is curious that awe has these social effects given that awe is often evoked by nonsocial stimuli. This raises the question: Why does awe, an emotion often triggered by nonsocial stimuli, lead to prosocial outcomes?

The prevailing explanation is that awe makes the self small (Bai et al., 2017; Piff et al., 2015; Shiota et al., 2007; Stellar et al., 2017). Piff et al.’s (2015) small-self hypothesis posits that the perceived vastness of what is beheld leads to the perception that one’s self is small relative to the stimulus. Thus, awe facilitates “a shift in attention toward larger entities and diminishment of the

Corresponding Author:

Joshua D. Perlin, Department of Psychology and Neuroscience, Duke University, Durham, NC 27708
 E-mail: joshua.perlin@duke.edu

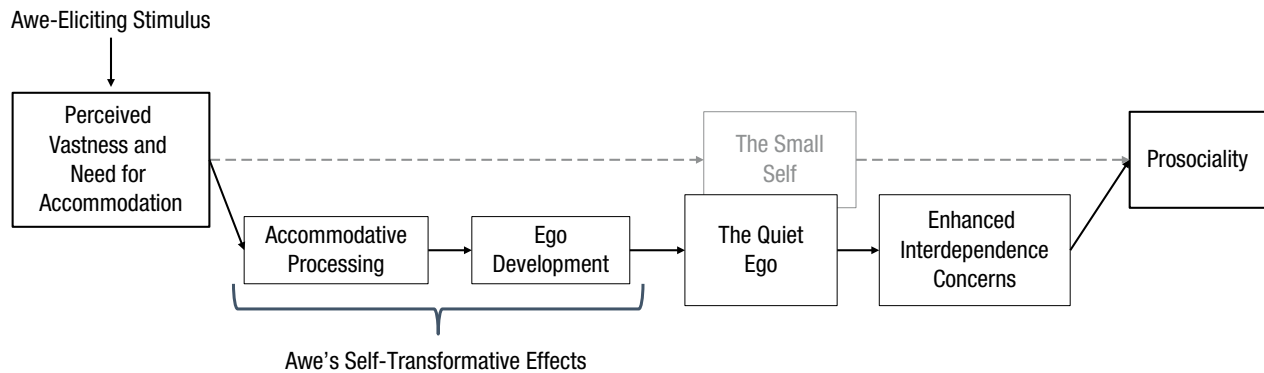


Fig. 1. An elaborated model of awe's prosocial effects. A stimulus is perceived to be vast in ways that necessitate cognitive accommodation, which together constitute the emotion of awe. Extant models propose that awe leads to a small self, which leads to prosociality. This idea is represented in the top half of the figure. We alternatively propose that the small-self mechanism may correspond to underlying personality processes of self-transformation, which include accommodative processing, leading to ego development. These processes in turn promote a quiet ego, which is our reinterpretation of the "small self" construct. Finally, the quieting of the ego gives rise to enhanced interdependence concerns, which engender prosociality.

individual self" (Piff et al., 2015, p. 884). According to this position, awe promotes prosociality by diminishing attention to self-oriented concerns, which in turn makes more attention available for other-oriented concerns. The small-self hypothesis has been supported by empirical findings that feelings of a small self robustly mediate awe's effects on prosociality (Bai et al., 2017; Piff et al., 2015; Shiota et al., 2007).

Nevertheless, the small-self hypothesis may benefit from further clarification and elaboration. Most notably, the small-self hypothesis does not give sufficient consideration to what is meant by *the self*. Within the small-self framework, the self is construed as a locus of attention varying along one dimension—its size. However, the self is more complex than a mere locus of attention; as described by personality researchers, the self is rich, multilayered, and idiosyncratic (e.g., Baumeister, 2010; McAdams, 1995, 2013; McAdams & Pals, 2006; Murray, 1938). If awe's prosocial effects are due to its interactions with the self (Piff et al., 2015), and if the self is more complex than a locus of attention, then it stands to reason that awe's prosocial effects may be due to awe's interactions with multiple levels of the self. In turn, connecting awe to an enriched model of the self may elucidate exactly what is going on when the self becomes "small."

We propose a revised model of the small-self hypothesis (see Fig. 1). We argue that a viable reinterpretation of the small self may be Wayment and Bauer's (2008) notion of the quiet ego. The quiet ego is a description of the self at higher levels of psychological maturity—a self characterized by an appreciation of self–other interdependence (Wayment, Bauer, & Sylaska, 2015), internal motivations to behave prosocially (McAdams, 2008; Wayment & Bauer, 2018), and an orientation toward

growth (Bauer, 2008; Wayment & Bauer, 2018). Awe may facilitate identity reconstruction in the direction of a "quieter" ego through its criterion of need for accommodation. Accommodation (i.e., the revision of one's ordinary frame of reference to make sense of and integrate disruptive life experiences) has been shown to drive personality development (Block, 1982) in ways that promote greater psychological maturity (Helson & Roberts, 1994; King, Scollon, Ramsey, & Williams, 2000; Lilgendahl, Helson, & John, 2013). In sum, we propose that awe, rather than strictly diminishing attention to the self, facilitates growth in the form of a quiet ego. In turn, a quiet ego increases prosocial motives and results in enhanced prosocial action.

To justify this revised model, we begin by detailing three novel critiques of the small-self hypothesis. Next, we address these three critiques with reference to the three layers of selfhood described by McAdams's (2013) integrative framework, thereby elaborating on what is meant by *the self*. Then, we describe the personality development processes that may underlie awe's promotion of a quiet ego, thereby clarifying what is meant by *the self becoming small*. Answering these two questions enables us to answer our overarching question: Why does awe have prosocial effects?

Three Critiques of the Small-Self Hypothesis

The small-self hypothesis puts a premium on attentional shifts as the driving force in awe's prosocial effects. However, a more nuanced interpretation of awe's effects may be necessary when linking awe to an elaborated account of what is meant by *the self*. Furthermore, an enriched model of selfhood may clarify what is meant

by *the self becoming small*. In this section, we submit three specific critiques of the small-self hypothesis that have not been raised or addressed in the awe literature to date. These critiques guide our analysis of the existing research on awe and inform our revised model of awe's prosocial effects.

First, the small-self hypothesis contends that awe prompts shifts in attention from self-oriented concerns to other-oriented concerns; however, this shift necessarily pits self-oriented concerns against other-oriented concerns. Indeed, Piff et al. (2015) argued that awe "influences whether individuals behave in ways that prioritize the *self versus others* [emphasis added] in the social environment" (p. 884). However, it is questionable whether these two types of concerns are always in conflict; arguably, they may not be mutually exclusive or even independent. Indeed, humans evolved in cooperative, interdependent contexts in which self-oriented and other-oriented concerns were in alignment (Tomasello, 2016, 2019; Tomasello, Melis, Tennie, Wyman, & Herrmann, 2012; Vaish & Tomasello, 2014). Furthermore, a long line of empirical work suggests that the two primary motivational themes of agency (i.e., concerns about autonomy and mastery) and communion (i.e., concerns about affiliation with others) are orthogonal. In other words, individuals can express both high agency and high communion (McAdams, 1985), and those who integrate both themes often exhibit profound prosocial motives and deep concern for others (Frimer, Walker, Dunlop, Lee, & Riches, 2011; Mansfield & McAdams, 1996). The primary implication of this critique is that attention may not shift entirely away from the self in the wake of awe—the self may actually exert an influence on awe's prosocial effects.

Indeed, attention cannot be the whole story. The second critique pertains to the assumption that *attentional prominence* may be equated to *motivational prominence* such that increased attention to others necessarily entails increased motivation for acting on other-oriented concerns. However, the mere fact that attention has shifted to others does not mean that one would be motivated to act in prosocial ways. The implication of such a critique is that some intrinsic factor may be at play in generating awe's prosocial effects. Personality psychology has long been interested in questions regarding internal motivation (McAdams, 1997), and leaning on this research may prove fruitful for understanding awe's effects. Of course, we do not mean to say that—at some abstract level—attending to the concerns of others would not in and of itself be motivating. That said, we ask: What processes internal to the self are driving motivational prominence?

Third, the small-self hypothesis does not sufficiently address awe's transformative capacities. Returning to

the epigraph, Keltner and Haidt (2003) noted in their seminal work that awe often exerts transformative effects on individuals that affect their "lives, goals, and values" and facilitate "personal change and growth" (p. 312). Additional qualitative and theoretical work (e.g., Bonner & Friedman, 2011; Chirico & Yaden, 2018; Schneider, 2011) echoed this sentiment. The potential for awe to promote psychological growth is, of course, highly impressive and deserving of further clarification. However, scant attention has been given to "the mystery of its mechanisms" (Keltner & Haidt, 2003, p. 312); in other words, how do these processes of growth and transformation actually unfold, especially in relation to awe's prosocial effects? Arguably, these transformative effects are not reducible to the attentional shifts of the small-self mechanism.

Clearly, the small-self hypothesis as it currently stands is incomplete. To be sure, we do not intend to negate the small-self hypothesis; on the contrary, the aim of this article is to redress several of its theoretical shortcomings to ultimately enhance its explanatory power. We do so by linking the small-self hypothesis to enriched notions of the self predicated on McAdams's (2013) integrative framework of psychological selfhood. According to McAdams, selfhood is a confluence of three distinct layers: (a) the self as social actor, (b) the self as motivated agent, and (c) the self as autobiographical author. McAdams's multilayered framework is well suited for unifying scattered empirical and theoretical research about the self. Therefore, we use it to detail the ways in which awe interacts with the various layers of selfhood.

McAdams's (2013) three layers each correspond to one of the three critiques of the small-self hypothesis. First, considerations of the self as social actor explain why self-oriented and other-oriented concerns are not mutually exclusive. In line with this idea, we argue that awe may enhance attention not to other-oriented concerns but rather to interdependence concerns, which balance the interests of self and other. Second, analyzing the self as motivated agent accounts for the missing feature of motivational prominence. We argue that the dichotomizing of self and other (with attention directed away from the self according to the small-self hypothesis) has foreclosed considerations of internal motivation in awe's effects. We discuss how central motives, valued goals, and personal beliefs moderate awe's effects and create meaningful individual differences in prosocial motives. Third, examining the self as autobiographical author sheds light on the processes underlying awe's transformative effects as well as how these processes may bear on awe's prosocial effects. We argue that awe, through its criterion of need for accommodation, promotes accommodative processing

in the life story (see King et al., 2000; Lilgendahl et al., 2013). This self-transformation gives rise to greater psychological maturity, which is indeed associated with enhanced interdependence concerns and prosocial motives.

What Is Meant by the Self?

To begin, the small-self hypothesis is currently under-theorized in relation to the complexity of the self. The starting point for McAdams's (2013) framework about psychological selfhood is *reflexive identity*, which states that the self includes both the individual's "looking outward" at the world (the experiencing self) as well as the focal object of the individual's "looking inward" at themselves (the experienced self). Reflexive identity has been described in terms of the "I" who constructs and identifies with the "Me" (James, 1890/2007; McAdams, 2013). The Me is ostensibly what awe researchers describe as becoming small. However, awe researchers have not taken account of the varied and complex ways that the I constructs the Me. In describing McAdams's three layers of selfhood and linking them to research on awe, we can situate our critiques of the small-self hypothesis within an enriched theory of the self.

Layer 1: the self as social actor

The reflexive self begins as a social actor, playing roles and performing parts within cooperative communities (Goffman, 1959). Human beings are, above all else, exquisitely social creatures. We come into the world evolutionarily equipped with skills and motivations for sharing attention with others and in turn participating in complex social systems (Tomasello, 2009). Human ultrasociality was evolutionarily selected for via pressures present in ancestral niches of obligate collaborative foraging—simply put, contexts in which survival required cooperation with others. To this end, awe may have played a role in the evolution of social cooperation because it promotes the coordination of group goals (Keltner & Haidt, 2003; Stellar et al., 2017).

One implication of the idea that humans evolved for interdependent cooperation is that self-oriented concerns may not be neatly separable from other-oriented concerns; indeed, our very sense of self hinges on our evolved capacity and need for sociality. In ancestral cases of interdependence in which success depended on collective action (e.g., hunting large animals, combating enemy out-groups), one's own self-oriented concerns were deeply intertwined with others' concerns. "You" and "I" may get to eat only if "We" both get to eat; if we don't succeed together, we both go hungry together. As a result of interdependence selection

pressures, humans evolved to identify strongly with collectives (Over, 2016; Tomasello et al., 2012; Vaish & Tomasello, 2014). However, the small-self hypothesis belies this fact by separating attention to the self from attention to others and portraying attention to self-oriented concerns as inherently antithetical to other-oriented concerns. Although Piff et al. (2015) suggested that awe may channel attention toward "collective dimensions of personal identity" (p. 884), they excluded self-oriented concerns from these collective considerations by framing prosociality as a zero-sum game between one's own interests and others' interests.

This zero-sum framing may be traced back to Keltner and Haidt's (2003) evolutionary hypothesis that awe evolved to promote acquiescence and fidelity to powerful group leaders. This view accords with existing theories about a small self; when individuals are in awe of a powerful social figure, they feel small and thus subordinate their interests to those of the more powerful figure. In turn, the subordination of self-interest would reinforce status hierarchies, thus facilitating group cohesion (Stellar et al., 2017). However, if awe's effects are restricted to this subordination process, the emotion described as awe may be captured more parsimoniously by another emotion: deference. Deference, argued Keltner and Haidt (2003), is characterized by perceived vastness but lacks the need for accommodation. If deference evolved as a specialized adaptation for the function of subordinating one's interests, then it is likely that awe, as a separate emotion, would have evolved for functions other than those already served by deference. The "powerful social figure" interpretation of awe is a natural consequence of the view that self-oriented concerns are necessarily at odds with other-oriented concerns. In pivoting toward Tomasello's (2016, 2019; Tomasello et al., 2012) model, we eliminate the middleman of the powerful social figure who enforces status hierarchies and group cohesion. Instead, in line with Tomasello (2016, 2019), we propose that awe may enhance capacities for group-mindedness and collective concern that are natural parts of human cognition.

Because we evolved to live and act interdependently, our values and intrinsic motives include not only what Tomasello (2016, 2019) called *me-concerns* (i.e., selfish concerns about my own well-being) and *you-concerns* (i.e., prosocial concerns about others for their own sake)—both of which are shared by our closest primate relatives—but also *we-concerns* (i.e., collective concerns that pertain to the interests of our interdependent we beyond any one person's individual interest). Interestingly, the age at which we are thought to develop we-level thinking (around 3 years of age) as described by Tomasello (2019) approximately corresponds to the age at which we are thought to recognize ourselves as

social actors as described by McAdams (2013). We propose that the prosociality evoked by awe might reflect the enhancement not of you-concerns but rather of we-concerns. This is empirically supported in that awe expands the self-concept to include broad group categories beyond one's in-group (Shiota et al., 2007). Moreover, self-transcendent emotions (of which awe is a specific case; e.g., Van Cappellen & Rimé, 2014) have been theoretically and empirically linked to enhanced self/other overlap (Yaden, Haidt, Hood, Vago, & Newberg, 2017).

The evolutionary contexts that gave rise to we-level thinking also engendered the ability to notice individual variation in others' traits, which are the principal units of personality at the layer of the social actor (McAdams, 2015, 2016). The capacity to notice others' traits is a necessary feature of successfully evaluating others as potential partners for collaborative enterprises (Engelmann, Herrmann, & Tomasello, 2012; McAdams & Pals, 2006; Tomasello, 2016, 2019). Building on this idea, we argue that a crucial adaptation for cooperative settings was the capacity to self-regulate, that is, to evaluate one's own reputation as a potential partner from the imagined perspective of others. This capacity took the form of constructing a reflexive cooperative identity, which requires the ability to turn one's evaluative gaze toward oneself (Tomasello, 2019). Reflexive identity, then, may very well be grounded in evolutionary pressures for interdependence, which generated the need to understand one's reputational standing within the group (Chudek & Henrich, 2011; DeScioli & Kurzban, 2018; McAdams, 2015, 2016; Sripada, 2005). Indeed, according to McAdams (2013), the primary function of the social actor layer of selfhood is self-regulation because individuals monitor and evaluate their performances on social stages. In doing so, individuals internalize the ways that others view them; that is, individuals ascribe dispositions and traits to themselves.

There is a nascent body of literature addressing links between dispositional traits and awe. One promising link between awe and dispositional traits concerns awe's association with humility, which is particularly useful as a framework for thinking about a small self in the wake of awe. For example, one study found that dispositional awe was related to peer reports of trait humility (Stellar et al., 2018, Study 1). Stellar et al. (2018) also demonstrated a robust link between awe and state humility. Namely, over a 2-week period, individuals reported feeling more humble on days when they also reported feeling more awe (Stellar et al., 2018, Study 2). Although state humility is not a characteristic disposition, the link between awe and state humility evinces awe's capacity for enhancing qualities essential to self-other interdependence concerns. Finally, individuals

in an awe condition attributed their accomplishments to external forces to a greater extent (on a sliding scale of 0%–100%) than individuals in a neutral or amusement condition. However, individuals in the awe condition still imputed, on average, only approximately 55% of the responsibility for their achievements to external forces (Stellar et al., 2018, Study 4). This finding provides converging evidence for the increased sense of balanced interdependence, rather than strict self-diminishment, that arises in the wake of an awe experience.

Studies have also found a fairly consistent association between trait Openness to Experience and awe. Both self-reports and peer reports of Openness are correlated with dispositional awe-proneness (Shiota, Keltner, & John, 2006). Furthermore, Openness has shown significant associations with the experience of awe when experimentally induced across different domains (Silvia, Fayn, Nusbaum, & Beaty, 2015) and measured with self-reports (Yaden et al., 2019). Interestingly, Openness is the only Big Five trait to demonstrate associations with the accommodation subfacet of awe in the Awe Experience Scale (Yaden et al., 2019). As suggested throughout this article, accommodation is essential for psychological growth in the direction of a quiet ego, which emphasizes self-other interdependence. In line with our discussion of humility, it makes good conceptual sense that awe would show such an association given that one aspect of Openness is tolerance for embracing new values and ideas, a hallmark quality of interdependence.

In sum, awe may enhance concerns about self-other interdependence. Tomasello (2016, 2019) conceptualized interdependence concerns (we-concerns) as one of the individual's deeply valued motives that constitute a central part of reflexive identity. An important implication of our theoretical pivot to Tomasello's (2016, 2019) theory, which we embed within McAdams's (2013) social actor layer of selfhood, is that attention is not directed wholly away from the self in the wake of awe. Rather, attention is actually directed toward central aspects of the self, such as broad motives, valued goals, and personal strivings, which may be indispensable to the manifestation of prosocial action following awe. To this point, the introduction of we-concerns to research on awe serves as a foundation for the claim that attention to self-oriented concerns does not entail purely selfish motivations, as apparently construed by the small-self hypothesis. Our position is consonant with how Maslow (1961) described the influence of peak experiences on identity construction. Maslow claimed that during peak experiences, the individual both "feels himself . . . to be the responsible, active, creating center of his activities" (p. 256) *and* cultivates an attitude of "respecting-loving the other" (p. 257). He went on to

say that peak experiences facilitate the sense that “the intrapsychic (me) and the extra-psychic (other) are not so terribly different after all, and *certainly* are not *really* antagonistic” (p. 258).

As a consequence of positing a strict self–other dichotomy, the small-self hypothesis neglects internal motivation. The small-self hypothesis renders attention as directed either internally or externally but does not explain why these shifts in attention would necessarily lead to shifts in motivation. By claiming that awe’s effects are simply due to an orienting of attention externally, small-self researchers overlook the influence that internal motives may exert on awe’s effects, thereby underappreciating the degree to which internal motives and values are promotive of prosocial action. By appealing to internal motives and values, it also becomes evident that individual differences in personal concerns play a role in awe’s effects. The view that awe prompts a broad reorientation to interdependence concerns does not give us insight into how that concern for interdependence becomes manifest in actual behavior. Does an individual donate money to environmental causes? Does one set aside time to volunteer for community betterment activities through one’s house of religious worship? These more personalized dimensions of motives and values are the purview of the next layer of psychological selfhood: the self as motivated agent (McAdams, 2013).

Layer 2: the self as motivated agent

McAdams (2013) defined the self in the second layer as a motivated agent. This layer of selfhood corresponds to what McAdams (1995) described as the second level of personality, consisting of *personal concerns* (sometimes referred to as *characteristic adaptations*; see McAdams & Pals, 2006). These include long-term goals, values, ideologies, cognitive schemas, and personal strivings, which are all contextualized in time and place (McAdams, 1995; McAdams & Pals, 2006). McAdams (2013) argued that values, ideologies, and beliefs exert a powerful influence on the goals that motivated agents pursue. Empirical work suggests that awe interacts with this layer of selfhood by making internal, central, and self-relevant goals and values more salient (e.g., cultural values, Bai et al., 2017; spirituality, Van Cappellen & Saroglou, 2012). Yet, the role of motivation in the small-self hypothesis has remained undertheorized.

To begin, if awe increases the salience of one of an individual’s central motivations, then what exactly are small-self researchers observing when they find that awe “reduces the significance the individual attaches to personal concerns and goals” (Piff et al., 2015, p. 884)? Furthermore, what are small-self researchers

noticing when they observe shifts in attentional prominence? In our interpretation, this finding may reflect a shift in attention and salience not away from internal concerns and toward external concerns but rather away from peripheral concerns and toward more central concerns. That is, personal concerns and goals are multi-tiered: Some concerns are more peripheral (i.e., less important) to an individual’s sense of self relative to other concerns, which are more central (i.e., more important). For instance, the 10 a.m. coffee meeting on one’s calendar is bound to be less important to one’s sense of self relative to concerns about being a good parent. The importance of these concerns and goals is often culturally and developmentally inflected (Erikson, 1950; McAdams & Pals, 2006); one’s culture strongly influences what one may consider to be valuable and worthwhile goals in particular settings (Tomasello, 1999). The variability in the centrality of personal concerns and goals is a nuance that has not been captured by the small-self hypothesis. We argue that awe’s need for accommodation may specifically unfetter us from peripheral concerns, which in turn facilitates an individual’s reorientation toward central concerns (e.g., valued goals, ideologies, and beliefs).

How are personal concerns and goals organized by centrality? Dating back to the origins of American psychology, William James (1890/2007) postulated that the Me has three layers of varying centrality: the material, the social, and the spiritual. The spiritual Me is described as one’s most authentic nature, whereas the material and social layers of the Me constitute more peripheral aspects of one’s identity. This intellectual tradition gave rise to Erikson’s (1968) conception of a continuous *ego identity* consisting of enduring beliefs, perspectives, values, and goals (Hammack, 2015). Thus, the delineation between one’s day-to-day experiences and the enduring values that undergird the Me sets up a contrast between peripheral concerns and central concerns. Peripheral and central concerns have been elaborated on by self-concept researchers, who contend that individuals possess *self-schemas* (e.g., Markus, 1977; Markus & Kunda, 1986). Self-schemas are hierarchically organized such that some self-schemas are more central to an individual’s self-concept relative to other self-schemas that are more peripheral (Markus & Wurf, 1987; Sedikides, 1995).

However, in empirical work on the small self, this distinction has been largely overlooked. Shiota et al. (2007) found that awe specifically reduced attention to day-to-day concerns, but they made no reference to awe’s possible interactions with central, enduring concerns. Moreover, the most frequently cited metric for assessing the small self (Piff et al., 2015) relies on a 10-item questionnaire that also does not draw this distinction. In the

study by Piff et al. (2015), participants responded to items such as “I feel like my own day-to-day concerns are relatively trivial” and “In the grand scheme of things, my own issues and concerns do not matter as much” (p. 892). Although these items may indeed capture awe’s effects on peripheral concerns, they may fail to capture awe’s interaction with central concerns.

Plausibly, awe may exert different effects on central as opposed to peripheral concerns because of their differences in stability. Central self-schemas are more entrenched and enduring over the individual’s life span, whereas peripheral self-schemas are more situationally localized and temporally confined. Peripheral self-schemas may accordingly be more subject to circumstantial influences (e.g., dissolution during accommodation) than central self-schemas. For instance, Sedikides (1995) found that changes in mood exert more profound effects on peripheral self-conceptions than on central self-conceptions. In particular, peripheral self-conceptions but not central self-conceptions are subject to mood-congruency effects. For example, priming a positive mood leads to greater endorsements of positive peripheral self-conceptions; however, central self-conceptions are relatively unaffected by mood (Sedikides, 1995).

Given this research, awe can be theorized to release one from the strictures of one’s more localized concerns (e.g., “What is on my calendar for 10 a.m.?”). According to this view, it may be that awe does not direct attention away from the self as a whole but rather away from more peripheral aspects of the self. This view—that awe may interact with concerns of varying levels of centrality—accounts for differences in the emotional magnitude of different awe experiences. Some awe experiences may not be very stirring or moving because they reach only an outer, peripheral layer of concerns. In contrast, intense awe experiences may (to use fitting colloquialisms) “shake us to our core,” help us reach “rock bottom,” or make us “realize what’s important in life” because these experiences disrupt deeper and deeper peripheral concerns and in turn compel us to reevaluate our self-identity with respect to our deepest values, goals, and strivings. Awe, then, may be a context-dependent emotion that prompts revision (accommodation) of lower-order goals in proportion to the magnitude of the awe experience.

In line with this argument, a useful theoretical perspective on the interaction of higher-order and lower-order goals is Emmons’s (1986, 1989) model of personal strivings. Relevant to our analysis, Emmons (1995) considered personal strivings to be manifest at Level 2 (personal concerns) of McAdams’s (1995) framework. Emmons (1989) argued that personal strivings are “superordinate abstracting qualities that render a cluster of goals functionally equivalent for an individual”

(p. 92). In short, personal strivings help to integrate varied context-specific goals under the same thematic umbrella. Personal strivings (e.g., give back to my community) are midlevel motivational units that derive from wide-ranging motives (e.g., we-concerns) and lead to more specific tasks and projects (e.g., volunteer one’s time), which in turn manifest in localized behaviors (e.g., work in a soup kitchen). In this sense, there is an internal logic to goals, which is maintained all the way down even as goals become more contextualized and specified, increasingly distant from their abstract formulations. Furthermore, this model is consistent with our arguments insofar as low-level tasks and action units may be said to constitute more peripheral aspects of motivation, whereas high-level motives and personal strivings may be said to be more central. This model therefore explains how the most central, abstract motives (e.g., broad concerns related to we) are translated into peripheral, concrete actions (e.g., prosocial behaviors). An important implication of this model is that global motives are not necessarily anchored to any single personal striving, specific project, or localized behavior. Therefore, Emmons’s (1989) model—which fits neatly into McAdams’s (2013) motivated agent layer of selfhood—may partly explain how awe’s effects are contoured by individual differences in self-identity. For example, a broad motive for interdependence concerns may take the form of volunteering in a soup kitchen for one individual or fundraising at a school arts program for another, yet these may actually both be expressions—albeit different expressions—of the same underlying global motive. These differences in specific actions may reflect individual differences at relatively central units of self-identity, such as values, personal strivings, and ideologies.

Research from the awe literature provides evidence that this hierarchical model of motivation may be needed to explain awe’s effects. Specifically, individualized central concerns have been shown to play a powerful motivational role in the effects of awe. For example, Van Cappellen and Saroglou (2012) found that different awe elicitors (i.e., videos of nature vs. videos of childbirth) gave rise to different emotional responses depending on the magnitude and quality of participants’ religiosity/spirituality. Awe elicited by nature led those who scored high on spiritual universality to feel greater closeness with human beings broadly but not with friends specifically. Awe elicited by childbirth led those who scored high on religiosity as well as those who scored high on spiritual connectedness to feel greater closeness with friends but not with humans more broadly. Thus, the quality of a personal concern (religiosity/spirituality) modulated the relation between awe and a social outcome. Note that this social outcome

pertained to identification with group labels, an aspect of self-construal that was associated with awe in previous research (Shiota et al., 2007). Building on this point, research has also shown that cultural values and concerns, such as collectivism versus individualism, moderate the impact of awe on perceptions of one's social network. As shown by Bai et al. (2017), awe leads Chinese participants to feel more closely connected with others (i.e., greater relational depth), whereas awe leads American participants to perceive that they have more social ties (i.e., greater relational breadth). Thus, central motives and values may intervene in the relation between awe and sociality.

Van Cappellen and Saroglou (2012) further examined the effects of awe induction on participants' willingness to act on spiritual behavioral intentions. For participants who were led to feel awe, self-reported religiosity and spirituality correlated with the desire to visit a spiritual—but not a hedonic—travel destination. That is, for participants for whom spirituality was more of a central concern, awe promoted the priority of an explicitly spiritual behavior. Therefore, awe may have increased the salience of more central concerns, and this had downstream consequences for behavioral intentions. In addition, awe may, through its disruption of peripheral concerns and goals, give rise to opportunities to develop self-concordance, that is, “the degree to which stated goals express enduring interests and values” (Sheldon & Elliot, 1999, p. 482). Put differently, awe may enable individuals to “realize what is important” through the process of accommodation, which offers the chance for individuals to generate lower-order goals (specific tasks and localized behaviors) that are congruent with their higher-order goals and values (e.g., the individual who values spirituality feels more inclined to select a travel destination that is congruent with his or her central concerns).

One's most central concerns include concerns about interdependence (Tomasello, 2016, 2019). In the context of Emmons's (1989) model, interdependence concerns may represent an abstract motive at the top of the motivation hierarchy because of the blending of agency and communion (e.g., McAdams, 1985; Wayment et al., 2015). Interdependence concerns then permeate personal strivings, individualized tasks/projects, and specific action units. Thus, whereas central Level 2 personal concerns, values, and strivings represent individual differences that may moderate awe's effects, awe may transform individuals in terms of their most abstract motives in ways that enhance deep interdependence concerns. Our arguments are evidenced by the fact that awe broadly increases feelings of social connection but that individualized concerns and values (e.g., collectivism, spirituality) moderate the specific quality of that social connection (e.g., Bai et al., 2017; Van Cappellen & Saroglou, 2012).

In the next section, we argue that awe gives rise to personal transformation and growth via the need for accommodation, which in turn prompts accommodative processing in the life story. The layer of the motivated agent cannot describe the processes of transformation because it does not capture the thematic construction and temporal continuity of the self. Describing these processes of identity construction and personal transformation requires attending to the life stories individuals tell.

Layer 3: the self as autobiographical author

The third layer of selfhood, which describes the self as an autobiographical author of a unique life story, corresponds to McAdams's (1995) Level 3 of personality. At this level, personality can be analyzed in terms of the individual's evolving and internalized *narrative identity* (McAdams & McLean, 2013; Singer, 2004). Narratives help people thematically integrate the past, present, and future in the service of making meaning out of life's varied experiences. Self-continuity is the primary function of autobiographical authorship (McAdams, 2013), and self-continuity is evident in a narrator's use of *autobiographical reasoning*, the capacity to connect one's experiences to one's sense of self (Habermas & Bluck, 2000; McLean & Fournier, 2008; Singer & Bluck, 2001). This narrative practice reflects the most ontogenetically sophisticated process by which the I constructs the Me (McAdams, 2013). Crucially for our argument, autobiographical reasoning enables transformations of the life story in ways that may promote change and growth (Lilgendahl & McAdams, 2011; Pasupathi, Mansour, & Brubaker, 2007). Research on narrative identity, then, may shed light on the processes of transformation spurred by awe.

Narrative researchers have begun to investigate phenomena that bear conceptual similarities to awe, although this work is in its infancy. For example, Reischer, Roth, Villarreal, and McAdams (2019) conducted a qualitative analysis of life story episodes (see McAdams, 1993) to uncover the prototypical narrative themes associated with self-transcendence. They found that four themes marked the life stories of those who reported the highest scores on a measure assessing self-transcendence. These four themes were self-actualization, closure, spiritual pluralism, and interconnectedness. *Self-actualization*, predicated on Maslow's (1943) original formulation, refers to a deep understanding of one's sense of self and a commitment to one's ideals. *Closure* describes a narrator's acceptance of diverse life experiences. *Spiritual pluralism* refers to the narrator's feeling of connection to a higher power (including but not limited to a god figure) and belief that all others may

likewise revel in this spiritual connectedness. Finally, *interconnectedness* highlights the narrator's sentiment of unity with an increasingly expansive social network, including potentially all of humanity. These themes provide suggestive evidence for many claims in this article. Specifically, self-transcendence (of which awe is, again, a specific case; e.g., Van Cappellen & Rimé, 2014) may reflect not a mere diminishing of the self but rather a deepening of the self. This deepened understanding of the self includes a renewed commitment to fulfill valued goals and central motives, which we emphasized in the previous discussion of the self as a motivated agent. In addition, the expression of interconnectedness found in the narratives of highly self-transcendent individuals supports our claim that awe enhances interdependence concerns.

Building on this point, Bauer and McAdams (as cited in Bauer, 2008) found that self-transcendent growth narratives that emphasized unity with all of humanity were prospectively associated with heightened psychological maturity (operationalized as *ego development*; see Loevinger, 1976), which is defined at higher levels by an enhanced sense of interdependence. In Loevinger's (1976) framework, the ego, representing the structural unity of one's personality, was thought to develop in the sense of becoming more organized, self-regulated, and tolerant of complexity in relation to one's social and physical environment (Loevinger, 1976). In this way, Loevinger's conception of psychological growth in terms of ego development recalls Piagetian theories of cognitive development. Indeed, later research has suggested that psychological maturity and ego development are associated with processes of self-exploration, cognitive integration, and change (Bauer, McAdams, & Pals, 2008; Bauer, McAdams, & Sakaeda, 2005; King, 2001; King & Smith, 2004; Pals, 2006). These processes are often described using the Piagetian (Piaget, 1950) concept of *accommodation* (e.g., Helson & Roberts, 1994). We argue that accommodation is the jumping off point for understanding the relations among awe's transformative effects, its prosocial effects, and autobiographical authorship. Building on Block's (1982) seminal thesis that Piagetian accommodation is an integral part of personality change, we argue that the need for accommodation elicited by awe-inspiring stimuli may be a key driver of self-transformation, personal growth, and psychological maturity.

Accommodation has been robustly linked to the self and personality at the layer of narrative identity (King, 2001; King et al., 2000; King & Hicks, 2007; King & Raspin, 2004; King & Smith, 2004; Lilgendahl et al., 2013; for a review, see Adler, Lodi-Smith, Philippe, & Houle, 2016). Accommodation within the context of

constructing a narrative identity has been described using the term *accommodative processing*, which refers to reflection on the "transformative impact" (Lilgendahl et al., 2013, p. 405) of life events that challenge existing frames of reference (see also King et al., 2000). Accommodative processing has been empirically associated with psychological maturity vis-à-vis ego development (Helson & Roberts, 1994; King et al., 2000; Lilgendahl et al., 2013); these outcomes are specifically associated with an appreciation of self-other interdependence (see Loevinger, 1976). As we will show, awe may be—to use Loevinger's (1976) terminology—a "pacer," a psychologically rich experience that disrupts frames of reference in ways that encourage ego development.

Before we discuss this further, though, a brief note is required on why identity reconstruction would be evoked by the kinds of nonsocial stimuli that are classically thought to be awe-inspiring. These stimuli may not seem immediately relevant to the self. The explanation for why these stimuli do evoke identity reconstruction is that awe is indeed conducive to self-referential thought. The small-self hypothesis itself draws on a similar logic given that the small-self mechanism *is* self-referential; the perception that a stimulus is vast is necessarily based on a comparison of the stimulus to oneself. However, even if awe does trigger self-referential thought, the question remains whether this self-referential thinking would necessarily lead to deep self-exploration and complex reconstructions of one's identity. The explanation for why it does is that cognitively challenging experiences in general necessitate integration into personality (Block, 1982; Helson & Roberts, 1994), of which narrative identity is a crucial part (McAdams, 1995). Indeed, Danvers, O'Neil, and Shiota (2016) theorized that awe temporarily diminishes a sense of coherence in life and prompts a search for meaning, two issues resolved in the course of constructing a unified and meaningful life story (McAdams & McLean, 2013). Danvers et al. (2016) noted that "if this search for an explanation is applied to the personal problem of living . . . people may be spurred to find . . . a sense of coherence among the various strands of one's life, and an explanation of who one truly is" (p. 331). This idea suggests that awe may spur deep self-exploration and processes of accommodative change.

Turning to empirical research on accommodative processing and growth, King et al. (2000) examined processes of accommodative change in life transition narratives provided by parents recounting the experience of learning that their child had Down Syndrome. Parents who displayed themes of accommodative change reported greater subjective stress-related growth and demonstrated enhanced ego development prospectively compared with parents who did not show such

themes. Lilgendahl et al. (2013) conceptually replicated these results within a sample of midlife adults. They found that women who narrated challenging life experiences at age 52 using themes of accommodative processing demonstrated increased levels of ego development between the ages of 43 and 61. Furthermore, they found that accommodative processing was correlated with ego level only at age 61, not at age 43, suggesting that the causal direction points from accommodative processing to ego level and not vice versa. Finally, much of the literature on accommodative processing and ego development addressed questions about what Markus and Nurius (1986) called *possible selves*. This program of research aligns nicely with our arguments about awe's effects on motivated agents because it is through narrative that individuals connect the valued goals of possible selves to a broader life story spanning the past, present, and future—a story that describes “who I was, who I am, and who I aim to be” (McAdams, 2013, p. 279). King and colleagues (King & Patterson, 2000; King & Raspin, 2004; King & Smith, 2004) found that accommodative processing in narratives of lost possible selves prospectively predicts personal growth and ego development. King and Hicks (2007) argued that

Accommodation is reflected in thoughtful examination of lost goals and the reconstruction of and reinvestment in new goals. . . . Accommodative self-reflection, spurred by goal disruption, may lead to increasing levels of understanding. The construction of a new future toward which to strive—that is, engagement with a new best possible self—would then indicate that an individual has fully accommodated the loss. (p. 627)

Accommodation, then, is the process by which we reflect on disrupted goals and gain self-understanding. That is, attention is directed toward deeper, more central parts of the self as individuals reflect on their lives and engage in self-exploration. In line with these self-reflections on what the individual feels is valuable and important, individuals create a revised life story, changing their goals and constructing “a new best possible self” in ways that are individually contoured. For one person (who values religion), this revised life story may mean becoming a missionary for their church, whereas for another (who values environmental causes), it may mean becoming engaged in conservation efforts. For both, though, this process leads to ego development broadly.

Despite the conceptual overlap between awe's need for accommodation and accommodative processing in the life story, accommodative processing has almost

exclusively been discussed within the context of difficult life experiences. Researchers have broadly claimed that processes of complex identity differentiation (those that promote rich self-transformation) and change are more likely to be achieved through productively narrating negative episodes as opposed to positive episodes (Lilgendahl & McAdams, 2011; McLean, Pasupathi, & Pals, 2007). This claim is made because negative experiences are inherently disruptive to a coherent life story, whereas positive experiences may accord with one's cultural life script (Berntsen, Rubin, & Siegler, 2011). However, we argue that awe merits attention as a (typically) positive experience that may promote psychological maturity (for a discussion of negatively valenced awe, see Gordon et al., 2017). Intensely positive experiences (see Burton & King, 2004, 2009) may require deep exploration, meaning-making, and healthy integration into the life story just as negative experiences do. Indeed, King and colleagues (Burton & King, 2004; Heintzelman & King, 2014; King, 2001) argued that it is not only the productive narration of difficult experiences that can incur benefits and necessitate reconfigurations of the life story. Rather, such reconfiguration may be needed for any event that exceeds the bounds of one's interpretive capacities for making meaning of experience (Heintzelman & King, 2014). Given that Burton and King (2004, 2009) based their operationalization of intensely positive experiences on Maslow's (1971) construct of peak experiences (a precursor to the contemporary psychological study of awe), awe may qualify as just such an experience requiring coherent integration into the life story. This process of integration appears to occur most notably through accommodation.

In short, awe may spur accommodative processing, which is associated with psychological maturity, growth, and ego development. But how are these transformational processes specifically tied to prosocial motivations? Research has shown that increasingly higher levels of ego development are associated with prosocial personality characteristics, such as interpersonal integrity. Interpersonal integrity consists of two subcategories: moral soundness (i.e., honesty, ethical steadfastness, and relational responsibility) and interpersonal closeness (i.e., affiliative motives); ego development shows associations with both subcategories (Westenberg & Block, 1993). Westenberg and Block (1993) also found that ego development was associated with psychological mindedness, which encapsulates personality dimensions of “introspectiveness, self-knowledge, and a general awareness and examination of motives in self and others” (p. 796). This finding suggests that the prosocial tendencies of those high in ego development must be congruent with self-reflective tendencies. Thus,

if awe transforms via accommodative processing (leading to ego development), then awe's prosocial effects must not be based solely on attentional shifts to others; rather, these prosocial effects may be based on one's deepened understanding of oneself and one's motives.

This further resonates with Reischer et al.'s (2019) finding that those high in self-transcendence narrate varied life experiences with greater emphasis on deepened self-understanding than those low in self-transcendence. These diverse findings contrast the view that awe results in an attentional self–other dichotomy; clearly, awe can result in enhanced self-understanding (involving attention to the self) in addition to increased concern for others, which together reflect an appreciation for interdependence concerns. This idea is in line with theoretical conceptualizations of ego development that state that higher levels of ego development are marked by an enhanced appreciation of the deep interdependence of self and others, the capacity to integrate multiple and complex perspectives into a sense of self, respect for the autonomy of both self and others, and identification with broad group labels (Bauer, 2008; Helson & Roberts, 1994; Loewinger, 1976).

Given the links between awe and the layers of selfhood described by McAdams's (2013) integrative model, it appears that all layers of the self may be implicated in awe's prosocial effects. Furthermore, these layers each address a critique of the small-self hypothesis in its current formulation. Given this enriched model of the self, though, it is unclear what is meant by the self becoming small if smallness is not predicated on diverting attention away from the self. In the section that follows, we reinterpret the small-self hypothesis in light of the more nuanced account of the self presented in this article.

What Is Meant by the Self Becoming Small?

Thus far, we substantiated several claims that suggest insufficiencies of the small-self hypothesis: (a) The self is complex, consisting of multiple layers; (b) awe may interact with each of these layers of psychological selfhood in profound ways; and (c) appealing to these interactions overcomes several theoretical shortcomings of the small-self hypothesis. What is now needed is an account of what exactly is going on when awe makes the self small—an account that appreciates the complexity of the self. One viable reinterpretation of the small self may be Wayment and Bauer's (2008) notion of the quiet ego. By virtue of its conceptual and empirical ties to the personality literature and ego development (Bauer, 2008; Bauer & Wayment, 2008; Wayment et al., 2015), the quiet ego avoids the pitfalls of the small-self mechanism while still offering a cogent explanation for

awe's prosocial effects. Furthermore, the quiet ego has been empirically linked to self-transcendence (Wayment & Bauer, 2018; Wayment et al., 2015), and so there is an empirical basis for linking the quiet ego to awe.

The quiet ego represents a reflexive I constructing a dialed-down Me—one that values social harmony, attentional balance, growth and transformation, and compassion (Bauer & Wayment, 2008). The construct of the “quiet” ego contrasts with the “noisy” ego, which is a description for the immature and unregulated ego that clamors “for attention to the point that it cannot hear the voices of others *or of one's own* [emphasis added] internal dynamics” (Bauer, 2008, p. 199;). Crucially, the quiet ego does not entail a loss of the self. Indeed, Bauer and Wayment (2008) noted that the quiet ego should be conceptualized as “a self-identity that is not excessively self-focused but also not excessively other-focused—an identity that incorporates others without losing the self” (p. 8). This conceptualization directly addresses our first two critiques: The small-self mechanism overemphasizes the dichotomy between self and other, and the small-self mechanism does not account for intrinsic central concerns that lead to individualized motivations. Building on these points, we argue that the quiet ego's definitional feature of incorporating others into the self (i.e., an expansion of the self rather than strictly a diminishment of the self) is suggestive of our proposal that interdependent we-concerns, rather than you-concerns, may be driving awe's prosocial effects. Indeed, two of the four characteristics that constitute the Quiet Ego Scale (QES) are perspective taking and inclusive identity, aspects of the construct that Wayment and Bauer (2017) conceptualized as promoting cooperation. As well, Bauer (2008) stated that

A quieter ego interprets the self in more interdependent, long-term, abstract, and internal terms. In this scenario, the ego never loses its self-identity as it becomes increasingly quieter; instead, the ego becomes even stronger, more resilient, and more assured in its roles. (pp. 199–200)

Each component of this definition accords well with our proposal of awe's effects on the self. First, awe enhances interdependence. Second, the self is reflexively reenvisioned from a more “long-term” view. Future orientation is a hallmark of McAdams's (2013) definition of the motivated agent striving toward goals. Third, the descriptors *abstract* and *internal* align with our contention that awe makes broad motives, central beliefs, and valued goals more salient and significant, thus potentially enhancing self-concordance. Finally, the last component of Bauer's (2008) definition describes the quieting ego

as growing and transforming, thus addressing our final critique regarding the apparent absence of awe's transformative effects in the small-self hypothesis. To this final point, the quiet ego is situated within a life-span theory of development and has been theorized as consonant with Loevinger's (1976) theory of ego development (Bauer, 2008).

The quiet ego overcomes the shortcomings of the small-self hypothesis not only theoretically but also empirically. With respect to our first critique (that self-oriented concerns are not always in conflict with other-oriented concerns), Wayment and Bauer (2018) found that the quiet ego was associated with both self-focused values and other-focused values (see Schwartz et al., 2012). Indeed, even the other-focused value that is most strongly correlated with the quiet ego—universalism—was conceptualized by Schwartz et al. (2012) as consonant with self-expansion. Furthermore, our earlier treatment of awe and traits accords with the theoretical description of self–other interdependence associated with the quiet ego. First, humility is a defining trait of the quiet ego (Exline, 2008), and this definition is evinced in empirical research demonstrating that the QES is correlated with the Honesty-Humility facet of the HEXACO trait model (Wayment et al., 2015). Furthermore, experimental investigations of awe and humility lend support to a quiet ego interpretation of awe's effects. For example, individuals in an awe condition, compared with those in a neutral condition, provided a more balanced appraisal of their strengths and weaknesses as measured by tabulating how many strengths individuals generated before moving on to their weaknesses (Stellar et al., 2018, Study 3). There was a significant difference between the awe and neutral conditions only in terms of the number of strengths provided, and the mean number of strengths was larger than the mean number of weaknesses in both conditions. This finding suggests that individuals are not self-deprecating after experiencing awe; that is, they do not generate more weaknesses than strengths overall. Rather, individuals present a more balanced account of themselves, a finding that supports the notion that awe promotes interdependence rather than solely you-concerns.

Finally, in terms of trait Openness, Openness is integral to the quiet ego (Wayment & Bauer, 2008). Not only has Openness shown statistical ties to the QES (Wayment et al., 2015), it is also robustly associated with ego development (McCrae & Costa, 1980) and social-cognitive growth (Bauer et al., 2005). Indeed, as stated before, Yaden et al. (2019) found that Openness was the only facet of the Big Five to significantly correlate with the accommodation component of the Awe Experience Scale. Given the many empirical links between accommodation and ego development outlined in this article, Yaden et al.'s (2019) finding

provides further support for our claims. Although many of these relations remain equivocal given the small number of studies addressing these issues, they provide suggestive evidence that the same dispositional qualities at play in the quiet ego are also constitutive of awe.

With respect to our second critique (that the small-self hypothesis does not account for motivational prominence), the quiet ego shows empirical associations with prosocial motives, thereby providing a source of internal motivation for awe's prosocial effects. At the most foundational level, the quiet ego reflects a self-concordant ego whose goals are intrinsically motivated (Hodgins, 2008). Research has found that individuals whose goals are both intrinsic and vertically coherent (i.e., lower-level goals are consistent with higher-level goals and values) are more likely to exhibit cognitive empathy (Sheldon & Kasser, 1995). To this point, the quiet ego is robustly associated with compassionate goal motives (Wayment & Bauer, 2018), and Wayment et al. (2015) also found that the QES was correlated with generativity, which involves highly agentic prosocial motives (McAdams, 1985).

With respect to our third critique (that the small-self hypothesis does not account for awe's transformative effects), the quiet ego is strongly associated with self-transformation, growth, and ego development. Indeed, in the factor analysis used to construct the QES, growth possessed the highest loading subfactor out of four total factors, and the QES was significantly correlated with personal growth initiative (Wayment et al., 2015). This growth is, in part, reflective (Wayment & Bauer, 2018). Reflective growth and goals (also called *integrative growth/goals*; see Bauer, Park, Montoya, & Wayment, 2015) have been theoretically tied to processes of accommodation and empirically tied to ego development (Bauer & McAdams, 2004a, 2004b; Bauer et al., 2005). The quiet ego, therefore, may be linked to dimensions of psychological maturity and ego development through its ties to reflective growth. Empirical verification of this link is an important direction for future research.

Tying It All Together: A Revised Model Explaining Awe's Prosocial Effects

Having answered our two guiding questions (What is meant by the self? and What is meant by the self becoming small?), we are now in a position to synthesize our arguments and answer our overarching question: Why does awe have prosocial effects?

We address this question through a revised model of the small-self mechanism (see Fig. 1). First, an individual experiences awe when he or she perceives a stimulus to be vast, which in turn necessitates accommodation (Keltner & Haidt, 2003). Awe then leads to processes of self-transformation (Bonner & Friedman,

2011; Chirico & Yaden, 2018; Schneider, 2011), which is underlain by accommodative processing (see Block, 1982; King et al., 2000) spurred by the individual's need for accommodation in the presence of an awe-inspiring stimulus. This process of self-transformation is best understood in terms of reconfigurations of the life story (McAdams, 1985, 2013; McAdams & McLean, 2013) in ways that emphasize personal growth and change. In the wake of awe, the autobiographical author engages in accommodative processing, which has been shown in numerous empirical studies to predict ego development (Bauer et al., 2005; Bauer & McAdams, 2004a, 2004b, 2010; King & Rospin, 2004; King & Smith, 2004; Lilgendahl et al., 2013). Higher levels of ego development are defined by a sense of interdependence and respect for the autonomy of the self and others (Helson & Roberts, 1994; Loevinger, 1976; Westenberg & Block, 1993), which in turn lead to a more balanced perspective on the self and others. Therefore, ego development can be said to give rise to a quieting of the ego (Bauer, 2008).

Thus, the small self may be better described as a quiet ego given that the quiet ego construct avoids the theoretical pitfalls of the current small-self hypothesis. As a part of the ego's quieting, abstract motives and values pertaining to a sense of interdependent we-ness (Tomasello, 2016, 2019) are amplified. This process reflects the social actor's (McAdams, 2013, 2015, 2016) embeddedness within social collectives that elide self-oriented and other-oriented concerns rather than pitting them against one another. The enhancement of abstract interdependence concerns prompts the self as a motivated agent (McAdams, 2013) to enact the prosocial motives inherent in higher levels of ego development. Although awe broadly enhances deeply central interdependence concerns and motives, individuals may enact these motives in unique ways particular to their values, beliefs, and strivings (see Bai et al., 2017; Emmons, 1989; Van Cappellen & Saroglou, 2012).

Our theory applies to both positive and negative experiences of awe. Although diverging in affect, both positive and negative variants of awe involve accommodation as an indispensable part of the awe experience. Therefore, both would be expected to give rise to prosociality. This idea is related to what King (2001) identified as two pathways to the good life: maturity and happiness. Although negatively valenced awe has been shown to generate less positive affect than positively valenced awe (Gordon et al., 2017; Piff et al., 2015), both positive and negative experiences of awe have shown comparable degrees of a small self, comparable outcomes on prosociality, and comparable mediational effects of the small self on prosociality (Piff et al., 2015; however, the indirect effect of the small

self in negative awe was marginally significant, whereas the indirect effect of the small self in positive awe was significant). These results provide suggestive evidence that some aspect of the small-self mechanism beyond the effects of positive affect must be responsible for the enhancement of prosociality. As we argued, this aspect of the small-self mechanism is the psychological maturity (frequently operationalized as ego development; e.g., King, 2001) facilitated by processes of accommodative change in self-identity.

Future Directions

Our revised model of awe's prosocial effects invites several exciting directions for empirical inquiry. First, it may be interesting to assess awe's effects in cases of explicit interdependence. As stated earlier, cases involving deep interdependence may not lend themselves to neat separations between concerns about self as opposed to other. In these cases, what would the small-self hypothesis predict about the effect of awe? If "selfish" motives inherently encompass other-oriented concerns (e.g., a mother "selfishly" aims to protect her child; I burnish my own reputation to enhance the group's reputation), then would awe's consequent attentional shrinking of the self result in more or less prosocial behavior toward the other person? Our account—that awe promotes a quiet ego, which inherently encompasses concerns for both self and others—would predict an increase in interdependence-oriented behaviors (Tomasello, 2016, 2019).

Furthermore, one may test whether people who have different personal strivings would show qualitatively different prosocial effects after awe induction. One might expect that the kinds of prosocial behaviors exhibited in the wake of awe experiences would correspond to the rank-order of individuals' personal strivings. Suppose that people with different personal strivings are presented with an allocation task of dividing a fixed amount of money between different charities. The induction of awe may lead participants to allocate proportionally more money to the charities that correspond to their own specific strivings, even if one ensures that both sets of participants have comparably heightened we-concerns after awe induction.

Moreover, it would be fruitful to assess possible variability in accommodative processing within narratives of awe experiences. Because narrative identity is a highly personalized level of personality (McAdams, 1995; McAdams & Pals, 2006), we may expect to see individual differences in the magnitude and quality of accommodative processing within narratives of awe even if awe generally facilitates accommodative processing in the first place.

These individual differences may manifest in ego level and prosociality. To this point, Keltner and Haidt (2003) acknowledged that awe elicits only a need for accommodation, not accommodation itself. Accommodation is not solely an encounter with a stimulus that defies existing mental frameworks; this phenomenon is properly called *disequilibration* in the Piagetian framework. Accommodation implies the active integration of the disequilibrating stimulus into a revised worldview. When this integration is achieved, Keltner and Haidt argued, the awe experience can “involve feelings of enlightenment and even rebirth” (p. 304); in a word, growth. Individuals, then, may vary in the extent to which they achieve accommodation following awe.

Furthermore, narrative researchers have generally examined only negative experiences in relation to processes of accommodative change and self-transformation. This focus is largely owed to the idea that deep reflection on positive experiences is not as critical for healthy identity construction (Lilgendahl & McAdams, 2011), and one study indeed found that analyzing positive experiences actually diminished well-being (Lyubomirsky, Sousa, & Dickerhoof, 2006). However, this study focused on memories of participants’ *happiest* experiences. Other positive experiences (e.g., intensely positive experiences; Burton & King, 2004, 2009) may show different patterns than suggested by previous research. Indeed, Burton and King (2004) found that intensely positive experiences yielded emotionally complex narratives that broadened cognition, which suggests that these kinds of experiences may evince many of the same features that make negative experiences ripe for deep exploration and integration into the life story.

Finally, McAdams’s (2013) multilayered model of selfhood is ultimately an ontogenetic account. That is, individuals begin in the world as social actors, become motivated agents around midchildhood, and develop the capacities for autobiographical authorship in adolescence and emerging adulthood. Although layers developed later in ontogeny build on—rather than replace—layers developed previously (hence why they are called layers rather than stages), the layers do appear in an ontogenetic sequence. Thus, we may expect to see differences in awe’s effects at different times in development. No one to our knowledge has assessed the ontogenetic origins and progression of awe, yet this would be crucial in understanding its anatomy, functions, and prosocial effects.

Conclusion

Why does awe have prosocial effects? Many researchers contend that awe makes the self small. But what is meant by the self? And what is meant by the self

becoming small? Awe has been theorized to make the self (as a locus of attention) smaller in the sense of ceding attention to other-oriented concerns (Bai et al., 2017; Piff et al., 2015). However, the self is more than just a locus of attention, and smallness of the self is more than just loss of attention.

Drawing on theories of personality and selfhood, we contended that awe makes the self (i.e., the self in the elaborated sense spanning the social actor, the motivated agent, and the autobiographical author) small in the sense of undergoing accommodative processing, ego development, and the enhancement of a quiet ego. These theories about selfhood and personality change enable us to elaborate on awe’s effects, namely (a) how awe may actually promote interdependent we-concerns (rather than just subordinating self-oriented concerns in favor of other-oriented concerns); (b) how awe engages motivational processes such as directing attention to central goals, values, and beliefs (thereby bridging awe’s effects on attention to awe’s effects on motivation); and (c) how awe’s prosocial effects are tied to its self-transformative effects (thus linking awe’s prosocial effects to an enriched and dynamic model of the self). Overall, our argument represents only a first attempt at the much needed task of grounding the small-self hypothesis in previous research on the self, and much more remains to be done. Undoubtedly, research on awe and its effects on prosociality may benefit appreciably by linking awe to previous theory and research on the self.

Transparency

Action Editor: Laura A. King

Editor: Laura A. King

Declaration of Conflicting Interests

The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

ORCID iDs

Joshua D. Perlin  <https://orcid.org/0000-0002-4142-7516>

Leon Li  <https://orcid.org/0000-0002-7289-5101>

Acknowledgments

We are very grateful to Robyn Fivush, Sarah Gaither, Michael Tomasello, and Melanie Killen for their formative research training. For refining our arguments and offering thoughtful ideas on this article, we are incredibly thankful to three anonymous reviewers and to the Editor. We are very grateful to Megan Edwards for her help with the design of Figure 1. For insightful feedback on the manuscript, we thank Jared Vasil, Patty Van Cappellen, Sarah Gaither, Melanie Killen, Brenda Straka, Megan Edwards, Ben Goldfein, Glenn Fawcett, Rohan Ahuja, Rebecca Slotkin, and Luke Harsel.

References

- Adler, J. M., Lodi-Smith, J., Philippe, F. L., & Houle, I. (2016). The incremental validity of narrative identity in predicting well-being: A review of the field and recommendations for the future. *Personality and Social Psychology Review, 20*, 142–175. doi:10.1177/1088868315585068
- Bai, Y., Maruskin, L. A., Chen, S., Gordon, A. M., Stellar, J. E., McNeil, G. D., . . . Keltner, D. (2017). Awe, the diminished self, and collective engagement: Universals and cultural variations in the small self. *Journal of Personality and Social Psychology, 113*, 185–209. doi:10.1037/pspa0000087
- Bauer, J. J. (2008). How the ego quiets as it grows: Ego development, growth stories, and eudaimonic personality development. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 199–210). Washington, DC: American Psychological Association.
- Bauer, J. J., & McAdams, D. P. (2004a). Growth goals, maturity, and well-being. *Developmental Psychology, 40*, 114–127. doi:10.1037/0012-1649.40.1.114
- Bauer, J. J., & McAdams, D. P. (2004b). Personal growth in adults' stories of life transitions. *Journal of Personality, 72*, 573–602. doi:10.1111/j.0022-3506.2004.00273.x
- Bauer, J. J., & McAdams, D. P. (2010). Eudaimonic growth: Narrative growth goals predict increases in ego development and subjective well-being 3 years later. *Developmental Psychology, 46*, 761–772. doi:10.1037/a0019654
- Bauer, J. J., McAdams, D. P., & Pals, J. L. (2008). Narrative identity and eudaimonic well-being. *Journal of Happiness Studies, 9*, 81–104. doi:10.1007/s10902-006-9021-6
- Bauer, J. J., McAdams, D. P., & Sakaeda, A. R. (2005). Interpreting the good life: Growth memories in the lives of mature, happy people. *Journal of Personality and Social Psychology, 88*, 203–217. doi:10.1037/0022-3514.88.1.203
- Bauer, J. J., Park, S. W., Montoya, M., & Wayment, H. A. (2015). Growth motivation toward two paths of eudaimonic self-development. *Journal of Happiness Studies, 16*, 185–210. doi:10.1007/s10902-014-9504-9
- Bauer, J. J., & Wayment, H. A. (2008). The psychology of the quiet ego. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 7–19). Washington, DC: American Psychological Association. doi:10.1037/11771-001
- Baumeister, R. F. (2010). The self. In R. F. Baumeister & E. J. Finkel (Eds.), *Advanced social psychology: The state of the science* (pp. 139–175). New York, NY: Oxford University Press.
- Berntsen, D., Rubin, D. C., & Siegler, I. C. (2011). Two versions of life: Emotionally negative and positive life events have different roles in the organization of life story and identity. *Emotion, 11*, 1190–1201. doi:10.1037/a0024940
- Block, J. (1982). Assimilation, accommodation, and the dynamics of personality development. *Child Development, 53*, 281–295.
- Bonner, E. T., & Friedman, H. L. (2011). A conceptual clarification of the experience of awe: An interpretative phenomenological analysis. *The Humanistic Psychologist, 39*, 222–235. doi:10.1080/08873267.2011.593372
- Burton, C. M., & King, L. A. (2004). The health benefits of writing about intensely positive experiences. *Journal of Research in Personality, 38*, 150–163. doi:10.1016/S0092-6566(03)00058-8
- Burton, C. M., & King, L. A. (2009). The health benefits of writing about positive experiences: The role of broadened cognition. *Psychology & Health, 24*, 867–879. doi:10.1080/08870440801989946
- Chirico, A., & Yaden, D. B. (2018). Awe: A self-transcendent and sometimes transformative emotion. In H. C. Lench (Ed.), *The function of emotions* (pp. 221–233). Cham, Switzerland: Springer International Publishing. doi:10.1007/978-3-319-77619-4_11
- Chudek, M., & Henrich, J. (2011). Culture-gene coevolution, norm-psychology and the emergence of human prosociality. *Trends in Cognitive Sciences, 15*, 218–226. doi:10.1016/j.tics.2011.03.003
- Danvers, A. F., O'Neil, M. J., & Shiota, M. N. (2016). The mind of the “happy warrior”: Eudaimonia, awe, and the search for meaning in life. In J. Vittersø (Ed.), *International handbooks of quality-of-life. Handbook of eudaimonic well-being* (pp. 323–335). Cham, Switzerland: Springer International Publishing. doi:10.1007/978-3-319-42445-3_21
- DeScioli, P., & Kurzban, R. (2018). Morality is for choosing sides. In K. Gray & J. Graham (Eds.), *Atlas of moral psychology* (pp. 177–185). New York, NY: The Guilford Press.
- Emmons, R. A. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058–1068. doi:10.1037/0022-3514.51.5.1058
- Emmons, R. A. (1989). The personal striving approach to personality. In L. A. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 87–126). New York, NY: Psychology Press.
- Emmons, R. A. (1995). Levels and domains in personality: An introduction. *Journal of Personality, 63*, 341–364. doi:10.1111/j.1467-6494.1995.tb00499.x
- Engelmann, J. M., Herrmann, E., & Tomasello, M. (2012). Five-year-olds, but not chimpanzees, attempt to manage their reputations. *PLOS ONE, 7*(10), Article e48433. doi:10.1371/journal.pone.0048433
- Erikson, E. H. (1950). *Childhood and society*. New York, NY: W.W. Norton.
- Erikson, E. H. (1968). *Identity: Youth and crisis*. New York, NY: W.W. Norton.
- Exline, J. J. (2008). Taming the wild ego: The challenge of humility. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 53–62). Washington, DC: American Psychological Association. doi:10.1037/11771-005
- Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., & Riches, A. (2011). The integration of agency and communion in moral personality: Evidence of enlightened self-interest. *Journal of Personality and Social Psychology, 101*, 149–163. doi:10.1037/a0023780
- Goffman, E. (1959). *The presentation of self in everyday life*. New York, NY: Doubleday.
- Gordon, A. M., Stellar, J. E., Anderson, C. L., McNeil, G. D., Loew, D., & Keltner, D. (2017). The dark side of the sublime: Distinguishing a threat-based variant of awe. *Journal of Personality and Social Psychology, 113*, 310–328. doi:10.1037/pspp0000120

- Habermas, T., & Bluck, S. (2000). Getting a life: The emergence of the life story in adolescence. *Psychological Bulletin*, *126*, 748–769. doi:10.1037/0033-2909.126.5.748
- Hammack, P. L. (2015). Theoretical foundations of identity. In K. C. McLean & M. Syed (Eds.), *The Oxford handbook of identity development* (pp. 11–30). New York, NY: Oxford University Press. doi:10.1093/oxford/hb/9780199936564.013.027
- Heintzelman, S. J., & King, L. A. (2014). (The feeling of) meaning-as-information. *Personality and Social Psychology Review*, *18*, 153–167. doi:10.1177/1088868313518487
- Helson, R., & Roberts, B. W. (1994). Ego development and personality change in adulthood. *Journal of Personality and Social Psychology*, *66*, 911–920. doi:10.1037/0022-3514.66.5.911
- Hodgins, H. S. (2008). Motivation, threshold for threat, and quieting the ego. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 117–124). Washington, DC: American Psychological Association. doi:10.1037/11771-011
- James, W. (2007). *The principles of psychology* (Vol. 1). New York, NY: Cosimo. (Original work published 1890)
- Keltner, D., & Haidt, J. (2003). Approaching awe, a moral, spiritual, and aesthetic emotion. *Cognition and Emotion*, *17*, 297–314. doi:10.1080/026999303022297
- King, L. A. (2001). The hard road to the good life: The happy, mature person. *Journal of Humanistic Psychology*, *41*, 51–72. doi:10.1177/0022167801411005
- King, L. A., & Hicks, J. A. (2007). Whatever happened to “What might have been”? Regrets, happiness, and maturity. *American Psychologist*, *62*, 625–636. doi:10.1037/0003-066X.62.7.625
- King, L. A., & Patterson, C. (2000). Reconstructing life goals after the birth of a child with Down syndrome: Finding happiness and growing. *International Journal of Rehabilitation and Health*, *5*, 17–30. doi:10.1023/A:1012955018489
- 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. doi:10.1111/j.0022-3506.2004.00274.x
- King, L. A., Scollon, C. K., Ramsey, C., & Williams, T. (2000). Stories of life transition: Subjective well-being and ego development in parents of children with Down syndrome. *Journal of Research in Personality*, *34*, 509–536. doi:10.1006/jrpe.2000.2285
- King, L. A., & Smith, N. G. (2004). Gay and straight possible selves: Goals, identity, subjective well-being, and personality development. *Journal of Personality*, *72*, 967–994. doi:10.1111/j.0022-3506.2004.00287.x
- Lilgendahl, J. P., Helson, R., & John, O. P. (2013). Does ego development increase during midlife? The effects of openness and accommodative processing of difficult events. *Journal of Personality*, *81*, 403–416. doi:10.1111/jopy.12009
- Lilgendahl, J. P., & McAdams, D. P. (2011). Constructing stories of self-growth: How individual differences in patterns of autobiographical reasoning relate to well-being in midlife. *Journal of Personality*, *79*, 391–428. doi:10.1111/j.1467-6494.2010.00688.x
- Loevinger, J. (1976). *Ego development: Conceptions and theories*. San Francisco, CA: Jossey-Bass.
- Lyubomirsky, S., Sousa, L., & Dickerhoof, R. (2006). The costs and benefits of writing, talking, and thinking about life’s triumphs and defeats. *Journal of Personality and Social Psychology*, *90*, 692–708. doi:10.1037/0022-3514.90.4.692
- Mansfield, E. D., & McAdams, D. P. (1996). Generativity and themes of agency and communion in adult autobiography. *Personality and Social Psychology Bulletin*, *22*, 721–731. doi:10.1177/0146167296227006
- Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, *35*, 63–78. doi:10.1037/0022-3514.35.2.63
- Markus, H., & Kunda, Z. (1986). Stability and malleability of the self-concept. *Journal of Personality and Social Psychology*, *51*, 858–866. doi:10.1037/0022-3514.51.4.858
- Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist*, *41*, 954–969. doi:10.1037/0003-066X.41.9.954
- Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology*, *38*, 299–337. doi:10.1146/annurev.ps.38.020187.001503
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*, 370–396. doi:10.1037/h0054346
- Maslow, A. H. (1961). Peak experiences as acute identity experiences. *The American Journal of Psychoanalysis*, *21*, 254–262. doi:10.1007/BF01873126
- Maslow, A. H. (1964). *Religions, values, and peak experiences*. Columbus: Ohio State University Press.
- Maslow, A. H. (1971). *The farther reaches of human nature*. New York, NY: The Viking Press.
- McAdams, D. P. (1985). *Power, intimacy, and the life story: Personalological inquiries into identity*. New York, NY: The Guilford Press.
- McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self*. New York, NY: The Guilford Press.
- McAdams, D. P. (1995). What do we know when we know a person? *Journal of Personality*, *63*, 365–396. doi:10.1111/j.1467-6494.1995.tb00500.x
- McAdams, D. P. (1997). A conceptual history of personality psychology. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 3–39). San Diego, CA: Academic Press. doi:10.1016/B978-012134645-4/50002-0
- McAdams, D. P. (2008). Generativity, the redemptive self, and the problem of a noisy ego in American life. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological explorations of the quiet ego* (pp. 235–242). Washington, DC: American Psychological Association. doi:10.1037/11771-021
- McAdams, D. P. (2013). The psychological self as actor, agent, and author. *Perspectives on Psychological Science*, *8*, 272–295. doi:10.1177/1745691612464657
- McAdams, D. P. (2015). *The art and science of personality development*. New York, NY: The Guilford Press.
- McAdams, D. P. (2016). From actor to agent to author: Human evolution and the development of personality. In J. Carroll, D. P. McAdams, & E. O. Wilson (Eds.),

- Darwin's bridge: Uniting the humanities and sciences* (pp. 145–163). New York, NY: Oxford University Press.
- McAdams, D. P., & McLean, K. C. (2013). Narrative identity. *Current Directions in Psychological Science, 22*, 233–238. doi:10.1177/0963721413475622
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist, 61*, 204–217. doi:10.1037/0003-066X.61.3.204
- McCrae, R. R., & Costa, P. T. (1980). Openness to experience and ego level in Loewinger's Sentence Completion Test: Dispositional contributions to developmental models of personality. *Journal of Personality and Social Psychology, 39*, 1179–1190. doi:10.1037/h0077727
- McDougall, W. (1910). *An introduction to social psychology* (3rd ed.). Boston, MA: John W. Luce.
- McLean, K. C., & Fournier, M. A. (2008). The content and processes of autobiographical reasoning in narrative identity. *Journal of Research in Personality, 42*, 527–545. doi:10.1016/j.jrp.2007.08.003
- McLean, K. C., Pasupathi, M., & Pals, J. L. (2007). Selves creating stories creating selves: A process model of self-development. *Personality and Social Psychology Review, 11*, 262–278. doi:10.1177/1088868307301034
- Murray, H. (1938). *Explorations in personality: A clinical and experimental study of fifty men of college age*. New York, NY: Oxford University Press.
- Over, H. (2016). The origins of belonging: Social motivation in infants and young children. *Philosophical Transactions of the Royal Society B, 371*, Article 20150072. doi:10.1098/rstb.2015.0072
- Pals, J. L. (2006). Narrative identity processing of difficult life experiences: Pathways of personality development and positive self-transformation in adulthood. *Journal of Personality, 74*, 1079–1110. doi:10.1111/j.1467-6494.2006.00403.x
- Pasupathi, M., Mansour, E., & Brubaker, J. R. (2007). Developing a life story: Constructing relations between self and experience in autobiographical narratives. *Human Development, 50*, 85–110. doi:10.1159/000100939
- Piaget, J. (1950). *The psychology of intelligence*. London, England: Routledge & Kegan Paul.
- Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., & Keltner, D. (2015). Awe, the small self, and prosocial behavior. *Journal of Personality and Social Psychology, 108*, 883–899. doi:10.1037/pspi0000018
- Prade, C., & Saroglou, V. (2016). Awe's effects on generosity and helping. *The Journal of Positive Psychology, 11*, 522–530. doi:10.1080/17439760.2015.1127992
- Reischer, H. N., Roth, L. J., Villarreal, J. A., & McAdams, D. P. (2019). *Self-transcendence and life stories of humanistic growth among late-midlife adults*. Manuscript submitted for publication.
- Rudd, M., Vohs, K. D., & Aaker, J. (2012). Awe expands people's perception of time, alters decision making, and enhances well-being. *Psychological Science, 23*, 1130–1136. doi:10.1177/0956797612438731
- Schneider, K. J. (2011). Awakening to an awe-based psychology. *The Humanistic Psychologist, 39*, 247–252. doi:10.1080/08873267.2011.592464
- Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., . . . Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology, 103*, 663–688. doi:10.1037/a0029393
- Sedikides, C. (1995). Central and peripheral self-conceptions are differentially influenced by mood: Tests of the differential sensitivity hypothesis. *Journal of Personality and Social Psychology, 69*, 759–777. doi:10.1037/0022-3514.69.4.759
- Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*, 482–497.
- Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: Two aspects of personality integration. *Journal of Personality and Social Psychology, 68*, 531–543.
- Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *The Journal of Positive Psychology, 1*, 61–71. doi:10.1080/17439760500510833
- Shiota, M. N., Keltner, D., & Mossman, A. (2007). The nature of awe: Elicitors, appraisals, and effects on self-concept. *Cognition and Emotion, 21*, 944–963. doi:10.1080/02699930600923668
- Silvia, P. J., Fayn, K., Nusbaum, E. C., & Beaty, R. E. (2015). Openness to experience and awe in response to nature and music: Personality and profound aesthetic experiences. *Psychology of Aesthetics, Creativity, and the Arts, 9*, 376–384. doi:10.1037/aca0000028
- Singer, J. A. (2004). Narrative identity and meaning making across the adult lifespan: An introduction. *Journal of Personality, 72*, 437–460. doi:10.1111/j.0022-3506.2004.00268.x
- Singer, J. A., & Bluck, S. (2001). New perspectives on autobiographical memory: The integration of narrative processing and autobiographical reasoning. *Review of General Psychology, 5*, 91–99. doi:10.1037/1089-2680.5.2.91
- Sripada, C. S. (2005). Punishment and the strategic structure of moral systems. *Biology and Philosophy, 20*, 767–789. doi:10.1007/s10539-004-5155-2
- Stellar, J. E., Gordon, A., Anderson, C. L., Piff, P. K., McNeil, G. D., & Keltner, D. (2018). Awe and humility. *Journal of Personality and Social Psychology, 114*, 258–269. doi:10.1037/pspi0000109
- Stellar, J. E., Gordon, A. M., Piff, P. K., Cordero, D., Anderson, C. L., Bai, Y., . . . Keltner, D. (2017). Self-transcendent emotions and their social functions: Compassion, gratitude, and awe bind us to others through prosociality. *Emotion Review, 9*, 200–207. doi:10.1177/1754073916684557
- Tomasello, M. (1999). *The cultural origins of human cognition*. Cambridge, MA: Harvard University Press.
- Tomasello, M. (2009). *Why we cooperate*. Cambridge, MA: The MIT Press.
- Tomasello, M. (2016). *A natural history of human morality*. Cambridge, MA: Harvard University Press.

- Tomasello, M. (2019). *Becoming human: A theory of ontogeny*. Cambridge, MA: Harvard University Press.
- Tomasello, M., Melis, A. P., Tennie, C., Wyman, E., & Herrmann, E. (2012). Two key steps in the evolution of human cooperation: The Interdependence hypothesis. *Current Anthropology*, *53*, 673–692. doi:10.1086/668207
- Vaish, A., & Tomasello, M. (2014). The early ontogeny of human cooperation and morality. In M. Killen & J. G. Smetana (Eds.), *Handbook of moral development* (2nd ed., pp. 279–298). New York, NY: Psychology Press.
- Van Cappellen, P., & Rimé, B. (2014). Positive emotions and self-transcendence. In V. Saroglou (Ed.), *Religion, personality, and social behavior* (pp. 123–145). New York, NY: Psychology Press.
- Van Cappellen, P., & Saroglou, V. (2012). Awe activates religious and spiritual feelings and behavioral intentions. *Psychology of Religion and Spirituality*, *4*, 223–236. doi:10.1037/a0025986
- Wayment, H. A., & Bauer, J. J. (2017). The quiet ego: Concept, measurement, and well-being. In M. D. Robinson & M. Eid (Eds.), *The happy mind: Cognitive contributions to well-being* (pp. 77–94). Cham, Switzerland: Springer International Publishing. doi:10.1007/978-3-319-58763-9_5
- Wayment, H. A., & Bauer, J. J. (2018). The quiet ego: Motives for self-other balance and growth in relation to well-being. *Journal of Happiness Studies*, *19*, 881–896. doi:10.1007/s10902-017-9848-z
- Wayment, H. A., Bauer, J. J., & Sylaska, K. (2015). The quiet ego scale: Measuring the compassionate self-identity. *Journal of Happiness Studies*, *16*, 999–1033. doi:10.1007/s10902-014-9546-z
- Wayment, H. A., & Bauer, J. J. (Eds.). (2008). *Transcending self-interest: Psychological explorations of the quiet ego*. Washington, DC: American Psychological Association. doi:10.1037/11771-000
- Westenberg, P. M., & Block, J. (1993). Ego development and individual differences in personality. *Journal of Personality and Social Psychology*, *65*, 792–800. doi:10.1037/0022-3514.65.4.792
- Yaden, D. B., Haidt, J., Hood, R. W., Jr., Vago, D. R., & Newberg, A. B. (2017). The varieties of self-transcendent experience. *Review of General Psychology*, *21*, 143–160. doi:10.1037/gpr0000102
- Yaden, D. B., Kaufman, S. B., Hyde, E., Chirico, A., Gaggioli, A., Zhang, J. W., & Keltner, D. (2019). The development of the Awe Experience Scale (AWE-S): A multifactorial measure for a complex emotion. *The Journal of Positive Psychology*, *14*, 474–488. doi:10.1080/17439760.2018.1484940