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Authenticity: Theoretical Considerations, Instrument Development, and Implications for Leaders

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AUTHENTICITY: THEORETICAL CONSIDERATIONS, INSTRUMENT DEVELOPMENT, AND IMPLICATIONS FOR LEADERS

by

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ABSTRACT

The adage, "To thine own self be true," captures the essence of authenticity and is age-old. Yet the issue of being true to the self remains highly relevant today, particularly for organizational leaders who operate within complex, globalized, and competitive environments that regularly challenge their personal authenticity. For those interested in assessing and developing authenticity in the workplace, additional research on the topic is needed. In response, this study strengthens existing theoretical work on authenticity by offering an alternative approach to the concept, and creates a corresponding measure suitable for evaluating authenticity within the context of leadership.

The work began by providing an alternative conceptual approach to authenticity. Here, *authenticity* was defined as a psychological and behavioral process whereby an individual lives in accordance with the true self. Key components of the process include *self-knowledge*, *self-awareness*, *self-regulation*, and *authentic behavior*. The proposed framework advances existing theory on authenticity by more thoroughly addressing the experiential, historical, motivational, and context-specific nature of self. The framework also extends current literature by offering a preliminary explanation of *how* aspects of authenticity may operate within a person, thereby highlighting the distinction between a leader's ability and choice to behave authentically.

Following the establishment of the alternative theoretical framework, a supporting assessment tool was created. Instrument development involved various analytical approaches to create and refine the tool, to test for factor structure robustness, and to conduct a comprehensive validation study that tested the instrument against ten existing measures comprising 21 subscales. Employee email addresses housed by an international

consulting firm were used to invite participants to the study. Two launches, occurring approximately three months apart, administered different surveys to four samples and generated data from over 3,300 total respondents. The process resulted in the Role-specific Evaluation of Authenticity in Leaders (REAL), a reliable 43-item instrument featuring eight components. Substantial evidence was found in support of the REAL's construct validity and criterion-related validity at both the construct- and concept-level. As such, the REAL and its underlying framework provide a valuable alternative approach to the future study, practice, and development of authenticity within the context of organizational leadership.

DEDICATION

To the pursuit of authenticity

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CHAPTER ONE

BACKGROUND AND PURPOSE OF THE STUDY

Philosophical questions concerning human authenticity can be traced throughout history. The old adage, "To thine own self be true," captures the essence of authenticity, but interpretations of authenticity vary and originate from a diversity of fields. In philosophy, authenticity has been referred to as the quality of genuineness (Hume, 1739), as evident through experiences of inauthenticity (Golomb, 1995; Sartre, 1957), as an existential state of being enabling openness and genuine caring (Heidegger, 1962), and as connected to morality, meaning making, and open dialogue with others (Taylor, 1991).

Many works from psychology and sociology approach authenticity as the degree to which behavior is reflective of the true self. Kernis (2003) described authenticity as "the unobstructed operation of one's true, or core, self in one's daily enterprise" (p. 1). More broadly, scholars have described authenticity as: the quality of being non-defensive and personally transparent (Rinder & Campbell, 1952), true self enactment (Harter, 2002; Harter, Marold, Whitesell, & Cobbs, 1996), behavioral congruence with one's inner core (Rogers, 1961), connected to positive psychological capacities (Sheldon, 2009), and as implicated with the expression and presentation of self to others (Goffman, 1959). Additionally, with the emergence of authentic leadership theory in organizational literature, new ways of understanding authenticity have been developed and featured in both academic and applied publications (e.g., Bass & Steidlmeier, 1999; Gardner, Avolio, & Walumbwa, 2005; George & Sims, 2007; Luthans & Avolio, 2003; Terry, 1993).

Unsurprisingly, empirical work on authenticity pales in comparison to conceptual publications on the topic. The paucity of scientific research on authenticity is likely due

to the concept's relatively high level of abstraction, irresolvable philosophical debates about the nature of authenticity, variation in definitional treatments across academic disciplines (Harter, 2002), and differing perspectives on the appropriate method and level of analysis for studying the topic (e.g., Lopez & Rice, 2006, reported uncertainty regarding whether authenticity should be measured at the trait or relational level). Issues like these make the measurement of authenticity considerably challenging. Therefore, although numerous articles have been written on the subject, few instruments to measure authenticity exist.

In empirical work, the predominant measure for authenticity, the Authenticity Inventory (AI; Kernis & Goldman, 2006), originates from a four-component theory for authenticity first developed by Kernis (2003). In his psychological framework, Kernis (2003) identified *awareness*, *unbiased processing*, *behavior*, and *relational orientation* as important aspects of authenticity in individuals. Kernis (2003) and Kernis and Goldman (2006) reviewed literature from a variety of fields in support of their proposed components. However, Kernis (2003) from the onset was not definitive about the comprehensiveness of his conceptualization of authenticity, so more work can be done to further develop the concept of authenticity today.

Wood, Linley, Maltby, Baliousis, and Joseph (2008) began to answer this call by pulling from perspectives offered by several subfields of psychology to reframe authenticity. The result of their work was the Authenticity Scale (AS), which included the following three components of authenticity: *self-alienation*, *authentic living*, and *accepting external influence*. A notable contribution of Wood et al. (2008) was their framework's use of person-centered psychology (Barrett-Lennard, 1998; Rogers, 1959;

Wyatt, 2001) to provide an explanation of authenticity as an experiential, internal process.

The degree of conceptual overlap between the AS and AI's components inspired comparative measurement work by White (2011). In his sample of 576 undergraduates, White confirmed the three-factor structure of Wood et al.'s (2008) AS, but he did not find sufficient evidence supporting the four-factor structure of the AI suggested by Kernis and Goldman (2006). Although other studies have begun to successfully implement the AI (e.g., Brunell et al., 2010; Lakey, Kernis, Heppner, & Lance, 2007; Tracy, Cheng, Robins, & Trzesniewski, 2009) and the AS (e.g., Gino, Norton, & Ariely, 2010; Kifer, Heller, Perunovic, & Galinsky, 2013), additional psychometric testing would be valuable to confirm the measurement quality of both existing instruments of authenticity.

Psychological theory suggests that authenticity relates to how people can become fully functioning or self-actualized (Cloninger, 1993; Maslow, 1968; Rogers, 1959, 1961) and realize their autonomy through self-determination (Deci & Ryan, 1985; Hodgins & Knee, 2002; Ryan & Deci, 2000). Empirical research has confirmed authenticity's connection with non-defensiveness (Kernis, Lakey, Heppner, Goldman, & Davis, 2005), healthy coping (Goldman & Kernis, 2005), mindfulness (Lakey, Kernis, Heppner, & Davis, 2005), the functionality and clarity of the self-concept (Goldman, 2004), satisfaction and functionality across social roles (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997), and psychological well-being (Goldman & Kernis, 2002; Horney, 1951; R. May, 1981; Sheldon et al., 1997; Winnicott, 1965; Yalom, 1980). Taken together, authenticity has been widely seen as a vehicle necessary for optimal being, connected to how humans

realize greater purpose. Thus, additional research on the topic has great potential for real-world application.

The issue of authenticity is particularly critical for leadership, particularly when the work of the leader requires openness to personal transformation in the process of guiding others (Bass, 1985; Burns, 1978). Furthermore, connection with the core self is foundational to leadership, which regularly involves using the self as an instrument to manage groups, influence others, foster relationships, and maintain ethical standards (Bass, 1990; Ciulla, 2004; Northouse, 2010; Wheatley, 1999). The relevance of authenticity to leaders in modern workplaces is further evidenced by the emerging interest in the study of authenticity in leadership to date. However, additional work is first needed to better understand and measure authenticity as a concept prior to its application to the leadership setting. The current study begins to answer this call.

Problem Statement

A critical read of the literature indicates that the development of the concept of authenticity could be strengthened in at least two areas. First, there is a need to better explain *how* components of authenticity work together within a person. Second, the nature of self in the process of authenticity could be more thoroughly addressed, particularly with regard to: whether or not the self is solely experiential, the nature of the motivations underlying behavior, and the degree to which the self may vary across contexts. If conceptual work could be conducted in response to these issues, the literature on authenticity would be more complete. Corresponding measurement work would also be beneficial, as it could allow for the empirical testing of a new framework for authenticity within its nomological network (i.e., comparing the authenticity measure to

theoretically-related variables; Cronbach & Meehl, 1955), and as it compares to existing instruments for authenticity.

Theoretically addressing the above two areas would contribute to learning about the development of authenticity in individuals, as improved understanding of *how* authenticity operates as an intrapersonal process would—at the very least—highlight critical inner aspects of self that necessitate mastery to cultivate and maintain authenticity. Additionally, incorporating a heightened understanding of self within the daily practice of authenticity could enable individuals to work more effectively with the core of "who they are" as it is (or is not expressed) across certain situations.

Although many different populations could potentially benefit from this type of work, leaders of organizations would be particularly well served from the practical application of an alternative authenticity theory that effectively addresses the concerns raised here. For instance, most validated authenticity measures that might be used to study leaders today are not designed to be context-specific (see Bosch & Taris, 2013, for a recent exception), and many are developed primarily from undergraduate—not professionally employed—populations. Thus, additional measurement work on authenticity specific to leaders is warranted.

Purpose of the Study

The study's purpose is to interpret and synthesize current literature on authenticity to develop an alternative framework for authenticity that can support the design of a new measure for leaders. Selecting leaders as the population of interest, this study conceptualizes and creates a new measure for authenticity that can be used by leaders in organizations.

Prior to instrument design, foundational conceptual work addresses some notable issues in the construct development and measurement of authenticity. In so doing, the proposed framework defines authenticity according to *self-awareness*, *self-knowledge*, *self-regulation*, and *authentic behavior* and provides an explanation for how such components may interrelate. The framework uses an alternative approach to thinking about an authentic individual's "self," and it conceptually addresses critical motivations underlying self-regulation in the process of authenticity. Additionally, the instrument developed here measures authenticity specifically as it occurs within the context of a leadership role. This study's three primary research questions are:

1. How might person-centered theory, self-based theory, and self-determination theory be used to conceptualize authenticity, particularly with regard to identifying and understanding critical intrapersonal processes involved in authenticity?

2. Based on the above, to what extent can a statistically valid and reliable instrument be developed to measure authenticity in leaders?

3. To what degree is the resultant measure empirically similar to and different from existing, theoretically related measures?

Significance of the Study

The proposed study will contribute to the conceptualization, measurement, and practice of authenticity. First, this study advances conceptual development for authenticity and serves as a theoretical alternative to existing approaches. Grounded in person-centered psychology, self-based, and self-determination theory (SDT), this research borrows from many fields to explain authenticity as a psychological and behavioral process that occurs within individuals. The proposed framework enhances

current understanding of authenticity particularly with regard to how an individual's authentic self may or may not be known, regulated, and demonstrated behaviorally. The framework considers the nature of self to identify critical components underlying the process of authenticity, and to begin to explain *how* those components work (or do not work) together to result in authentic behavior.

Second, selecting leaders as the population of interest, this study will develop and validate a measure for authenticity to be used by individuals functioning in an organizational setting. To date, no instrument for authenticity has been developed specifically for leaders. Measurement work in the area of authentic leadership has started to address this need, but much more construct development work needs to be done, particularly for authenticity sans leadership. Additionally, the design of the proposed instrument raises important considerations for how authenticity might be measured specifically for people operating within a leader role context. Creating an alternative framework and instrument for authenticity in leaders has the potential to open new possibilities for empirical investigation in the future.

Third, authenticity is highly relevant to the practice of leadership. Although theoretical advances and alternative measurement of authenticity have the potential to be valuable to many different populations, validating an authenticity instrument to be used by leaders may facilitate professional development during a time when authenticity is at issue in organizational life. Leaders today operate within a complex, globalized, and turbulent environment. With the advent of technology enabling drastic increases in artificial social connection, more opportunities exist to create and function from different roles (Gergen, 1991). Moreover, employees working internationally may effectively

develop many selves so they can operate across cultural contexts. Thus, as leaders find themselves functioning differently across various domains, some may begin to feel as though they no longer operate from a single identity and begin to question who they really are. Especially today, authenticity is central to leadership. Leaders who are inauthentic can easily break the trust of their followers, disconnect from their moral values, or lose sight of the broader meaning of their work. Furthermore, as leadership is always embedded within an organizational context, the foundational psychological question "Who am I?" is intimately connected to the larger, organizational question: "Who are we?" (Haslam, Reicher, & Platow, 2011). Taken together, the study of authenticity cannot only be improved through conceptual and empirical contributions, but the practical application of related work is timely as well.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter presents existing approaches to authenticity found within philosophy, psychology, and organizational leadership literature. Then, opportunities are identified for the conceptual development of authenticity as a construct. In response, an alternative theoretical framework is then offered and explained in detail. Next, considerations for studying and measuring authenticity in the context of leadership are explored. The chapter closes with a brief reflection on existing instruments for authenticity, as they compare to the work of the current study.

Conceptual and Measurement Approaches to Authenticity

Definitions of authenticity vary across academic disciplines, as scholars approach the concept from many different perspectives. This section will begin by reviewing historical origins of how the "self" has been understood, as sociocultural influences have shaped inquires pertaining to authenticity. Then, for background purposes, overviews of prominent philosophical and psychological perspectives on authenticity will be presented. This will be followed by an examination of current measures for authenticity from the field of psychology. Next, publications on authenticity in leadership will be examined for added insight into how authenticity has been conceptualized and applied in organizational settings. Finally, this section will conclude with a summary of the literature.

An overview of the historical origins of self. Interpretations of authenticity often reflect the thinking of their respective historical eras of origin. Periodic shifts in the understanding of self (Baumeister, 1987) have laid the foundation for how the question of

human authenticity has been approached. Although evidence suggests in the 1100s the idea of people having individual selves was present (Aries, 1981), very few works during that time pertain to internal conflict within the self (Baumeister, 1987; Hanning, 1977). Trilling (1972) noted that people in the 1500s began to think of the self as internal and separate from outward behavior, particularly in England where literature from this time reflects themes of façade and self-alienation. Baumeister (1987) traced the development of problems with understanding the self across time. He noted, for instance, how Puritans in the 1500-1600s were preoccupied with self-deception and self-consciousness as self-deception was implicated with virtues required for salvation in the afterlife, while self-consciousness generally arose as a result of the principle of predestination. In the time of the Puritans, individuals who demonstrated lack of conformity to Christian teachings were considered inauthentic and not to be trusted (Kernis & Goldman, 2006). Baumeister (1987) explained that the Romantic period (late 1700s to mid-1800s) emphasized the struggles of the individual self in relationship to society. He further acknowledged that, later in the 1800s, Victorians were encouraged to conceal their private aspects of self to avoid vulnerability (Sennett, 1974) and to satisfy idealistic public expectations.

More recently, Freud's (1913, 1914) views on the unconscious aspects of self inspired the field of psychology to become highly concerned with self-alienation and issues connected with operating from a false self (e.g., Winnicott, 1960, 1965). Baumeister (1987) commented on the early 1900s to today, and he described a historical search for meaningful self-definition and self-actualization that countered apprehension about societal dependency and distress over lack of individuality. Inspired by today's

highly technological era, the modern self has been thought of as rational and objective, with a true core that can be known as long as environmental conditions do not interfere with its optimal functioning (Gergen, 1991; Harter, 2002). Furthermore, Goffman (1959) and Snyder (1987) considered the rational self as actively regulating and monitoring its outward presentation during interactions with others.

These sociocultural and historical approaches to self have, over time, influenced thinking about authenticity. As a result of such developments, today authenticity is most often conceptualized with regard to an inner, experiential, private self that may or may not be suffering from: alienation from its genuine core, societal demands and expectations from others, and/or behavior that inaccurately reflects its deeper purpose. In general, writings on authenticity are age-old, dating back to early Western civilization (Harter, 2002), but the latest scholarly contributions have heavily influenced current definitions and corresponding measurement of authenticity. Thus, the following literature review will primarily focus on recent conceptions of authenticity from the fields of philosophy and psychology.

Authenticity in philosophy. Philosophers have profoundly explored the topic of *being*, or what it means *to be*. Disagreements about the nature of being have influenced subsequent interpretations of authenticity, particularly with regard to the phenomenological experience of being authentic, which in philosophy is sometimes thought of as *authentically being*. In the 1640s, Descartes underscored importance of the human mind in understanding the essence of one's existence, arguing that subjectivity is an inherent and active aspect of living (Descartes, 1641/1984). Descartes' renowned conclusion, "cogito ergo sum" (or "I think, therefore I am") proved the realness of self

through his capacity to think *about* himself. Approximately two hundred years later, existential philosophy deemphasized the notion of the self as a thinking entity to offer fundamental inquiries concerning human experience and the notion of *Dasein*, or *being there* (Hegel, 1807/1910; Heidegger, 1962), and related perspectives have notably contributed to the exploration of authenticity. In *Being and Time*, Heidegger (1962) wrote of authenticity as a self-directed—rather than other-influenced—state of being that requires accepting one's own mortality as a premise for enabling true openness to one's unique possibilities. According to Heidegger, an authentic individual purposefully strives to realize the potential of his or her own being, such that he or she operates from genuine concern about the self and others to also facilitate the development of authenticity in other people (Heidegger, 1962; Zimmerman, 1986).

Other philosophers (e.g., Golomb, 1995; Sartre, 1957, 2004) argued that individuals may best come to understand authenticity through their experience of *inauthenticity*. Sartre deeply examined the meaning of living freely, and he wrote plays (Sartre, 1989) and novels (Sartre, 1945a, 1945b, 1949) featuring characters suffering from inauthenticity as a result of inner conflicts with societal norms and pressures. Sartre (1957) believed that a human cannot be authentic without behaving freely, which involves the pursuit of realizing and maintaining one's true self. Kierkegaard held similarly critical views of society's responsibility for producing inauthentic individuals, and he argued that humans must freely decide who they will become and bravely face unavoidable uncertainties in this process (Golomb, 1995; Kierkegaard, 1843/2004).

Hume (1760) discussed authenticity as the quality of genuineness, or realness of derivation. Emphasizing how humans create mental associations and habits to interpret

the world, in *A Treatise of Human Nature*, Hume (1739) also held that individuals formulate their notion of self through their social relationships, and he pointed out differences in individuals' authenticity demonstrated by whether they act virtuously merely to comply with the ethics of their society versus whether they behave virtuously to honor their own morality, regardless of societal standards (Hume, 1739; Wilson, 2003). Similarly, according to Fromm (1941), individual enlightenment and critical thought was considered a determinant for authentic behavior, even in cases when behavior might conform to societal expectations. Both Hume's and Fromm's views, which allow for an explanation of how an individual might be considered authentic after fully integrating societal values into the self, differ from Sartre's emphasis on authenticity as requiring complete freedom from society.

Approaching the topic from a cultural perspective, Charles Taylor (1991) viewed authenticity as a process that is connected to individual and collective meaning making. Taylor believed that humans should feel morally obligated to strive for authenticity, which requires defining and discovering the self through dialogue with others. Furthermore, Taylor disagreed with the idea that self-determination, on its own, is enough for authenticity, and in response he argued for the relevance of establishing "horizons of significance" (p. 66) to ensure humans strive to construct their authentic selves in service of what is meaningful and useful to society.

Finally, some scholars have attempted to explain authenticity in relationship to what it is *not*. Trilling (1972) compared authenticity to sincerity to describe authenticity as

> suggesting a more strenuous moral experience than 'sincerity' does, a more exigent conception of the self and of what being true consists in, a wider reference

> to the universe and man's place in it, and a less acceptant and genial view of the social circumstances of life. (p. 11)

Golomb (1995) also argued in favor of critically examining related terms (i.e., sincerity, honesty, truthfulness) in order to arrive at a better understanding of authenticity, as he understood authenticity per se as highly difficult define.

Authenticity in psychology. This section reviews authenticity as it appears in the psychological literature. Traditionally, authenticity was examined with regard to true self, false-self, and self-alienation. Other more recent approaches to the concept can be found throughout positive psychology. Additionally, authenticity has been studied as an individual-level trait, and as it occurs in relationships and groups.

True self, false-self, and self-alienation. Various works in psychology have explored the lack of authenticity as a form of mental dysfunction. Harter and her colleagues have viewed authenticity as an individual's connection to and enactment of the true self, as opposed to false-self (Harter, 1997, 1999; Harter et al., 1996). Additionally, they studied adolescent authenticity as indicated through perceived level of voice (Harter, Waters, & Whitesell, 1997). According to Harter (2002), authenticity involves "*owning* one's personal experiences, be they thoughts, emotions, needs, wants, preferences, or beliefs, processes captured by the injunction to 'know oneself' . . . [whereby] one *acts* in accord with the true self" (p. 382).

In psychoanalysis, Horney (1942, 1951) identified social and external causes of self-alienation, and she proposed a typology for solutions to neuroticism to argue that greater self-realization is possible if one is willing to explore the source of the problem. Similarly, Winnicott (1960, 1965) used object relations theory to explain the formation of false self in human development (see also Kohut, 1971). Winnicott proposed a child may

become cut-off or alienated from his or her true self when parents fail to adequately respond to his or her emotions or needs. A false self is formed when the child learns to sublimate the true self to gain approval.

Also working from the idea of self-alienation, Wood et al. (2008) outlined a framework for authenticity informed by Rogers (1959, 1961). The authors described how an actor may be inauthentic at different levels of experience. Wood et al. (2008) purported that inauthentic individuals may be alienated from their true selves, may demonstrate behavior that is not in alignment with the self they are presently experiencing, or they may too easily be influenced by the people around them.

Looking to the positive: The ideal of authenticity. Some scholars, particular those from positive psychology, have tired of psychology's historical focus on human affliction and mental disorders. The rise of positive psychology beginning in the late 1990s (Linley, Joseph, Harrington, & Wood, 2006; Seligman, 2002; Seligman & Csikszentmihalyi, 2000) generated interest in studying "ordinary human strengths and virtues" (Sheldon & King, 2001, p. 216), "optimal human functioning" (Linley et al. 2006, p. 8), "valued subjective experiences . . . positive individual traits . . . [and] the civic virtues and institutions that move individuals toward better citizenship" (Seligman & Csikszentmihalyi, 2000, p. 5). Linley et al. (2006) noted that positive psychology calls for a better understanding of key factors and processes underlying valued states and qualities that are essential to living fully. Authenticity, which has historically been regarded as an ideal and desirable human condition, is one of the many concepts positive psychology has revived over the last ten years. Recently, in *The Encyclopedia of Positive Psychology*, Sheldon (2009) wrote, "*Psychological authenticity* refers to emotional

genuineness, self-attunement, and psychological depth. To be authentic is to live with one's whole being in the moment, without guile or hidden agendas" (p. 75).

Individual-level trait authenticity. Kernis (2003) and Kernis and Goldman (2006) reviewed different psychological and philosophical perspectives on authenticity to develop a four-component framework for trait authenticity: awareness, unbiased processing, [authentic] behavior, and relational orientation. Kernis and Goldman (2006) defined awareness as "processing, and being motivated to increase, knowledge of and trust in one's motives, feelings, desires, and self-relevant cognitions" (p. 294). According to the authors, unbiased processing "involves objectivity with respect to one's positive and negative self-aspects, emotions, and other internal experiences, information, and private knowledge . . . [and] not denying, distorting, or exaggerating externally based evaluative information" (Kernis & Goldman, 2006, pp. 296-297). Authentic behavior they defined as that which is "in accord with one's values, preferences, and needs as opposed to acting 'falsely' merely to please others or to attain rewards or avoid punishments" (Kernis & Goldman, 2006, p. 298). Finally, relational orientation "involves valuing and striving for openness, sincerity, and truthfulness in one's *close relationships* . . . being genuine rather than fake in one's relationships with close others" (Kernis & Goldman, 2006, p. 300). These four components have been frequently cited throughout recent authenticity literature and were supported by measurement and validation work conducted by Kernis and Goldman (2006). The authors' corresponding measure, the AI, will be reviewed in more detail later.

Taking a different approach, Wood et al. (2008) developed a framework for authenticity that was inspired by many different subfields in psychology, emphasizing the

person-centered approach. The authors outline three components for dispositional authenticity that represent the individual's alignment with different levels of experience: *self-alienation*, *authentic living*, and *accepting external influence*. Wood et al. (2008) define self-alienation as the "[misalignment of] conscious awareness and actual experience (the true self)," authentic living as "behaving and expressing emotions in such a way that is consistent with the conscious awareness of physiological states, emotions, beliefs, and cognitions," accepting external influence as "the extent to which one accepts the influence of other people and the belief that one has to conform to the expectations of others" (p. 386).

Authenticity in relationships and groups. Alternative perspectives in psychology address individuals' authenticity in close relationships. Specifically, noting that people are able to feel and act authentically in some relationships compared to others, Lopez and Rice (2006) identified and explored two components of relationship authenticity: (a) the degree to which people accept or allow deception in their relationship and (b) the extent to which people are willing to risk being vulnerable with an intimate other. Additionally, in their trait-based framework for authenticity, Kernis and Goldman (2006) included relational orientation as one of their four components, which similarly addresses openness and transparency in personal relationships. Other scholars have examined authenticity as it more broadly applies to impression management (e.g., Leary, 1995; Schlenker, 1980; Schlenker & Weigold, 1992). Notably, Goffman (1959) was concerned with how the self is expressed and presented to others during social interactions, and he proposed that people have private dimensions of themselves that they may not demonstrate while they are regulating their behavior. Along a similar line of thinking,

Snyder (1987) identified differences between individuals who are high self-monitors compared to those who are low self-monitors. High self-monitors pay close attention to how they interact with and appear to others, while low self-monitors prefer to behave authentically in social exchanges regardless of how they might be received. Finally, examining authenticity as it is demonstrated in a group context where norms and expectations are shared, Gubrium and Holstein (2009) conceptualized authenticity as it operates in communication and social interaction.

The measurement of authenticity. Although the field of philosophy does not emphasize measurement, even Descartes hinted at the possibility of measuring abstract concepts. In 1644, he wrote: "If something exists, it exists in some amount. If it exists in some amount, then it is capable of being measured" (Descartes, 1644/1991).

Instrument development work on authenticity originates from psychology, an academic field that values testing and measurement. However, as demonstrated earlier, the broader discipline of psychology comprises various subfields that have differentially conceptualized authenticity. For instance, across psychology, authenticity has been quantified through the use of true/false self surveys and true self proxies (e.g., Harter, 2002), measures examining consistency of the structure and content of self (e.g., Diehl, Jacobs, & Hastings, 2006), and some have created rudimentary measures of authenticity (e.g., Sheldon et al., 1997) due to the lack of available instruments. Recent measurement and validation studies on the construct have generated instruments for trait or dispositional authenticity (i.e., Goldman & Kernis, 2002, 2004; Kernis & Goldman, 2006; Wood et al., 2008) and authenticity in relationships (i.e., Lopez & Rice, 2006). Each of the above approaches to the measurement of authenticity will be reviewed next.

True self, self-based, and rudimentary measures. Harter (1982) created an instrument assessing true self and false self behavior, which captured the degree of true/false self behavior demonstrated by children around student peers and parents, as well as true self knowledge and motivation supporting false-self behavior (see Harter et al., 1996, for an example of research implementing this tool). In a study investigating adolescents' authenticity, Harter (2002) studied authenticity in the form of adolescents' true self behavior, operationalized as perceived level of voice across different social settings. Other researchers have employed self-concept or related measures to determine respondents' levels of authenticity. Such studies often examine authenticity in the form of alignment of true self with "other selves" or the self as it is experienced within different contexts. Rogers (1961) and Rogers and Dymond (1954) used Q-sort procedures to examine differences between respondents' actual- and ideal-self characteristics. Q-sort procedures have been commonly used in counseling settings, and, for example, have involved asking patients to think about their current self and sort cards (with adjectives printed on them) into piles to describe who they are today. Then the procedure may be repeated while patients think about their future self. Using survey methods to compare discrepancies in Big Five personality traits across various social roles, Sheldon et al. (1997) created their own, unvalidated five-item scale to measure role-specific feelings of authenticity. Exploring an alternative to Goldman and Kernis' (2002) AI, Sheldon, Gunz, and Schachtman (2012) developed and tested a measure of self-congruence, involving written self-descriptions, ratings of personality traits, which enabled each respondent's "social character" to be compared against the "unguarded self" (p. 2).

Trait authenticity measures. While the above measures for authenticity might be thought of as indicators, proxies, or constructs closely related to authenticity, two more comprehensive measures of trait authenticity exist: the AI (Goldman & Kernis, 2002, 2004) and the AS (Wood et al., 2008). Both measures capture trait authenticity as it is self-reported at the individual level, but conceptualize authenticity using different theoretical approaches. The AI is theoretically based on Kernis' (2003) four-component framework for authenticity, which includes the following dimensions: *awareness*, *unbiased processing*, [authentic] *behavior*, and *relational orientation* (Kernis & Goldman, 2006). The instrument includes 45 survey questions, which are each self-rated by respondents on 5-point Likert-type agreement response scales. The measure has undergone three revisions to result in the third version of the AI, the AI-3 (Kernis & Goldman, 2006), and is one of the most commonly cited measures of authenticity to date.

Another trait measure, the AS by Wood et al. (2008), was based upon a theoretical framework offered by person-centered psychology, which is based on Barrett-Lennard's (1998) and Rogers' (1959, 1961) conception of authenticity. According to the person-centered approach, authenticity depends upon the individual accurately experiencing his or her true self and behaving in alignment with that experience, while also resisting social pressures and standards. Accordingly, the Wood et al. (2008) 12-item measure includes three dimensions: *self-alienation*, *authentic living*, and the degree to which a person *accepts external influence*. In their test construction article, Wood et al. (2008) reported that the above three dimensions, as latent factors, correlated highly with a second-order authenticity latent factor, as theoretically expected. In other words,

Wood et al. provided evidence that authenticity may be a more general, overarching concept indicated by self-alienation, authentic living, and accepting external influence.

Relational authenticity measure. Lopez and Rice (2006) took an alternative approach to the measure of authenticity by examining the construct at the relational level. Lopez and Rice's (2006) 24-item instrument, called the Authenticity in Relationships Scale (AIRS), asked respondents to rate statements using 9-point response scales indicating the degree to which the statements pertained to their relationship with a specified other. The AIRS included items representing two dimensions: *unacceptability of deception* and *intimate risk taking*. The unacceptability of deception component included items such as "To avoid conflict in our relationship, I will sometimes tell my partner what I think he or she wants to hear even if it's not true" and intimate risk taking was measured with items like, "I disclose my deepest feelings to my partner even if there's a chance that he or she may not share them" (Lopez & Rice, 2006, p. 364). Lopez and Rice (2006) noted that their AIRS measure can be considered similar to, but an improvement upon, the relational orientation component of authenticity proposed by Kernis (2003) and Kernis and Goldman (2006).

Authenticity in leadership. In organizational leadership literature, authenticity has been studied and applied in a variety of ways. Scholars and practitioners have written about authenticity specifically within the context of leadership, using various conceptual approaches. According to Avolio and Gardner (2005) and Hannah and Chan (2004), the earliest works integrating authenticity and leadership originated from education and sociology (i.e., Brumbaugh, 1971; Halpin & Croft, 1966; Henderson & Hoy, 1983; Seeman, 1960, 1966).

Most leadership publications in this area discuss authenticity as a personal quality to be demonstrated by leaders, often providing examples of the types of behaviors they would expect an authentic leader to exhibit. According to Henderson and Hoy (1983),

> Leadership authenticity is . . . defined as the extent to which subordinates perceive their leader to demonstrate the acceptance of organizational and personal responsibility for actions, outcomes, and mistakes; to be non-manipulating of subordinates; and to exhibit salience of self over role. (pp. 67-68)

In his practically-focused text on authentic leadership, George (2003) described authentic leaders as those who have a clear sense of *purpose*, live by their *values*, lead with their *hearts*, build lasting *relationships*, and show *self-discipline*. Luthans and Avolio (2003) use positive psychology and transformational leadership theory to describe an authentic leader as someone who is

> confident, hopeful, optimistic, resilient, transparent, moral/ethical, future-oriented, and gives priority to developing associates to be leaders . . . [and who] does not try to coerce or even rationally persuade associates, but rather the leader's authentic values, beliefs, and behaviors serve to model the development of associates. (p. 243)

Avolio, Luthans, and Walumbwa (2004) similarly defined authentic leaders as

> those who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others' values/moral perspectives, knowledge, and strengths; aware of the context in which they operate; and who are confident, hopeful, optimistic, resilient, and of high moral character. (p. 4)

Although these definitions all refer to characteristics of authentic leaders, great conceptual variation among them is evident.

Other scholars have used the concept of authenticity as a starting point for their thinking, and from there generate alternative meanings and descriptions of organizational life or the process of leadership. Rome and Rome (1967) defined an authentic organization as one that "accepts its finitude, uncertainty, and contingency; realizes its

capacity for responsibility and choice; acknowledges guilt and errors; fulfills its creative managerial potential for flexible planning, growth, and charter or policy formation; and responsibly participates in the wider community" (p. 185).

Similar extensions and applications of the concept of authenticity have shaped *authentic leadership theory*, which has recently and rapidly emerged as a new, developing concept (Gardner, Cogliser, Davis, & Dickens, 2011). For instance, Bhindi and Duignan (2007) developed a framework for authenticity in leadership, naming authenticity as one of their four facets (the other three being intentionality, spirituality, and sensibility). The authors wrote that authenticity "entails the discovery of the authentic self through meaningful relationships within organizational structures and processes that support core, significant values" (Bhindi & Duignan, 2007, p. 119). Addressing the practice of leadership in the educational setting, Begley (2001) described authentic leadership as being an effectively conducted leadership practice that is mindful, ethical, and rooted in knowledge and values. In their chapter addressing authentic leadership development, Luthans and Avolio (2003) described authentic leadership as "a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development" (p. 243). Taking a comprehensive approach, Avolio and Gardner (2005) identified the following aspects of authentic leadership development: "positive psychological capital" (p. 322), "positive moral perspective" (p. 324), "leader self-awareness" (p. 324), "leader self-regulation" (p. 325), "leadership processes/behaviors" (p. 325), "follower self-awareness/regulation" (p. 326), "follower development" (p. 327),

"organizational context" (p. 327), and "veritable and sustained performance beyond expectations" (p. 328). As demonstrated above, the organizational literature has included various interpretations and applications of the construct of authenticity within the context of leadership.

The most prevalent authentic leadership framework used today involves four types of behaviors—those that develop/maintain or demonstrate a leader's *self-awareness*, *balanced processing*, *internalized moral perspective*, and *relational transparency* (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). Authentic leadership scholars point to Kernis' (2003) and Kernis and Goldman's (2006) four-component authenticity theory as the foundation for their conception of authentic leadership (Gardner et al., 2011). Authentic leadership theory, however, cites its scholars' slight modifications in some of the original language and definitions offered by Kernis (2003; see Gardner et al., 2011 for an overview of the changes). Specifically, Kernis' (2003) and Kernis and Goldman's (2006) relational orientation and unbiased processing components were each, respectively, reworded by Avolio and Gardner (2005) to be "relational transparency" and "balanced processing" (p. 317). The latter of these adjustments may reflect a definitional shift in the component, from unbiased processing of self-relevant information as it pertains to and informs self-knowledge (as originally prescribed by Kernis, 2003, and Kernis & Goldman, 2006) to fair processing of environmental information (Avolio & Gardner, 2005). Gardner, Avolio, Luthans, May, and Walumbwa (2005) use the original interpretation intended by Kernis (2003), but later in the foundational measurement and validation study on authentic leadership (Walumbwa et al., 2008), the definitional focus of this component again shifts to the

broader interpretation of external information. Other modifications of Kernis' (2003) original framework for authenticity are evident in Walumbwa et al. (2008), particularly with regard to how the "behavior" dimension (Kernis, 2003) was later reconceptualized and renamed to "internalized moral perspective" (see Walumbwa et al., 2008, p. 95). The original "behavior" component identified by Kernis (2003) concerned the alignment of behavior with various dimensions of the true self (including values, beliefs, desires, and opinions). However, Walumbwa et al. (2008) revised the component as pertaining to the alignment of behavior solely with values and beliefs to call it "internalized moral perspective" (p. 95). Thus, extended treatments of the concept of authenticity are evident throughout the authentic leadership literature.

Moreover, the use of language employed by many authentic leadership articles (including: authenticity in leadership, leader authenticity, authentic leader, authentic leadership, and authentic leadership development) invite conceptual confusion for authentic leadership theory and authenticity theory alike. Luthans and Avolio's (2003) book chapter—that many regard as seminal to renewing modern interest in authentic leadership (e.g., Gardner et al. 2011)—frames its approach in "authentic leadership development" (p. 241), defines "authentic leadership in organizations as *a process* [emphasis added]" and then elaborates on the definition by describing what "the authentic leader is" in terms of qualities and characteristics (p. 243). Wording variations like these may muddle conceptual distinctions between leader qualities, leadership as a process, and how leadership is formed, thereby providing little guidance to readers aiming to understand authenticity in leadership. This issue often appears throughout the authentic leadership literature and poses a significant problem for theory building. If language and

definitions for a given concept are unclear, then specifying the concept's nomological network will also be difficult, thereby inhibiting measurement work and empirical validity testing.

The above developments in authentic leadership literature with regard to breadth of definition, shifts in interpretation, and unclear use of language and are important to notice, because overlooking them risks distorting the meaning of the authenticity concept sans leadership. Therefore, additional work is warranted to better understand authenticity in the context of leadership.

Summary of the Literature

As perspectives on authenticity developed alongside historically shifting sociocultural notions of self, a variety of interpretations on the topic exist. In philosophy, living authentically has been examined against different viewpoints regarding the nature of being (Descartes, 1641/1984; Hegel, 1807/1910; Heidegger, 1962) and the role of the individual in the process of realizing his or her authentic existence within the context of others (Heidegger, 1962; Kierkegaard, 1843/2004; Sartre, 1949). While some scholars have emphasized the importance of critical thought and self-integration of virtues to understand authenticity in individuals (Fromm, 1941; Hume, 1739), others have applied systemic approaches to address authenticity from moral and cultural perspectives (Taylor, 1991).

In psychology, authenticity has traditionally been conceptualized with regard to false-self, self-alienation, or the separation between an individual and his or her true core (Harter, 2002; Horney, 1942, 1951; Kohut, 1971; Rogers, 1959, 1961; Winnicott, 1960, 1965; Wood et al., 2008) and recently has been studied relative to the inconsistency of

self across contexts (Diehl et al., 2006; Sheldon et al., 1997). However, current approaches from positive psychology have encouraged some scholars to reframe authenticity as an ideal quality worth working towards (Sheldon, 2009), particularly given its connection to psychological wellbeing (Goldman & Kernis, 2002; Rogers, 1961; Wood et al., 2008). Studies on authenticity have examined the concept as a personal quality (Kernis, 2003; Kernis & Goldman, 2006; Wood et al., 2008) and as it operates in interpersonal relationships (Goffman, 1959; Gubrium & Holstein, 2009; Lopez & Rice, 2006; Snyder, 1987).

Currently, the number of available perspectives on authenticity far surpasses the amount of measurement work on the construct. This is also true in the organizational literature, where scholars of authentic leadership have recently expanded and applied the concept while aiming to better understand organizations and leaders. Across fields, although social influence has been regarded as important in the development of inauthenticity and as part of the explanation for inauthentic behavior, many have described authenticity as the quality of being free, or independent, from environmental forces. Most conceptions of authenticity define the term as involving behavior that is in alignment with one's true self, but the complexity involved with expounding upon that idea has resulted in numerous divergent conclusions about the concept that, even when taken together, are hardly complete.

Authenticity: Opportunities for Construct Development

Examining the literature on authenticity and authentic leadership uncovers potential opportunities for reframing the concept of authenticity. This section identifies

notable issues found within some current frameworks on authenticity to propose how the concept could be further developed.

Conceptual development for authenticity could be improved in a couple of ways. First, the literature is lacking explanations for how components of authenticity interrelate at the intrapersonal level. Second, certain qualities of "self" could be more thoroughly theoretically addressed in the process of authenticity, particularly with regard to the degree to which the self is purely experiential, the motivational tendencies of self in regulation and behavior, and variations in the manifestation of self across roles. The measurement of authenticity to date could also do more to address these areas.

The need to further explore individual process. Although the issue of authenticity appears throughout some organizational and leadership literature, in some places the application of the concept may be premature, as the predominant psychological framework for authenticity may not be fully developed. In Kernis' (2003) own language, "authenticity has *at least* [emphasis added] four discriminable components . . ." (p. 13); thus, from the onset, Kernis was not definitive about the comprehensiveness of the four components in his characterization of authenticity. Kernis and Goldman (2006) clearly emphasized that their four components of authenticity should be thought of as distinctive but related to one another, but they offered limited speculation regarding precisely how their proposed four components theoretically work together within a person. Specifically, they called for the need to "examine the processes associated with each component of authenticity" (Kernis & Goldman, 2006, p. 302).

Examining underlying processes connecting components of authenticity may better satisfy conditions for strong theory. According to Sutton and Staw (1995), strong

theory explains how proposed constructs are related and/or come into existence, while weak theory often does not. Indeed, Kernis and Goldman (2006) thoroughly examine the degree to which their components of authenticity are theoretically related to other constructs. However, their four-component theory on authenticity (Kernis, 2003; Kernis & Goldman, 2006), and its emphasis on defining what authenticity *is* rather than on how the aspects of it work together, serves merely as a starting place for understanding when and why an individual may or may not demonstrate authentic behavior. People who practice or desire to train others in authenticity today, however, would be well served by a theory that not only identifies critical intrapersonal processes underlying authenticity, but that also ventures to explain *how* such processes contribute to an individual's development of authenticity in the long run. Currently, more conceptual work in this area is needed to more fully understand how authenticity works as a process within a person, and how being true to the self may be experienced and formulated over the course of a lifetime.

The need to address the nature of self. Wood et al. (2008) set out to develop a comprehensive theoretical approach to authenticity, which involved skillfully explaining how their proposed components for authenticity work together within an individual. Here Wood et al.'s (2008) conceptualization of authenticity as viewed as highly promising and useful, with some proposed modifications. For instance, strict application of Barrett-Lennard's (1998) definition of authenticity led to the advancement of a framework addressing the experiential self (Wood et al., 2008), which by definition does not consider the self that is historical and constructed over time.

Although Barrett-Lennard's (1998) framework explains why authentic behavior may or may not be exhibited by an individual at any given moment in time, it could further address authentic behavior with regard to human motivation and free choice. The "accepting external influence" dimension proposed by Wood et al. (2008, p. 386) broadly represents this complexity in authentic expression, but SDT (Deci & Ryan, 1995, 2000) would suggest that exploring the nature of an individual's motivation driving the process of self-regulation may be a more informative way of understanding the impact of social, external influences in the manifestation of authenticity.

Finally, traditional measures of authenticity advocate for an individual's authenticity to be measured in general, across contexts. Only recently has work been done to create a context-specific instrument for authenticity (Bosch & Taris, 2013). In support of recent contextually-based approaches, literature exists arguing for the dynamic nature of self across roles and contexts. Authenticity scholars acknowledge self-based theories in their work (e.g., Wood et al., 2008), though they integrate conclusions offered from research on self into their frameworks to varying degrees. For instance, conceptual pieces on authenticity cite the ongoing debate about whether the self should be thought of as unitary/integrated across contexts, or whether multiple selves exist from situation to situation (e.g., Harter, 2002; Kernis & Goldman, 2006). Authenticity scholars disagree, however, about whether or not people can be considered authentic if they regularly vary their expression of self across roles. In response, here it is argued that a context-specific (i.e., role-based) investigation of authenticity could continue to provide a valuable alternative approach to understanding and measuring the construct. Furthermore, a role-

based measure for authenticity would be highly useful in practice, particularly in the context of leadership.

Proposed Framework and Theoretical Approach

The framework offered here considers the first primary research question ("How might person-centered theory, self-based theory, and self-determination theory be used to conceptualize authenticity, particularly with regard to identifying and understanding critical intrapersonal processes involved in authenticity?"), and addresses opportunities for theory development in the authenticity literature, with particular attention to the need to explore individual processes underlying authenticity and the need to better explain the nature of self.

In response, this study defines *authenticity* as a psychological and behavioral process whereby an individual lives in accordance with the true self. Key components of the process include *self-knowledge*, *self-awareness*, and *self-regulation* that may or may not optimally work together to facilitate *authentic behavior*. Individuals who practice authenticity will demonstrate true, or authentic, behavior more regularly than others. However, authenticity might not be behaviorally demonstrated in every situation. The individual's outward demonstration of authentic behavior may be enabled or inhibited by the degree to which personal self-knowledge and self-awareness is accessible, and/or the nature of frequently used self-regulation tendencies. Authentic behavior occurs in conjunction with an individual's mastery of the other three related components. Said differently, an individual practicing authenticity: (a) knows who they are at their core, (b) is mindful of their true self within a given moment, (c) freely and constructively regulates

the display of the true self, and (d) consistently demonstrates authentic behavior with others.

Here, authenticity is primarily conceptualized using person-centered theory, self-based theory, and SDT. This blend of frameworks provides insight into the nature of self with regard to how the self may be known and experienced, motivations underlying regulation processes, and the variation of self across contexts. In the following pages, these theories will be introduced where they are most relevant to explaining the thinking underlying this study's proposed framework. Before the proposed framework and components are introduced, however, this section first will provide an overview of the person-centered approach to authenticity because of its notable contribution to the current study's framework.

The Person-Centered Approach to Authenticity

This study proposes that it is necessary to establish a basic operational framework for *self* that adequately represents the person-centered, process-oriented view of authenticity (Wood et al., 2008). The person-centered approach (Rogers, 1959, 1961; Wyatt, 2001) originates from humanistic psychology and provides an informative approach to the study and practice of authenticity, as it addresses the concept as an intrapersonal process occurring within the context of others (Wood et al., 2008). In line with Maslow (1943), person-centered psychology assumes that individuals can become "fully functioning" through their natural inclination for self-actualization (Rogers, 1959, p. 234).

Rogers' (1959, 1961, 1977) person-centered conception of self is critical to his notion of congruence, which requires consistency among an individual's "primary

experience . . . symbolized awareness, and . . . outward behavior and communication" (Barrett-Lennard, 1998, p. 82). According to Rogers (1959, 1961), congruent individuals are genuine and able to be themselves in the context of others, they do not hide behind a façade, and they are well attuned to their intrapersonal experience of feelings and attitudes, such that they can openly express themselves as they choose. Congruence, or authenticity, pertains to "the flow of experiencing going on within oneself, a flow marked especially by complexity and continuous change" (Rogers, n.d., p. 2).

Within the person-centered framework, authenticity involves the congruence, or internal alignment, of different aspects of an individual. According to Barrett-Lennard (1998), authenticity requires "consistency between the three levels of (a) a person's primary experience, (b) their symbolized awareness, and (c) their outward behavior and communication" (p. 82). As an example, an individual's primary core experience may be anger with or without conscious awareness of it, and, furthermore, the anger may or may not be expressed by the individual's outward behavior. The theory is not exclusive to emotions, as it also includes thoughts and physiology as well. Taken together, according to person-centered psychology, authenticity involves being in touch with various aspects of the true self in a given moment, so behavior can align accordingly to accurately demonstrate the true self. This thinking has heavily informed the current study's framework, which is offered next.

Framework Overview and Components

Grounded in person-centered psychology, self-based theories, and SDT (Barrett-Lennard, 1998; Deci & Ryan, 1995, 2000; James, 1890; Rogers, 1959, 1961), the framework presented in this dissertation highlights critical components of authenticity

that must be in place to enable congruence between an individual's behavior and his or her true core. Here *authenticity* is defined as a psychological and behavioral process whereby an individual lives in accordance with his or her true self. Key components of the process include *self-awareness, self-knowledge,* and *self-regulation* that may or may not optimally work together to facilitate *authentic behavior*.

Self-awareness. The self as it is experienced through *self-awareness* is critical to the intrapersonal process of authenticity. Self-awareness refers to an individual's momentary, reflexive capacity to notice, process, and make meaning of internal experiences in real time. Self-awareness pertains to an individual's ability to perceive and actively reflect upon the inner workings of the self as he or she exists within and interacts with the world. This includes an individual's unfolding and fluid awareness of personal physiological responses, emotions, thoughts, drives, needs, or visceral reactions. For instance, when a person becomes nervous, does the person actually notice his or her anxiousness rising and falling in the moment?

Other terms related to self-awareness as it is defined here include "symbolized awareness" (Barrett-Lennard, 1998, p. 82), "reflective consciousness" (Capra, 2002, p. 39), "higher-order consciousness" (Edelman, 1992, p. 112), "proprioception" (Bohm, 1996, p. 28), and related to Goffman's (1963) conception of "felt identity" (p. 106). Rogers (1959) specifically referred to awareness as "symbolization," "consciousness," or "representation" of experience (p. 198), which he considered as sometimes beyond words or preconceptions. Additionally, Rogers (1959) believed self-awareness in the fully functioning individual could be thought of as momentary clarity of basic experience, such that the self can be seen as it actually exists, which may or may not confirm the

individual's preconceived notions about the self. As articulated by person-centered theory, authenticity is not possible when the individual is experientially out of touch with (or alienated from) his or her true self, which includes emotions and cognitions (Barrett-Lennard, 1998; Rogers, 1959, 1961; Wood et al., 2008). Therefore, being in touch with one's inner experiences is a critical aspect of authenticity.

Self-awareness is also a dynamic, intrapersonal process underlying and usually occurring simultaneously with behavior. As a psychological mechanism involving reflexive and controlled thought processes, self-awareness both guides behavior and facilitates self-evaluation against particular standards (Carver, 2003). Within the social context, self-awareness enables the individual to assess the self as it is relative to self-directed evaluations cast by significant others (Cooley, 1902; Mead, 1934). Therefore, self-awareness is also a process connected to self-esteem; it enables an individual to take note of the degree to which his or her behavior is fulfilling personal goals and aspirations (James, 1890). Self-awareness is also implicated with the emotional side of self, as the self "lives" through emotions. According to Mead (1934), emotions underlie an individual's experience of self and parallel self-development through self-interpretations as the self as it interacts with the environment. Similarly, Duval and Wicklund (1972) proposed that self-awareness plays an important role in motivation, arguing that negative feelings occur when an individual realizes that he or she is not adequately living up to a personal standard or ideal. Without self-awareness, however, the momentary evaluation could not occur in the first place.

Private assessments of authenticity are made by individuals when they actively reflect upon internal conflicts that challenge the notion of self (Goffman, 1963; Hewitt,

1989), and self-awareness is a psychological mechanism enabling such reflection. According to Turner and Schutte (1981), being in tune with the degree to which one feels authentic or inauthentic in a given moment is highly valuable, particularly given that feelings of anxiety and vulnerability can indicate internal conflicts underlying false-self behavior (Harter, 2002). Thus, self-awareness capacities support critical experiential and evaluative processes connected to authenticity and self-discovery.

Here self-awareness can be thought of as similar to conceptions of mindfulness that emphasize noticing internal and external occurrences (Deikman, 1982; Dimidjian & Linehan, 2003; Kabat-Zinn, 1990, 1994; Martin, 1997), and it resembles the "observing" dimension proposed by Baer, Smith, and Allen (2004, p. 193). However, the construct in this framework will focus on consciousness regarding internal stimuli or states, which conceptually aligns self-awareness here with "private self-consciousness" (Fenigstein, Scheier, & Buss, 1975, p. 523) that pertains to inward awareness. This is not to be confused with the secondary component "public self-consciousness" proposed by Fenigstein et al. (1975, p. 523), which is outwardly directed. With regard to other measures on authenticity, self-awareness as it is conceptualized here is implicitly assumed as part of the self-alienation dimension proposed by Wood et al. (2008), and it is one of Kernis' (2003) and Kernis and Goldman's (2006) four components. However, different from Kernis and Goldman's (2006) conceptualization, the definition proposed here intentionally separates self-awareness from self-knowledge for reasons to be discussed later.

Self-knowledge. The second component of the proposed framework, *self-knowledge*, is the degree to which an individual is familiar with the actual content and

structure of his or her self-concept, including, but not limited to, personal capabilities, shortcomings, tendencies, values, beliefs, motivations, and goals. Contributing to experiences of self-awareness, self-knowledge is formed through the individual's active meaning making, understanding, and construction of the self with regard to his or her own personal history and place in the world (Ricoeur, 1992). After all, how can individuals act according to their true selves if they are unfamiliar with the content and history that lies within?

Applying a highly influential contribution from psychology in accordance with the thinking of William James (1890), this framework's conceptualization of authenticity differentiates self-knowledge from self-awareness. According to James, the self can be thought of as both subject (the *I* self) and object (the *Me* self). James posited that the "Me self" is known, constructed, and understood by the individual over time, and it is the self that contains material, social, and spiritual components that are hierarchically organized. The self as object includes self-knowledge and understands descriptive qualities that are either *me* versus *not me*. The self as subject, on the other hand, refers to the *I* self, which James described as the psychological mechanism enabling an individual's immediate, momentary awareness of being.

Similarly, Leary and Tangney (2003) emphasized the critical difference between an individual's psychological, subjective self and an individual's constructions and beliefs about the self. Lewis and Brooks-Gunn (1979) and Lewis (1990) also characterized the self as subject versus object, which they called the existential self and the categorical self, respectively. Although the two aspects of self are interrelated, psychological work addressing the self suggests that there is a fundamental distinction

between the self that is known and the self as a process of knowing (James, 1890). The conceptualization of authenticity proposed here holds central James' (1890) distinction between the *I* self and the *Me* self, because self-awareness and self-knowledge, respectively, begin to satisfy a more comprehensive approach to thinking about how the self may or may not operate authentically.

The definition of self-knowledge offered here was also partly informed by the self-concept literature. The self-concept involves, for example, hierarchically organized moral principles, personality characteristics, beliefs about oneself, motivations and goals, and recollections of previous actions (Baumeister, 1999; Carver & Scheier, 1981; Kuhlstrom & Cantor, 1984; Markus, 1983; Rogers, 1951). The idea that the self-concept includes *content* refers to the types of meanings and associations that have been made with regard to the self, whereas its *hierarchical* nature pertains to how such content is organized (e.g., how a person prioritizes certain values; Markus, 1983). Here, self-knowledge refers to the self-concept as it is able to be reported by an individual; it is thought of as those qualities, values, beliefs, understandings about the self, which are *Me*.

The proposed framework for authenticity also defines self-knowledge as including both positive and negative aspects of self, and this approach is similar to conceptions of the self offered by Kernis (2003), Kernis and Goldman (2006), Markus (1983), and Sullivan (1953). According to Duignan and Bhindi (1997), this requires "acknowledging our flawed self, the dark self, the mask we sometimes wear to protect our fragile self" (p. 200). Additionally, comprehensive self-knowledge involves recognizing contradictory facets of self (Ilies, Morgenson, & Nahrgang, 2005). Starratt (1993) similarly emphasized the importance of embracing the self in its entirety. As self-

knowledge includes favorable and less favorable aspects of an individual's self-concept, recognizing and embracing the whole self is beneficial for those who are striving to acquire more complete and functional self-understanding.

It is important to note that the definitions of self-awareness and self-knowledge offered here provide more specificity than Kernis' (2003) and Kernis and Goldman's (2006) conceptualization of awareness, which considers self-awareness and self-knowledge (as they are defined here) as a single component. Wood et al. (2008) did not explicitly address self-knowledge in their framework, but they do focus on self-alienation of the experiential self. Also, the definition of self-knowledge proposed here acknowledges, but is different from, Rogers' (1959, 1961) approach to self-concept, which included the ideal or future self a person is striving to become.

Rather, the construct of self-knowledge here is to focus on the self an individual "knows" he or she is or has been, primarily because asking someone to be authentic to his or her future self can mean many different things and generate confusion. If one uses the future self as the primary referent for authenticity, for instance, a person may be asked to behave in accordance with a value they do not yet have. Until that value is integrated into the person's identity, he or she is not, by definition, acting authentically upon that value until it is fully integrated into the self. This line of thinking aligns with arguments from Hume (1739) and Fromm (1941) regarding authenticity (presented at the beginning of this chapter), and it is also supported by critical assumptions about self-determined motivation in authentic individuals (Deci & Ryan, 1995).

Individuals striving for greater authenticity may uncover substantial opportunities for growth and development when they can work from where they (truly) are, in pursuit

of the self they would like to become. However, conceptual problems can arise when frameworks define authenticity in a manner that suggests authentic actors *should* be true to their future, and perhaps never-to-be-realized selves. In response to this issue, this framework considers authenticity with respect to genuine aspects of self that are knowable to an actor in a given or previous moment. Therefore, self-awareness and self-knowledge are treated separately with the intention to invite individuals to explore at greater depth the natural tension that can be found within their constructed experience of self—that is, the complexity of their true self that encompasses selves of the past and present—which serves as a critical foundation for their authenticity.

Self-regulation. In addition to self-awareness and self-knowledge, the process of self-regulation contributes to whether or not an individual will actually behave in accordance with their true self in a given situation. Individuals may engage in self-regulation when they do not behave in the manner that would otherwise be most natural to them. Self-regulation may manifest as a non-behavior (e.g., holding back from laughing) or a conscious change in behavior (e.g., complimenting another person instead of speaking your mind). Self-regulation could be carried out almost automatically, as in a reaction that has been learned in a particular relational context, or it could be engaged in more thoughtfully. With regard to authenticity, self-regulation plays an important role because it interacts with self-awareness and self-knowledge, and ultimately influences behavior.

Here, self-regulation is broadly conceived according to Carver and Scheier (1998), who described self-regulation as an "internal guidance system" for behavior (p. 2), involving immediate feedback about the degree to which a desired objective was

reached, and ultimately leading to sustained learning. Thus, self-regulation is an iterative process that involves intending an action, performing it, and then observing the outcome to inform future behaviors (Carver & Scheier, 1998). Additionally, the interpretation of self-regulation proposed by this study's framework is supported by Deci and Ryan's (1995) description of self-regulation, which they conceptualize through the lens of SDT.

SDT purports that individuals are acting, continuously developing organisms that are compelled to fulfill the following basic psychological needs: competence, autonomy, and relatedness (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000, 2003). SDT is a psychological motivation theory which works from the premise, ". . . human beings attempt to actively master the forces in the environment and the forces of drives and emotions in themselves. In mastering these forces, human beings integrate them into the internal, unified structure called self" (Deci & Ryan, 1985, p. 8). As people interact with the environment, their motivation for behavior can be extrinsic or intrinsic, varying along a continuum (Deci & Ryan, 1985).

Working from SDT, Deci and Ryan (1985, 1995) describe six types of regulation: non-regulation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic regulation. These regulation strategies range from non-self-determined behavior to highly self-determined behavior, and they align with a motivation typology. Deci and Ryan (1995) explain that when an individual is not motivated to behave in a certain way (amotivated) he or she is non-self-determined and may demonstrate no behavior for regulation. On the other end of the spectrum, when an individual is highly self-determined and intrinsically motivated, then he or she is interested in behaving a certain way for personal reasons, and will likely engage in

intrinsic regulation (Deci & Ryan, 1995). The other four types of regulation Deci and Ryan (1985, 1995) describe are connected to extrinsic motivation, and will be presented in increasing order from the least self-determined to the most self-determined. According to Deci and Ryan (1985, 1995), external regulation happens when an individual wishes to behave a certain way to be rewarded or to avoid negative consequences (e.g., working for money). Introjected regulation occurs when the actor identifies just enough—but not entirely—with the behavior, such that the action is carried out to avoid guilt or to boost the ego (e.g., buying a flashy car to fit in with your neighbors, not because you actually want the car). In the case of identified regulation, the individual is aware that they value or believe in a given action, but that action may not yet be fully integrated into the individual's identity. Lastly, individuals are motivated to engage in integrated regulation when they have fully identified with a behavior's corresponding values and objectives, such that the performance of the behavior fully aligns with the whole, true self. People generally differ across the self-determination continuum underlying the type of regulatory behavior they exercise most often; thus, tendencies for certain styles of self-regulation vary across individuals (Deci & Ryan, 1985).

Because authentic individuals are high on self-determination, acting on their own volition, here it is proposed that authentic individuals engage in identified, integrated, and intrinsic regulation more often than external or introjected regulation. Likewise, Ryan and Deci (2001) wrote that authentic leaders are likely to engage in self-regulation according to their personal values. As SDT indicates that autonomy is required for authenticity, a leader's behavior is most authentic when the reasons for acting primarily originate from fulfillment of values and purpose in line with the true self, rather than a

more primitive desire to secure external rewards. Here it is proposed that self-regulation, as approached by SDT, is critical to understanding authenticity because an individual's motivations underlying his or her self-regulation may help explain variance commonly observed in authentic behavior. Said differently, in instances when an authentic individual does *not* engage in authentic behavior, the *self-regulation* component may illuminate why this may be the case.

Authentic behavior. The final component, *authentic behavior*, refers to an individual's open, outward demonstration of the true self. Such behavior may be free and unguarded, or it may be purposefully guided through independently motivated self-regulation. Authentic behavior involves acting in accordance with personal aspects of self such as values, beliefs, opinions, emotions, or disposition. An authentic individual may be aware of potential consequences of performing certain actions, but his or her behavior is not dictated by external forces; instead, it is purposeful and originates from within.

Scholars across disciplines describe authenticity according to the degree to which an individual's behavior aligns with the true self. Whether authentic behavior results from an individual authoring who he or she will become (Heidegger, 1962; Kierkegaard, 1843/2004), enlightened thinking (Fromm, 1941), redefining the self through dialogue (Taylor, 1991), or being in touch with the core of one's being (Harter, 1999; Sheldon, 2009; Wood et al., 2008), most authors agree with the idea that authenticity involves acting freely and in accordance with one's true self.

For example, the two popular trait-based measures of authenticity (the AI-3 and the AS) reflect this notion. As mentioned previously, Kernis (2003) and Kernis and

Goldman (2006) identify authentic behavior as one of their four components for authenticity, and Wood et al. (2008) similarly highlight the importance of this dimension. Working according to Rogers (1959, 1961) and his notion of the experiential self, Wood et al. (2008) wrote, "*authentic living* involves behaving and expressing emotions in such a way that is consistent with the conscious awareness of physiological states, emotions, beliefs, and cognitions" (p. 386). Even relational approaches to authenticity (Lopez & Rice, 2006) reflect a concern with being able to openly express the self with significant others. Authentic leadership scholars also regularly address authentic behavior, particularly with regard to how behavior should be based on values. Examples of this include George (2003) who described authentic leaders as living according to their values and hearts, Begley's (2001) claim that behavior is authentic if it is reflective of values and knowledge, and Walumbwa et al. (2008) who included internalized moral perspective in their definition of authentic leadership. Therefore, the inclusion of authentic behavior in a model for authenticity builds upon many previous conceptions of authenticity.

The Framework in Action

Although authentic individuals may practice authenticity more than others, from situation to situation, they may not *always* exhibit authentic behavior. Most existing models for authenticity do not adequately explain why this may be the case. This study's framework aims to address this void by proposing authenticity is a multidimensional concept (which is similar to claims from others, i.e., Kernis & Goldman, 2006; Wood et al., 2008) with distinct components that *work together* to facilitate or inhibit authentic behavior. MacKenzie, Podsakoff, and Podsakoff (2011) suggested the importance of

clarifying the theoretical relationship between a primary construct and its proposed subcomponents. Additionally, theory building requires articulating the manner in which theoretical subcomponents may interact (Dubin, 1976, 1978; Lynham, 2002). In response, this section aims to clarify this.

Additionally, it should be noted that the definition of a multidimensional concept used here coincides with MacKenzie et al. (2011); according to MacKenzie et al. (2011), a construct can be considered multidimensional if its key components are unique to one another and if the meaning of the construct requires all components. This is the nature of the framework for authenticity being proposed here. Again, it is proposed that authenticity is a psychological and behavioral process made up four components: self-awareness, self-knowledge, self-regulation, and authentic behavior. With regard to how the components theoretically relate throughout the process of authenticity, a number of possibilities exist and will be outlined in the following pages. The framework will first be explained with regard to the manifestation of complete authenticity, then concerning two profiles of inauthenticity: incongruence with the true self, and inauthentic regulation.

Complete authenticity. Generally speaking, an individual demonstrates the highest levels of authenticity under the following conditions: accessible self-knowledge, present self-awareness, advanced levels of self-determination underlying their regulation (assuming any regulation is used at all in a given moment), and outward displays of authentic behavior. For example, an authentic person may know how they feel about an issue in general (self-knowledge), notice their heart rate increase when their opinion is relevant to a given situation (self-awareness), believe that they should express their views so they are heard (self-regulation), and voice their views (authentic behavior). In this

case, there is full congruence across all components of the process, and, therefore, authenticity.

Falling short of authenticity: Incongruence with the true self. When the intrapersonal process for authenticity lacks either self-awareness or self-knowledge in a given situation, then an individual remains out-of-touch with his or her true core. Therefore, the ability to demonstrate authentic behavior becomes difficult, if not impossible. Even for the person with high self-knowledge, if he or she is not aware of what the self is experiencing (i.e., low self-awareness) at a given moment, the result will be either alienation from the true self and/or the inability to discern when self-regulation may be beneficial. A person who learns to operate from self-knowledge while lacking self-awareness may be inclined to act from their established narratives or beliefs about who they are, with little regard for how he or she may actually be changing over the long term.

If, on the other hand, the individual has high levels of self-awareness but lacks self-knowledge, then it may be that individual needs to develop self-knowledge in a given aspect of self in order to live authentically. An example of this would be for an employee stepping into a new role, where their concept of self is not yet formed in the unfamiliar context. Although, for example, their general values system may transfer into the new role, they have not yet learned which of these values are most relevant and important to guide them in the new setting. As a result, their interaction with the new environment and enactment of regulation may remain relatively experimental for some time before they establish a sense of self in this context, from which they then can be authentic. Whether an individual lacks self-awareness, self-knowledge, or both in a given moment,

he or she cannot demonstrate authenticity because a foundational self is lacking to serve as a guide for authentic behavior.

Falling short of authenticity: Inauthentic regulation. There is a qualitative difference between the *ability* to behave authentically and the *choice* to behave authentically. In instances where self-regulation is primarily externally motivated (as in the case of external or introjected regulation), then behavior may not be deemed authentic, even for individuals who have adequate self-knowledge and self-awareness to otherwise facilitate authentic behavior. Return to the previous example of the person who has high self-knowledge and high self-awareness, but must choose whether or not to voice an opinion. This person may wish to speak up, but may decide to remain silent and refrain from action for purposes of not being punished (i.e., external regulation), or perhaps to avoid feeling guilty after speaking up (i.e., introjected regulation). In both of these cases, the result is inauthentic behavior because the underlying motivation for regulation was not self-determined. Rather, it was other- or environmentally-determined. Alternatively, if the person's reason for remaining silent was due to his or her personal value to respect others (i.e., integrated regulation), then the unwillingness to speak in this case *is* as authentic as the personal value he or she chooses to honor. As long as a self-knowledgeable, self-aware individual's regulation is not frequently externally motivated, they may still—for the long term—maintain an intrapersonal connection to their true core even in short-term instances of inauthentic behavior.

Fluidity of processes. Note that, in real time, self-awareness, self-knowledge, self-regulation, and authentic behavior are not likely to occur in the linear fashion just described. It may very well be that all four aspects can occur together in an instant, and

the individual's active (or after-the-fact) reflection on the interaction of all processes may evaluate moments of authenticity or inauthenticity. For example, it is likely that momentary self-awareness coincides with the observation of inauthentic behavior, and then meaning making processes attribute the inauthentic behavior to regulation that was low in self-determination, which may or may not reinforce self-knowledge about the likelihood to act the same way under similar circumstances.

Additionally, although self-regulation serves as an intrapersonal feedback system for behavior (Carver & Scheier, 1998), sometimes self-awareness may be lacking throughout the regulatory process responsible for connecting self-knowledge with authentic behavior. The negative result may be incongruence between behavior (which is "assumed" authentic by the actor) and self-knowledge, and this condition is often observable by others but remains unnoticed by the actor. In Argyris' terms, these are instances when an individual's espoused theories of action may not align with his or her theories-in-use (Argyris, 1976a, 1976b, 1976c; Argyris & Schon, 1974). If a leader's espoused theory (rooted in self-knowledge) claims, for example, that he or she values respect for others over material success, but the leader's outward actions, guided by his or her theory-in-use, demonstrate a clear preference for material success over respecting others, then self-awareness and attention to regulatory processes become critical for the leader to notice the intrapersonal incongruence. At the relational level, this type of blindness on behalf of the leader can be highly problematic with regard to others' interpretation of leader authenticity or, at least, behavioral consistency across situations. Therefore, at the individual level, it is important for all psychological and behavioral

components of the process to function in accordance with one another to facilitate authenticity.

Although the generally formulaic explanation of authenticity and inauthenticity presented here likely oversimplifies the interaction of psychological and behavioral processes underlying authenticity, it offers a parsimonious starting place for understanding how the components may or not work together in individuals.

Leader Authenticity and Role

The vast majority of publications on authenticity to date define the concept as it manifests generally, as a phenomenon one could aggregate across situations. Exceptions to this include Sheldon et al. (1997) who studied individual differences in authenticity experienced across different roles, and Bosch and Taris (2013) who recently converted and validated the AS (Wood et al., 2008) for specific use in the workplace.

As mentioned earlier, this study intends to develop and validate an instrument from the proposed framework specifically for use in the leadership context. It is, therefore, worthwhile to consider the application of authenticity to the leader role. As authenticity here addresses the "realness" and "trueness" an individual brings to a given moment, specifying the measurement of authenticity to a given context would be valuable in theory, measurement, and practice.

Theoretical considerations: Multiple selves and role context. One point of contention within the literature is the irresolvable debate regarding whether or not a person can be authentic if he or she demonstrates inconsistent selves across various contexts. This argument stems from disagreements over whether or not people can operate from multiple selves and still be optimally functioning individuals.

Gergen (1991) observed the formation of multiple selves as an adaptation to the various roles people carry in today's internet-based, globalized world. Assagioli (2000) described a similar idea with his writings on multiple persona, or "the ongoing, enduring, unconscious faces of the self that collaborate and compete for expression" (Z. G. Green, 2009, p. 54). In a departure from those who studied cross-contextual behavior variability in individuals as a form of maladjustment, Paulhus and Martin's (1988) work on functional flexibility emphasized the ability of healthy individuals to adapt appropriately across interpersonal situations. Similarly, Lifton (1993), Markus and Nurius (1986) optimistically highlighted the adaptive value of creating and using multiple selves across contexts.

Scholars who subscribe to the idea that the self can vary across situations have further explored how this may be possible. The self-concept has been described as incorporating socially-based self-schemas, which assist with the interpretation of self-relevant information (Markus, 1977; Markus & Wurf, 1987). In a synthesis of the self-concept literature, Markus and Wurf (1987) explained how the self can have many facets (e.g., schemas, prototypes), representations that vary in centrality (see Ryan & Deci, 2003; Stryker, 1987), and be dynamic in nature. Due to these potential complexities, not all self-representations are available to an individual at once, but those that are accessible in a given context have been referred to as the working self-concept (Markus & Kunda, 1986; Markus & Wurf, 1987). Markus and Wurf (1987) defined the working self-concept as "the self-concept of the moment" which is "a continually active, shifting array of accessible self-knowledge" (p. 306).

Working from symbolic interactionism, Erickson (1995) specifically addressed the issue of multiple selves as it pertains to authenticity. She wrote,

> While the concept of authenticity does assume the existence of a transituational and somewhat stable aspect of self, it is not reducible to it. Selves (including authentic ones) and the behaviors enacted by them are complex, challenging, and often inconsistent. (p. 122)

Also referring to authenticity, Harter (2002) noted that behavioral variation across situations is not by definition an indication of operating from a false self, unless behavior is coupled with the experience (or feeling) of inauthenticity. Similarly, the framework proposed here works from the assumption that the experience and demonstration of authenticity is context-specific and therefore possible to achieve by those who operate from multiple selves, which allows for the possibility that authentic behavior may be demonstrated differently across situations by the same individual. The current study also proposes that one way to address the dynamic nature of self in authenticity research is to narrow the measurement of authenticity to a single role context.

Some scholars, on the other hand, believe that people are better off functioning from a self that is consistent across contexts (see J. D. Campbell et al., 1996). Sheldon et al. (1997) supported this assertion in an empirical study on the variation of self across roles; they found self-consistency was related to general well-being. J. D. Campbell et al. (1996) examined self-concept clarity to demonstrate the stability of beliefs about the self. In response, this framework assumes that authenticity is possible for leaders with unitary selves *and* for leaders with multiple selves. A leader who functions across cultures may appropriately have multiple selves and function authentically in every context, while a leader who acts from the same, unitary self across contexts may regularly function inauthentically from that single self. Regardless of the "true" nature of self (or selves),

authenticity, as it is defined here, requires that the leader *knows* the self brought to a given context and is *aware* of how that self is operating, such that the leader can *act* and/or regulate *behavior* according to his or her motivations, beliefs or values, for instance.

Of course, for individuals who operate from multiple selves, it is possible that an individual's self in one context can and will influence the self in a different context. For instance, an individual's leader self may inform the home self. Or, for those who demonstrate a unitary self, learnings about the self in one context will, by definition, transfer into another. The framework provided by this study does not aim to directly address this complexity, as it focuses on the self as it manifests within the boundaries of a leadership role only. For individuals, the framework here does not capture how certain types of self-knowledge have been established or may differ between selves, the degree to which self-awareness operates similarly across contexts, whether or not the types of regulation most often exercised are similar for different roles, or if the level of authentic behavior demonstrated is unique to the leadership role in question. Instead, in the spirit of encouraging an accessible and targeted foundation for understanding how the self operates in one role, the framework offered here invites individuals to consider their psychological and behavioral processes for authenticity within a single leadership context.

Measurement considerations: Generality or context specificity? In addition to theoretical reasons for specifying the context in which authenticity may be quantified, there are defensible measurement-based reasons for doing so as well. Observed differences in measures due to context specificity versus generality have been referred to

as frame-of-reference effects (Bing, Whanger, Davison, & VanHook, 2004; Lievens, De Corte, & Schollaert, 2008). This issue has important implications for measurement validity and error (Schmit, Ryan, Stierwalt, & Powell, 1995). For example, Lievens et al. (2008) found that context specification results in better validity due to lower variation between participants and lower inconsistencies within participants. In a meta-analysis examining differences in validity of general versus context-specific measures of personality, Shaffer and Postlethwaite (2012) found that the latter type were more valid predictors of work performance. Similarly, Wang, Bowling, and Eschleman (2010) found more robust relationships between work locus of control and workplace outcomes, compared to general locus of control and workplace outcomes. Therefore, it can be concluded asking participants to rate their authenticity in-role, as opposed to their authenticity in general, may enable greater instrument validity and could result in stronger predictions of work-related outcomes.

Practical considerations: Instrument utility. A leadership role is just one of the many roles a given individual may hold, so in practice it is important to allow for the possibility that a person may feel more or less authentic while operating within one context compared to another. Furthermore, the potential complexity of self-functioning across roles, particularly for leaders with multiple selves, necessitates that measures of authenticity may be more useful when leaders perform self-ratings while thinking about their notion of self as it operates within a single leadership role context. Should the measure of leader authenticity be captured in the form of a general self-rating of authenticity across all contexts, unwanted variation in authenticity may be captured from leaders who operate from multiple selves in various roles. Thus, the complex nature of

the self-concept invites and may necessitate the narrowing to a single organizational role context to enable optimal measurement of authenticity. Additionally, developmental opportunities addressing leader authenticity could be more targeted if the corresponding measurement tool could be designed to collect data from a single context.

Comparing Measures

The measure corresponding with the proposed framework, to be called the Role-specific Evaluation of Authenticity in Leaders (REAL), will be both similar to and different from the AI-3 (Kernis & Goldman, 2006) and the AS (Wood et al., 2008) in notable ways. Similar to the AI-3 and the AS, the REAL will rely on self-report, use Likert-type response scales, consider authenticity as a multidimensional concept at the individual-level, and will feature a component that emphasizes the alignment between behavior and the true self (i.e., this is *authentic behavior* for the REAL, *behavior* for the AI-3, and *authentic living* for the AS).

However, the REAL differs from the AI-3 and the AS in at least six ways. First, the REAL, to be designed for this study, will ask respondents to rate themselves on authenticity while thinking about how they operate within a specific leadership role. This approach contrasts with the AI-3 and the AS, which measure authenticity across all contexts at a general level. Second, the proposed framework conceptually separates the AI-3's *awareness* component into two: *self-awareness* and *self-knowledge*. Here the REAL's two components theoretically represent what Kernis (2003) and Kernis and Goldman (2006) meant by *awareness* (as the AI-3's items for this dimension contain both what the REAL would consider to be *self-knowledge* and *self-awareness*), but this study's conception of authenticity asserts the importance of separating out the historical, known,

past self (*self-knowledge*) from the experiential, in-the-moment self (*self-awareness*). Third, the REAL's approach to the true self (through *self-knowledge* and *self-awareness*) approaches authenticity more positively than the AS, which uses negative wording to measure the lack of connection to the true self (through *self-alienation*). Fourth, different from the AI-3, the REAL does not include *unbiased processing* in its conception of authenticity. The thinking underlying the REAL's framework asserts that, while unbiased processing may support the obtainment of self-knowledge, the actual experience and practice of being true to the self depends primarily on established self-knowledge—not on unbiased processing. Fifth, the REAL does not include relational components (as does the AI-3's *relational orientation*) because its definitional focus remains at the individual level. Finally, rather than generally conceptualizing authenticity through the degree to which the social/external environment impacts the individual (as in the *accepting external influence* dimension of the AS), the REAL's framework explains authenticity through extrinsically motivated regulation that varies in levels of self-determination. The latter approach, which considers individuals as actors who choose to behave one way over another, captures more of *why* individuals choose to act authentically or inauthentically when faced with environmental forces, rather than *if* they do.

CHAPTER THREE

METHODOLOGY

The present study's methodology investigated the second research question ("To what extent can a statistically valid and reliable instrument be developed to measure authenticity in leaders?") and the third research question ("To what degree is the resultant measure empirically similar to and different from existing, theoretically related measures?") to create a multidimensional authenticity measure for leaders, the REAL. In response, the study's design specifically addressed the following: REAL design and quality (e.g., content validity and procedural considerations for testing), the fit and nature of the measurement model underlying the instrument, the REAL's construct validity (i.e., convergent and discriminant), and its criterion-related validity (i.e., concurrent).

A Word on Reliability and Validity

In psychological measurement, instrument reliability and validity are of central importance. Although there are different types of reliability, the concept broadly refers to the degree to which a given instrument is dependable, consistent, and able to accurately detect changes in the true score of the underlying construct the instrument intends to measure (DeVellis, 2012). A measure demonstrates reliability in the form of internal consistency when items within a scale are sufficiently intercorrelated (Nunnally & Bernstein, 1994) as indicated by coefficient alpha (Cronbach, 1951). Some other types of reliability include alternative forms (when parallel versions of a scale are administered so scores across forms can be correlated and compared), split-half (when half of a scale's items are correlated with the other half its items), and test-retest (correlating data from a scale that was administered across two points in time; DeVellis, 2012; Kerlinger & Lee,

2000; Nunnally & Bernstein, 1994). This study evaluated the REAL's internal consistency reliability.

In general, validity refers to the degree to which an instrument measures the construct(s) it was designed to measure (Nunnally & Bernstein, 1994). Similar to reliability, many different types of validity exist in measurement. Specifically, this study assessed the REAL on three primary types of validity: content, construct, and criterion-related validity. Content validity refers to the degree to which a test's items comprehensively capture all subject matter relevant to a specified domain (DeVellis, 2012; Kerlinger & Lee, 2000; Nunnally & Bernstein, 1994). Construct validity is concerned with whether or not the instrument actually measures, or captures, the construct (e.g., trait, behavior) it is supposed to measure (Churchill, 1979; Cronbach & Meehl, 1955). Finally, establishing criterion-related validity requires examining the degree to which a given test predicts, or correlates with, an anticipated outcome (Murphy & Davidshofer, 1991).

Methods Overview and Chapter Organization

This chapter organizes the study's procedures into the following three sections: item development, the first round of data collection/analysis, and the second round of data collection/analysis. Study objectives and details pertinent to each section will be provided.

Item development. The development of survey items took place in three stages: (a) initial item construction, (b) a blind sort procedure, and (c) a pilot of the electronic survey. Participants varied across stages and will be described in conjunction with their respective procedures.

Procedure for initial item construction. After a comprehensive review of the authenticity literature, specific theories (i.e., person-centered psychology, self-based theories, and SDT) were identified as valuable for capturing authenticity in the leadership context. Conceptual work was then conducted to develop a new framework for leader authenticity based on the selected theoretical perspectives. As discussed in earlier chapters, the proposed primary constructs of the framework were: self-awareness, self-knowledge, self-regulation, and authentic behavior. For this study, the principal researcher wrote approximately 100 items to cover the content domain of individual authenticity, according to the four dimensions. Although authenticity could be studied in general or across a variety of different contexts, this study focused on self-rated *leader authenticity* (or the level of authenticity a leader perceives he or she demonstrates within a single leadership role).

In accordance with Deci and Ryan's (1995) framework, each self-regulation item was designed to represent one of four possible subscales. For self-knowledge, self-awareness, and authentic behavior, items were written to span across various dimensions of self. Items for each construct were designed to include a range of content, as indicated in Table 1.

Procedure for item refinement. Nunnally and Bernstein (1994) emphasized the importance of conducting thorough reviews of item content and testing procedures for instruments that will be distributed to broad populations. As leaders in organizations do indeed represent a relatively broad population, survey items were written, examined, and revised with early assistance from six subject matter experts. In response to the recommendation that participants in the process of item creation/refinement ought to

Table 1

Authenticity Construct Components and Item Content

Construct	Item Content
Self-Knowledge	Knowledge of: • Self in General • Personal Qualities • Personal Values/Beliefs • Personal Goals
Self-Awareness	Awareness of: • Physiology/Body • Emotions/Feelings • Cognitions/Thoughts
Self-Regulation	Four Types of Regulation: • External Regulation • Introjected Regulation • Identified Regulation • Integrated Regulation
Authentic Behavior	Behavioral Congruence with: • Self in General • Personal Qualities • Personal Values/Beliefs • Personal Goals • Emotions/Opinions

involve the type of people who will be end-users of the test, those who have training in psychological measurement, and experts on the subject of the instrument (Nunnally & Bernstein, 1994), subject matter experts selected in this study had leadership experience themselves, research experience in instrument design, and/or familiarity with the literature on authenticity. At least four rounds of feedback vetted and reworked item content as well as the design of the survey. Subject matter experts also provided input regarding the appropriateness of the response scales selected for each of the four constructs.

Selection of item response scales. Self-knowledge was measured using a 6-point descriptiveness response scale, ranging from *not at all descriptive of me* to *very descriptive of me, if not completely*. An even-numbered scale (with no neutral or middle option) was ideal here to require participants to indicate whether they have a given type of self-knowledge or not. For self-awareness and authentic behavior, however, it was less relevant to ask respondents about the degree to which a statement describes them and more important to ask about the number of times a certain experience/behavior occurs. Thus, self-awareness and authentic behavior were captured with a 7-point frequency response scale, ranging from *not at all* to *very often, if not always*. Finally, self-regulation was measured using a 7-point agreement scale (i.e., *strongly disagree* to *strongly agree*). The agreement scale format for self-regulation was selected to coincide with the type of scale implemented by the validated instrument (see Kim, Deci, & Zuckerman, 2002; the Self-Regulation of Withholding Negative Emotions Questionnaire) that inspired the creation of this study's self-regulation items. Odd-numbered scales were preferred for self-awareness, authentic behavior, and self-regulation because (unlike self-knowledge) for these constructs a middle response option was theoretically meaningful.

Blind sort procedure. To assess content validity, or the degree to which test items accurately reflect their intended content domain (Guion, 1977), a blind sort was conducted. Following the development of the initial item pool, graduate students and faculty from a private university in California were invited through a department listserv to participate in an electronically administered blind sort procedure. Of the 119 people on the listserv, 22 volunteered. Participants were given a document of operational definitions and examples of each construct of interest, and they were asked to print out

and refer to the document while matching potential survey items into their respective categories. The blind sort invitation specified that the procedure required participants who were generally unfamiliar with literature on authenticity and authentic leadership. Thus, participants entered the exercise with very little preexisting knowledge about the constructs of interest, which guarded against preexisting biases that might conflict with the study's provided operational definitions (Schriesheim, Cogliser, Scandura, Lankau, & Powers, 1999).

The analysis of data collected from the blind sort was primarily used to interpret and refine problematic item language that might have caused a participant to believe that a given item belonged to a different category than the developer of the instrument had originally intended (e.g., that a self-awareness item was actually measuring self-knowledge). Raters' level of agreement with the categorization of each item was examined, such that low agreement indicated the possible need for language clarification. Decision criteria and results from the blind sort procedure will be presented in Chapter Four.

Pilot survey. The final electronic survey consisted of approximately 100 items and was piloted by friends and family members of the principal researcher. Twenty-six people were invited to pilot the survey, 18 of which participated. The purpose of the pilot was to test for survey functionality, to ask for feedback on any items that may seem unclear, and to examine item response ranges, central tendencies, and variance. Items that did not demonstrate adequate variance were rewritten to better differentiate respondents on the construct of interest. For instance, if respondents tended to select the top one or two response options for a given item, the item was reworded in an attempt to

avoid issues with ceiling effects. The study's survey design and items were refined one final time prior to the official launch based on any additional insight provided by the pilot. Chapter Four provides pilot survey results.

First data collection and analysis. This section describes the participants and procedure for the first round of data collection and analysis. A general overview of the design of the initial instrument and corresponding analyses will be provided.

Participants. Study participants were invited through a database housed by a California-based international consulting firm that offers trainings and leadership services to organizations across industries. The database included approximately 90,000 email addresses of previous and prospective clients of the company, as well as other contacts interested in remaining updated on the firm's work. Based on previous studies that have used the database, it was anticipated that the samples to be generated would consist mostly of White/Caucasian managers from North America. This ended up being the case. More detailed demographic information on the sample generated from launch one will be offered in Chapter Four.

Procedure. The first round of data collection used one electronic survey. Invitations to potential participants were sent via email. Respondents entered the electronic survey through an online hyperlink and were not compensated for their time, but they were offered access to the firm's white papers as a thank you for responding. All study participants remained anonymous, and the survey took approximately 15-20 minutes to complete.

Instrument design. The electronic survey included the pool of approximately 100 items developed in the initial phase of the study, with corresponding response scales as

specified above. At the start of the survey, participants were instructed to think about themselves in a single leadership role only. The instructions provided at the beginning of the survey are shown in Appendix A. To encourage consistent thinking, participants were reminded of this instruction throughout the assessment. The first set of questions, in Appendix B, asked respondents to describe the leadership role they selected for the context of their reporting. The purpose of the questions describing role context was two-fold: (a) to gather information about the nature of respondents' leadership roles for subsequent analysis and (b) to encourage respondents to begin to think in terms of their selected leadership role. These descriptive questions gathered leadership role information from respondents on: whether or not the role was formally assigned, their status as a manager versus non-manager, the number of direct reports assigned to them (if any), whether or not the role was within a workplace setting, the extent to which respondents viewed themselves as leaders within the role, the extent to which respondents felt experienced while in the role, whether or not the role was current or past, and the number of years served within the role.

It should be noted that asking for role-specific ratings was a different approach from, e.g., those employed by the AI-3 (Goldman & Kernis, 2004; Kernis & Goldman, 2006) or the AS (Wood et al., 2008), which ask participants to rate themselves on authenticity in general. Although authenticity can be measured in a way that was not context-specific, for this research respondents were asked to narrow their responses to a single role and context for three primary reasons. Requesting role-specific ratings: (a) protected against respondent tendency to aggregate and report on "my best self" across all contexts, (b) guarded against possible confusion that could otherwise result for

participants who do indeed demonstrate different levels of authenticity across roles and situations, and (c) grounded the tool in a tangible setting for increased utility in practice. Application to practice was desirable, as the intended purpose of the intended instrument was to assess the authenticity of leaders in their organizational context.

Demographic information was collected at the end of the survey. Questions included: gender, age, race/ethnicity, geographic location, and level of education. Appendix C provides all demographic questions as they appeared to respondents. Demographic information was collected to better understand the sample and to allow potential demographic differences in authenticity to be explored for purposes of improved instrument development. Finally, an open-ended comment box was provided at the end of the survey to gather any additional information respondents might be compelled to share.

Analysis. The primary objective of the first data collection and analysis was item reduction to factors that reliably represented the theoretical constructs of interest. Following data cleaning and preliminary tests for data quality, factorability of the data matrix was examined. Then principal components analysis (PCA), which mathematically reduces the number of items into smaller groupings while accounting for maximum variance in the dataset (Tabachnick & Fidell, 2001), was used in iterative succession. Item loadings, item content, and subscale reliabilities were closely evaluated throughout this process to select the best survey items to include in the first version of the REAL.

Second data collection and analysis. The participants and procedure for the second round of data collection and analysis are presented next. This includes a description of the design and administration of the three surveys used, the analyses that

finalized the REAL, and how the REAL was tested for both construct validity and criterion-related validity.

Participants. For the second launch, the same database was used as in the first launch, but this time data collection involved three different samples. On the whole, respondent demographics did not significantly differ from launch one to launch two. However, some variation in sample demographics was observed among the three samples in launch two. Detailed information about these differences and launch two demographics is presented in Chapters Four and Five.

Procedure. There were three primary purposes of the second launch: (a) to refine and add items necessary to finalize the instrument, (b) to facilitate instrument cross-validation in different samples of respondents, and (c) to test the instrument for construct validity and criterion-related validity using existing measures.

The design and administration of three surveys. Similar to administrative procedures in the first launch, in the second launch potential participants were invited to the study through email, and respondents completed an electronic survey while remaining anonymous. The survey required about 15-20 minutes to complete, and respondents were thanked for their participation by being granted access to the firm's white papers. Unlike launch one, however, three different surveys were used, each of which was administered to a different sample of respondents (i.e., three samples in total). Across all three surveys, questions for demographics, leadership role description, and for the REAL were exactly the same. What differed among the three surveys was the existing measures included for the validation testing of the REAL. Survey one (administered to sample one) also included three simple questions regarding contextual outcomes, which asked for

ratings on the extent to which respondents felt satisfied, effective, and personally fulfilled while operating in their leadership roles. Table 2 summarizes the content of the surveys completed by each sample.

Demographic questions, instructions to rate within the context of a leadership role, and descriptive questions about the leadership role being rated were the same in launches one and two. REAL items in the second launch included those supported by the component solution in the first launch (i.e., the first version of the REAL), in addition to newly written items for potential REAL improvement. For the comprehensive validation study, ten existing measures and a single-item measure designed for this study comprised 21 total subscales. The subscales were divided among the three samples to reduce participant response burden. Table 3 lists the 10 constructs, existing measures, and corresponding subscales (if applicable) that were used for REAL validation testing.

Analyses to finalize the REAL. All data from launch two were combined and analyzed from the three samples in an effort to improve the first version of the REAL made possible by launch one. As in the first round of analysis, data were cleaned and matrix factorability was examined prior to running several PCAs for data reduction. The final component solution was characterized by satisfactory item loadings, clear factor interpretation in accordance with the proposed framework, and adequate subscale reliabilities. This final version of the REAL then also underwent confirmatory factor analysis (CFA) to evaluate overall measurement model fit. Given the study's conceptual framework, it was anticipated that a unidimensional model for leader authenticity would fit significantly worse than the proposed multidimensional model. This assumption was

Table 2

Summary of Launch Two Survey Design and Samples

Survey One (Sample 1)	Survey Two (Sample 2)	Survey Three (Sample 3)
Leadership Role/Context	Leadership Role/Context	Leadership Role/Context
57 REAL Items	57 REAL Items	57 REAL Items
External Regulation (SRWNE)	Autonomy (PWB)	Integrity
Introjected Regulation (SRWNE)	Environmental Mastery (PWB)	Self-Esteem
Identified Regulation (SRWNE)	Personal Growth (PWB)	Self-Alienation (AS; Sample 3)
Integrated Regulation (SRWNE)	Positive Relations with Others (PWB)	Authentic Living (AS; Sample 3)
Contextual Outcomes	Purpose in Life (PWB)	Social Influence (AS; Sample 3)
Self-Alienation (AS; Sample 1)	Self-Acceptance (PWB)	Internalization (SIMI)
Authentic Living (AS; Sample 1)	KIMS Observe	Symbolization (SIMI)
Social Influence (AS; Sample 1)	Demographics	Self-Concept Clarity
Life Satisfaction		Flavor Preference
Social Desirability		Demographics
Demographics		

Note. KIMS = SRWNE = Self-Regulation of Withholding Negative Emotions; AS = Authenticity Scale; PWB = Psychological Well-Being; Kentucky Inventory of Mindfulness Skills; SIMI = Self-Importance of Moral Identity.

Table 3

Existing Measures for Launch Two

Construct(s)	Existing Measure (and Source)	Subscales
Self-Concept Clarity	Self-Concept Clarity Scale (Lee, Lee, & Sanford, 2010)	N/A
Observe Aspect of Mindfulness	Kentucky Inventory of Mindfulness Skills (Baer et al., 2004; Observe Scale Only)	N/A
Regulation of Negative Emotions	Self-Regulation of Withholding Negative Emotions Questionnaire (Kim et al., 2002)	External Regulation, Introjected Regulation, Identified Regulation, Integrated Regulation
General Authenticity	Authenticity Scale (Wood et al., 2008)	Self-Alienation, Authentic Living, Accepting External Influence
Social Desirability	Measure of Social Desirability (Shultz & Chávez, 1994; Impression Management Scale Only)	N/A
Self-Esteem	Global Self-Esteem Measure (Spencer-Rodgers & Collins, 2006)	N/A
Life Satisfaction	Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985)	N/A
Psychological Well-Being	Ryff's Psychological Well-Being Scale, MIDUS-II Version (Ryff, 1989b)	Autonomy, Environmental Mastery, Positive Relationships with Others, Personal Growth, Purpose in Life, Self-Acceptance
Self-Importance of Moral Identity	The Self-Importance of Moral Identity (Aquino & Reed, 2002)	Internalization, Symbolization
Integrity	The Integrity Scale (Schlenker, Weigold, & Schlenker, 2008)	N/A

Note. A one-item measure of the flavor preference was also created for this study to test for the discriminant validity of the REAL, and a one-item measure for general life authenticity was developed for use in the analysis for the criterion-related validity study.

confirmed, providing initial evidence of discriminant validity for the proposed components of authenticity in leaders.

Throughout PCA and CFA, the ideal number of items and factors to retain was in question, so more analyses were run as needed. Specifically, additional analyses included scree plot interpretation, parallel analysis, CFA on alternative measurement models, and theory-based considerations to arrive at the final version of the REAL. Then, unweighted and weighted resampling was conducted with PCA to test the robustness of the REAL's factor structure. Follow-up analyses also included rerunning analyses under the exclusion of outliers, using CFA to test for the presence of a second-order latent variable for authenticity, and the examination of various analyses to devise a composite score (i.e., total authenticity) for the REAL.

Tests for a second-order latent variable were inspired by existing literature on authenticity and authentic leadership, which offers mixed conclusions regarding the appropriateness of a higher-order authenticity/authentic leadership construct. The presence of a second-order latent variable would suggest that a general authenticity construct may exist at a higher level of abstraction to bring about its components.

Upholding a potential latent model, Wood et al. (2008) cited sizeable factor loadings to provide support for the possibility of a higher-order authenticity latent variable. Using a different conceptual approach to authenticity, Kernis and Goldman (2006) tested the AI-3 and found sufficient evidence in support of a single, higher-order authenticity latent variable above and beyond their four-component (multidimensional) latent variable model. However, mixed results have been found for the same theoretical framework when it has been translated for the study of authentic leadership; Walumbwa

et al. (2008) confirmed a higher-order authentic leadership latent variable, but Neider and Schriesheim (2011) later concluded that the presence of such a variable was sample dependent.

This study's proposed framework is different from existing frameworks and suggests that psychological and behavioral components contributing to authenticity may be a more complex process than can be aggregated within a single, underlying authenticity factor. However, given that previous literature presenting other theories of authenticity seem inconclusive about the presence of such a factor, the possibility of a higher-order authenticity construct was examined for the REAL.

Validation study objectives. Specific objectives of the second data collection and analysis will be to test the REAL for construct validity, specifically with regard to convergent and discriminant validity. Additionally, the criterion-related validity of the REAL will be examined in the form of concurrent validity.

Construct validity: Background. Construct validity refers to whether or not a test behaves, or performs in practice, in the way theory suggests it ought to behave (Murphy & Davidshofer, 1991). According to Kerlinger and Lee (2000), construct validity is arguably the most critical type of validity as it "is one of the most significant scientific advances of modern measurement theory in practice . . . because it links psychometric notions and practices to theoretical notions" (p. 670). In a seminal article, Cronbach and Meehl (1955) purported that considering the nomological network of a construct is important to validation efforts and theory building. They defined nomological network as "the interlocking system of laws which constitute a theory" (Cronbach & Meehl, 1955, p. 290), which includes testable and untestable hypotheses about how constructs

interrelate or how constructs may be distinct. According to Cronbach and Meehl (1955), "unless the network makes contact with observations, and exhibits explicit, public steps of inference, construct validation cannot be claimed" (p. 291). Establishing the construct validity of an instrument may, therefore, involve examining the instrument against theoretically-related predictors and outcomes (D. T. Campbell, 1960; Cronbach & Meehl, 1955).

Types of construct validity include convergent and discriminant validity. Convergent validity pertains to whether or not measures of theoretically similar or related constructs empirically demonstrate correlation with one another (DeVellis, 2012). Discriminant validity, on the other hand, addresses the degree to which a measure does not statistically correlate with a measure of a construct that is theoretically unrelated (Nunnally & Bernstein, 1994). Measures of the same construct might vary in content and/or by method of administration (D. T. Campbell & Fiske, 1959). Thus, while outlining and interpreting validation studies, researchers must think critically about how measures differ from one another simply due to the nature of their design or procedural administration.

Construct validity: Measures and analysis. Data analysis in this phase will address the following three questions:

1. Does the instrument on the whole correlate as anticipated with previously validated measures for authenticity?

2. Do the components of the REAL, and the REAL on the whole, correlate with other constructs as theory might suggest?

3. Does the REAL and its components *not* correlate with constructs that theoretically should not be related to the instrument/components?

A measure for general authenticity, the AS by Wood et al. (2008), was used to answer the first question. The AS, shown in Appendix D, measures authentic personality in individuals and is a 12-item instrument featuring 7-point Likert-type scales on self-descriptiveness. Wood et al. (2008) provide evidence of the instrument's adequate test-retest reliability, discriminant validity, and convergent validity. The AS has three dimensions: self-alienation, authentic living, and accepting social influence. In Wood et al. (2008), internal consistency reliability coefficients for the three subscales were .69, .78, and .78, respectively.

In response to the second question, the component- and concept-level construct validity of the REAL was evaluated. For REAL testing at the component-level, measures were included that represented the following constructs: self-concept clarity, the observe aspect of mindfulness, and the regulation of negative emotions. The Self-Concept Clarity Scale (Lee et al., 2010) includes 12 items with 5-point Likert-type agreement response scales. The instrument, provided in Appendix E, assesses the degree to which participants are internally consistent, familiar with, and comfortable with their notion of self (J. D. Campbell & Lavallee, 1993; J. D. Campbell et al., 1996). Lee et al. (2010) reported the measure's internal consistency reliability to be .80.

The observe dimension of the Kentucky Inventory of Mindfulness Skills (KIMS) is a 12-item subscale by Baer et al. (2004) and is included in Appendix F. Questions are accompanied by 5-point Likert-type rating scales that ask respondents to indicate the degree to which each statement is true of them. The content domain for the KIMS

includes noticing and being mindful of internal and environmental stimuli (Dimidjian & Linehan, 2003). The complete KIMS inventory includes four components of mindfulness, and observe is one of the four components. In Baer et al. (2004) the alpha reliabilities of the observe subscale were strong at .91 and .85 in two different samples. Validation evidence for the KIMS is provided by Baum et al. (2010).

The regulation of negative emotions was measured through the Self-Regulation of Withholding Negative Emotions Questionnaire (SRWNE; Kim et al., 2002), which is provided in Appendix G. The SRWNE includes four components for regulation (i.e., external, introjected, identified, and integrated) that pertain to the individual's withholding of negative or socially unacceptable emotions. It is a 28-item instrument that presents respondents with 7-point Likert-type agreement response scales. Kim et al. (2002) provided evidence of the instrument's adequate reliability and validity, and they reported the alpha reliability coefficients for all four subscales were above .70.

The REAL's construct validity at the concept-level was evaluated against general authenticity (again, through the AS) and self-esteem, which was captured through the Global Self-Esteem Measure (Spencer-Rodgers & Collins, 2006). The Global Self-Esteem Measure, shown in Appendix H, is a five-item instrument featuring items adapted from the Rosenberg Self-Esteem Scale (Rosenberg, 1979). Questions offer 7-point Likert-type rating scales that ask respondents to indicate the degree to which each statement describes them. Spencer-Rodgers and Collins (2006) reported the scale's internal consistency reliability coefficient to be .85.

The discriminant validity of the REAL was tested at both the component and concept-level through measures for flavor preference and social desirability. Flavor

preference was measured through a single survey question designed specifically for this study. The question asked, "If you were to choose between ice cream flavors, which would you prefer right now: chocolate or vanilla?" Discriminant validity for the REAL would be indicated by a correlation of zero with flavor preference, as there is no theoretical reason to expect that flavor preference should be related to authenticity. Additionally, the 11-item Social Desirability Scale (Shultz & Chávez, 1994) was administered and involved 5-point Likert-type agreement rating scales. Items from the measure, provided in Appendix I, resemble the content of items available in the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). The Social Desirability Scale contains two components, five items for impression management and six items for self-deceptive enhancement. However, Paulhus (1984) and Zerbe and Paulhus (1987) concluded that researchers testing for social desirability in organizational behavior studies should only involve the impression management subscale because meaningful relationships are often likely to be uncovered through the use of the self-deceptive enhancement scale. Following Paulhus (1984) and Zerbe and Paulhus (1987), this study analyzed social desirability solely through Shultz and Chávez's (1994) impression management subscale. The alpha reliability for the impression management subscale was reported to be .72 by Shultz and Chávez (1994; for the English version of the instrument). Observing no correlation between the REAL and social desirability was important to establish the discriminant validity of the instrument.

The three samples from launch two remained separate for the construct validity testing of the REAL, with the exception of correlations that only involved relationships between the REAL's components and total score (which analyzed all data across all

samples). Correlations were used to examine the degree to which anticipated relationships between the REAL and existing measures supported or refuted theory. Primary relationships examined included correlations between REAL's components and the REAL's total score, between the REAL (components and total score) and the ten subscales of existing measures included to test the REAL's convergent validity, and between the REAL (components and total score) and the two measures evaluating the REAL's discriminant validity. Prior to running correlations, data quality was examined, samples were tested for notable demographic differences, and alpha reliabilities for existing measures were checked and, in some cases (i.e., for social desirability), subscales were adjusted as needed.

Criterion-related validity: Background. The two types of criterion-related validity are predictive validity and concurrent validity. Concurrent validity is accepted as a more practical approach to establishing criterion-related validity than predictive validity (Murphy & Davidshofer, 1991), because the former allows researchers to collect data on the test in question and an outcome variable at a single point in time, while the latter often requires two data collections across different points in time (Nunnally & Bernstein, 1994). Also, concurrent validity allows for the use of convenience samples, while predictive validity usually requires data to be collected from a randomly selected sample that is representative of the test's target population (Guion & Cranny, 1982). Although, when compared to concurrent validity, predictive validity is generally regarded as the more preferred and defensible approach to criterion-related validity, constraints on time and resources often necessitate researchers to solely examine concurrent validity in their studies (Murphy & Davidshofer, 1991). However, in a meta-analysis of validation

studies, Schmitt, Gooding, Noe, and Kirsch (1984) found that the magnitude of validity coefficients in convergent validity studies were usually similar to those demonstrated in predictive validity studies. Due to practical limitations, the proposed research will follow suit and focus its criterion-related validity procedures specifically on establishing the concurrent validity of the REAL.

Criterion-related validity: Measures and analysis. Two questions will be addressed to examine the REAL's concurrent validity with existing instruments:

1. Can the REAL predict variance in theoretically related outcomes?

2. If so, can the REAL do this above and beyond other variables that share variance with the same outcomes?

Criterion-related validity of the REAL was analyzed in each relevant sample in launch two and focused at the concept-level (for the total score for authenticity). The following criterion measures were used: life satisfaction, psychological well-being, and integrity. To assess life satisfaction, the five-item Satisfaction With Life Scale by Diener et al. (1985) was used. Items for the scale appear in Appendix J. Questions presented respondents with 7-point Likert-type agreement rating scales. Validation evidence for the scale is provided by Diener et al. (1985), which reported the scale's internal consistency reliability at .87.

This study captured well-being through Ryff's Psychological Well-Being Measure (Ryff, 1989b), provided in Appendix K. Questions involve 6-point Likert-type agreement rating scales. The instrument includes six components: autonomy, environmental mastery, purpose in life, positive relations with others, personal growth, and self-acceptance. Ryff (1989b) cited internal consistency reliability coefficients for

the six subscales as .86, .90, .90, .91, .87, and .93, respectively, and provided convergent and discriminant validity for an early iteration of the measure. Different versions of the Psychological Well-Being Scale are available to researchers, and this study used the version of the tool featuring 42 items, or seven items per dimension (i.e., the Midlife Development in the U.S. II version, or MIDUS-II). The items were received through email from Ryff (personal communication, May 17, 2013), who cited previous reliability evidence for the Psychological Well-Being Scale (MIDUS-II version) across four samples in the MIDUS-II study as above .7 for all subscales except for autonomy and purpose in life, which each had inadequate reliabilities (below .7) in one of the four samples. However, despite mixed reliability evidence for the autonomy and for purpose in life subscales, the 42-item version of the Psychological Well-Being instrument remained favorable for use in this study because its short length satisfied practical requirements for survey administration. Although a shorter 18-item version of the instrument exists (MIDUS-I version), Ryff (personal communication, May 17, 2013) noted in her email that reliabilities for the short version have been inadequate in the past. Thus, she recommended the 42-item MIDUS-II version in the event that space requirements were an issue.

The Integrity Scale by Schlenker et al. (2008), in Appendix L, was also used as a criterion measure. According to Schlenker et al. (2008), individuals with integrity are those who reliably behave according to ethical principles even in instances when the alternative for expediency may be advantageous. The Integrity Scale consists of 18 items with 5-point Likert-type agreement rating scales. The instrument asks participants for

self-ratings of integrity. In six different samples, internal consistency reliability ranged from.84 to .90 (Schlenker et al., 2008).

Two other constructs were used in the process of testing for the REAL's criterion-related validity: self-importance of moral identity and general life authenticity. The Self-Importance of Moral Identity Scale by Aquino and Reed (2002), provided in Appendix M, included 13 items involving 5-point Likert-type agreement rating scales that ask respondents to indicate how important their moral identity is to them. Aquino and Reed (2002) define moral identity as "a self-conception organized around a set of moral traits" (p. 1424) to identify two dimensions of the construct: internalization (or "the degree to which . . . moral traits are central to the self-concept") and symbolization (or "the degree to which . . . traits are reflected in the respondent's actions in the world"; p. 1427). Convergent and predictive validity information for the measure is available in Aquino and Reed's (2002) study, and across various samples the authors report adequate internal consistency (above .70) for both subscales of moral identity. General life authenticity was measured through a single item developed specifically for this study. The item asked respondents to think about themselves in their life in general, and then use a 5-point Likert-type rating scale to rate the extent to which they perceive they are authentic, or true to themselves. Self-importance of moral identity and general life authenticity were incorporated as ancillary measures in the criterion-related validity study.

Correlations and hierarchical regression were used to test the degree to which the REAL could predict life satisfaction, psychological well-being, and integrity in the direction suggested by previous empirical work. More specifically, in response to the first question pertinent to the criterion-related validity of the REAL, correlations were

used to identify instances of significant amounts of shared variance between variables. To address the second question relevant for criterion-related validity, hierarchical regression was used to test the degree to which the REAL could predict unique variance in each criterion measure above and beyond ancillary measures demonstrating shared variance with the same criterion. Ancillary measures were identified and included general life authenticity (for the regression featuring life satisfaction as the criterion measure), the KIMS observe dimension of mindfulness (for the regressions with psychological well-being subscales as the criterion measures), and self-esteem and the two subscales for the self-importance of moral identity (for the regression including integrity as the criterion measure). Eight regression models were analyzed overall, and all models controlled for respondent demographics.

CHAPTER FOUR

RESULTS: INSTRUMENT DEVELOPMENT

This chapter reports findings from two rounds of data collection that were foundational to the design of the REAL. Results are presented from the early stages of item development, the initial phase of analyses on the instrument using data from launch one (also referred to as the first round of data collection), and the final phase of analyses for instrument refinement using data from launch two (also referred to as the second round of data collection). Findings from both launches begin with descriptions of sample demographics, tests on data quality, and preliminary statistics regarding matrix factorability prior to presenting PCA results.

Using the data collected in launch two, additional analyses were run to test psychometric qualities of the REAL in its final version. Specifically, for launch two, findings are also provided from: CFA conducted to evaluate the measurement model fit of the REAL, analytical and theoretical considerations regarding items and factors that were retained in the final version of the instrument, tests for factor structure robustness, analysis on the potential effects of outliers, and CFA examining the feasibility of modeling a second-order latent variable from the data. Finally, this chapter ends with an explanation for how the REAL's scale scores and total score for authenticity was calculated. The REAL's validity testing results will be provided in Chapter Five.

Item Development Results

Prior to the first round of data collection, items in the initial pool were refined several times based on at least four rounds of subject matter expert feedback, results from the blind sort procedure, and results from the pilot survey. There were 114 working

REAL items in early phases of the project, but the final number of items for the first launch was ultimately lowered to 89 (not including items for leadership role description and demographics).

Data from the blind sort, as mentioned earlier, asked participants to refer to operational definitions of each theoretical construct while slotting each item into its respective category. Upon the close of the blind sort survey, each item was analyzed for the percentage of participants that correctly identified its intended construct category. An item was flagged for review if less than 75% of blind sort participants categorized it accurately. The self-regulation items were the exception to this rule because their higher difficulty (as indicated by blind sort participants' lower rate of classification and open-ended comments) warranted a less conservative criterion for item review. In response, a self-regulation item was flagged for review if less than 50% of blind sort participants classified it correctly. Of all items in the blind sort, 23 failed to meet the < 75% or < 50% correct categorization criteria, so the 23 items were reviewed by the researcher and reworded for improved construct clarity wherever possible. Open-ended comments provided by blind sort participants were also examined by the researcher, and item content was further refined in cases where participants' notes suggested revisions might be necessary.

The primary purpose of the pilot survey was to test for survey functionality, but data from 18 participants were also examined for item response ranges, means, and variance. In cases of range restriction and notably high means, items were flagged and considered for revision to allow for a wider range of responses in later launches. In instrument design, it is important to create items that will capture variance on the

construct of interest, as items that demonstrate very little variation are less useful in measurement (DeVellis, 2012). In this study, for example, the item "I know what I am striving for" demonstrated a very high mean with low variance, so it was revised to be slightly more difficult: "I know *exactly* what I am striving for." Criteria for identifying survey items that could potentially be reworked were as follows: items featuring a 6-point response scale (i.e., those written for the self-knowledge construct) were flagged if their mean was higher than 5.5 and if responses ranged between 5 and 6, and items featuring a 7-point response scale (i.e., those written for all other constructs, with external regulation and introjected regulation items reverse-scored) were flagged if their mean was higher than 6 and if responses ranged between 5 and 7. Fifteen items met these criteria, and additional revisions were made only if the cause of range restriction or high means was apparent and reasonably adjustable through minor adjustments to item content. On the whole, few item revisions were made based on pilot survey data.

Appendix N provides all preliminary REAL items included in launch one. Appendix N also indicates the authenticity component represented by each item and lists respective content dimensions (if applicable, e.g., the aspect of self captured in a given self-knowledge item).

Launch One Results

This section presents the results from launch one. It covers sample demographics, steps undertaken for data screening to ensure quality, tests for matrix factorability, and the results from primary analyses used in launch one.

Sample demographics. The sample of 1,805 respondents in launch one was 60.7% female and 49.7 years of age on average. Most respondents (69.5%) were from

the United States, but some diversity in geographic region was evident (i.e., 13.0% from Europe, the Middle East, or Africa; 9.0% from Canada; 5.2% from Asia Pacific; 1.8% from Latin America; 1.5% from elsewhere). The majority was Caucasian/White (79.7%), followed by Asian/Pacific Islander (6.0%), Hispanic/Latino/Spanish (4.7%), African American/African/Black (4.1%), Biracial/Multiethnic (1.7%), and 3.8% selected unlisted racial/ethnic identifications. Regarding the highest level of education completed, most had a master's degree (40.1%) or bachelor's degree (34.6%), and some had either an associate's degree or high school diploma (15.7%). Appendix O provides detailed demographic information for launch one respondents. For the leadership role being rated, respondents reported a mean of 8.3 years of experience, approximately 74% said their leadership roles were formally assigned, 95% were operating in a workplace setting, and 89% were in the roles being rated at the time of their participation. Seventy-eight percent of respondents were managers, for whom the median number of direct reports was 6. Additional information about the nature of the leadership roles being rated can be found in Appendix P.

Data screening and quality. For survey data collected through launch one, preliminary analyses indicated satisfactory quality. The sample size of 1,805, which for 89 initial items resulted in an adequate subject to item ratio of 20:1, was large enough to conduct PCA (Costello & Osborne, 2005). Missing Value Analysis indicated less than 2% of cases were missing for any given variable, with the exception of the variable measuring the number of years of experience in role, which featured 2.2% missing cases (or 40 cases out of a total of 1,805). For the dataset on the whole, the number of missing data points for the first survey was 0.5%. Thus, the proportion of missing cases and

missing data points was minimal, so no adjustment for missing data was performed for subsequent analyses. For all variables, visual examination of the missing value patterns matrix indicated that data were not missing such that the lack of response on one item would likely result in the lack of responses on other items.

Matrix factorability. Early analyses of the initial 89 REAL items also provided evidence supporting the factorability of the matrix. First, numerous significant bivariate correlations between potential REAL items were above .30. In addition, Bartlett's test of sphericity (Bartlett, 1954) was significant, χ^2 (3916) = 70317.001, $p < .001$. However, given that this test is sensitive to sample size (Tabachnick & Fidell, 2001), other significance tests of the correlation matrix were also used. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .96, or marvelous by Kaiser's (1974) standards. Furthermore, many values well below .10 were found in the anti-image correlation matrix, further indicating the matrix would be factorable. Ninety percent of the initial 89 items had communalities greater than .50, with communalities ranging from .42 to .75 and featuring a median value of .60. By practical standards, such communalities are sufficiently moderate in size (Costello & Osborne, 2005) to support the use of PCA.

Principal components analysis results. As there was strong evidence for a factorable matrix, PCA with varimax rotation was used for data reduction on the initial 89 items. Prior to any refinement, fourteen factors were extracted with eigenvalues greater than one, explaining a total 59.3% of the variance. The first factor, which was interpreted as self-knowledge, accounted for most of the variance (23.3%), followed by the second factor (self-awareness), which accounted for 9.8% of the variance. The third

through the eighth factors (which, respectively, represented authentic behavior having to do with openness or expressiveness, integrated regulation with a couple of identified regulation items loading in the lower ranges, authentic behavior specific to the outward demonstration of personal values and beliefs, external/introjected regulation involving future consequences or rewards, identified regulation sans integrated regulation, and another external/introjected regulation factor emphasizing others' perceptions) each explained more than 2% of the variance in the initial component solution. The ninth through fourteenth factors individually accounted for less than 2% of the variance, demonstrated limited to no interpretability, and—for the instrument on the whole—numerous cross-loadings were present. Thus, this initial analysis indicated there was much room for empirical and interpretive improvement.

In response, iterative PCAs were run as items were individually evaluated for removal, with the objective that the final component solution would ultimately demonstrate: items with primary factor loadings of .40, no items cross-loading onto secondary factors at .40 or above, and no items cross-loading ≤ .15 between factors. The criteria for the minimum acceptable primary factor loading of .40 was selected based on Ford, MacCallum, and Tait (1986) and Sax (1997), the latter of which recommended a minimum factor loading of .40 for items of instruments in their early phases of development. The .40 minimum to be used for the identification of problematic secondary factor cross-loadings was a compromise between Comrey and Lee's (1992) .32 minimum loading criteria, the < .45 cross-loading suppression procedure demonstrated by Tabachnick and Fidell (2001), and the recommendation from Field (2009) to suppress items that cross-load < .40. Finally, a minimum .15 criterion regarding the relative

differential between any cross-loading items was used. Additionally, because an a priori theoretical framework guided this work, subjective interpretation of items was used to determine if an item was loading inappropriately. Based on these criteria, problematic items were removed until an acceptable component solution was obtained.

Several iterations of PCA ultimately removed 48 items from the initial pool of 89, resulting in an adequate component solution featuring 41 items and six factors. All six factors in the extracted 41-item solution had eigenvalues greater than one. Table 4 provides eigenvalues and variance explained by the component solution. The first factor accounted for 25.7% of the variance, and the solution's cumulative variance accounted for was 55.9%.

Table 4

Launch One Factors and Variance Explained

		Variance Explained		
Factor Name	Factor Number	Eigenvalue	% Variance	Cumulative % of Variance
Self-Knowledge	1	10.539	25.704	25.704
AB – Expressive	2	4.401	10.734	36.437
Self-Awareness	3	2.752	6.712	43.149
External/Introjected Regulation	4	2.078	5.068	48.217
Integrated/Identified Regulation	5	1.706	4.160	52.377
AB – Values/Beliefs	6	1.430	3.487	55.864

Note. n = 1,615; AB = Authentic Behavior.

Compared to the initial 89-item solution, the conceptual interpretation of the instrument was much improved from the 41-item solution, as the following six factors were readily identifiable: self-knowledge, authentic behavior having to do with expressiveness (referred to from this point forward as "authentic behavior – expressive"), self-awareness, external/introjected regulation, integrated/identified regulation, and

authentic behavior concerning the demonstration of values/beliefs (referred to from this point forward as "authentic behavior – values/beliefs").

The 41-item solution, shown in Table 5, resulted in an adequate range of loadings for each factor, ranging from .61 to .76 for self-knowledge, from .61 to .81 for authentic behavior – expressive, from .58 to .76 for self-awareness, from .44 to .75 for external/introjected regulation, from .39 to .77 for integrated/identified regulation, and from .65 to .80 for authentic behavior – values/beliefs. Overall, no non-primary factor loadings were above .40, and the cross-loading differential between factors did not exceed .15.

Subscale internal consistency reliabilities were sufficient, with alphas ranging from .80 to .89. Table 6 shows subscale characteristics of the final six factors extracted from this initial phase of instrument development.

Although item DR2 ("I mostly value knowing my own true self, but I also realize it may not always be productive to share my true self with others") was marginally acceptable for retention, loading at .39 (rather than the desired .40), the item was retained in this phase for purposes of future refinement of the instrument, which later would attempt to further develop the regulation components of the underlying framework. Although only two regulation components were supported by the 41-item solution, theory suggests that there are four types of extrinsic regulation. It was, therefore, desirable to generate new items for the second survey administration that might better represent all four regulation components, rather than the two extracted from the first survey. Additionally, the empirical separation between two types of authentic behavior (i.e., expressiveness and that which is specific to the demonstration of values/beliefs) was

Table 5

Launch One Final Factor Solution, 41 Items

	Factor						
Item	1	2	3	4	5	6	Communalities
SK16	0.76						0.69
SK15	0.75						0.67
SK11	0.75						0.68
SK18	0.71						0.59
SK13	0.70						0.55
SK8	0.68						0.57
SK1	0.68						0.57
SK2	0.61						0.48
AB19		0.81					0.72
AB18		0.76					0.65
AB21		0.74					0.63
AB2		0.71					0.63
AB20		0.69					0.59
AB3		0.66					0.57
AB15		0.61					0.51
SA11			0.76				0.64
SA1			0.75				0.59
SA2			0.72				0.58
SA15			0.66				0.56
SA8			0.63				0.53
SA12			0.62				0.54
SA13			0.58				0.47
ER8				0.75			0.58
ER3				0.69			0.52
ER5				0.69			0.49
ER2				0.64			0.47
JR2				0.63			0.47
ER6				0.63			0.42
JR8				0.51			0.33
JR4				0.44			0.29
GR3					0.77		0.61
GR6					0.73		0.54
GR8					0.72		0.55
GR7					0.70		0.50
GR9					0.67		0.49
DR6					0.59		0.43
DR2					0.39		0.25
AB9						0.80	0.79
AB10						0.74	0.76
AB7						0.71	0.75
AB8						0.65	0.65

Note. n = 1,615. Principal components analysis with varimax rotation. Secondary loadings below .40 are suppressed. Factor 1 = Self-Knowledge, Factor 2 = Authentic Behavior – Expressive, Factor 3 = Self-Awareness, Factor 4 = External/Introjected Regulation, Factor 5 = Integrated/Identified Regulation, Factor 6 = Authentic Behavior – Values/Beliefs.

Table 6

Launch One Subscale Characteristics

	Subscale Characteristics			
Factor Name	Number of Items	Reliability	Subscale Mean	Subscale Standard Deviation
Self-Knowledge	8	0.89	5.32	0.60
AB – Expressive	7	0.89	5.46	0.90
Self-Awareness	7	0.86	5.79	0.78
External/Introjected Regulation	8	0.81	3.51	1.16
Integrated/Identified Regulation	7	0.80	4.83	1.09
AB – Values/Beliefs	4	0.89	6.31	0.69

Note. n = 1,615; AB = Authentic Behavior.

unanticipated but aligned with literature that has conceptually considered authenticity and authentic leadership with regard to various dimensions of self (e.g., Klenke, 2005, 2007). The authentic behavior items' factor loadings onto two different aspects of self resulted in seven items loading onto the authentic behavior – expressive component, but only four items loading onto the authentic behavior – values/beliefs component. Thus, additional authentic behavior – values/beliefs items were written prior to the second round of data collection (also referred to as "launch two") in an attempt to strengthen the instrument's measurement of that component. To address the above issues and improve the REAL so it might better represent the proposed theoretical framework in its final version, 16 new items were written, refined according to subject matter expert feedback, and included in the design of the three surveys used for the second launch. For a list of the 16 additional items, see the column entitled "New Items Written for the Second Launch" in Appendix N.

Launch Two Results

In this section, results from launch two are provided. Sample demographics, data screening, and matrix factorability tests are first described. Then, analytical decisions pertinent to item retention and factor extraction are presented. This is followed by a description of tests used to evaluate the structural robustness of the final factor structure, the potential effect of outliers, and the possibility of alternative measurement model fit. The section concludes with an explanation of how a score for total authenticity was calculated.

Sample demographics. The demographic characteristics of all 1,582 respondents from launch two were similar to those of respondents in launch one. In launch two, the sample was 61.3% female and an average of 49.48 years of age. The race/ethnicity, geographic region, and education level of respondents both were proportionally similar to launch one respondents, with the majority being Caucasian/White (78.8%), from the United States (68.7%), and having either a master's or bachelor's degree (73.3%). Regarding the leadership role context being evaluated, respondents had an average of about eight years of experience, nearly three-quarters were formally assigned to their positions, 95% led others in a workplace setting, and 89% were currently holding the roles they were rating in the survey. Of the 78% of respondents with managerial positions, the median number of direct reports reported was six. More information about launch two respondent demographics and the leadership roles that were rated is provided in Appendix O and Appendix P, respectively.

To test for significant proportional or mean differences in respondent demographics and leadership roles between launches one and two, Pearson chi-square

evaluated categorical variables (i.e., gender, race/ethnicity, geographic location, education level, manager/non-manager status, formal/informal leadership, leadership setting, and currently in role) and One-Way ANOVA assessed continuous variables (i.e., age, number of direct reports, and number of years of experience). No significant proportional differences between launches were found for categorical variables, and continuous variables demonstrated no significant mean differences between launches.

Data screening and quality. For the information collected by the second launch, preliminary analyses were conducted to test for data quality. As reported in Chapter Three, the second launch involved administering three separate surveys to three samples. All three samples were combined for the second phase of REAL development, so those results were based on a total sample size of 1,582. Therefore, with 57 potential REAL items, the subject to item ratio for the second launch was satisfactory for data reduction at 28:1. Missing Value Analysis confirmed that missing data were not problematic. Only 0.5% of all possible REAL data points were missing in from the total second survey sample, and no REAL variable had more than 2% of cases missing. For demographic and leadership role description items, the number of years of experience in role variable was missing 3% of cases. On the whole, instances of missing data were minimal and did not warrant correctional treatment in later analyses. Furthermore, the missing value patterns matrix indicated non-systematic missing data.

Matrix factorability. In preparation for the second phase of data reduction made possible by launch two, the factorablity of the correlation matrix was examined for the 57 REAL items included in the second round of data collection. Many significant bivariate correlations between possible REAL items were higher than .3, suggesting the matrix

could be reduced to factors. Bartlett's test of sphericity was significant, χ^2 (1596) = 35378.884, $p < .001$. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .940, which is marvelous according to Kaiser (1974). Also, the anti-image correlation matrix demonstrated many off-diagonal values below 0.1. Thus, factorability of the matrix was evident. Of the 57 items in launch two, 84% had communalities greater than .50, and communalities ranged from .42 to .72 with a median value of .59.

Principal components analysis results. The first PCA of the 57 items extracted ten factors with eigenvalues greater than one, and of these the first eight factors were: authentic behavior – values/beliefs, self-knowledge, self-awareness, authentic behavior – expressive, identified regulation, external regulation, integrated regulation, and introjected regulation. Factors nine and ten were difficult to interpret. That is, factor nine was made up of two identified regulation items that emphasized regard for others, and factor ten comprised two introjected regulation items concerning consequential guilt and embarrassment. The cumulative percent of variance explained by this initial component solution was 57.9%, the first and second factors each respectively accounted for 21.5% and 12.2% of the variance, and the first eight factors uniquely explained more than 2% of the variance. However, four items cross-loaded on secondary factors above .40 and not all items loaded onto their appropriate theoretical constructs.

To conduct data reduction and further refine the REAL according to the proposed framework, the pool of 57 REAL items (i.e., 41 from the initial component solution, plus the 16 that were newly written) were then iteratively analyzed with several PCAs using the same criteria for item retention as before. However, instead of the minimum approximate value of .40 for an item's primary factor loading that was applied for item

retention in the first phase of REAL development, a somewhat more conservative minimum of .50 was used for primary factor loadings for the final version of the REAL. Costello and Osborne (2005), Nunnally and Bernstein (1994), and Sax (1997) consider .50 to be a strong minimum criteria for factor loadings. Other item reduction criteria remained the same, as items were eliminated if they loaded on more than one factor at .40 or above or demonstrated a cross-loading differential of .15 or less between more than one factor. Applying these criteria resulted in the elimination of 14 items, or a final 43-item instrument with eight factors.

Table 7 shows the percentage of cumulative variance explained by the eight-factor solution was 59.1%, and the first factor, self-knowledge, individually accounted for 24.3% of the variance. The resultant eight factors appropriately represented all dimensions of the proposed theoretical framework and could be interpreted as follows: self-knowledge, self-awareness, authentic behavior – values/beliefs, authentic behavior – expressive, external regulation, identified regulation, integrated regulation, and introjected regulation.

Table 7

Launch Two Factors and Variance Explained

		Variance Explained		
Factor Name	Factor Number	Eigenvalue	% Variance	Cumulative % of Variance
Self-Knowledge	1	10.468	24.344	24.344
Self-Awareness	2	4.632	10.772	35.116
AB – Values/Beliefs	3	2.315	5.384	40.500
AB – Expressive	4	2.177	5.062	45.562
External Regulation	5	1.745	4.059	49.621
Identified Regulation	6	1.565	3.638	53.260
Integrated Regulation	7	1.462	3.401	56.661
Introjected Regulation	8	1.032	2.400	59.061

Note. n = 1,413; AB = Authentic Behavior.

Respectively, each factor's item loadings ranged from .62 to .76, from .61 to .74, from .63 to .74, from .50 to .81, from .65 to .74, from .62 to .82, from .60 to .77, and from .57 to .77, as shown by Table 8. Thus, all primary factor loadings were at the .50 minimum or higher. No items loaded onto secondary factors at .40 or higher, and no items demonstrated cross-loading differentials less than or equal to .15.

Table 9 provides subscale alpha reliabilities for each factor, which were adequate, ranging from .71 to .90. Of the eight final subscales, five had reliabilities of .80 and higher. Accordingly, all criteria for item retention and required standards for subscale reliabilities were met by the final, 43-item version of the REAL.

Confirmatory factor analysis results. CFA was also used to examine the overall fit of the REAL's eight-factor measurement model, to establish initial evidence supporting the discriminant validity of the REAL's components, and to evaluate observed items' standardized factor loadings.

To evaluate measurement model fit, chi-square significance testing (Hu & Bentler, 1999) and two other fit indices were used: the Standardized Root Mean Square Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA). This study applied Hu and Bentler's (1998, 1999) criteria of SRMR $\leq$ .08 and RMSEA $\leq$ .06 for good model fit. The incremental fit index selected for this study was the Comparative Fit Index (CFI). CFI is widely used and, relative to other model fit indices, is resistant to adverse effects due to sample size (Fan, Thompson, & Wang, 1999). Bentler and Bonett (1980) suggested a minimum of .90 for acceptable overall fit indices. Despite the early acceptable CFI $\geq$ .90 criteria (Hooper, Coughlan, & Mullen, 2008), Hu and Bentler (1998, 1999) asserted stricter recommendations that a model's CFI should be close to

Table 8

Launch Two Final Factor Solution, 43 Items

	Factor								
Item	1	2	3	4	5	6	7	8	Communalities
SK16	.76								0.67
SK15	.75								0.63
SK11	.74								0.65
SK1	.72								0.60
SK11	.71								0.64
SK2	.66								0.55
SK8	.65								0.56
SK18	.62								0.48
SA2		.74							0.55
SA11		.74							0.61
SA8		.69							0.56
SA1		.67							0.49
SA12		.65							0.55
SA13		.64							0.50
SA15		.61							0.47
AB9			.74						0.66
AB8			.73						0.68
AB7			.72						0.72
AB12			.66						0.64
AB11			.66						0.64
AB13			.63						0.59
AB21				.81					0.76
AB19				.78					0.70
AB18				.73					0.64
AB20				.66					0.6
AB15				.50					0.45
ER8					.74				0.60
ER2					.73				0.59
ER3					.72				0.58
ER5					.70				0.57
ER6					.65				0.46
DR13						.82			0.68
DR10						.71			0.55
DR6						.71			0.57
DR15						.69			0.54
DR14						.62			0.44
GR7							.77		0.62
GR9							.77		0.63
GR8							.67		0.55
GR6							.60		0.52
JR8								.77	0.74
JR9								.76	0.72
JR4								.57	0.44

Note. n = 1,413; Principal components analysis with varimax rotation. Secondary loadings below .40 are suppressed. Factor 1 = Self-Knowledge, Factor 2 = Self-Awareness, F3 = Authentic Behavior – Values/Beliefs, F4 = Authentic Behavior – Expressive, Factor 5 = External Regulation, Factor 6 = Identified Regulation, Factor 7 = Integrated Regulation, Factor 8 = Introjected Regulation.

Table 9

Launch Two Subscale Characteristics

	Subscale Characteristics			
Factor Name	Number of Items	Reliability	Subscale Mean	Subscale Standard Deviation
Self-Knowledge	8	0.90	5.40	0.57
Self-Awareness	7	0.85	5.81	0.74
AB – Values/Beliefs	6	0.89	6.27	0.62
AB – Expressive	5	0.84	5.44	0.87
External Regulation	5	0.80	3.17	1.31
Identified Regulation	5	0.78	5.15	1.08
Integrated Regulation	4	0.72	4.72	1.24
Introjected Regulation	3	0.71	4.03	1.49

Note. n = 1,413; AB = Authentic Behavior.

0.95. An ongoing debate exists regarding the best cut-off value for model fit indices, as some researchers argue against or critically question the value of so-called "golden-rule" cut-off values to assess structural equation model fit (e.g., Barrett, 2007; Goffin, 2007; Hayduk, Cummings, Boadu, Pazderka-Robinson, & Boulianne, 2007). Given that this study's aim is to create an instrument for a newly developed conceptual framework for leader authenticity, a minimum CFI of .90 will be used for acceptable fit, with CFI values approaching or higher than .95 will be used to indicate very good fit. All four indicators (i.e., chi-square significance testing, SRMR, RMSEA, and CFI) were used together to assess model fit.

Given these criteria, the data fit the eight-factor measurement model well, χ^2 (832) = 3216.97, CFI = .92, SRMR = .04, RMSEA = .04. To examine the discriminant validity of the REAL's eight latent factors, the theoretically proposed eight-factor model with all of the instrument's items loading on to their corresponding factors (i.e., each of the 43 items was specified to load onto its respective REAL factor) was compared to a model

with all items loading onto a single factor. The eight-factor model, when compared to the one-factor model, χ^2 (860) = 15155.05, CFI = .50, SRMR = .11, RMSEA = .10, demonstrated superior fit, $\Delta\chi^2$ (28) = 11938.08, $p < .001$, thereby supporting the discriminant validity of the REAL's eight factors. Chi-square significance testing, provided in Table 10, indicated that the eight-factor model should be retained, so standardized factor loadings for that model were also examined.

All CFA factor loadings were sizeable and significant, further confirming the adequacy of the REAL's components. For all eight factors, loadings in EQS ranged from: .64 to .79 for self-knowledge, .61 to .72 for self-awareness, .59 to .81 for authentic behavior – expressive, .70 to .82 for authentic behavior – values/beliefs, .56 to .72 for external regulation, .46 to .81 for introjected regulation, .51 to .75 for identified regulation, and .58 to .67 for integrated regulation. Only two of the 43 items loaded below .55 (i.e., item DR14 "I choose to behave this way out of kindness for others," and item JR4 "I believe people in my position ought to conceal their vulnerabilities").

Taken together, CFA confirmed adequate model fit of the eight-factor solution, provided support for the discriminant validity of the eight hypothesized factors, and demonstrated substantial loadings of observed items onto their respective latent factors.

Items retained for introjected regulation. CFA on the REAL's measurement model, in conjunction with an examination of subscale reliabilities based on the PCA results, raised questions regarding the inclusion of item JR4 ("I believe people in my position ought to conceal their vulnerabilities") in the introjected regulation component. CFA indicated JR4 was the lowest loading observed item onto the introjected regulation latent factor (at .46), and reliability testing following PCA suggested that introjected

Table 10

Comparison of Measurement Models

REAL Model Description	χ^2	*df*	CFI	SRMR	RMSEA	$\Delta\chi^2$ (Compared to Hypothesized Model)
8-Factor (Hypothesized)	3216.97	832	0.92	0.04	0.04	
1-Factor (All Items Loading onto a Single Latent Variable)	15155.05	860	0.50	0.11	0.10	11,938.08, $df = 28$, $p < .001$
7-Factor, External and Introjected Reg. Together	3892.81	839	0.89	0.05	0.05	675.85, $df = 7$, $p < .001$
7-Factor, Self-Knowledge and AB-Values/Beliefs Together	5002.00	839	0.86	0.05	0.06	1,785.03, $df = 7$, $p < .001$
8-Factor with Second-Order Latent (Hierarchical)	4178.70	852	0.89	0.07	0.05	961.74, $df = 20$, $p < .001$

Note. $n = 1{,}413$. *df* = degrees of freedom, CFI = Comparative Fit Index, SRMR = Standardized Root Mean Square Residual, RMSEA = Root Mean Square Error of Approximation.

regulation's subscale reliability could be improved by .09 with the elimination of item JR4. Dropping the item was a worthy consideration because, although the subscale's alpha reliability adequately met minimum standards at .71, the subscale's reliability did not exceed such standards by a large margin. Although the potential gain in reliability that would result from dropping the item was substantial, some costs to eliminating the item were apparent.

First, theoretically speaking, introjected regulation should include feeling pressure from others to live up to the expectations (e.g., to satisfy a role requirement) *in addition to* some level of personal belief or desire underlying the need to do so. Given that introjected regulation involves, for example, guilt, shame, or a lack of self-approval afterwards for not living up to certain standards (Kim et al., 2002), personal buy-in or acceptance of the desired state of being is important by definition. The two more strongly loading items in the introjected regulation component, JR8 ("I want others to believe I have everything under control, because skilled performers usually do") and JR9 ("That is what others expect from people in my position") measure the expectations of others for respondents' leadership roles, but these two items do not explicitly assess whether or not respondents personally subscribe to such role expectations themselves. JR4 ("I believe people in my position ought to conceal their vulnerabilities"), alternatively, includes "I believe" and "ought to" language, thereby covering the personal buy-in component of the introjected regulation content domain. Thus, as JR4 provides important content supporting the definition of introjected regulation, including JR4 in the component would be in accordance with theory.

Despite the theoretical argument in favor of including JR4 in the final introjected regulation subscale, additional statistical evidence was considered. The measurement model was rerun in EQS without estimating the parameter loading for JR4, and model fit did not significantly improve. Additionally, all validity study analyses were run without JR4, compared to the final results presented in Chapter Five (which includes JR4 as part of the final 43-item instrument), and it was found that the interpretation of the results did not differ. Thus, JR4 did not have substantial bearing on the overall measurement model fit or final validation study results, suggesting support for *both* its elimination based on standards of parsimony *and* its inclusion based on its theoretical contribution to the introjected regulation content domain. Moreover, measurement-based and practical concerns exist regarding the use of very short subscales, as Costello and Osborne (2005) describe a factor as "generally weak and unstable" (p. 5) if it comprises less than three observed items. Thus, the elimination of JR4 would not be favorable based on Costello and Osborne's recommendation, because doing so would reduce the introjected regulation component to a mere two-item subscale.

In conclusion, although the reliability of the introjected regulation subscale would have improved by a substantial 0.09, after much consideration, it was determined that the increase in reliability was the only substantial advantage to dropping the item. If JR4 were to be eliminated, the overall fit of the REAL's measurement model would not notably improve, the validity study's final interpretation would not change, the resultant two-item scale representing the introjected regulation component would be deemed too short according to some standards for instrument design, and—perhaps most importantly—the introjected regulation content domain would be more weakly

represented according to theory. Therefore, the decision was made to retain JR4 for inclusion in the final, 43-item REAL.

The number of factors extracted. It is worthwhile to note that throughout the data reduction process, the appropriate number of factors to be extracted by the final component solution was in question. Although the eigenvalue of the eighth factor was just over the 1.0 threshold (Guttman, 1954; Kaiser, 1960) for extraction, solely applying the 1.0 eigenvalue criteria can result in insufficient conclusions regarding the number of factors that should be extracted from a dataset (Nunnally & Bernstein, 1994). As no definitive approach exists to empirically determine the adequate number of factors to be extracted (Nunnally & Bernstein, 1994), scholars recommend running many different types of analysis prior to deciding how many factors to retain (Comrey, 1978; Costello & Osborne, 2005; Hakstian & Muller, 1973). In response, four additional analytical strategies were used to explore whether or not the theoretically proposed eight-factor component solution could be supported, compared to a more parsimonious seven-factor solution. Namely, the scree test, parallel analysis, CFA, and theoretical considerations were used to determine the appropriate number of factors for extraction.

Scree plot results. Cattell's (1966) scree test is a visual method to determine the number of factors present in a dataset, and it involves examining the scree plot for where the vertical line on the left side of the graph bends just prior to flattening out into a horizontal, straight line at the bottom of the graph. Essentially, the viewer is to look for the elbow in line, and then count the number of factors (represented as circles by default in SPSS) to the left of the elbow. The subjectivity of Cattell's (1966) method has been scrutinized, but it can be a valuable way of determining the number of extractable factors,

particularly when the approach is combined with other analyses. Figure 1 shows the scree plot produced for the REAL's 43-item solution, and identifies where the line bends prior to becoming completely flat (i.e., the elbow). Eight factors exist to the left of the line's last bend prior to turning horizontal. Thus, based on this interpretation of the scree plot, eight factors were supported.

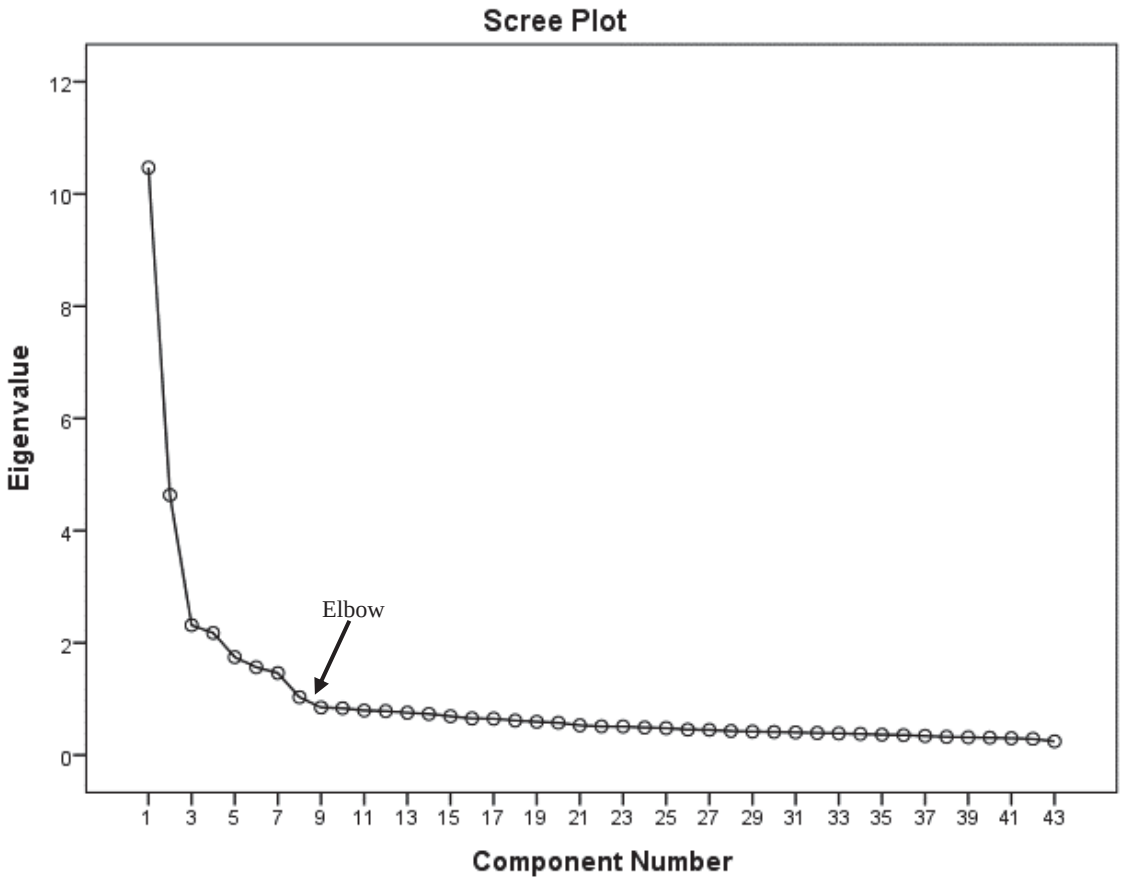

Figure 1. Scree plot for the eight-component REAL.

Parallel analysis results. Parallel analysis is a statistical approach to determining the number of factors that should be retained from a dataset. It compares eigenvalues generated from real variables from the dataset in question to eigenvalues estimated from random data with uncorrelated variables and no underlying factor structure (Horn, 1965;

Humphreys & Montanelli, 1975; Montanelli & Humphreys, 1976). The randomly generated eigenvalues are calculated based on the real dataset's number of variables and cases so the resultant eigenvalues (real and random) are comparable (Ledesma & Valero-Mora, 2007). Eigenvalues from the observed data are expected to be significantly greater than those generated from the random data (Humphreys & Montanelli, 1975). Parallel analysis on the 43-item REAL was run in SPSS using the O'Connor's (2000) program. The extraction of seven factors, not eight, was supported by the results. For the eighth factor, the raw data eigenvalue calculated by parallel analysis was only .18 short of exceeding the randomly generated 95th percentile eigenvalue. Thus, additional analyses were conducted to further explore the appropriate number of factors to extract.

CFA results. To further test the factor structure of the 43-item, eight-factor REAL, CFA was run in EQS (Structural Equation Modeling Software). The purpose of this phase of analysis was to confirm the superiority of the eight-factor measurement model over a more parsimonious seven-factor model.

To evaluate seven- versus eight-factor measurement model fit to the data, CFA evaluated comparative model fit between the hypothesized eight-factor model and: (a) a seven-factor model with all external regulation and introjected regulation items loading onto a single factor and (b) a seven-factor model with all self-knowledge and authentic behavior – values/beliefs items loading onto a single factor. These two models for comparison were examined to test whether or not the instrument's measurement model fit would be improved as a seven-factor solution.

External and introjected regulation items were selected to load onto a single factor because they loaded together in the sample from launch one, and because the length of

the external regulation scale (at three items) warranted further examination that the external regulation factor was viable. The self-knowledge and authentic behavior – values/beliefs items, due to the reasonably high correlation ($r = .61$, $p < .01$) found between these components, were selected to load onto a single factor in a comparative model to test for adequate discriminant validity between these two factors.

Measurement model fit for the eight-factor solution was significantly better than that of the seven-factor model with all external and introjected regulation items specified to one factor, $\Delta\chi^2 (7) = 675.85$, $p < .001$, and better than that of the seven-factor model which had all self-knowledge and authentic behavior – values/beliefs items loading onto one factor, $\Delta\chi^2 (7) = 1785.03$, $p < .001$. Thus, the eight-factor solution was superior to the competing seven-factor solutions in CFA. Comparisons for the measurement models tested are shown in Table 10.

Theoretical considerations. In addition to the many statistical tests available to determine the appropriate number of factors to extract, it is important to remember that the final number of factors is also a theoretical issue because the end goal is to develop an interpretable instrument in support of the a priori framework (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Here, the proposed framework would be well supported by the eight-component solution, as opposed to a possible seven-component solution that would either overlook or distort the integrity of the introjected regulation dimension in question.

Decision to extract eight factors. Of the four approaches used above to investigate the number of factors appropriate to extract, three supported an eight-component solution for the REAL. Namely, results from the scree test, CFA, and a priori

theory provided a majority of evidence indicating an eight-component solution was appropriate. Additionally, underspecifying the number of factors in a given model is understood as more detrimental measurement mistake than overspecifying the number of factors to extract (Cattell, 1978). To err on the side of caution and to coincide with the majority of evidence provided above, the final decision was made to extract eight factors from the data.

Tests for factor structure robustness. This section presents results from tests that were used to examine the robustness of the final factor structure of the REAL. Resampling results and weighted approaches are described below.

Resampling results. One strategy for determining the robustness of an instrument's factor solution is to test whether or not its factor structure can be replicated in different samples (Cattell, 1978). To confirm that the eight-factor solution would hold across different samples, PCA was again conducted in SPSS on the following: (a) two randomly selected samples from all launch two respondents and (b) samples one, two, and three from launch two. In both instances, the objective was to examine the quality of the REAL's 43-item component solution established earlier, particularly with regard to factors extracted, cross-loadings, and subscale reliabilities.

Using the first approach, all launch two respondents were randomly divided into two halves (i.e., two samples), and then PCA was conducted on the 43 REAL items. As anticipated, the same eight factors were extracted in both samples. Neither sample demonstrated item cross-loadings of .40 or higher. Alpha reliabilities for all REAL subscales were satisfactorily above .70 in both samples.

The second analytical approach examined the degree to which the 43-item's factor structure would hold across the three samples generated by the administration of launch two. Again, the same eight factors were successfully extracted across all three samples. Items with problematic cross-loadings (i.e., above .40 on the secondary factor and with a < .15 loading differential between factors) were few and far between. Of all 43 items on each run, only two demonstrated cross-loadings in violation of the established criteria: items GR6 ("It is gratifying to overcome my natural tendencies that might otherwise prevent me from striving forward") in sample one and AB15 ("I am transparent with others about my aspirations") in sample two. Sample three demonstrated no item cross-loadings at .40 or above. Finally, all alpha reliabilities for samples one, two, and three were adequate for all subscales at .70 and above.

Additional tests of structural robustness. Because independent samples *t* tests indicated some demographic differences in gender and race/ethnicity among respondents from the three samples in launch two (presented in Chapter Five), the second analytical approach was rerun with each sample weighted by gender and racial/ethnic group such that each sample would better represent the demographics of all respondents in launch two. Should resultant factor structures be drastically different with versus without these weights applied, then it may be reasonable to conclude that the quality of the instrument might vary by respondent demographics. This would be undesirable and could warrant that the instrument may be a more useful measure of authenticity for members of certain demographic groups compared to others. PCAs across the three weighted samples indicated that in every case the same eight factors were extracted. Factor structure and loadings for sample one looked similar whether the dataset was weighted or unweighted

for gender and racial/ethnic group, and the same could be said for samples two and three. Therefore, the demographics of each weighted sample collected by the second survey administration did not seem to adversely affect the factor structure in the unweighted samples. Of all the items, only two had problematic cross-loadings: GR6 ("It is gratifying to overcome my natural tendencies that might otherwise prevent me from striving forward") in weighted sample one and AB13 ("I intend to act in alignment with my established values") in weighted sample two. No cross-loadings at .40 or above were observed in weighted sample three. Finally, across samples all subscales' internal consistency reliabilities were acceptable at .70 or above, with the exception of the introjected regulation scale (which fell short at $\alpha = .69$) in sample two.

Although a couple of cross-loading items emerged in each analytical approach, the only item that cross-loaded in more than one trial was GR6. This integrated regulation item could not be eliminated without diminishing the reliability of its subscale to psychometrically unacceptable levels. Therefore, it was retained in the final 43-item version of the REAL.

Conclusions: The final REAL. On the whole, these additional PCAs using alternative samples and differential weighting provided strong evidence for the structural robustness of the final, eight-component 43-item REAL. Taken together with the CFA results in EQS, a variety of evidence supported an eight-component solution for the final instrument.

Outlier analysis results. Finally, for both launches, it was necessary to test for possible effects of outliers on the REAL's final component solution. Z-scores were used to identify outliers (i.e., ± 3 standard deviations away from the mean) at both the item

level and factor score level. Factor scores were calculated using the regression method in SPSS. This procedure removed 190 cases in launch one (or 10.5% of all cases) and 172 cases in launch two (or 10.9% of all cases). Although this was a notable number of cases, the Regression Method in SPSS codes a case's factor score as missing if *any* item-level data are missing. Allowing for this highly conservative treatment of missing data, the resulting Regression Method standardized factor scores were examined, cases ± 3 standard deviations from the mean were eliminated, and final PCAs were rerun. All final component solution results were rerun without outlier cases at both the item level and the factor score level, and these results were compared to results that included outliers. For both launches one and two, the exclusion of outliers did not affect the REAL's final factor structure, factor loadings/content, or subscale reliabilities. Thus, outliers were not problematic to the final interpretation of the data.

Testing for a second-order latent variable. Existing theories on authenticity have found some initial evidence in support of authenticity also existing at a higher level of abstraction than its components (Kernis & Goldman, 2006; Wood et al., 2008). Yet, studies using similar frameworks for authentic leadership offer mixed results regarding the same issue (Neider & Schriesheim, 2011; Walumbwa et al., 2008). In response, to test authenticity as it was conceptualized in this study, CFA in EQS was used to evaluate the REAL's measurement model for the possible presence of a second-order latent variable.

The REAL's hypothesized eight-factor first-order latent measurement model illustrated in Figure 2 was compared to a second-order model, which added paths from a second-order authenticity latent variable to each of the eight first-order latent variables,

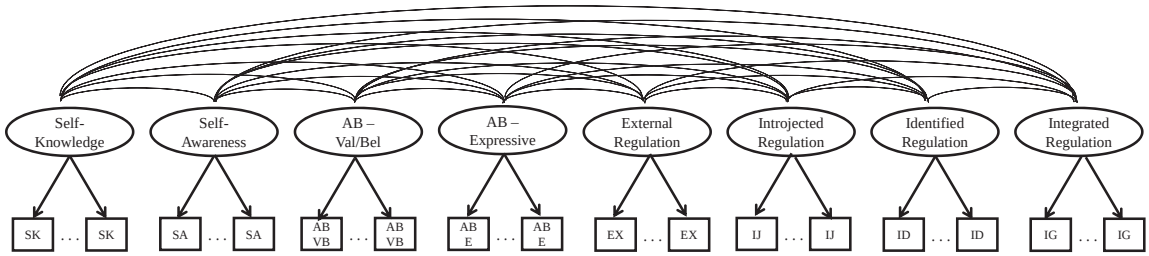

Figure 2. Eight-factor first-order latent measurement model (final REAL).

shown in Figure 3. Goodness-of-fit indices and chi-square significance testing, shown in Table 10, indicated that the hypothesized, eight-factor first-order model fit the data significantly better than the second-order model, $\Delta\chi^2$ (20) = 961.74, $p < .001$.

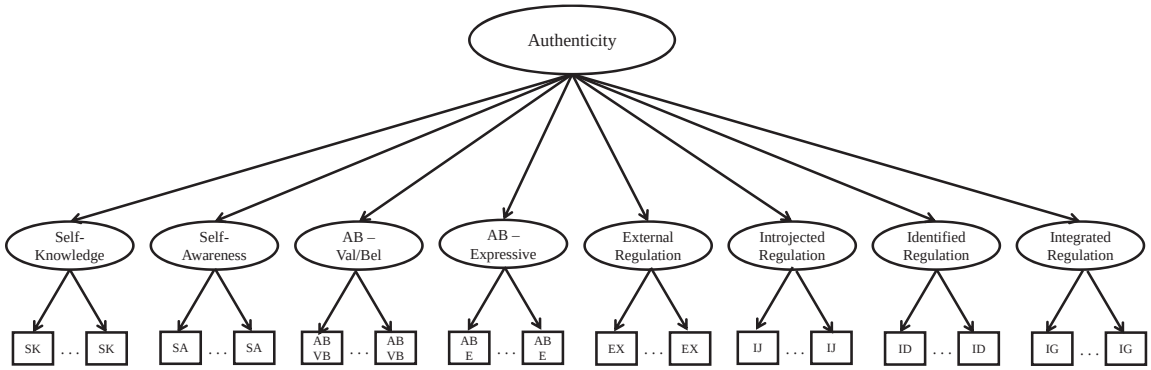

Figure 3. Nine-factor first- and second-order latent measurement model.

Several additional CFAs explored the possibility that second-order latent variables might exist in some form other than a single, general authenticity latent construct. Models were run to examine whether or not two, three, or four second-order latent variables (predicting the original eight first-order latent variables) might be estimated to fit the data better than the hypothesized eight-factor first-order latent model. For example, one of these models (Model F) estimated the originally hypothesized eight first-order components for authenticity (based on the REAL's 43 observed items) as

predicted by the following three second-order latent variables: self-specific processes (comprising first-order self-knowledge and self-awareness), authentic behavior (comprising first-order authentic behavior for expressiveness and values/beliefs), and regulation (comprising all four first-order regulation components). Other hierarchical models (i.e., Models B-G) explored in this step are summarized descriptively in Table 11. Model A in Table 11 represents the comparison of the two measurement models illustrated in Figures 2 and 3. Although model fit generally improved when more second-order latent variables were estimated, on the whole, no second-order model fit significantly better than the originally hypothesized, first-order eight-factor model. Therefore, authenticity, as conceptualized by the REAL, does not seem to be best modeled hierarchically through a second-order construct(s). Rather, the measurement model underlying the REAL seems to be best treated as the multi-dimensional concept it was intended to capture.

Calculation of scale scores. Once the final 44-item, eight-factor solution was confirmed to be adequate, the items loading on each factor were then averaged to create scale scores. Thus, eight scale scores were calculated—one for each of the eight components of the REAL.

A total score for authenticity also was created by reverse-scoring the external regulation and introjected regulation scale scores and then adding all eight component scale scores together. However, prior to aggregation, a computational correction for the self-knowledge scale was necessary in order to ensure that the self-knowledge component would have equal weight in the final authenticity total score relative to the other seven REAL components. By design, the self-knowledge component featured a 6-point

Table 11

Descriptive Summary of Hierarchical Models Tested With CFA

Model	Number of Second-Order Latent Variables Modeled	Descriptions of the Second-Order Latent Variable(s) Modeled
A	1	Authenticity—estimated from SK, SA, AB-VB, AB-E, EXR, IJR, IDR, IGR
B	2	Authenticity—estimated from SK, SA, AB-VB, AB-E Regulation—estimated from EXR, IJR, IDR, IGR
C	2	Authenticity with Less-Advanced Regulation—estimated from SK, SA, AB-VB, AB-E, EXR, IJR Advanced Regulation—estimated from IDR, IGR
D	2	Authenticity with Advanced Regulation—estimated from SK, SA, AB-VB, AB-E, IDR, IGR Less-Advanced Regulation—estimated from EXR, IJR
E	3	Authenticity—estimated from SK, SA, AB-VB, AB-E Less-Advanced Regulation—estimated from EXR, IJR Advanced Regulation—estimated from IDR, IGR
F	3	Self-Specific Processes—estimated from SK, SA Authentic Behavior—estimated from AB-VB, AB-E Regulation—estimated from EXR, IJR, IDR, IGR
G	4	Self-Specific Processes—estimated from SK, SA Authentic Behavior—estimated from AB-VB, AB-E Less-Advanced Regulation—estimated from EXR, IJR Advanced Regulation—estimated from IDR, IGR

Note. All second-order latent variables were modeled to predict the REAL's eight, first-order latent variables; SK = Self-Knowledge, SA = Self-Awareness, AB-VB = Authentic Behavior – Values/Beliefs, AB-E = Authentic Behavior – Expressive, EXR = External Regulation, IJR = Introjected Regulation, IDR = Identified Regulation, IGR = Integrated Regulation.

response scale while all other REAL components were 7-point response scales. The computation required three steps prior to the final summation. First, the self-knowledge scale's original one-to-six coding underwent linear transformation to generate a scale ranging from 0 to 5. Second, the scale was multiplied by 1.167 (or 7/6) to create a 7-point scale ranging from 0 to 6. Third, one was added to the scale so it would ultimately

range from one to seven. Finally, the new 7-point self-knowledge scale was summed with the other seven REAL components to create an authenticity total score.

Prior to determining the most appropriate calculation for the total authenticity composite score, standardized and unstandardized versions of the composite were compared. The utility of a standardized version of total authenticity was examined because the eight constructs demonstrated different amounts of variance in their raw form. Standardizing the composite score for total authenticity would ensure that all eight components would feature equal variance prior to aggregation into the composite scale. However, correlation results were compared for standardized and unstandardized versions of total authenticity against existing instruments in the validation study, and it was determined that the unstandardized version of total authenticity better represented theoretical expectations for the construct validity of the instrument. Thus, the unstandardized version of the REAL was retained.

Summary. The outcome of the analysis from launch one was a 41-item REAL with six components that fell short of measuring all aspects of the framework proposed in earlier chapters. However, after instrument refinement and subsequent analyses made possible by launch two, the final REAL featured 43 items and eight components in support of the proposed framework.

CHAPTER FIVE

RESULTS: INSTRUMENT VALIDITY TESTING

The validity testing of the REAL, which incorporated three different samples generated from the second round of data collection (launch two), provided strong evidence supporting the instrument's construct- and concept-level measurement of authenticity in leaders. Validation findings are presented in this chapter.

Validity Study Results

After reviewing respondent demographics across samples and briefly providing results from checks on data quality, psychometric properties will be reviewed for the established instruments included for validation purposes and also for the final version of the REAL. Then, correlation results for the REAL's eight components and total score will be offered. Next, findings regarding the construct validity of the REAL will establish the instrument's component- and concept-level convergent and discriminant validity. Finally, results confirming the criterion-related validity of the REAL will be presented, along with follow-up analyses.

Demographics for samples one, two, and three. The design of the second launch involved three samples, totaling 1,582 respondents. As demographics for all launch two respondents were provided earlier in Chapter Four, this section will present demographic information for respondents by sample. In sample one, two, and three, there were 552, 546, and 484 participants, respectively. Across all three samples, 56%-66% of respondents were female, 73-84% were Caucasian/White, 61-71% were from the United States, 71-75% had either a master's or bachelor's degree, and the average age was approximately 49 years. Respondents had about eight years of experience in their

leadership roles, an average of about 9-12 direct reports, 73-78% reported in being formally assigned to their leadership positions, about 95% operated in a workplace setting, and about 76%-80% were managers. Further details regarding the demographic and leadership role context for each sample in launch two are presented in Appendix Q and R.

To test for significant differences in demographics across samples, Pearson chi-square testing and One-Way ANOVA was conducted. Chi-square testing analyzed potential demographic differences across categorical variables (i.e., gender, race/ethnicity, geographic location, education level, manager/non-manager status, formal/informal leadership, leadership setting, and currently in role). The proportionate demographic breakout for the three samples only significantly differed by gender, χ^2 (2) = 10.039, $p < .001$ and by race/ethnicity, χ^2 (2) = 17.305, $df = 2$, $p < .001$. Specifically, comparing sample one to sample two, the only notable demographic difference was the lower proportion of Whites/Caucasians compared to individuals of all other races/ethnicities combined. Between samples two and three, there were proportionately more females than males and more Whites/Caucasians than respondents of different race/ethnicities, respectively. Comparing samples one and three, chi-square testing indicated no significant demographic or leadership role context differences. The three samples did not significantly differ on demographics or leadership role context for any other categorical variables.

One-Way ANOVA was used to examine potential differences in sample means for the continuous demographic and leadership context variables (i.e., age, number of direct reports, and number of years of experience). Respondents did not significantly

vary by sample on any of these variables, with the exception of number of direct reports, for which the omnibus test demonstrated a significant effect $F(2, 682.35) = 3.89$, $p = .02$ through the Welch statistic (Levene's test was significant at $p = .001$, indicating the homogeneity of variance assumption was violated). The nature of this effect was unclear, however, as no appropriate post-hoc test (e.g., Tamhane or Games-Howell) identified significant mean differences between samples. In an attempt to further explore the potential nature of mean differences in the number of direct reports between samples, multiple independent-samples *t* tests were run. Because conducting multiple *t* tests is unfavorable due to the resultant increase in the likelihood of making a Type I error, the Bonferroni correction was applied. Independent-samples *t* tests did not reveal significant differences on the number of direct reports between samples according to the more conservative familywise error rate designated by the Bonferroni correction (i.e., $p = .017$). Therefore, analyses did not uncover specific differences in the number of direct reports between samples.

Despite the above noted dissimilarities, on the whole, respondent demographic and leadership context differences were minimal among samples one, two, and three in launch two.

Data screening and quality. For all samples in launch two, the total percentage of missing data points was less than 1% (i.e., 0.4% missing for sample one, 0.5% missing for sample two, and 0.7% missing for sample three). None of the samples demonstrated more than 1.7% missing cases for any REAL variable or more than 2.9% missing cases for any demographic or leadership role context variable. The missing value patterns matrix for samples one, two, and three indicated data did not appear to be systematically

missing. Similar to the proportion of missing values from the second data collection on the whole, the proportion and nature of missing data per sample were unproblematic and did not call for manipulation prior to subsequent analyses.

Psychometric properties of established measures in launch two. The validation study used ten previously established measures of 21 subscales in total. As demonstrated by Table 2 in Chapter Three, by design, these subscales were included in different surveys in launch two. Of the 21 subscales, 13 demonstrated internal consistency reliabilities of .80 or higher. All established subscales' alpha reliabilities were satisfactorily above .70, except for the autonomy subscale in psychological well-being in sample two which had a reliability of .67. Although the autonomy subscale was examined for items that might be deleted for potential improvement, no solutions for bettering the subscale were available. As autonomy is one of the six dimensions of psychological well-being according to Ryff (1989a, 1989b), the subscale was included in this study despite its low reliability. Thus, results concerning autonomy should be interpreted with caution.

Additionally, the social desirability impression management subscale's reliability of only .69 was only achieved after eliminating two of the original five items (i.e., the reliability of the initial, five-item scale was inadequate at .53), so results reported for the final three-item subscale should be interpreted with caution. Specifically, the two items removed were: "Some days I would rather stay in bed," and "I always return money when I find it." As reliabilities for all other existing subscales included in this study were adequately above .70, they were used in full form as supported and recommended by

previous literature. For a list of all reliabilities, subscale means, and subscale standard deviations for existing measures used in launch two, see Appendix S.

Psychometric properties of the REAL in launch two. According to Table 9 in Chapter Four, the reliabilities of the eight REAL subscales were adequate for all launch two respondents, ranging from .71 to .90. Subscale means fell between 3.17 and 6.27, and subscale standard deviations ranged from .57 to 1.49. The authenticity total had a mean of 42.29 and standard deviation of 3.99. The REAL's self-knowledge and authentic behavior – values/beliefs components both demonstrated relatively high subscale means and low variance. Although restriction in a subscale's variance can be problematic for generating significant correlations with other subscales, the restriction in variance featured by both self-knowledge and authentic behavior – values/beliefs did not appear to be problematic for the REAL.

Basic psychometric properties were also examined for the REAL across samples one, two, and three of launch two. For each sample, Table 12 lists REAL subscale reliabilities, means for REAL components and total score, and standard deviations for REAL components and total score. All reliabilities were sufficient, ranging from .71 to .90 in sample one, .70 to .89 in sample two, and .72 to .90 in sample three.

One-way ANOVA tested for mean differences in the REAL's subscales or total score across samples in launch two. According to Levene's test, the homogeneity of variance assumption was not violated for any subscale or for the total score (all *p*s > .05). Only the introjected regulation subscale demonstrated a significant omnibus test, $F(2,1578) = 5.692$, $p = .003$, partial $\eta^2 = .007$. Post-hoc testing (i.e., Tukey's HSD) indicated significant ($p = .002$) mean differences existed on the introjected regulation

Table 12

Comparing REAL Subscale Characteristics (Launch Two) for Samples One, Two, and Three

	Reliability			Subscale Mean			Subscale Standard Deviation		
Factor Name	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
Self-Knowledge	0.90	0.89	0.90	5.38	5.43	5.38	0.59	0.56	0.57
Self-Awareness	0.83	0.86	0.85	5.80	5.83	5.79	0.71	0.76	0.74
AB – Values/Beliefs	0.89	0.89	0.87	6.27	6.30	6.24	0.64	0.64	0.59
AB – Expressive	0.83	0.85	0.85	5.47	5.45	5.41	0.85	0.89	0.87
External Regulation	0.81	0.80	0.78	3.16	3.27	3.07	1.32	1.31	1.29
Introjected Regulation	0.71	0.70	0.72	4.02	4.18*	3.87*	1.50	1.45	1.50
Identified Regulation	0.78	0.78	0.77	5.16	5.17	5.11	1.06	1.07	1.10
Integrated Regulation	0.71	0.71	0.74	4.76	4.71	4.68	1.22	1.24	1.26
Authenticity Total	-	-	-	42.38	42.15	42.34	4.06	3.82	4.09

Note. * Significant mean difference between samples; Samples 1, 2, and 3 *n*s = ≤ 552, 546, and 484, respectively; AB = Authentic Behavior.

subscale between samples two and three, such that sample two respondents were higher on introjected regulation (M = 4.18, SD = 1.45) compared to sample three respondents (M = 3.87, SD = 1.50). The small effect size for this mean difference (or less than .01, according to the standards set by Cohen, 1988) may indicate that this finding is not practically important. Regardless, possible explanations for this outcome will be briefly explored in Chapter Six. No other significant differences in means were found between samples for any other REAL subscale or the REAL's total score.

REAL component and total score correlation results. As the same REAL items were included across all three surveys administered in launch two, it was possible to combine samples when examining correlations among the REAL's components and total score. For all launch two samples combined, Table 13 provides subscale correlations for the eight components of the final version of the REAL, as well as correlations between the total score for authenticity and all components. Cohen's (1988) criteria for effect size were used to evaluate the strength of relationships observed (i.e., .1 for small, .3 for medium, and .5 for large correlations). Relationships between self-knowledge, self-awareness, authentic behavior – values/beliefs, and authentic behavior – expressive were positive, significant, and sizeable, with rs ranging from .441 to .614 (all ps < .01). The strong relationship between self-knowledge and authentic behavior – values/beliefs (r = .499, p < .01) was not too surprising given the values/beliefs-focused content of the highest-loading self-knowledge items. Overall, these correlations suggest that critical psychological and behavioral processes underlying authenticity may be highly interrelated, such that respondents who are score highly on one of these four variables are also likely to score highly on the others.

Table 13

Scale Score Correlations for REAL Components and Total Authenticity

	1	2	3	4	5	6	7	8	9
(1) Self-Knowledge	-								
(2) Self-Awareness	.441**	-							
(3) AB – Values/Beliefs	.614**	.540**	-						
(4) AB – Expressive	.463**	.465**	.541**	-					
(5) External Regulation	-.255**	-.145**	-.252**	-.276**	-				
(6) Introjected Regulation	-.137**	-.098**	-.168**	-.243**	.499**	-			
(7) Identified Regulation	.082**	.121**	.088**	.013	.176**	.317**	-		
(8) Integrated Regulation	.076**	.087**	.058*	.015	.143**	.354**	.387**	-	
(9) Authenticity Total	.629**	.584**	.665**	.651**	-.596**	-.463**	.267**	.280**	-

Note. AB = Authentic Behavior.

* $p < .05$, ** $p < .01$; pairwise deletion, *n*s ranged from 1,577 to 1,582.

The four types of authentic self-regulation demonstrated relatively low correlations with self-knowledge, self-awareness, authentic behavior – values/beliefs, and authentic behavior – expressive, with external regulation correlating most highly with these with *r*s = -.145 to -.276 (*p*s < .01). As expected, external regulation and introjected regulation were significantly negatively correlated with all non-regulation variables, including respondents' total scores for authenticity (*r*s ranged from -.098 to .276, *p*s < .01). Thus, those who often rely on external or introjected regulation are somewhat less likely to demonstrate high levels of self-knowledge, self-awareness, or authentic behavior in the form of either alignment with values/beliefs or expressiveness. Relationships between identified/integrated regulation and other non-regulation REAL components were weaker than expected (ranging from $r = .01$, $p > .05$, to $r = .121$, $p < .01$ for identified regulation and ranging from $r = .02$, $p > .05$, to $r = .087$, $p < .01$ for identified regulation).

The four regulation subscales demonstrated significant positive overlap with one another, and this was most notable for regulation subscales that should be (according to the SDT continuum, which ranges from lower to higher forms of extrinsic motivation) theoretically more proximal to one another. Specifically, as expected, external regulation was most highly correlated with introjected regulation ($r = .499$, $p < .01$), relative to the two other regulation subscales. Likewise, identified regulation was most strongly correlated with theoretically proximal introjected regulation ($r = .317$, $p < .01$) and integrated regulation ($r = .387$, $p < .01$), relative to its significant, but weaker, relationship with more theoretically distal external regulation ($r = .176$, $p < .01$). Integrated regulation was, similarly, correlated most strongly with identified regulation

(as mentioned, $r = .387$, $p < .01$), followed by introjected regulation ($r = .354$, $p < .01$) and external regulation (at only $r = .143$, $p < .01$).

The sizeable correlations among the first four REAL components, inverse relationships between these four components and the four regulation components, as well as the direction and relative magnitude of all regulation components provide strong empirical evidence for the nomological validity of the REAL.

Correlations between the total score for authenticity and six of eight REAL components were medium to high in magnitude (*r*s were between .463 and .665); the exception was for identified and integrated regulation, which featured low-to-medium magnitudes with the total score for authenticity (*r*s = .267 and .280, respectively, *p*s < .01). This may indicate that, while all eight components notably contribute to respondents' overall level of authenticity, the most developed levels of regulation are either less important to other processes contributing to general authenticity, or—for unknown reasons—identified and integrated regulation may not be fully captured by the final version of the REAL.

Construct validity of the REAL. The REAL was tested for construct validity (convergent and discriminant) both at the component- and concept-level. The design and purpose of the validation study is summarized in Table 14, which synthesizes all primary relationships that were anticipated between the REAL and existing measures. Table 14 also lists key findings from REAL validation testing, which are presented in greater detail in this chapter and in Chapter Five.

The strength of validity evidence for each aspect of the REAL being tested was determined based on a variety of factors: (a) confirmation of the anticipated direction of a

Table 14

Measures, Hypotheses, and Correlational Findings for Validity Testing of the REAL

Purpose	Existing Construct/Measure Correlated with the REAL	Aspect of the REAL Being Tested	Direction of Hypothesized Relationship	Direction of Found Relationship	Validity Evidence
Construct Validity: Component-Level Convergent Validity					
	Self-Concept Clarity	Self-Knowledge	+	+	Moderate
	KIMS Observe	Self-Awareness	+	+	Strong
	External Regulation (SRWNE)	External Regulation	+	+	Strong
	Introjected Regulation (SRWNE)	Introjected Regulation	+	+	Moderate
	Identified Regulation (SRWNE)	Identified Regulation	+	+	Strong
	Integrated Regulation (SRWNE)	Integrated Regulation	+	+	Strong
	Self-Alienation (AS)	Self-Knowledge	-	-	Strong
	Self-Alienation (AS)	Self-Awareness	-	-	Strong
	Accepting External Influence (AS)	Authentic Behavior	-	-	Strong
	Authentic Living (AS)	Authentic Behavior	+	+	Strong
Construct Validity: Component-Level Discriminant Validity					
	Flavor Preference	All REAL Components	0	0	Moderate
	Social Desirability	All REAL Components	0	0	Moderate
Construct Validity: Concept-Level Convergent Validity					
	Self-Esteem	REAL Total Score	+	+	Strong
	Self-Alienation (AS)	REAL Total Score	-	-	Strong
	Authentic Living (AS)	REAL Total Score	+	+	Strong
	Accepting External Influence (AS)	REAL Total Score	-	-	Strong
Construct Validity: Concept-Level Discriminant Validity					
	Flavor Preference	REAL Total Score	0	0	Strong
	Social Desirability	REAL Total Score	0	0	Strong

Table 14 (continued)

Purpose	Existing Construct/Measure Correlated with the REAL	Aspect of the REAL Being Tested	Direction of Hypothesized Relationship	Direction of Found Relationship	Validity Evidence
Criterion-Related Validity: Concept-Level Concurrent Validity					
	Life Satisfaction	REAL Total Score	+	+	Strong
	Autonomy (PWB)	REAL Total Score	+	+	Strong
	Environmental Mastery (PWB)	REAL Total Score	+	+	Strong
	Personal Growth (PWB)	REAL Total Score	+	+	Strong
	Positive Relations with Others (PWB)	REAL Total Score	+	+	Strong
	Purpose in Life (PWB)	REAL Total Score	+	+	Strong
	Self-Acceptance (PWB)	REAL Total Score	+	+	Strong
	Internalization (SIMI)	REAL Total Score	+	+	Strong
	Symbolization (SIMI)	REAL Total Score	+	+	Strong
	Integrity	REAL Total Score	+	+	Strong

Note. This table presents correlational predictions/findings that are primary to the validation study, and therefore shows only a minimal number of relationships hypothesized and tested; KIMS = Kentucky Inventory of Mindfulness Skills; SRWNE = Self-Regulation of Withholding Negative Emotions; AS = Authenticity Scale; PWB = Psychological Well-Being; SIMI = Self-Importance of Moral Identity.

given bivariate relationship, (b) evidence for bivariate correlations of theoretically appropriate magnitudes, and (c) the *relative* magnitude/direction of correlations of surrounding variables. Bivariate relationships meeting all three criteria were deemed to provide "strong" validation evidence, those meeting two criteria were considered to indicate "moderate" validation evidence, and those satisfying only one criterion were deemed "weak" validation evidence for the REAL.

Some of the twelve existing subscales used to test the construct validity of the REAL served more than one purpose. Self-concept clarity, KIMS observe, the four types

of self-regulation for withholding negative emotions, and the three dimensions of the AS were important for establishing convergent validity for the REAL at the component level. Likewise, self-esteem and (again) the three aspects of the AS were selected to test the REAL's convergent validity at the concept-level. The discriminant validity of the REAL at both the component- and the concept-level was evaluated using respondents' level of social desirability and rating of ice cream flavor preference (both which theoretically should *not* be correlated with authenticity). Table 14 summarizes all hypothesized relationships and corresponding findings between the REAL and the twelve subscales used to investigate construct validity. All hypothesized directional relationships between subscale pairs were supported, providing substantial evidence for the REAL's construct validity.

Component-level convergent validity. Table 15 provides correlations for the REAL and self-concept clarity, KIMS observe, and components of the Self-Regulation of Withholding Negative Emotions instrument.

This study's definition of self-knowledge conceptually coincides with that of self-concept clarity, which involves the degree to which an individual confidently and clearly defines his or her knowledge of self, and the extent to which an individual's self-concept is internally consistent and stable across time (J. D. Campbell & Lavallee, 1993; J. D. Campbell et al., 1996). Therefore, it was anticipated that the REAL's self-knowledge subscale would be positively, significantly, and strongly correlated with self-concept clarity, and support was found confirming this assumption ($r = .435$, $p < .01$). Those who reported high self-knowledge were also likely to indicate high levels of self-concept clarity.

Table 15

REAL's Component-Level Construct Validity With Self-Concept Clarity, Mindfulness, and Emotion Regulation

	Self-Concept Clarity	KIMS Observe	External Regulation (SRWNE)	Introjected Regulation (SRWNE)	Identified Regulation (SRWNE)	Integrated Regulation (SRWNE)
Self-Knowledge	.435**	.355**	-.181**	-.196**	.055	.182**
Self-Awareness	.299**	.521**	-.101*	-.138**	.088*	.174**
AB – Values/Beliefs	.488**	.311**	-.205**	-.207**	.074	.189**
AB – Expressive	.328**	.289**	-.226**	-.309**	-.119**	.101*
External Regulation	-.407**	-.083	.650**	.579**	.263**	-.037
Introjected Regulation	-.315**	-.055	.517**	.500**	.362**	.178**
Identified Regulation	-.051	.136**	.295**	.290**	.497**	.384**
Integrated Regulation	-.014	.109*	.238**	.241**	.390**	.542**
Authenticity Total	.501**	.409**	-.383**	-.380**	.038	.320**

Note. AB = Authentic Behavior; SRWNE = Self-Regulation of Withholding Negative Emotions.
* $p < .05$, ** $p < .01$; pairwise deletion, *n*s ranged from 482 to 552.

Relative to other components of the REAL, self-concept clarity correlated most highly with self-knowledge and authentic behavior with regard to values and beliefs. The strength of the observed correlation for self-concept clarity and self-knowledge slightly exceeded the observed correlation for self-knowledge and authentic behavior – values/beliefs (the latter $r = .488$, $p < .01$), which was unexpected; however, follow-up difference testing between the two correlations indicated that the differences were not significant ($p = .30$). Although it was anticipated that the strongest correlation for self-concept clarity would have been with self-knowledge, the lack of a significant difference between that correlation and the relationship between self-concept clarity authentic behavior – values/beliefs was reassuring. However, it very well may be the case that authentic behavior – values/beliefs is, indeed, theoretically related to self-concept clarity. It would be difficult for an individual to accurately answer "I live by my

moral standards" (which was the highest-loading authentic behavior – values/beliefs item) if he or she lacks a clear conception of self.

Given the sizeable correlation between self-knowledge and self-concept clarity, in addition to the relative relationship between self-knowledge and authentic behavior – values/beliefs, moderate convergent construct validity for the REAL's self-knowledge component was confirmed.

The observe aspect of mindfulness refers to noticing or paying attention to internal and external stimuli (Dimidjian & Linehan, 2003) and conceptually reflects the REAL's self-awareness component. The observe dimension measured by the KIMS, contains items that are similar in content to the self-awareness items included in the REAL. Therefore, as expected, the REAL's self-awareness component was positively and most highly correlated with KIMS observe ($r = .521$, $p < .01$) relative to all other existing measure subscales. Additionally, of all possible REAL components, the KIMS observe was by far the most strongly related to self-awareness, with its next-highest correlation with an REAL component being self-knowledge at $r = .355$ ($p < .01$). Therefore, the convergent validity of respective REAL components with self-awareness was strongly supported.

To test for component-level convergent validity for each of the REAL's self-regulation components, the SWNE was used because it (like the REAL) is based on SDT and contains subscales for external, introjected, identified, and integrated regulation specifically pertaining to the withholding of negative emotions (Kim et al., 2002). For the SWNE, external regulation, introjected regulation, identified regulation, and integrated regulation each demonstrated positive correlations with all authentic self-

regulation variables (ranging from $r = .178$ to .650, ps $< .01$). The exception to this was for the relationship between SRWNE's integrated regulation and the REAL's external regulation component, which was not significant ($r = -.037$, $p > .05$). Overall, the significant, positive relationships suggested that the REAL's regulation components were indeed measuring some form of self-regulation. Additionally, looking vertically down the four columns on the right of Table 15 indicates that every SRWNE regulation subscale correlated very highly with its respective authentic self-regulation component (the relationship between SRWNE-regulation and REAL-regulation was $r = .650$, $p < .01$ for external, $r = .500$, $p < .01$ for introjected, $r = .497$, $p < .01$ for identified, and $r = .542$, $p < .01$ for integrated). Similarly, looking horizontally across columns in Table 15 demonstrated that the REAL's external regulation, identified regulation, and integrated regulation components were each most strongly correlated with their respective SRWNE subscales, relative to all other existing subscales used to test construct validity. The only two deviations from this were for the REAL's introjected regulation component, which correlated slightly more highly with SWRNE's external regulation component than the SWRNE's introjected component ($r = .517$ versus $r = .500$, respectively, $p < .01$). Also, the SWRNE introjected component correlated less highly with the REAL's introjected regulation compared to the REAL's external regulation ($r = .500$ versus $r = .579$, respectively, $p < .01$). Additional testing indicated that for each of these two pairs of variables, differences in correlations were not statistically significant. Taken together, convergent validity evidence for the REAL's four regulation components ranged from moderate to strong.

Additional tests for the REAL's component-level validity, presented by Table 16, involved examining bivariate relationships with an existing measure that conceptualizes authenticity differently (i.e., the AS by Wood et al., 2008). The data analyzed were collected from two samples (i.e., sample one and sample three) in launch two. As expected, the REAL's self-knowledge, self-awareness, and two authentic behavior components were significantly and negatively correlated with the self-alienation and accepting external influence dimensions of the AS. Respondents who were higher on self-knowledge tended to be lower on self-alienation (r = -.421, p < .01 for sample one and r = -.378, p < .01 for sample three) and lower on accepting external influence (r = -.295, p < .01 for sample one and r = -.218, p < .01 for sample three). Additionally, those with more self-knowledge also reported higher levels of authentic living (r = .392, p < .01 for sample one and r = .422, p < .01 for sample three). The directional pattern of bivariate relationships between self-awareness, authentic behavior – values/beliefs, authentic behavior – expressive, and the three components of the AS was similar and supportive of theory. Specifically, respondents with high self-awareness tended to be less self-alienated living (r = -.327, p < .01 for sample one and r = -.279, p < .01 for sample three), less accepting of external influence (r = -.205, p < .01 for sample one and r = -.151, p < .01 for sample three), and more demonstrative of authentic living (r = .282, p < .01 for sample one and r = .300, p < .01 for sample three). Likewise, respondents who rated higher on authentic behavior alignment with values/beliefs were less likely to report self-alienation (r = -.385, p < .01 for sample one and r = -.418, p < .01 for sample three), less accepting of external influence (r = -.257, p < .01 for sample one and r = -.203, p < .01 for sample three), and more likely to be high on authentic living (r = .572, p < .01 for

Table 16

REAL's Component-Level Construct Validity With the AS

	Self-Alienation		Authentic Living		Accepting External Influence	
	Sample 1	*Sample 3*	*Sample 1*	*Sample 3*	*Sample 1*	*Sample 3*
Self-Knowledge	-.421**	-.378**	.392**	.422**	-.295**	-.218**
Self-Awareness	-.327**	-.279**	.282**	.300**	-.205**	-.151**
AB – Values/Beliefs	-.385**	-.418**	.572**	.543**	-.257**	-.203**
AB – Expressive	-.292**	-.277**	.338**	.384**	-.210**	-.258**
External Regulation	.376**	.268**	-.322**	-.309**	.430**	.339**
Introjected Regulation	.220**	.258**	-.174**	-.212**	.205**	.192**
Identified Regulation	-.022	.018	.074	.008	.055	.147**
Integrated Regulation	-.061	.038	.074	.051	-.008	.015
Authenticity Total	-.476**	-.403**	.485**	.485**	-.373**	-.288**

Note. AB = Authentic Behavior.
* $p < .05$, ** $p < .01$; pairwise deletion, *n*s ranged from 482 to 551.

sample one and $r = .543$, $p < .01$ for sample three). A similar pattern of bivariate relationships was found for correlations between the AS components and the REAL component representing authentic behavior in the form of expressiveness. The strength of the bivariate relationships for the AS's authentic living component with the REAL's authentic behavior – expressive component ($r = .338$, $p < .01$ for sample one and $r = .384$, $p < .01$ for sample three) was lower than the relationship between authentic living and authentic behavior – values/beliefs (i.e., above .50 for both samples). Thus, on the whole, the REAL's self-knowledge, self-awareness, and two aspects of authentic behavior demonstrated strong component-level convergent validity with the three dimensions of the AS.

Although the direction of the REAL's regulation component bivariate relationships with the three components of the AS was not primary to the validation study, results are worth mentioning briefly here. In conceptual work, it has been

proposed that the more advanced (or more autonomous) levels of self-regulation should be related to authenticity (e.g., Deci & Ryan, 1995; Gardner, Avolio, Luthans, et al., 2005). Self-determination theory (Deci & Ryan, 1995, 2000; Ryan & Deci, 2001) connects the fulfillment of the basic psychological needs for autonomy (as well as other needs) with authenticity. For instance, employees who are required to regulate their emotions solely to meet external demands—not to satisfy a personal belief/value underlying the regulatory behavior—may end up experiencing feelings of self-alienation (Hochschild, 1983; Lenton, Bruder, Slabu, & Sedikides, 2013). Likewise, empirical findings from Sheldon and Kasser (1995) suggest that individuals who self-regulate their behavior to meet intrinsically-driven goals, as opposed to extrinsically-driven goals, are more likely to demonstrate authenticity and greater psychological health.

Therefore, considering likely relationships between the AS and the REAL's authentic self-regulation subscales, it was anticipated that external and introjected regulation would be positively correlated with self-alienation, negatively correlated with authentic living, and positively correlated with the tendency to accept external influence. Said differently, respondents who more often rely on the two less self-determined types of regulation should be more likely to be alienated from themselves, less likely to live authentically, and more likely to be influenced by external forces. These relationships were supported by both samples. However, although it was also reasonable to anticipate that respondents demonstrating high levels of identified and integrated regulation should be less likely to report self-alienation, more likely to live authentically, and less likely to accept external influence, these relationships were not supported by either sample. Instead, the identified and integrated components of the REAL were generally not

significantly correlated with any component with the AS (the exception to this was for the bivariate relationship between identified regulation and accepting external influence, at $r = .147$, $p < .01$ for sample three).

Concept-level convergent validity. The total authenticity score on the REAL was used to examine the instrument's concept-level validity with self-esteem and, again, the three dimensions of the AS by Wood et al. (2008). In accordance with theory and other empirical studies that have uncovered a positive relationship between authenticity and self-esteem (Goldman & Kernis, 2002; Kernis, 2003; Kernis & Goldman, 2006; Wood et al., 2008), total authenticity moderately and significantly correlated with self-esteem in the anticipated direction ($r = .329$, $p < .01$), such that respondents reporting higher authenticity were generally more likely to demonstrate higher levels of self-esteem, thereby providing strong support for the concept-level convergent validity of the REAL's total score with self-esteem.

Additionally, as shown by results from the two samples in Table 16, total authenticity on the REAL was correlated as expected with different dimensions of the AS. Specifically, respondents with higher total scores on authenticity were less likely to report self-alienation ($r = -.476$, $p < .01$ for sample one and $r = -.403$, $p < .01$ for sample three), less likely to accept external influence ($r = -.373$, $p < .01$ for sample one and $r = -.288$, $p < .01$ for sample three), and more likely to demonstrate higher levels of authentic living ($r = .485$, $p < .01$ for samples one and three). As these correlations reflect anticipated theoretical alignment of the REAL's underlying theoretical framework with the thinking of Wood et al. (2008), strong support was found for the concept-level convergent validity of the REAL's total score with the three dimensions of the AS.

Regarding the relative strength of the correlations observed throughout tests for convergent validity, total authenticity was significantly and most strongly related to authentic living, self-alienation (in sample one), and self-concept clarity compared to other subscales included for concept-level convergent/discriminant validity (i.e., self-esteem, accepting external influence, flavor preference, and social desirability) and existing subscales included to test component-level validity (i.e., KIMS observe and the four subscales of the SRWNE). Thus, the REAL's total score appropriately related to constructs of higher-level abstraction as theory would suggest.

Component- and concept-level discriminant validity. The discriminant validity of the REAL was examined using a scale for social desirability and a single item measuring flavor preference. At both the component- and concept-level, it was anticipated that the REAL would not be significantly correlated with social desirability or flavor preference. As shown in Table 17, of the 18 tested bivariate relationships (which includes correlations with the REAL's total score), 15 were not statistically significant. The three exceptions were for the weak correlations between self-knowledge and flavor preference ($r = .091$, $p < .05$), authentic behavior – values/beliefs and social desirability ($r = .088$, $p < .05$), and external regulation and social desirability ($r = .088$, $p < .05$). Compared to respondents lower on self-knowledge, those who were higher on self-knowledge were slightly more likely to choose vanilla ice cream over chocolate, and those prone to socially desirable responding were somewhat more likely to rate themselves more highly on the degree to which their values/beliefs align with their behavior as well as on external regulation. Although these three bivariate correlations were not anticipated, they were weak. Most notably, the majority of the bivariate

Table 17

REAL's Concept-Level Construct Validity (Discriminant) With Flavor Preference and Social Desirability

	Flavor Preference	Social Desirability
Self-Knowledge	.091*	.045
Self-Awareness	.019	.045
AB – Values/Beliefs	.056	.088*
AB – Expressive	-.022	-.048
External Regulation	-.038	.088*
Introjected Regulation	-.003	.073
Identified Regulation	-.024	-.016
Integrated Regulation	-.014	.035
Authenticity - Total	.029	-.030

Note. AB = Authentic Behavior.
* $p < .05$, ** $p < .01$; pairwise deletion, *n*s ranged from 479 to 551.

correlations examined (15 of 18) and—in particular—the lack of significant relationships between the REAL's total authenticity score and social desirability and flavor preference, provided moderate support for the discriminant validity of the REAL at the component-level, and strong support for the REAL's discriminant validity at the concept-level.

Follow-up partial correlations were run so all sample one validity study bivariate relationships between subscales could be reexamined while controlling for social desirability. No bivariate relationships from the validity study were notably different when the effects of social desirability were removed, thereby providing evidence that social desirability was not an issue for the REAL on the whole.

Criterion-related validity of the REAL. The REAL's criterion-related validity was examined at the concept level in the form of concurrent validity. Correlations and regressions were used to investigate the proposed criterion-related validity research questions (i.e., First, can the REAL predict variance in theoretically related outcomes? And, second, if so, can the REAL do this above and beyond other variables that share

variance with the same outcomes?). Three different standards for validation evidence were applied: (a) demonstrated significant correlations with the criterion, in the direction anticipated, (b) in regression, the ability of total authenticity to predict unique variance in the criterion despite variance already explained by an ancillary subscale, and (c) for total authenticity, the presence of significant standardized regression coefficient in the appropriate theoretical direction. Criterion-related validity evidence for the REAL was considered "strong" if all three standards were met, "moderate" if only two were met, and "weak" if only one was met.

To test the criterion-related validity of the REAL, three existing instruments were evaluated as outcomes to be predicted by the REAL, totaling eight primary subscales: life satisfaction, the six components of psychological well-being, and integrity.

Justification for criterion measure selection. Past research provides evidence for significant correlations between authenticity and life satisfaction. In the study by Wood et al. (2008), across three different samples, satisfaction with life consistently correlated positively with authentic living (*r*s ranged from .21 to .22) and negatively with self-alienation (*r*s ranging from -.34 to -.50). An unpublished study reported in detail by Kernis and Goldman (2006) found that authenticity (i.e., a composite score of the AI) and project need-fulfillment were each important unique predictors of life satisfaction. A direct positive relationship between total authenticity (as measured by the AI) and life satisfaction was also cited by Goldman and Kernis (2002). Although this study's framework for authenticity differs from that of the AS and the AI, as the REAL was designed to measure authenticity, it was expected that it would predict life satisfaction in a positive direction.

Much previous conceptual work has argued for the connection between authenticity and well-being (e.g., Horney, 1951; Rogers, 1951, 1959, 1961; Winnicott, 1965), and empirical work has supported this relationship. Wood et al. (2008) provided validity evidence for the AS with six dimensions of psychological well-being in two samples. In general, respondents who were higher on authentic living were significantly more likely to rate themselves more highly on all well-being dimensions except for purpose in life (significant *r*s ranged from .17 to .45). Also, respondents with increased levels of accepting external influence and self-alienation were more likely to demonstrate decreased levels of the six types of well-being (significant *r*s ranged from -.15 to -.59). In an unpublished study reported by Kernis and Goldman (2006), total authenticity (as measured by the AI) and project need-fulfillment independently predicted all six dimensions for well-being and a eudaimonic well-being composite score based on the same six dimensions. Also, using assessments of the authentic alignment of the self with traits required to carry out a given social role, Bettencourt and Sheldon (2001) found a positive relationship between ratings of authenticity and subjective well-being within the context of social groups. Therefore, in line with previous literature, it was anticipated that the REAL would be able to positively predict well-being.

For integrity, various definitions exist, limited theoretical work has been conducted to conceptualize the construct, and only a handful of empirical investigations on the topic are available (Palanski & Yammarino, 2007). However, recent work by Schlenker (2008) and Schlenker et al. (2008) provided one useful definition for integrity, a corresponding instrument, and preliminary evidence for the connection between authenticity and integrity. Schlenker et al. (2008) define integrity as consistently

following ethical principles across all contexts, despite potential benefits that might otherwise result from acting through expediency. Using their Integrity Scale, in two studies, Schlenker et al. (2008) empirically supported the link between authenticity and integrity. Schlenker et al. (2008) found a positive, significant relationship between ratings on hero authenticity and integrity. Additionally, Schlenker (2008) found a medium-sized, positive correlation between integrity and authenticity, as measured by the congruence between an individual's private and public self (Sheldon et al., 1997). Furthermore, as much of the organizational literature emphasizes the importance of integrity in leadership (Avolio et al., 2004; Brown & Treviño, 2006; Dealy & Thomas, 2006; Gardner, Avolio, & Walumbwa, 2005; Palanski & Yammarino, 2011; Simons, 2002), it was worthwhile to examine the degree to which the REAL might be able to predict integrity in leaders.

Results for the criterion-related validity of the REAL. As demonstrated by correlations presented in Table 18, all hypothesized relationships between the REAL's total score for authenticity and life satisfaction, the six subscales for psychological well-being, and integrity were significant and positive in direction. According to Cohen's (1988) criteria for effect size, correlations ranged from small-to-medium to medium-to-large in magnitude (rs = .258 to .441, ps < .01). Respondents who had higher total authenticity scores on the REAL were more likely to report higher levels of life satisfaction (r = .258, p < .01), integrity (r = .410, p < .01), and psychological well-being in the form of autonomy (r = .441, p < .01), environmental mastery (r = .355, p < .01), personal growth (r = .410, p < .01), positive relations with others (r = .348, p < .01), purpose in life (r = .320, p < .01), and self-acceptance (r = .376, p < .01). Thus, in light

Table 18

Correlations Supporting the REAL's Criterion-Related Validity

	Authenticity Total
Life Satisfaction	.258**
Autonomy (PWB)	.441**
Environmental Mastery (PWB)	.355**
Personal Growth (PWB)	.410**
Positive Relations with Others (PWB)	.348**
Purpose in Life (PWB)	.320**
Self-Acceptance (PWB)	.376**
Integrity	.410**

Note. PWB = Psychological Well-Being.
** $p < .01$; pairwise deletion, *n*s ranged from 484 to 550.

of the first criterion-related validity question and the first standard for validity evidence, the eight correlations in Table 18 provide evidence that the REAL can, indeed, predict variance in outcome measures.

In response to the second criterion-related validity research question (and second and third validity standards), the same eight criteria measures were each analyzed as dependent variables using hierarchical multiple regression, but for validity testing purposes the following secondary measures were also included: a Likert-type item measuring general life authenticity (i.e., "To what extent are you authentic (true to yourself) in your life in general, across all contexts?"), the KIMS observe subscale, self-esteem, and the two subscales for the Self-Importance of Moral Identity: Internalization and Symbolization. These five secondary measures were selected because correlation analyses indicated that they demonstrated shared variance with at least one of the eight subscales used as criteria measures for this portion of the study. Additionally, statistically significant standardized regression coefficients for the relationship between

the five additional measures and seven of the eight dependent variables tested can be found in Step Two of Tables 19 through 21. All regression analyses controlled for respondent demographics (i.e., age, gender, ethnicity, and manager vs. non-manager role), and the study's design also allowed any variance due to respondents' social desirability to be removed from the regression conducted on sample one.

Table 19

Regression Model 1 (n = 535)—Authenticity Total (REAL) Predicting Life Satisfaction, Controlling for Demographics, Social Desirability, and General Life Authenticity

	Life Satisfaction (Model R^2 = .135)		
	β	*p*	ΔR^2
Step 1			.020
Age	.089	.044	
Gender	.061	.161	
Ethnicity (White vs. All Else)	-.001	.982	
Manager vs. Non-Manager	.025	.570	
Social Desirability	-.099	.025	
Step 2			.094
General Life Authenticity	.311	< .001	
Step 3			
Authenticity Total (REAL)	.158	< .001	.020

The objective of the eight regression models was to test the extent to which the REAL's total score could predict unique variance in life satisfaction, the six components of psychological well-being, or integrity, above and beyond criterion variance that might already be accounted for by other, ancillary measures included in the model. For each regression model, demographic control variables were entered in Step One, empirically relevant secondary measures were entered in Step Two, and the REAL's total score for authenticity was entered in Step Three.

Table 20

Regression Models 2-7 (n = 530)—Authenticity Total (REAL) Predicting Psychological Well-Being (Six Dimensions), Controlling for Demographics and KIMS Observe

		Autonomy (Model 2 R^2 = .200)			Environmental Mastery (Model 3 R^2 = .154)			Personal Growth (Model 4 R^2 = .209)		
		β	*p*	ΔR^2	β	*p*	ΔR^2	β	*p*	ΔR^2
Step 1				.025			.023			.028
	Age	.092	.034		.091	.036		.065	.135	
	Gender	.051	.242		.076	.081		.152	< .001	
	Ethnicity (White vs. All Else)	-.095	.028		.025	.571		.023	.595	
	Manager vs. Non-Manager	.088	.043		.108	.013		.052	.225	
Step 2				.034			.055			.076
	KIMS Observe	.186	< .001		.239	< .001		.279	< .001	
Step 3				.142			.075			.106
	Authenticity Total (REAL)	.420	< .001		.307	< .001		.364	< .001	

		Positive Relations with Others (Model 5 R^2 = .180)			Purpose in Life (Model 6 R^2 = .120)			Self-Acceptance (Model 7 R^2 = .169)		
		β	*p*	ΔR^2	β	*p*	ΔR^2	β	*p*	ΔR^2
Step 1				.056			.013			.030
	Age	.115	.008		.066	.131		.113	.010	
	Gender	.210	< .001		.019	.670		.118	.007	
	Ethnicity (White vs. All Else)	-.047	.274		-.035	.423		.008	.851	
	Manager vs. Non-Manager	.066	.121		.088	.044		.091	.036	
Step 2				.068			.045			.058
	KIMS Observe	.265	< .001		.216	< .001		.245	< .001	
Step 3				.057			.063			.081
	Authenticity Total (REAL)	.266	< .001		.280	< .001		.317	< .001	

Table 21

Regression Model 8 (n = 464)—Authenticity Total (REAL) Predicting Integrity, Controlling for Demographics, Self-Esteem, and Self-Importance of Moral Identity

	Integrity (Model R^2 = .315)		
	β	*p*	ΔR^2
Step 1			.038
Age	.173	< .001	
Gender	-.085	.069	
Ethnicity (White vs. All Else)	-.014	.768	
Manager vs. Non-Manager	-.022	.640	
Step 2			.195
Self-Esteem	.020	.642	
SIMI – Internalization	.359	< .001	
SIMI – Symbolization	.159	< .001	
Step 3			
Authenticity Total (REAL)	.320	< .001	.083

As shown in Table 19, for Regression Model 1, demographic variables did not account for a significant amount of total variance in life satisfaction in Step One, $F(5,529) = 2.198$, $p > .05$, $R^2 = .020$, but general life authenticity in Step Two, $F(6,528) = 11.362$, $p < .001$, $R^2 = .114$, and total authenticity in Step Three, $F(7,527) = 11.716$, $p < .001$, $R^2 = .135$, each accounted for a significant amount of variance in life satisfaction. In Step Two, the standardized regression coefficient for the relationship between general life authenticity and life satisfaction was significant and moderate in size ($\beta = .311$, $p < .001$). However, despite the contribution of general life authenticity to the model in Step Two, in Step Three, the partial regression coefficient for the unique relationship between total authenticity (REAL) and life satisfaction was significant and small-to-medium in magnitude ($\beta = .158$, $p < .001$). Although respondents demonstrating higher levels of authenticity in life in general (i.e., across all contexts) were notably more likely to report greater life satisfaction, respondents reporting high authenticity in their leadership roles

(as measured by the REAL) *still* were somewhat more likely to claim greater life satisfaction than those who were less authentic in their leadership roles. Thus, for life satisfaction, criterion-related validity evidence for the REAL was strong.

In Table 20, Regression Models 2 through 7 examined the degree to which demographics, the KIMS observe subscale, and the REAL's total score for authenticity could explain variance in each of the six dimensions of psychological well-being. Across the six regression models, demographic variables in Step One accounted for a significant amount of total variance in all psychological well-being dimensions except for purpose in life. Specifically, significant Step One statistics were $F(4,525) = 3.387$, $p < .01$, $R^2 = .025$ for autonomy, $F(4,525) = 3.150$, $p < .05$, $R^2 = .023$ for environmental mastery, $F(4,525) = 3.727$, $p < .01$, $R^2 = .028$ for personal growth, $F(4,525) = 7.716$, $p < .001$, $R^2 = .056$ for positive relations with others, and $F(4,525) = 4.071$, $p < .01$, $R^2 = .030$ for self-acceptance. Respondents who were older ($\beta = .092$, $p < .05$), of a race/ethnicity different from White/Caucasian ($\beta = -.095$, $p < .05$), or serving within a managerial/supervisory role ($\beta = .088$, $p < .05$) were significantly more likely to report higher levels of autonomy. Respondents who were older ($\beta = .091$, $p < .05$) or within a managerial/supervisory role ($\beta = .108$, $p < .05$) generally reported greater environmental mastery. Females were more likely to score higher on personal growth ($\beta = .152$, $p < .001$), and females ($\beta = .210$, $p < .001$) or older respondents ($\beta = .115$, $p < .01$) demonstrated more positive relations with others. Older ($\beta = .113$, $p < .05$), female ($\beta = .118$, $p < .01$), and managerial/supervisorial respondents ($\beta = .091$, $p < .05$) were more likely to report higher levels of self-acceptance. Finally, although Step One was not significant in Model 7, those in a managerial/supervisory role were slightly more likely to

report greater purpose in life (β = .088, $p < .05$). Although statistical significance was found in the initial step of 5 of the 6 regressions run for psychological well-being, it is worthwhile to note that these findings may only indicate marginal practical significance because all significant Step One predictor-criterion effect sizes were either small or small-to-medium (i.e., significant βs ranged from .09 to .21).

In support of this study's objective to provide evidence for the criterion-related validity of the REAL, the secondary measure (KIMS observe) added in Step Two *and* the REAL's total score for authenticity added in Step Three contributed significantly to all psychological well-being regression models. In particular, in Step Two, a significant amount of total criterion measure variance was accounted for: $F(5,524) = 6.534$, $p < .001$, $R^2 = .059$ for autonomy, $F(5,524) = 8.980$, $p < .001$, $R^2 = .079$ for environmental mastery, $F(5,524) = 12.057$, $p < .001$, $R^2 = .103$ for personal growth, $F(5,524) = 14.750$, $p < .001$, $R^2 = .123$ for positive relations with others, $F(5,524) = 6.430$, $p < .001$, $R^2 = .058$ for purpose in life, and $F(5,524) = 10.152$, $p < .001$, $R^2 = .088$ for self-acceptance. While controlling for demographics, respondents with greater mindfulness-observe abilities were more likely to demonstrate higher levels of autonomy (β = .186, $p < .001$), environmental mastery (β = .239, $p < .001$), personal growth (β = .279, $p < .001$), positive relations with others (β = .265, $p < .001$), purpose in life (β = .216, $p < .001$), and self-acceptance (β = .245, $p < .001$). As indicated by the partial regression coefficients in Step Two, the effect sizes of the significant relationships in this step were small-to-medium (i.e., significant βs ranged from .19 to .28). Most importantly, even while controlling for demographics and KIMS-observe, the REAL's total score for authenticity significantly explained variance in all six psychological well-being criteria measures.

Specifically, in Step Three total authenticity accounted for a significant amount of total variance in autonomy $F(6,523) = 21.831$, $p < .001$, $R^2 = .200$, environmental mastery $F(6,523) = 15.888$, $p < .001$, $R^2 = .154$, personal growth $F(6,523) = 23.084$, $p < .001$, $R^2 = .209$, positive relations with others $F(6,523) = 19.158$, $p < .001$, $R^2 = .180$, purpose in life $F(6,523) = 11.938$, $p < .001$, $R^2 = .120$, and self-acceptance $F(6,523) = 17.723$, $p < .001$, $R^2 = .169$. Respondents scoring higher on total authenticity were significantly more likely to demonstrate greater autonomy ($\beta = .420$, $p < .001$), environmental mastery ($\beta = .307$, $p < .001$), personal growth ($\beta = .364$, $p < .001$), positive relations with others ($\beta = .266$, $p < .001$), purpose in life ($\beta = .280$, $p < .001$), and self-acceptance ($\beta = .317$, $p < .001$). The effect sizes of these relationships were notable, as they all were either medium or medium-to-large (i.e., significant βs ranged from .27 to .42, with only two of the six βs below .30). Therefore, the REAL's total score for authenticity demonstrated substantial predictive power for the six dimensions of psychological well-being. Furthermore, this held true above and beyond the potential influence of respondents' demographics and mindfulness-observe abilities on variance in psychological well-being. Therefore, criterion-related validity evidence was consistently strong for the REAL with regard to each facet of psychological well-being.

Table 21 provides a summary of Regression Model 8, which analyzed the extent to which demographics, three secondary measures (i.e., self-esteem, SIMI – Internalization, and SIMI – Symbolization), and the REAL's total score for authenticity could explain variance in an integrity criterion measure. All three steps of the regression accounted for a significant amount of overall variance in integrity: $F(4,459) = 4.494$, $p < .01$, $R^2 = .038$ for demographics entered into Step One, $F(7,456) = 19.730$, $p < .001$, $R^2 =$

.232 for self-esteem, SIMI – Internalization, and SIMI – Symbolization entered into Step Two, and $F(8,455) = 26.178$, $p < .001$, $R^2 = .315$ for total authenticity in Step Three. The standardized regression coefficient for the relationship between age and integrity was significant and small-to-medium in size ($\beta = .173$, $p < .001$). Older respondents were somewhat more likely to demonstrate higher levels of integrity than younger respondents. In Step Two, two of three standardized regression coefficients were significant for the relationships between integrity and self-esteem ($\beta = .020$, $p > .05$), SIMI – Internalization ($\beta = .359$, $p < .001$), and SIMI – Symbolization ($\beta = .159$, $p < .001$). Thus, respondents reporting high internalization were much more likely to also exhibit greater integrity, and those high on symbolization were moderately more likely to show increased levels of integrity. Note that although self-esteem did not have a significant β with integrity in Step Two of the regression analysis, it was included in Regression Model 8 because in initial analyses it demonstrated a significant, albeit weak, positive bivariate correlation with the integrity criterion ($r = .115$, $p < .05$). Step Three of the regression model revealed a significant and sizeable partial regression coefficient between the REAL's total score for authenticity and integrity ($\beta = .320$, $p < .001$), even while controlling for demographics in Step One and the three secondary measures in Step Two. The medium effect size of this last relationship warrants emphasis for interpretive and practical reasons; in the context of their leadership roles, respondents scoring higher on total authenticity also were notably more likely to demonstrate higher levels of integrity. On the whole, regression analyses confirmed that the REAL can predict variance in specified criteria measures above and beyond other measures that share variance with the same

criteria. Accordingly, strong criterion-related validity evidence was found for the REAL predicting integrity.

Outlier Testing and Assumption Checking

Finally, it was necessary to check for basic analytical issues that could adversely influence the study's results. This section provides information regarding tests that were run to examine the possible impact of outliers and to check for potential violations of basic assumptions in regression.

Results from the removal of factor score outliers. The effects of outliers were tested on samples one, two, and three applying the same approach reported in Chapter Five for all of launch two. Instead of evaluating potential differences in the REAL's component solution, however, here the aim was to look for possible differences in the validation study's correlation and regression results. Just as before, the regression method in SPSS was used to generate factor scores, which enabled cases with z-scores ± 3 standard deviations away from the mean to be removed. This procedure eliminated 73 cases (or 13.2% of all cases) in sample one, 84 cases (or 15.4% of all cases) in sample two, and 80 cases (or 16.5% of all cases) in sample three. Comparing all of the original validation study analyses to the same analyses rerun without outliers revealed that respondents with extreme scores were not problematic, as their removal from the analysis did not notably influence correlation or regression results.

Assumption testing for regression. Various strategies were used to test assumptions to ensure the data were suitable for analysis in regression. First, the ratio of cases to predictor variables was examined. According to S. B. Green's (1991) recommendations for calculating the minimum sample size needed for regression (i.e., for

regression, 50 plus the quantity of 8 times the number of predictor variables and for testing single predictors in regression, 104 plus the number of predictor variables for testing unique), 114 was the minimum number of cases needed to perform regressions proposed by this study. The minimum number of required cases was greatly surpassed in all three samples (samples one, two, and three had 552, 546, and 484 total cases, respectively). Second, all independent variables were evaluated for multicollinearity. High tolerance levels and no correlations greater than |.7| indicated this was not an issue. Third, the One-Sample Kolmogorov-Smirnov test was used to assess residual non-normality, and scatterplots with loess fit lines and regression lines were created and assessed for the relationship between: each predictor and criterion variable, studentized residuals and each predictor, and studentized residuals and standardized predicted values. Fourth, variables violating the assumption of normality were noted and considered for transformation, as were variables demonstrating residuals that were non-normal, non-linear, or signaling heteroscedasticity. Fifth, Durbin-Watson was used in conjunction with a casewise plot of studentized residuals to conclude that errors were indeed independent. Finally, for all regression models, case-wise diagnostics and residuals statistics were used to identify cases with extreme standardized residuals or with extreme predicted values on the dependent variable. Potentially problematic variables were transformed (using a square root, logarithmic, or inverse function depending on the nature of the violation of normality), outlier cases were eliminated, and all regressions were rerun, and results were reinterpreted. Although the removal of outliers made virtually no difference in the final results, in most instances, applying variable transformations slightly improved regression model results. Specifically, the overall

model R^2 and standardized regression coefficients tended to increase a small amount. However, because gains from the variable transformations were so minor on the whole and did not change the final interpretation of the numbers in any notable way, regression results were ultimately reported from the variables in their original form.

CHAPTER SIX

DISCUSSION

This chapter begins with an overview of key findings from the instrument development and validity testing of the REAL. Then relevant considerations for the instrument are presented, followed by a section that notes the utility of the REAL. Primary contributions to the literature on authenticity and to authenticity in leadership are next offered, prior to identifying limitations of the study, limitations for future research, and practical implications of the work.

Overview of Findings

In response to the first research question (i.e., "How might person-centered theory, self-based theory, and self-determination theory be used to conceptualize authenticity, particularly with regard to identifying and understanding critical intrapersonal processes involved in authenticity?"), the current study offered an alternative framework for authenticity that explains the fundamental psychological and behavioral processes underlying leaders' abilities and inclinations to be authentic. Self-knowledge, self-awareness, self-regulation, and authentic behavior were identified as four components that work together in process to either facilitate or inhibit authentic behavior. In support of the proposed framework, an instrument (the REAL) was developed to measure the four aspects of authenticity as they manifest within the context of leadership. Measurement work was conducted to address the second research question (i.e., ". . . to what extent can a statistically valid and reliable instrument be developed to measure authenticity in leaders?").

Early phases of instrument development involved writing and rewriting items in accordance with at least four rounds of subject matter expert feedback, further refining item content based on results from a blind sorting procedure, and then piloting the initial survey. Two rounds of data collection (two survey launches) generated participation from over 3,300 respondents, 78% of which were managers in organizations, and all of which rated themselves within the context of a single leadership setting. Data collected from the first launch generated a 41-item, working version of the REAL, featuring six components with adequate reliabilities. Although the six components generally supported the proposed framework for authenticity in leadership, the values/beliefs aspect of authentic behavior demonstrated room for measurement improvement, and the four types of self-regulation were empirically represented by only two components. For the second launch, therefore, additional items were written in an attempt to better measure authentic behavior and more comprehensively represent all four aspects of regulation. The second round of data collection administered different surveys to three samples of respondents, which enabled additional opportunities for REAL refinement, testing, and the execution of a comprehensive validation study.

The result was an improved, eight-component version of the REAL with 43 items that sufficiently represented all dimensions of the proposed theoretical framework. Subsequent analyses confirmed the REAL's measurement model fit and structural robustness in its final version. The validation work, which investigated the third research question (i.e., "To what degree is the resultant measure empirically similar to and different from existing, theoretically related measures?"), examined the REAL's

relationship to existing instruments. Substantial evidence was found in support of the REAL's construct validity and criterion-related validity.

Validity results for the REAL were more than adequate, as the data supported all hypotheses pertaining to the direction of primary relationships between measures. As summarized in Table 14 presented in Chapter Five, for the REAL, moderate-to-strong convergent validity evidence was found at the component-level, and strong convergent validity evidence was established at the concept-level. Evidence for discriminant validity was moderate and sufficient at the component level, but strong at the concept-level. Additionally, concurrent validity at the concept-level was strong and well-aligned with findings from previous studies. On the whole, at both the construct- and concept-level, the REAL was found to measure what it was designed to measure, and the instrument demonstrated defensible fit for authenticity within its nomological network.

Instrument Considerations

With regard to the final, eight-component REAL, several points are worth mentioning concerning its content and approach to measurement. Instrument testing confirmed that the REAL departs from existing tools on authenticity in a handful of noteworthy ways. Specifically, the REAL distinguishes between self-knowledge from self-awareness, evaluates two aspects of self exhibited through authentic behavior, and offers subscales to measure self-regulation in the process of authenticity.

The experienced and known self. Although the proposed framework for authenticity asserted the importance of understanding the difference between the self as it is experienced and the self as it is known, at the onset of the research it was questionable if self-awareness and self-knowledge could be empirically separated in an instrument.

Previous theories on authenticity and authentic leadership often broadly conceptualize self-awareness as including both the experience of being and historical self-understanding (e.g., Kernis, 2003; Kernis & Goldman, 2006), without explicitly drawing a conceptual distinction between what James (1890) would refer to as the *I* self and the *Me* self. The REAL, however, aimed to address this distinction in theory and in measurement. In the six-factor working version and eight-factor final version of the REAL, the self-knowledge component separated from the self-awareness component, suggesting that allowing for the difference between the experienced and known self not only adequately represented the proposed framework, but was statistically upheld throughout the measurement work leading to the creation of the instrument.

Aspects of self in authentic behavior. Item content for the REAL was written to span various facets of self (e.g., cognitions, emotions). Such increased specificity in the items was ultimately reflected in the REAL's resultant factor structure representing the authentic behavior dimension of the framework. Namely, PCA separated authentic behavior into two components, one pertaining to the alignment of behavior with personal values/beliefs, and the other addressing open, expressive behavior in line with the true core. The separation of authentic behavior into two separate components was not directly intended at the onset of instrument design, but the result ultimately enhanced the REAL by diversifying the types of authentic behavior captured.

Although many scholars in the field of psychology have referred to different aspects of self in their conceptualization of individual-level authenticity (Kernis, 2003; Kernis & Goldman, 2006; Rogers, 1961; Wood et al., 2008), no corresponding instruments measure authentic behavior in a manner that more directly represents various

levels of self. The AI and the AS incorporate different aspects of self into their content domain (i.e., these measures present items that refer to alignment with feelings/emotions, physiology, thoughts/cognitions, motives/desires, physiology, and values/beliefs), but both instruments' level of specificity for measurement remains general. The REAL's measurement of authentic behavior with regard to values/beliefs *and* expressiveness raises important questions pertaining to the inherent processes required for authenticity at and between different levels of self. For instance, the psychological/behavioral process of remaining true to one's values may or may not be similar to the process of openly expressing one's feelings, and, further, both processes may interact with—or inform—one another in a given instance. Thus, further investigation of authenticity at greater levels of specificity may be a fruitful endeavor for learning more about the concept and for working with it in practice.

Regulation in authenticity. The four self-regulation components demonstrated low-to-moderate correlations with each other (with the exception of the relationship between external and introjected regulation, which was high), and with self-knowledge, self-awareness, or authentic behavior of either type. Conversely, relatively high correlations were observed among self-knowledge, self-awareness, and both kinds of authentic behavior, suggesting that these processes are more closely related to one another than are the regulation components to one another.

Weaker correlations among the self-regulation components (with the exception of external and introjected regulation) may signal that the frequent use of one type of regulation does not necessarily indicate the reliance on other types of regulation. This assertion aligns with SDT's conceptualization of regulation as individual-level

differences, or styles, in how people tend relate to their social environment (Deci & Ryan, 2000; Ryan & Connell, 1989).

Conversely, the high correlation (i.e., 25% of variance shared) between external and introjected regulation proposes that individuals engaging in external regulation are very likely to also use introjected regulation (and vice-versa) while they are functioning within their leadership role. Alternatively, the high correlation between these variables could be due to possible construct overlap as demonstrated by the factor structure of the REAL in launch one (within which external and introjected regulation loaded together in PCA). Given the SDT continuum underlying the four types of regulation, however, the empirical relationship between external and introjected regulation is not particularly alarming, as it is ideal to observe higher correlations between theoretically neighboring constructs than those that are more distal from one another conceptually.

Advanced levels of regulation in authenticity. Turning now to identified and integrated regulation, some perplexing findings emerged at both the construct- and concept-level of authenticity. At the construct-level, identified and integrated regulation demonstrated weak relationships with self-knowledge, self-awareness, and authentic behavior – values/beliefs, and no relationship with the open behavioral expression of the true self. Furthermore, when the REAL was correlated with the AS, as expected, external and introjected regulation were significantly and positively related to self-alienation and accepting external influence, and negatively related to authentic living. However, identified and integrated regulation mostly showed no significant correlations with the three dimensions of the AS. At the concept-level, identified and integrated regulation did not correlate as highly with total authenticity as expected. However, they did

demonstrate significant correlations of a more moderate magnitude with total authenticity.

There are at least five possible explanations for the somewhat puzzling findings pertaining to the higher levels of self-regulation. First, perhaps identified and integrated regulation are not foundational to authenticity as a process. This explanation is unlikely as it contradicts conceptual and empirical work that has established the relationship between authenticity and the more self-determined, or increasingly autonomous, types of regulation (Deci & Ryan, 1995, 2000; Gardner, Avolio, & Luthans, et al., 2005; Ryan & Deci, 2001; Sheldon & Kasser, 1995). Second, it may be the case that lower levels of self-regulation inhibit authenticity more strongly than higher levels of self-regulation facilitate authenticity. If this is true, the relationship of the different underlying processes to each other should be further explored and compared between people operating from high versus low levels of self-regulation. Third, advanced regulators may hold more complex or nuanced notions of self, such that they are less willing to subscribe to general, explicit statements about how well they know themselves, how aware they are of themselves in a given moment, and how regularly they follow their values (e.g., they may be aware that they often have competing values within the self). If advanced regulators prefer to respond to such questions with "it depends," then that could explain some of the low correlations observed between advanced levels of regulation and self-based psychological and behavioral processes. Fourth, perhaps the translation of the authentic self into behavior becomes more skillful and context-specific for individuals practicing advanced levels of regulation. Leaders operating at this level may demonstrate greater mastery of the exchange between their emotional self and the outward environment, such

that they can behave authentically either with or without open, emotional expressiveness. If this is the case, those who regulate at advanced levels may have more behavioral options available to them in the face of environmental pressures compared to those regulating at less-advanced levels. Fifth, as exercising higher levels of self-regulation may require more advanced development or consciousness on behalf of the individual, less mature respondents might have had a more difficult time rating themselves accurately on identified and integrated regulation. If this were the case, then other approaches to measuring higher levels of regulation may be warranted (e.g., implicit testing, other-ratings). Or perhaps an alternative method for measurement might include designing all self-regulation components with "degree" or "frequency" response scales rather than "agreement" scales. If it is the case that identified and integrated regulation, as constructs, are more sensitive to the nature of the response scale used (compared to external and introjected regulation), then reconsidering the response options for all self-regulation items may be beneficial. The five explanations offered are merely speculative, and additional work needs to be done to better understand these observed relationships among components of the REAL.

While identified and integrated regulation demonstrated weak construct-level correlations with the non-regulation components of the REAL and a general lack of relationship with the three dimensions of the AS, substantial factor analysis and validity evidence exists in support of these advanced levels of regulation to justify retaining identified and integrated regulation in the REAL (e.g., see the section on component-level convergent validity in Chapter Five). However, it is clear that psychological and

behavioral processes implicated with identified and integrated regulation should be further explored.

The Utility of the REAL

Validity testing on the REAL provided information indicating the circumstances under which it may be best to choose to use the REAL over the AS, and supported the general utility of the instrument's total score for capturing authenticity. This section will elaborate on each of the above areas, and then will offer additional comments regarding the thought process underlying the calculation of the total authenticity score.

The REAL and the AS. The REAL's total score and component correlations with the AS were in accordance with theory and supported by data from two samples in the second launch. For both samples, self-knowledge, self-awareness, authentic behavior, and total authenticity were significantly and negatively correlated with self-alienation and accepting external influence, and positively correlated with authentic living. As mentioned above, the two less advanced levels of self-regulation related as anticipated with the AS's three dimensions, but there was only one significant correlation between the REAL's two more advanced levels of regulation and the AS subscales.

Thus, the nature of the significant correlations between the three AS subscales and six of the eight REAL components provided strong evidence for appropriate conceptual overlap between frameworks for authenticity. It may be the case that more advanced levels of self-regulation are not related to authenticity as it is defined and measured by Wood et al. (2008), as the AS seems to be more strongly conceptually related to regulation of the lower levels of self-determination. As the identified and integrated regulation components of the REAL do indeed demonstrate construct validity

with identified and integrated regulation of the SRWE scale, use of the REAL is recommended for those who are interested in assessing more advanced levels of self-regulation in authenticity.

Additionally, it should be noted that the authentic living component of the AS was more highly correlated with the REAL's authentic behavior component pertaining to values/beliefs than the REAL's authentic behavior component tapping emotional openness and expressiveness. This suggests the AS's authentic living item content may conceptually more closely represent individuals' outward alignment with their values/beliefs, rather than their emotions/feelings. Thus, for those who are interested in measuring authentic behavior specific to open emotional expression, or for those needing to distinguish between behavioral alignments with values/beliefs versus emotions, the REAL is recommended.

Total score for authenticity. Validity study results supported the use of an aggregate score for total authenticity. The REAL's composite score for authenticity was most strongly correlated with the two authentic behavior components, with the next-highest correlated component being self-knowledge. The sizeable relationship between the total authenticity and behavioral alignment with the true core was similarly observed in the REAL's correlations with the AS. Specifically, total authenticity as measured by the REAL was most highly correlated with authentic living, relative to the other two dimensions of the AS. Thus, through self-knowledge, self-awareness, and self-regulation, the REAL's total score not only represents psychological aspects inherent to authenticity, but it also sufficiently captures outward, behavioral components of authenticity.

Construct validity evidence for total authenticity was demonstrated through significant, moderate to high correlations with the eight REAL subscales and with the three dimensions of the AS. All observed correlations with self-alienation, authentic living, and accepting external influence were in the theoretically appropriate direction. Additionally, total authenticity was positively and moderately correlated with self-esteem. This finding coincides with conceptual work that established the connection between authenticity and self-esteem (e.g., Kernis, 2003; Kernis & Goldman, 2003) and empirical work that reported sizeable and positive correlations between Rosenberg's (1965) self-esteem measures for authenticity (Goldman, 2004; Wood et al., 2008). The REAL's composite measure for authenticity demonstrated discriminant validity through its non-significant relationships with flavor preference and social desirability.

Support for criterion-related validity for total authenticity was also strong, as moderately sized, significant correlations were found between all outcome measures (i.e., life satisfaction, psychological well-being, and integrity) and total authenticity. Furthermore, regression results indicated the REAL's total score for authenticity can indeed predict unique variance in outcome measures, above and beyond other predictors. Variance in life satisfaction was accounted for by the REAL while controlling for demographics and ratings of general life authenticity, which aligned with previous empirical work demonstrating the positive relationship between aggregate measures of authenticity and life satisfaction (Kernis & Goldman, 2006; Goldman & Kernis, 2002). This finding also demonstrates the role-specific nature of the REAL, because if the REAL were only measuring authenticity in general (rather than authenticity as manifested in a single leadership context), then the REAL statistically would likely not

account for much variance beyond that which was accounted for by the general life authenticity variable. For the six psychological well-being outcome measures, total authenticity consistently predicted unique variance above and beyond demographics and KIMS Observe. The direction and magnitude of all total authenticity regression coefficients in the third step is well-supported by other empirical studies that have reported the relationship between authenticity and psychological well-being (Bettencourt & Sheldon, 2001; Kernis & Goldman, 2006; Wood et al., 2008). Furthermore, total authenticity predicted unique variance in integrity after accounting for the contributions of self-esteem and the self-importance of moral identity. This finding confirms initial evidence for the empirical connection between authenticity and integrity (Schlenker, 2008; Schlenker et al., 2008; Sheldon et al., 1997).

Finally, given the nomological network for authenticity, it was expected that total authenticity would be more strongly related to qualities of psychological well-being that are highly specific to the individual (rather than context-dependent) and more proximal (rather than distal) in time. With this in mind, the relative magnitudes of all standardized regression coefficients representing the incremental relationship between total authenticity and each well-being criterion measure were noteworthy. For instance, personal qualities such as autonomy, personal growth, and self-acceptance demonstrated the strongest unique relationships with total authenticity, whereas variables more affected by social/environmental circumstances (i.e., positive relations with others and environmental mastery) and more generally rated beyond the present moment (i.e., purpose in life) had appropriately weaker relationships with total authenticity. Of course, this finding was also dependent upon the contribution of variables entered as controls for

each regression model, but bivariate correlations provided additional support for this conclusion sans controls. Perhaps the most important relationship in terms of magnitude was for total authenticity and autonomy, as it would be expected that total authenticity should be most strongly related to autonomy, relative to all other existing measures included in the criterion-related validity study. This relative relationship was confirmed, providing additional support for the construct validity of total authenticity. Taken together, then, strong evidence was found for the utility of the REAL's total score for authenticity in future research.

A note on calculating total authenticity. Finally, various calculations were considered to create the REAL's total authenticity score. It was found that standardization of the composite score led to inflating or deflating constructs that initially demonstrated low or high variance, respectively, in their raw form. The effects of adjustments in variance were most noticeable when validation results were compared between standardized and unstandardized versions of the total authenticity score. Examination of the validity study's correlation matrices revealed the standardized version of the REAL was weighted more strongly toward self-knowledge and authentic values-beliefs (i.e., constructs with the lowest raw variance) and less strongly weighted toward introjected regulation (i.e., the construct with the highest raw variance). Given that correlations between existing measures and total authenticity were more in line with theory when the REAL's total score was unstandardized compared to when it was standardized, the unstandardized version of the total score was retained. More broadly, this speaks to the potential benefit of conducting validation studies in conjunction with early phases of instrument development. The availability of empirical information

pertaining to the instrument's construct validity provided theory-based information that was important for determining the most appropriate calculation for the total authenticity composite score.

Contributions to Literature on Authenticity

The present study offers an alternative framework for understanding and measuring authenticity in individuals, specifically within the leadership context. The framework supporting the REAL differs from existing approaches and advances current thinking about authenticity in a variety of ways.

Building upon the need to further investigate processes underlying authenticity (Kernis & Goldman, 2006), and in response to the paucity of instruments currently available to measure authenticity (Wood et al., 2008), the framework and instrument developed by this study begins to conceptually explain *how* components of authenticity may work together to enable or inhibit authenticity. Defining authenticity as a multidimensional concept in accordance with MacKenzie et al. (2011), here authenticity was defined as a psychological and behavioral process made up four components: self-awareness, self-knowledge, self-regulation, and authentic behavior. Chapter Three proposed potential combinations of the four components that result in complete authenticity or inauthenticity. Some explanations for a lack of authentic behavior include disconnection from the true self at a psychological level (either regarding self-knowledge, self-awareness, or both) or instances of non-autonomous self-regulation. Thus, one contribution of this study's framework for authenticity concerns establishing the conceptual and practical distinction between an individual's *ability* and *choice* to behave authentically.

Another notable contribution of this work is the conceptual and empirical distinction between the experiential self and the self as it is known or constructed. Inspired primarily by James' (1890) notion of the *I* versus *Me* self, through self-awareness and self-knowledge, the proposed framework and corresponding REAL measures leaders separately on the self as subject and the self as object. In practice, emphasizing the self as it currently is experienced in conjunction with the self as it has been constructed by the individual over time holds promise as a particularly useful approach for enabling greater understanding of the self to facilitate the development of authenticity in leaders.

Another contribution, which also concerns a greater level of specificity of the dimensions of authenticity measured, is the component split between types of authentic behavior. Specifically, the separation between authentic behavior regarding values/beliefs alignment compared to that which is openly revelatory of emotions or momentary opinions is important and useful. When the moral/assumptive and emotional aspects of self are regarded as different underlying sources for authentic behavior, then new possibilities arise for understanding authenticity at a deeper level. This conceptual separation encourages authenticity scholars to ask which aspects of self may be most relevant to authentic behavior, and raises additional questions about whether authentic behavior is equally desirable as it is relative to different aspects of self. To date, the issue of authenticity and authentic leadership has been examined according to individuals being true to their: values/morals (Erickson, 1995; Hannah, Lester, & Vogelgesang, 2005; D. R. May, Chan, Hodges, & Avolio, 2003), cognitions and emotions (Michie & Gooty, 2005), traits (Sheldon et al., 1997), somatic cues (Ladkin & Taylor, 2010), or the

self at a more general level of specification (Kernis & Goldman, 2006; Klenke, 2007; Wood et al., 2008). In practice, assuming that authentic behavior applies to emotions *and* values/beliefs calls for practical training that explores and addresses both aspects of self. Future research on the interplay between emotions and values/beliefs in real time may lead to enhanced understanding of *how* leaders can more effectively express and honor their authentic self in the organizational setting, and such work may be particularly valuable in instances when resorting to inauthenticity may be futile or detrimental.

Furthermore, the developed framework applies SDT (Deci & Ryan, 1995, 2000) to explain how authentic behavior may be freely motivated to varying degrees. The addition of self-regulation processes underlying authenticity provides a psychological explanation for *why* individuals may choose to deviate from authentic behavior in certain instances. Some existing approaches to authenticity account for the impact of external influences on behavior, such as the accepting social influence dimension proposed by Wood et al. (2008), but the framework in the present study examines such behavioral deviations at an increased level of specificity, according to four types of extrinsic regulation proposed by SDT. The accompanying measurement challenge, as mentioned above, concerns capturing advanced levels of regulation through self-report. As individuals are often working with their present selves as currently understood, then higher levels of regulation may be unavailable for assessment and perhaps assumed to be operable. Future work could devise alternative, perhaps indirect or implicit, approaches to measuring self-regulation to assess the degree to which self-reporting methods accurately capture higher levels of regulation and their contribution to the process of authenticity.

Contributions to Authenticity in Leadership

The development and validation of the REAL addressed authenticity in the context of leadership, so some specific contributions to the study and practice of organizational leadership are noteworthy. This section will begin by briefly presenting the significance of the REAL's use of self-ratings of authenticity for organizational leaders in a leadership setting. Then, the practical application of the REAL's process-based framework to leaders in organizations today will be addressed. Finally, the REAL's framework will be briefly contrasted with emotional intelligence and authentic leadership theory for purposes of clarification.

By design, the REAL used a sample of approximately 80% managers, thereby supporting the instrument's future applicability to the measurement of authenticity for organizational leaders. This contribution is notable, as two of the four existing instruments for individual-level, self-rated authenticity were developed solely using data from undergraduates (i.e., the AI by Kernis & Goldman, 2006; and the five-item measure for authenticity by Sheldon et al., 1997). The two other two instruments assessing individual-level authenticity use multiple samples involving undergraduates and working adults (as is the case with the AS by Wood et al., 2008), or only working adults (i.e., the more recent Individual Authenticity Measure at Work by Bosch & Taris, 2013, which was appropriate for their development of a measure specific to the work context), but the authors of these instruments do not mention of the percentage of managers captured by their sampling procedures. At this time it is uncertain as to whether high-level managers or leaders may exhibit different processes for authenticity than individuals who are not

operating in formal leadership positions, but the REAL's role-context specification and manager-focused sample makes the investigation of this question possible in the future.

Also, the REAL narrowed the measure of individual-level authenticity to a specific leader role, which supports the instrument's future applicability to the measurement of authenticity in the context of leadership. This design feature contrasts with most existing instruments measuring individual-level authenticity (i.e., the AI by Kernis & Goldman, 2006; the AS by Wood et al., 2008; and the five-item authenticity measure by Sheldon et al., 1997), which gather information about respondents' authenticity in general. Only one authenticity instrument to date has been developed with a single role context in mind. Bosch and Taris (2013) recently converted the AS by Wood et al. (2008) to measure authenticity in the workplace. Thus, the work supporting the REAL adds to the body of emerging literature addressing context-specific manifestations of authenticity at the individual level.

The REAL differs from the Bosch and Taris (2013) measure in that it instructs respondents to rate themselves in a single leadership context (rather than a work context). Theoretically, the REAL differs from both Bosch and Taris (2013) and Wood et al. (2008) in that the REAL's framework, in accordance with SDT, emphasizes regulatory tendencies important to underlying processes for authenticity. The REAL also provides more conceptual specificity than the authenticity measures by Bosch and Taris (2013) and Wood et al. (2008). Mainly, the REAL distinguishes between the known and the experienced self and between authentic behavior that is aligned with values/beliefs versus that which is expressive of emotions/opinions. Rather, Bosch and Taris (2013) and Wood et al. (2008) include similar, but more general, constructs for self-knowledge, self-

awareness, and authentic behavior as measured through self-alienation and authentic living.

Taken together, through sampling and design decisions concerning the context of ratings gathered, the REAL effectively brings the individual-level measure of authenticity into the realm of organizational leadership. Furthermore, the context-specific nature of the REAL allows for the possibility that leaders in organizations may exhibit higher or lower levels of authenticity at work compared to when they are operating in other realms of their lives, which some theorists (Erickson, 1995; Lifton, 1993; Markus & Nurius, 1986; Markus & Wurf, 1987; Paulhus & Martin, 1988) would suggest is possible. Narrowing leaders' ratings to one role context is particularly important and relevant for leaders who demonstrate dynamic or multiple selves across different situations, as resultant, context-specific scores on authenticity can then be captured with precision.

Applying this study's framework to the organizational context also helps explain *why* leaders may fail to exhibit authentic behavior in certain situations: either they cannot be authentic, or they choose not to be authentic. Leaders who lack either self-knowledge or self-awareness remain disconnected from their true core, hindering their capability of engaging in authentic behavior. For instance, leaders are unable to model their values if they are unfamiliar with which values hold the greatest personal meaning and priority for them. Such leaders may also be unable to recognize when moral standards of theirs are being challenged, and may subsequently lack the regulatory motivation to behaviorally honor their values in moments of trial. If leaders remain unaware of their internal reactions to their environment, even if they have a strong sense of who they are, they will still be blind to how their true self coincides or clashes with the realities of their

organization. Furthermore, leaders with sufficient knowledge and awareness of self—although they may be capable of exhibiting authenticity—will not behave authentically if they consistently regulate their true selves through external or introjected regulation (e.g., concealing their opinions to gain the approval of others or to avoid guilt). According to the framework, if individuals can become more familiar with their personal knowledge, awareness, and regulation of self, then in time they will enhance their ability—and, ultimately, freedom of choice—to behave authentically.

Also, this study's framework for authenticity should not be confused with Goleman's (1995) emotional intelligence, a potentially overlapping concept. The framework offered by this study differs from emotional intelligence in a few notable ways. Goleman (1995) identified five aspects of emotional intelligence, two of which include self-awareness and self-regulation. However, it is important to note that Goleman's definition of self-awareness and self-regulation focus primarily on psychological processes pertaining to emotions, *not* on other dimensions of self. In contrast, for self-awareness, the REAL's framework for authenticity encompasses dimensions of the true self at a broader level of specificity—to include physiology, emotions, and cognitions for self-awareness. For self-regulation, the REAL's framework pulls significantly from SDT to address motivations underlying regulatory behavior, whereas Goleman (1995) approaches self-regulation more generally through processes of self-control and identifies internal motivation as a separate component. From a nomological perspective, it is anticipated that authenticity as it is defined by the REAL can be thought of as a broader concept that spans dimensions of self, and likely relates to individuals' specific emotional intelligence abilities. Theoretically, it would be

reasonable to believe that leaders with advanced emotional intelligence would be likely to demonstrate higher levels of authenticity, but work needs to be done to test that proposition.

Finally, it is important to note that this study addresses *authenticity in leaders* as manifested within a leadership context, and that the proposed framework is *not* equivalent to or representative of authentic leadership theory. Although the REAL's framework was, in some ways, informed by the thinking of authentic leadership scholars, the concept of authenticity offered by the REAL differs from authentic leadership in a few significant ways.

First and foremost, the primary intentions of the REAL's framework and authentic leadership theory are markedly different. The former seeks to more deeply understand critical psychological and behavioral processes underlying individual-level authenticity in a leadership context, while the latter describes qualities or types of behavior that are characteristic of leaders who practice authentic leadership. Second, the approaches differ in their principal theoretical orientations. The theory of authentic leadership to date was inspired by the Kernis (2003) and Kernis and Goldman's (2006) conceptualization of authenticity, and other disciplines such as positive organizational behavior, ethics, and leadership (see Avolio & Gardner, 2005; Gardner, Avolio, & Walumbwa, 2005; Luthans & Avolio, 2003; Walumbwa et al., 2008), whereas the REAL's framework holds central person-centered psychology, self-based theories, and SDT and more closely aligns with the theory for authenticity proposed by Wood et al. (2008).

Third, the two approaches hold differing assumptions about the necessity of morality to their frameworks. The thinking underlying the REAL purports that morality is a sufficient—but not necessary—condition for authentic behavior for at least two reasons: (a) authentic behavior can occur in the form of open expression of emotions (which may or may not have moral foundations and implications) and (b) while the demonstration of authentic behavior in alignment with personal values is a sufficient condition for authenticity, it does not always mean that the values being acted upon uphold the highest of ethical standards. To elaborate on the second point, leaders can behave in accordance with their values, be authentic by definition, but still fall short of meeting society's ethical codes of conduct. Alternatively, authentic leadership was established in response to corporate corruption and other widespread turmoil resulting from unethical leadership (Avolio & Gardner, 2005; Luthans & Avolio, 2003), so scholars designated leader morality (which they now refer to as internalized moral perspective) as a central and necessary component of the authentic leadership framework. Hannah et al. (2005) have since done notable conceptual work explaining the role of morality in the process of "authentic-moral leadership" (p. 46), and more work could be done in that area.

In summary, the REAL adds value to the study and practice of organizational leadership because it measures authenticity within a specific leadership role context and it begins to explain how psychological and behavioral components of authenticity may theoretically work together. The REAL's framework differs from authentic leadership theory in its primary intention, in its central theoretical foundations, and in its basic assumption about the connection between authenticity and leader morality.

Study Limitations

Potential limitations to this study include single-source data collection, participant self-selection into the study, and possible issues pertaining to the selection of leadership roles to be rated. Additionally, the context-specific nature of the REAL and the study's sampling procedures raise questions regarding the external validity of the REAL in future applications. It is also worthwhile to note some of what the study's design did not address regarding instrument development. Specifically, predictive validity and test-retest reliability was not examined. Each limitation will next be examined in greater detail.

Existing authenticity measures (e.g., the AI-3 by Goldman & Kernis, 2004, and Kernis & Goldman, 2006, and the AS by Wood et al., 2008) traditionally rely on self-ratings, while measures for authentic leadership (e.g., the Authentic Leadership Questionnaire by Walumbwa et al., 2008, and the Authentic Leadership Inventory by Neider & Schriesheim, 2011) have also been validated using other-ratings. The design of the REAL relied on single-source, self-ratings of authenticity. This was a purposeful decision, as self-ratings are arguably ideal for evaluating private dimensions of self. Harter (2002) maintained that self-report instruments are best for probing individuals' experiences of authenticity and inauthenticity. Of course, however, it may be the case that self-report measures for authenticity are adversely affected by single-source bias. If, to remedy this, individuals are instead asked to rate the authenticity of others, it will be important to consider whether or not the components of the concept being assessed are actually conducive to other-ratings. Although self-knowledge, self-awareness, and self-regulation may be most directly measured through self-ratings, other-ratings may be most

suitable for evaluating authentic behavior. Furthermore, the disconnect between self-ratings and other-ratings of authentic behavior and self-knowledge could, therefore, be a promising area for future research in organizations, as it is likely that some leaders believe their behavior reflects their true self although their followers perceive otherwise.

Self-selection bias may be a limitation of the proposed study. The consulting firm's protocol for survey data collection involved inviting potential respondents of the study through an email invitation that revealed the topic of the research, so self-selection bias could be present if participants were more likely to opt-in if they were interested in the subject matter. As data were collected anonymously, it was not possible to identify non-responders from the database and follow-up with them to determine if self-selection bias was present.

Participants were asked to think of themselves in a leadership role and accordingly rate themselves only in that context. The study's instructions allowed participants to choose any leadership role, so the selection of mostly positive or successful roles is a possibility. Follow-up analyses using some of the context-specific role description information examined the distributions of responses, for all respondents in both launches, for the following questions: "To what extent do you view yourself as a leader when you are in this role?" and "To what extent do you feel experienced when you are in this leadership role?" Additionally, the distribution of responses were examined for the three items asking respondents in sample one of launch two about the degree to which they feel satisfied, effective, and personally fulfilled while they are in their leadership roles. Across the board, respondents tended to score themselves very highly on all of these questions, indicating that they were indeed inclined to select and rate

themselves within positive leadership contexts. This is an important point for the interpretation of the results of this study and for future work. First, the REAL and its corresponding findings were derived from and therefore may best apply to ratings of authenticity in leadership roles where respondents view themselves as leaders and feel experienced, satisfied, effective, and personally fulfilled. Second, it is uncertain as to whether this study's results are relevant to leaders operating within different types of contexts. Future iterations of this work could ask respondents to rate themselves in either a successful or unsuccessful leadership role they have held in order to investigate the degree to which the REAL's factor structure and utility may or may not hold across alternative (e.g., unfamiliar or highly challenging) leadership contexts.

The REAL's context-relevance to self-ratings in a selected leadership setting established the utility of the instrument for leaders in organizations. Although it is uncertain as to whether the REAL would be useful for measuring individual authenticity in other contexts, additional investigation of this possibility is encouraged because the framework underlying the REAL is not conceptually specific to leaders. The directive throughout the instrument "think of yourself in your leadership role" establishes the context-specific nature of the tool, so the type of the role being assessed could be easily changed in future administrations of the REAL. Additional applications of the REAL to other role contexts would be highly informative for establishing the utility of the instrument in alternative settings.

Regarding the sample demographics of both launches, participants for the development and validation of the REAL were predominately Caucasian/White, highly educated, and from North America. Thus, the study's findings are not generalizable

across all people and cultures. Future work could explore the definition and measurement of authenticity in various settings, such as organizations operating in the government or nonprofit sector. Additional research on the instrument is needed prior to its more widespread use in different contexts.

Concerning criterion-related validity, this study only examined concurrent validity at the concept-level (i.e., total authenticity) due to practical constraints. Longitudinal data would be valuable for testing the predictive validity of the REAL. As the criterion-related validity of the REAL at the concept-level was established by this study, future work could focus on validating the concurrent or predictive validity of the instrument at the construct-level. Appendix T provides additional information for readers interested in observed relationships between the REAL's individual components and the criterion measures selected for this study. However, because this study was only designed to test for the REAL's criterion-related validity at the concept-level, it is advised that alternative existing measures be considered by researchers aiming to investigate the predictive power of the REAL's individual components. Finally, the cross-sectional design of the study did not allow for the assessment of the REAL's test-retest reliability. Therefore, examining the consistency of participants' scores on the REAL's over time is warranted prior to the use of the instrument in longitudinal studies.

Suggestions for Future Research

Conceptual and instrument development work for authenticity in organizational life could be further extended to other cultural contexts. Employees within collectivist cultures may value and practice different aspects of authenticity, or they may be less inclined to be authentic with others. According to Trilling (1972), individuals operating

in cultures that encourage them to choose their own identities are more likely to exhibit greater authenticity than in cultures where individuals define their identities through social connection and in-group loyalty. A recent multiple-case study by Zhang, Everett, Elkin, and Cone (2012) examined the applicability of authentic leadership theory in eight Chinese manufacturing companies to conclude that leaders' authenticity to the self *and context* (e.g., social requirements and values) were both important for the practice of authentic leadership. Similar investigations could be conducted for authenticity in leaders, as it may be that employees' interpretation and experience of authenticity may vary across cultures.

The study and measurement of leader authenticity could also be narrowed to specific demographic groups, such as minority group employees. As authentic self-expression is less likely in instances of power inequality (Neff & Suizzo, 2006), additional construct development for authenticity could benefit from studying employees of traditionally oppressed groups. For example, compared to heterosexual employees, gay and lesbian employees may emphasize different experiences or psychological processes throughout their journey into authenticity. Additionally, men and women working within industries dominated by the opposite gender may face challenges to individual authenticity that are not felt by employees of the dominant gender. Work focusing on authenticity as it pertains to cultural and transsexual identity (Bramadat, 2005; Mason-Schrock, 1996) offers useful insights concerning the role of individual and collective meaning making in defining authenticity, but more work is needed in this area. Organizational research regarding authenticity for employees in minority or oppressed groups is also lacking and could be pursued further.

Finally, as leadership always occurs within the context of others, future frameworks could consider relational or group-level qualities and processes underlying leader and follower authenticity. Some work exists on authenticity as it is relational or dependent upon interpretation given the group context (Eagly, 2005; Gubrium & Holstein, 2009; Lopez & Rice, 2006), but much more could be done to incorporate that work into the study of organizations. Although this research focused on authenticity at the individual level, studying authenticity in the leadership setting at the level of the collective is highly important for future research, as leadership by definition occurs within relationships and groups. A typology for critical contextual factors that support, inhibit, challenge, and develop leader and follower authenticity would be valuable to develop in pursuit of heightened understanding of how the concept operates in organizational life. Research that more thoroughly considers context in the manifestation and practice of authenticity could potentially offer rich information regarding the regulation of the true self. For instance, work in this area could closely investigate under which circumstances higher levels of regulation are likely (or not likely) to occur. In general, research that focuses on various contexts for authenticity would have the potential to greatly inform the development of leader and follower authenticity in practice.

Practical Implications

In addition to its academic relevance, the REAL and its corresponding framework are well-suited for the application to practice for a variety of reasons, which will be explored in the following pages. The instrument features much utility and therefore may be a valuable resource to include in leader development efforts. Also, the future

application of the REAL in organizations is timely, as authenticity is highly relevant to the practice of leadership today.

Using the REAL in practice. The generally positive wording of the instrument may be more inviting to respondents than other measures of authenticity that emphasize self-alienation and the demonstration of false self. For instance, the language of some items in the AS by Wood et al. (2008) include self-alienation items such as "I don't know how I really feel inside" and "I feel as if I don't know myself very well." Reverse-worded items of a similar tone may appear to be negative and therefore may be less well-received in a professional setting. Additionally, compared to a measure of general authenticity across contexts, narrowing ratings of individual authenticity to a specific leadership role is arguably more useful to people who wish to think deeply about *why* and *when* they exhibit inauthenticity in a given setting. Anchoring points of learning about authenticity to a specific context has the potential to generate targeted, tangible insights about factors that influence an individual's manifestation of authentic behavior. Furthermore, providing leaders with a framework that conceptualizes the self as both historical/known and experienced in the present moment offers a workable starting place for exploring the connection between the past and present self as a foundation for authenticity. It also invites assumptions to be questioned about the constructed self, as it simultaneously affects and is affected by the experiential self.

The REAL and its supporting framework also do not assume that leaders already "know" themselves prior to their assessment of personal authenticity. Instead, the REAL asks respondents to rate themselves on self-knowledge as one of many components at work in the process of authenticity. This is not an offering that is different from

authenticity instruments such as the AI (Kernis & Goldman, 2006) or the AS (Wood et al., 2008), but it is a notable difference from authentic leadership instruments, which ask for ratings on behavioral items that assume a true-self foundation for such items exists within the rater (or for the person being rated by others). For example, the internalized moral perspective dimension of the ALQ and the ALI, respectively, features items such as "makes decisions based on his or her core beliefs" (Walumbwa et al., 2008, p. 121) or "my leader is guided in his or her actions by internal moral standards" (Neider & Schriesheim, 2011, p. 1149) while assuming that core beliefs or moral standards of the rater (or the person being rated) are actually known and accessible in daily functioning. Thus, a practical contribution of the REAL is to challenge leaders to think about the degree to which they "know" their true self (which includes the content and priorities of their values/beliefs), in addition to asking them about the degree to which their behavior demonstrates their values/beliefs.

The REAL's ability to support efforts for leader development is promising, as the instrument's underlying framework begins to explain how different components of authenticity may or may not work together in the behavioral manifestation of the true self (or lack thereof). Also, the REAL's context-specific nature lends its application to assessing the leader within whichever leadership role is of primary interest for development. However, it is not advised that the REAL be used for selection purposes. Although many companies use personality tests for selection purposes, such tests often are poor predictors of job performance (Morgenson et al., 2007). In the event that the REAL could be established as a valid predictor of effectiveness in a particular job, then such work could justify its use in hiring procedures.

Leader authenticity today. Authenticity is more than a trait or a personal quality. It is a psychological and behavioral process of simultaneous experience and enactment, and leaders can actively work with foundational components of the process while on the path to personal development and professional growth. Being real with oneself and with others requires a commitment to the continued practice of observing the self in the moment, striving for greater self-understanding, behaving purposefully in accordance with the true self as it is known, and freely regulating the self even in the presence of contextual demands. Mastery of these working parts requires focus and dedication, but those who strive to excel in these areas are more likely to remain connected to their true selves over the course of their lives. Leaders, in particular, can benefit from developing the authentic self, as the self is always a foundational to the process of leadership.

Authenticity is particularly important for leaders today who operate in organizations presenting highly challenging environments for the growth and manifestation of the true self. As leaders must serve various stakeholders and juggle competing commitments in their professional and personal lives, external demands can easily take over and leave leaders feeling disconnected from their initial purpose. Some may develop many personas, or multiple selves, in order to effectively operate in various cultures (Lifton, 1993) or in various roles made possible by online social platforms (Gergen, 1991). As leaders fulfill many responsibilities, they are often hard-pressed to remain true to their values while functioning in highly competitive markets. This challenge parallels recent highly visible cases of corporate corruption, from which

unethical behavior and decision-making, leadership accountability, and transparency have become primary public concerns (Dealy & Thomas, 2006).

Individual-level authenticity can help sustain the moral fabric of organizations today, as ethical leaders who aim to be "true to the self" are important players when the opportunity to act immorally arises. Leaders with a strongly developed moral sense of self are well-equipped to behave according to their values when challenged (Hannah et al., 2005). Also, authenticity is, more generally, foundational to the leadership process. Authentic leaders are realistic about their shortcomings and how others perceive them, which, is important for effective leadership. "Being real" with others not only insinuates facing and managing conflict as needed, but the *intention* to be authentic can also contribute to maintaining long-term behavioral consistency in words and actions, which enables trust building (McGregor, 1967; Simons, 2002). Moreover, as leadership begins with vision, purpose, values, and heart (George & Sims, 2007), a leader's connection with the true self serves as a critical starting place for influence and action.

Conclusion

Although there are many benefits to being authentic, developing authenticity remains difficult work. It entails knowing what it means to be authentic, and then acting accordingly. It is hoped that the future study and development of authenticity in leaders could be enhanced by the REAL and its supporting framework.

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APPENDIX A

Survey Introduction Text for Launches One and Two

Survey Introduction Text for Launches One and Two

Instructions at the Beginning of the Survey:

The following questions will ask you to rate yourself on a variety of dimensions in a leadership context. Here "leadership context" includes a setting where you lead others in some capacity. When you are leading others, you are taking up a leadership role, whether or not such a role might have been formally assigned to you.

Think of yourself as you function specifically within one leadership role you currently hold (or have held). For example, you may be influencing others through a formal leadership role you hold (e.g., managing direct reports), and/or you may be influencing others informally (e.g., leading peers who are not your direct reports).

Note that your notion of "self" as a leader at work may be different from who you are at home or in some other setting. You may also hold multiple leadership roles with different organizations.

Because of this possibility, as you respond, think of yourself within the context of one leadership role only.

Instructions prior to the REAL's Self-Regulation Items:

In some situations, you may not behave according to your authentic self. For example, you may act in ways that are different from your natural tendencies, core values, or what you are 'really' thinking or feeling. There are many potential explanations for why, in these instances, you may choose not to show your true self. Rate the extent to which you agree or disagree with each of the following statements. As you respond, continue to think of yourself in your leadership role.

APPENDIX B

Leadership Role Context Questions for Launches One and Two

Leadership Role Context Questions for Launches One and Two

Think about the single leadership role you will be reporting on, and answer the following questions.

1. How would you best describe the nature of this leadership role?
    a. Formally assigned (e.g., manager of a team, chair of a committee)
    b. Informally taken up (e.g., leading others without being formally/directly assigned to do so)
    c. Other
2. Do you manage (or supervise) people?
    a. Yes
    b. No
3. How many direct reports do you have? (If you have none, enter 0.)
    _____
4. Is this leadership role within a workplace setting?
    a. Yes
    b. No (If not, please briefly describe the type of setting)
    _____
5. To what extent do you view yourself as a leader when you are in this role?
    a. To No Extent
    b. To Little Extent
    c. To Some Extent
    d. To a Moderate Extent
    e. To a Great Extent
6. To what extent do you feel experienced when you are in this leadership role?
    a. To No Extent
    b. To Little Extent
    c. To Some Extent
    d. To a Moderate Extent
    e. To a Great Extent
7. Are you currently holding this leadership role?
    a. Yes
    b. No
8. Type the range of years you have been operating (or operated) within this leadership role, indicating your start and end years (e.g., 1980-1999). If you cannot precisely recall the exact years, please give your best estimate.
    _____

APPENDIX C

Demographic Questions for Launches One and Two

Demographic Questions for Launches One and Two

Please note that your responses will be used for research purposes only, and survey results will be reported in aggregate form only.

1. What is your gender?
    a. Male
    b. Female
2. Please type your birth year: _____
3. What is your primary race/ethnicity?
    a. African American, African, or Black
    b. American Indian or Alaskan Native
    c. Asian or Pacific Islander
    d. Caucasian or White
    e. Hispanic, Latino, or Spanish
    f. Biracial or Multiethnic
    g. Other _____
4. In what part of the world are you located?
    a. Asia Pacific
    b. Canada
    c. Europe / Middle East / Africa
    d. Latin America
    e. United States
    f. Other
5. What is the highest level of education you have completed?
    a. Did not complete high school
    b. High school degree
    c. Associate's degree
    d. Bachelor's degree
    e. Master's degree
    f. Doctorate degree
    g. Other

APPENDIX D

Authenticity Scale

Authenticity Scale

As you respond to the questions below, please think of yourself in general (across all contexts).

1. I think it is better to be yourself, than to be popular.
2. I don't know how I really feel inside.
3. I am strongly influenced by the opinions of others.
4. I usually do what other people tell me to do.
5. I always feel I need to do what others expect me to do.
6. Other people influence me greatly.
7. I feel as if I don't know myself very well.
8. I always stand by what I believe in.
9. I am true to myself in most situations.
10. I feel out of touch with the "real me."
11. I live in accordance with my values and beliefs.
12. I feel alienated from myself.

All items are presented on a 1 (*does not describe me at all*) to 7 (*describes me very well*) scale.
Items 1, 8, 9, and 11 for Authentic Living;
Items 3, 4, 5, and 6 for Accepting External Influence
Items 2, 7, 10, and 12 for Self-Alienation.

Participants expressed their agreement on a 1 (*does not describe me at all*) to 7 (*describes me very well*) Likert-type scale; intermediate scale points *were not anchored*.

Instrument Citation: Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M. & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology*, *55*(3), 385-399.

APPENDIX E

The Self-Concept Clarity Scale

The Self-Concept Clarity Scale

As you respond to the questions below, please think of yourself in general (across all contexts).

1. My beliefs about myself often conflict with one another.
2. On one day I might have one opinion of myself and on another day I might have a different opinion.
3. I spend a lot of time wondering about what kind of person I really am.
4. Sometimes I feel that I am not really the person that I appear to be.
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.
6. I seldom experience conflict between the different aspects of my personality.
7. Sometimes I think I know other people better than I know myself.
8. My beliefs about myself seem to change very frequently.
9. If I were asked to describe my personality, my description might end up being different from one day
   to another day.
10. Even if I wanted to, I don't think I would tell someone what I'm really like.
11. In general, I have a clear sense of who I am and what I am.
12. It is often hard for me to make up my mind about things because I don't really know what I want.

Note. Responses were rated on the following scale: 1 = *strongly disagree* to 5 = *strongly agree*.

Test Format: Twelve items are rated on a 5-point response scale ranging from 1 = 'strongly disagree' to 5 = 'strongly agree.'

Instrument Citation: Lee, G., Lee, J., & Sanford, C. (2010). The roles of self-concept clarity and psychological reactance in compliance with product and service recommendations. *Computers in Human Behavior, 26*(6), 1481-1487.

APPENDIX F

Kentucky Inventory of Mindfulness Skills—Observe Dimension

Kentucky Inventory of Mindfulness Skills—Observe Dimension

As you respond to the questions below, please think of yourself in general (across all contexts).

1. I notice changes in my body, such as whether my breathing slows down or speeds up.
5. I pay attention to whether my muscles are tense or relaxed.
9. When I'm walking, I deliberately notice the sensations of my body moving.
13. When I take a shower or a bath, I stay alert to the sensations of water on my body.
17. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
21. I pay attention to sensations, such as the wind in my hair or sun on my face.
25. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
29. I notice the smells and aromas of things.
30. I intentionally stay aware of my feelings.
33. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
37. I pay attention to how my emotions affect my thoughts and behavior.
39. I notice when my moods begin to change.

Items are rated on a 5-point scale ranging from 1 (Never or very rarely true) to 5 (Very often or always true). 2 = rarely true, 3 = sometimes true, 4 = often true

Instrument Citation: Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*(3), 191-206.

APPENDIX G

Self-Regulation of Withholding Negative Emotions Questionnaire

Self-Regulation of Withholding Negative Emotions Questionnaire

When you are in your leadership role, there are a variety of reasons **why you may *NOT* express your NEGATIVE EMOTIONS to other people**. Please read over the questions and indicate how much you agree or disagree with each reason using the scale provided. (Note: For the current study, this instructional text was adapted from the SRWNE's introductory text so respondents' ratings would be relevant to their leadership role.)

The reason I do *not* express my negative emotions to other people is because:
ER 1. I think others would be upset with me, if I expressed these feelings.
JR 2. I would feel guilty if I let my bad feelings come out.
TR 3. I find it personally satisfying to be able to feel my emotions without letting them be disruptive.
JR 4. Expressing negative emotions would just hurt others, and a person shouldn't do that.
DR 5. There are some situations where it is useful to express my feelings and others where it's not.
JR 6. I would feel like a bad person if I expressed my bad feelings to my friends.
ER 7. My parents and friends expect me to control myself.
TR 8. I enjoy being aware of my feelings but I also find it satisfying to maintain a positive outward appearance.
DR 9. It is important to me personally not to be hurtful to others.
JR 10. I don't think I have the right to bother other people with my negative feelings.
DR 11. As a caring person, I do not want to upset others with my negative feelings.
ER 12. I'm afraid that people wouldn't like me if I express my feelings.
DR 13. It is important to be aware of my negative feelings, but if I keep them to myself it is to maintain emotional stability.

When you are in your leadership role, there are a variety of reasons there **why you sometimes act like everything is all right, even though you are upset**.
Please read over the questions and indicate how much you agree or disagree with each reason using the scale provided. (Note: For the current study, this instructional text was adapted from the SRWNE's introductory text so respondents' ratings would be relevant to their leadership role.)

Sometimes when I am upset, I act like everything is all right, because:
JR 14. I'd be ashamed of myself if I let my bad feelings come out.
DR 15. The important thing is to understand my own upset, but it may not be useful to tell others about it.
ER 16. I think it could ruin my relationships if I am always talking about what bothers me.
DR 17. It is important to me not to burden others with my problems.
TR 18. It is gratifying to be able to keep my upset from interfering with my goals.
ER 19. I want others to think I'm mature.
TR 20. It is an interesting challenge to remain calm and not always be getting upset.

JR 21. I would be embarrassed if I let others see what was bothering me.
DR 22. I feel that it is mature to maintain a positive attitude.
TR 23. It is fulfilling to be able to achieve my goals even when I am upset.
JR 24. I believe people should keep their upset to themselves.
ER 25. I'm afraid people won't like me if I let on what is wrong.
DR 26. I choose to keep my bad feelings to myself so I can accomplish important projects.
ER 27. I think I have to follow the social norms.
JR 28. I want others to think I'm a good person.

ER= external regulation; JR = introjected regulation; DR= identified regulation; TR= integrated regulation.
Response Options: Strongly Disagree, Moderately Disagree, Slightly Disagree, Neutral, Slightly Agree, Moderately Agree, Strongly Agree

Instrument Citation: Kim, Y., Deci, E. L., & Zuckerman, M. (2002). The development of the Self-Regulation of Withholding Negative Emotions Questionnaire. *Educational and Psychological Measurement, 62*(2), 316-336.

APPENDIX H

Global Self-Esteem Measure

Global Self-Esteem Measure

Please think of yourself in general (across all contexts).

1. Overall, I am satisfied with myself.
2. I feel that I have a number of bad qualities or characteristics.
3. I take a positive attitude toward myself.
4. I feel that I have much to be proud of.
5. Sometimes, I think that I am a failure.

Items are rated on a 7-point scale, ranging from 1 (not at all) to 7 (very much).

Instrument Citation: Spencer-Rodgers, J. & Collins, N. L. (2006). Risk and resilience: Dual effects of perceptions of group disadvantage among Latinos. *Journal of Experimental Social Psychology, 42*(6), 729-737.

APPENDIX I

Social Desirability Scale

Social Desirability Scale

As you respond to the questions below, please think of yourself in general (across all contexts).

1. I never jaywalk.
2. I've never envied anyone.
3. Nothing embarrasses me.
4. I've never hated anyone.
5. I never daydream.
6. I've never made up an excuse for anything.
7. I sometimes drive above the speed limit.
8. I like everyone I meet.
9. I always return money when I find it.
10. I always cross at the crosswalk.
11. Some days I would rather stay in bed.

Items are rated on a 5-point Likert-type scale with the anchors "strongly agree" and "strongly disagree".

Instrument Citation: Shultz, K. S., & Chávez, D. V. (1994). Reliability and factor structure of a social desirability scale in English and Spanish. *Educational and Psychological Measurement, 54*(4), 935-940.

APPENDIX J

Satisfaction With Life Scale

Satisfaction With Life Scale

As you respond to the questions below, please think of yourself in general (across all contexts).

_____1. In most ways my life is close to my ideal.
_____2. The conditions of my life are excellent.
_____3. I am satisfied with life.
_____4. So far I have gotten the important things I want in life.
_____5. If I could live my life over, I would change almost nothing.

Response Options
1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

Instrument Citation: Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment, 49*, 71-75.

APPENDIX K

Psychological Well-Being Measure

Psychological Well-Being Measure*

**Note: Items are copyrighted. Do not use without direct permission from Dr. Carol Ryff.*

As you respond to the questions below, please think of yourself in general (across all contexts).

Autonomy

1. I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.
2. My decisions are not usually influenced by what everyone else is doing.
3. I tend to be influenced by people with strong opinions.
4. I have confidence in my-opinions, even if they are contrary to the general consensus.
5. It's difficult for me to voice my own opinions on controversial matters.
6. I tend to worry about what other people think of me.
7. I judge myself by what I think is important, not by the values of what others think is important.

Environmental Mastery

1. In general, I feel I am in charge of the situation in which I live.
2. The demands of everyday life often get me down.
3. I do not fit very well with the people and the community around me.
4. I am quite good at managing the many responsibilities of my daily life.
5. I often feel overwhelmed by my responsibilities.
6. I have difficulty arranging my life in a way that is satisfying to me.
7. I have been able to build a living environment and a lifestyle for myself that is much to my liking.

Personal Growth

1. I am not interested in activities that will expand my horizons.
2. I think it is important to have new experiences that challenge how you think about yourself and the world.
3. When I think about it, I haven't really improved much as a person over the years.
4. I have the sense that I have developed a lot as a person over time.
5. For me, life has been a continuous process of learning, changing, and growth.
6. I gave up trying to make big improvements or changes in my life a long time ago.
7. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.

Positive Relations with Others

1. Most people see me as loving and affectionate.
2. Maintaining close relationships has been difficult and frustrating for me.
3. I often feel lonely because I have few close friends with whom to share my concerns.
4. I enjoy personal and mutual conversations with family members and friends.

5. People would describe me as a giving person, willing to share my time with others.
6. I have not experienced many warm and trusting relationships with others.
7. I know that I can trust my friends, and they know they can trust me.

Purpose in Life

1. I live life one day at a time and don't really think about the future.
2. I have a sense of direction and purpose in life.
3. I don't have a good sense of what it is I'm trying to accomplish in life.
4. My daily activities often seem trivial and unimportant to me.
5. I enjoy making plans for the future and working to make them a reality.
6. Some people wander aimlessly through life, but I am not one of them.
7. I sometimes feel as if I've done all there is to do in life.

Response Options: Strongly Disagree, Somewhat Disagree, A Little Disagree, Neither Agree nor Disagree, A Little Agree, Somewhat Agree, Strongly Agree

Instrument Citation: Ryff, C. D. (1989b). Happiness is everything, or is it—Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069-1081.

APPENDIX L

Integrity Scale

Integrity Scale

Instructions (Developed for the Current Study): While you respond to each of the following questions, refer to the beliefs you hold while you function (or operate) within this leadership role.

1. It is foolish to tell the truth when big profits can be made by lying.
2. No matter how much money one makes, life is unsatisfactory without a strong sense of duty and character.
3. Regardless of concerns about principles, in today's world you have to be practical, adapt to opportunities, and do what is most advantageous for you.
4. Being inflexible and refusing to compromise are good if it means standing up for what is right.
5. The reason it is important to tell the truth is because of what others will do to you if you don't, not because of any issue of right and wrong.
6. The true test of character is a willingness to stand by one's principles, no matter what price one has to pay.
7. There are no principles worth dying for.
8. It is important to me to feel that I have not compromised my principles.
9. If one believes something is right, one must stand by it, even if it means losing friends or missing out on profitable opportunities.
10. Compromising one's principles is always wrong, regardless of the circumstances or the amount that can be personally gained.
11. Universal ethical principles exist and should be applied under all circumstances, with no exceptions.
12. Lying is sometimes necessary to accomplish important, worthwhile goals.
13. Integrity is more important than financial gain.
14. It is important to fulfill one's obligations at all times, even when nobody will know if one doesn't.
15. If done for the right reasons, even lying or cheating is OK.
16. Some actions are wrong no matter what the consequences or justification.
17. One's principles should not be compromised regardless of the possible gain.
18. Some transgressions are wrong and cannot be legitimately justified or defended regardless of how much one tries.

Response Options: 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, and 5 = strongly agree

Instrument Citation: Schlenker, B. R., Weigold, M. F., & Schlenker, K. A. (2008). What makes a hero? The impact of integrity on admiration and interpersonal judgment. *Journal of Personality, 76*(2), 323-355.

APPENDIX M

The Self-Importance of Moral Identity Scale

The Self-Importance of Moral Identity Scale

As you respond to the questions below, please think of yourself in general (across all contexts).

Listed below are some characteristics that may describe a person [list of nine traits]. The person with these characteristics could be you or it could be someone else. For a moment, visualize in your mind the kind of person who has these characteristics. Imagine how that person would think, feel, and act. When you have a clear image of what this person would be like, answer the following questions.

Caring
Compassionate
Fair
Friendly
Generous
Hardworking
Helpful
Honest
Kind

1. It would make me feel good to be a person who has these characteristics.
2. Being someone who has these characteristics is an important part of who I am.
3. A big part of my emotional well-being is tied up in having these characteristics.
4. I would be ashamed to be a person who has these characteristics. ®
5. Having these characteristics is not really important to me. ®
6. Having these characteristics is an important part of my sense of self.
7. I strongly desire to have these characteristics.
8. I often buy products that communicate the fact that I have these characteristics.
9. I often wear clothes that identify me as having these characteristics.
10. The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics.
11. The kinds of books and magazines that I read identify me as having these characteristics.
12. The fact that I have these characteristics is communicated to others by my membership in certain organizations.
13. I am actively involved in activities that communicate to others that I have these characteristics.

Response Options:
5-point agreement scale (1 = *strongly disagree*, 5 = *strongly agree*).

Instrument Citation: Aquino, K., & Reed, A. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology, 83*(6), 1423-1440.

APPENDIX N

Progression of REAL Development, Final REAL Items, and Corresponding Construct Components and Item Content

Progression of REAL Development, Final REAL Items, and Corresponding Construct Components and Item Content

Survey Administration Notes:

- The following text preceded all REAL items on each webpage of the online survey: **"When I am functioning within (or for) this leadership role . . ."**
- For all regulation items, the following text (in addition to the text above) preceded all REAL items on each webpage of the online survey: "**In moments when I act in ways that are different from my true self, it is usually because . . ."**

Item Code	Included in the First Launch	Retained from the First Launch	New Item Written for the Second Launch	Retained from the Second Launch (Final REAL)	Item Content	Authenticity Construct Component	Content Dimension (If Relevant)
SK1	✓	✓		✓	I can quickly list my primary strengths and weaknesses.	Self-Knowledge	Personal Qualities
SK2	✓	✓		✓	I know my most valuable leadership qualities.	Self-Knowledge	Personal Qualities
SK3	✓				I know what tends to challenge me.	Self-Knowledge	Personal Qualities
SK4	✓				I can name the types of issues that have a tendency to upset me.	Self-Knowledge	Personal Qualities
SK5	✓				I know my biggest fears and anxieties.	Self-Knowledge	Personal Qualities
SK6	✓				I understand what motivates me the most.	Self-Knowledge	Personal Qualities
SK7	✓				I know myself inside and out.	Self-Knowledge	Self in General
SK8	✓	✓		✓	I know who I am at my core.	Self-Knowledge	Self in General

SK9	✓				I understand how I have become the person I am.	Self-Knowledge	Self in General
SK10	✓				I understand my values so well that I can easily explain them to others.	Self-Knowledge	Personal Values/Beliefs
SK11	✓	✓		✓	I know which of my beliefs are most important to me.	Self-Knowledge	Personal Values/Beliefs
SK12	✓				I can name the primary beliefs I most often operate under.	Self-Knowledge	Personal Values/Beliefs
SK13	✓	✓		✓	I know which of my values are my biggest priorities.	Self-Knowledge	Personal Values/Beliefs
SK14	✓				I am highly familiar with how certain values of mine compare in importance to other values I hold.	Self-Knowledge	Personal Values/Beliefs
SK15	✓	✓		✓	I know which of my beliefs are strongest, relative to my other beliefs.	Self-Knowledge	Personal Values/Beliefs
SK16	✓	✓		✓	I can list and describe the values I most often rely on.	Self-Knowledge	Personal Values/Beliefs
SK17	✓				My moral standards are very clear to me.	Self-Knowledge	Personal Values/Beliefs
SK18	✓	✓		✓	If someone asks me, I can list my primary goals.	Self-Knowledge	Personal Goals
SK19	✓				I know what I am personally aiming to accomplish.	Self-Knowledge	Personal Goals
SK20	✓				I can readily describe my top aspirations.	Self-Knowledge	Personal Goals
SK21	✓				I know exactly what I am striving for.	Self-Knowledge	Personal Goals
SK22	✓				I know which of my goals are most important to me, relative to other goals of mine.	Self-Knowledge	Personal Goals

SK23	✓				I have clear personal goals to guide me.	Self-Knowledge	Personal Goals
SA1	✓	✓		✓	When my stomach tightens from nervousness, I am instantaneously aware of it.	Self-Awareness	Physiology/ Body
SA2	✓	✓		✓	When there is a stressful moment, I notice how my body is reacting.	Self-Awareness	Physiology/ Body
SA3	✓				I notice subtle changes in my energy level throughout the day.	Self-Awareness	Physiology/ Body
SA4	✓				When I am excited about something, I observe myself feeling physically energized.	Self-Awareness	Physiology/ Body
SA5	✓				I am generally comfortable with my momentary bodily sensations.	Self-Awareness	Physiology/ Body
SA6	✓				I am in touch with how I truly feel about a situation from one moment to the next.	Self-Awareness	Emotions/ Feelings
SA7	✓				I am in tune with my emotions as they unfold.	Self-Awareness	Emotions/ Feelings
SA8	✓	✓		✓	I notice my internal emotional reactions as they occur.	Self-Awareness	Emotions/ Feelings
SA9	✓				I am aware of the moments when I feel inspired to act.	Self-Awareness	Emotions/ Feelings
SA10	✓				I can feel inner tension in situations when I'm not being genuine with others.	Self-Awareness	Emotions/ Feelings
SA11	✓	✓		✓	I notice when I am feeling vulnerable.	Self-Awareness	Cognition/ Thought
SA12	✓	✓		✓	I observe my thoughts as they occur.	Self-Awareness	Cognition/ Thought
SA13	✓	✓		✓	I notice how my attention shifts while I'm interacting with others.	Self-Awareness	Cognition/ Thought

SA14	✓				I sense when something is important to me.	Self-Awareness	Cognition/ Thought
SA15	✓	✓		✓	I am aware of when I'm feeling uncertain about something.	Self-Awareness	Cognition/ Thought
AB1	✓				My actions reflect the "real me."	Authentic Behavior	Self in General
AB2	✓	✓			I show others who I really am.	Authentic Behavior	Self in General
AB3	✓	✓			My behavior demonstrates my true, unguarded self.	Authentic Behavior	Self in General
AB4	✓				I let my true personality show.	Authentic Behavior	Personal Qualities
AB5	✓				I openly talk about my shortcomings with others.	Authentic Behavior	Personal Qualities
AB6	✓				I share my vulnerabilities with others.	Authentic Behavior	Personal Qualities
AB7	✓	✓		✓	I act according to what I value.	Authentic Behavior	Personal Values/Beliefs
AB8	✓	✓		✓	I behave in line with my personal beliefs.	Authentic Behavior	Personal Values/Beliefs
AB9	✓	✓		✓	I live by my moral standards.	Authentic Behavior	Personal Values/Beliefs
AB10	✓	✓			I make decisions based on my core values.	Authentic Behavior	Personal Values/Beliefs
AB11			✓	✓	My behavior demonstrates my values.	Authentic Behavior	Personal Values/Beliefs
AB12			✓	✓	While making decisions, I rely on my fundamental values and beliefs.	Authentic Behavior	Personal Values/Beliefs
AB13			✓	✓	I intend to act in alignment with my established values.	Authentic Behavior	Personal Values/Beliefs

AB14			✓		Others can decipher my values by observing my behavior.	Authentic Behavior	Personal Values/Beliefs
AB15	✓	✓		✓	I am transparent with others about my aspirations.	Authentic Behavior	Personal Goals
AB16	✓				I actively pursue what I'm personally aiming to achieve.	Authentic Behavior	Personal Goals
AB17	✓				I behave in accordance with my goals.	Authentic Behavior	Personal Goals
AB18	✓	✓		✓	I openly express to others how I feel about issues.	Authentic Behavior	Emotions/ Opinions
AB19	✓	✓		✓	I candidly share my emotions and reactions with others.	Authentic Behavior	Emotions/ Opinions
AB20	✓	✓		✓	I verbalize my genuine concerns to others.	Authentic Behavior	Emotions/ Opinions
AB21	✓	✓		✓	I am very explicit with others about how I feel about things.	Authentic Behavior	Emotions/ Opinions
ER1	✓				I want to preserve my relationships with others.	External Regulation	-
ER2	✓	✓		✓	I'm behaving in ways to ensure that others will like me.	External Regulation	-
ER3	✓	✓		✓	I'm concerned that others will dislike me if I show them my vulnerabilities.	External Regulation	-
ER4	✓				I feel I need to abide by my organization's existing behavioral standards.	External Regulation	-
ER5	✓	✓		✓	I don't want to suffer the consequences of rocking the boat.	External Regulation	-
ER6	✓	✓		✓	I know if I stay quiet, I am more likely to be rewarded.	External Regulation	-
ER7	✓				Showing my true self would just make	External	-

					the situation worse.	Regulation	
ER8	✓	✓		✓	I would rather avoid the negative repercussions that can result from challenging others.	External Regulation	-
ER9	✓				I'm trying to win others over.	External Regulation	-
JR1	✓				People like me shouldn't weigh others down by showing their darker (negative) side.	Introjected Regulation	-
JR2	✓	✓			Afterwards I would feel bad about expressing my true self.	Introjected Regulation	-
JR3	✓				I want to feel brave by voicing my genuine concerns to others.	Introjected Regulation	-
JR4	✓	✓		✓	I believe people in my position ought to conceal their vulnerabilities.	Introjected Regulation	-
JR5	✓				I would like others to see me as being competent and good at my job.	Introjected Regulation	-
JR6	✓				I prefer others to think of me as someone they can look up to.	Introjected Regulation	-
JR7	✓				I would regret showing weakness, because I want to appear strong.	Introjected Regulation	-
JR8	✓	✓		✓	I want others to believe I have everything under control, because skilled performers usually do.	Introjected Regulation	-
JR9			✓	✓	That is what others expect from people in my position.	Introjected Regulation	-
JR10			✓		Effective people in my role should act differently from their true selves on occasion.	Introjected Regulation	-
JR11			✓		I know if I compromise my true self, I	Introjected	-

					would feel guilty afterwards.	Regulation	
JR12			✓		If I do, I might end up embarrassing myself.	Introjected Regulation	-
JR13			✓		I would regret losing my composure in front of others.	Introjected Regulation	-
DR1	✓				I often make it a personal priority to refrain from offending others.	Identified Regulation	-
DR2	✓	✓			I mostly value knowing my own true self, but I also realize it may not always be productive to share my true self with others.	Identified Regulation	-
DR3	✓				I personally believe it is sometimes better not to trouble others with my shortcomings.	Identified Regulation	-
DR4	✓				I believe that it can be more advantageous to others when I momentarily censor (or withhold) my true self.	Identified Regulation	-
DR5	✓				I'm working to conceal my negative qualities so I may better serve others.	Identified Regulation	-
DR6	✓	✓		✓	It is somewhat meaningful for me to contain myself in situations when my authentic self might otherwise interfere.	Identified Regulation	-
DR7	✓				I'm refraining from expressing some aspects of myself mainly for purposes of privately remaining in touch with who I really am.	Identified Regulation	-
DR8	✓				I'm trying to respect others, therefore I recognize that showing my true self isn't always the most important thing for the	Identified Regulation	-

					situation.		
DR9			✓		I believe that it might not be helpful to others.	Identified Regulation	-
DR10			✓	✓	By doing so, it can be more constructive under certain circumstances.	Identified Regulation	-
DR11			✓		I recognize that it might be more considerate and respectful.	Identified Regulation	-
DR12			✓		I believe that this is a useful skill to develop.	Identified Regulation	-
DR13			✓	✓	I believe that doing so will enable my group to be more effective.	Identified Regulation	-
DR14			✓	✓	I choose to behave this way out of kindness towards others.	Identified Regulation	-
DR15			✓	✓	I'm instead prioritizing others' growth or success, which I believe is important.	Identified Regulation	-
GR1	✓				I fully welcome the challenge of concealing my true self in order to realize a greater purpose.	Integrated Regulation	-
GR2	✓				I enjoy being in touch with my true self, but I also fully enjoy being in control of when my true self shows up.	Integrated Regulation	-
GR3	✓	✓			I find it satisfying to successfully manage my true self under difficult circumstances.	Integrated Regulation	-
GR4	✓				I enjoy the personal challenge of concealing my vulnerabilities.	Integrated Regulation	-
GR5	✓				I revel in the thrill of controlling the degree to which I show personal struggle.	Integrated Regulation	-
GR6	✓	✓		✓	It is gratifying to overcome my natural	Integrated	-

					tendencies that might otherwise prevent me from striving forward.	Regulation	
GR7	✓	✓		✓	It is personally fulfilling to effectively manage the challenges my authentic self may otherwise bring to a situation.	Integrated Regulation	-
GR8	✓	✓		✓	I find it gratifying to be in control of how my true self shows up in my organizational setting.	Integrated Regulation	-
GR9	✓	✓		✓	It is rewarding for me to privately endure my negative aspects of self, knowing that I have actively overcome my personal struggles.	Integrated Regulation	-

APPENDIX O

Sample Demographics—Launches One and Two

Sample Demographics—Launches One and Two

Demographic Category		*Launch One Statistics (Total n = 1,805)*		*Launch Two Statistics (Total n = 1,582)*	
Age		**Mean**	49.73	**Mean**	49.48
		Median	50	**Median**	50
		SD	9.44	**SD**	9.578
		TOTAL (*n*)	1,779	TOTAL (*n*)	1,552
Gender		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Male	707	39.3%	610	38.7%
	Female	1,091	60.7%	968	61.3%
	TOTAL	1,798	100%	1,578	100%
Race/Ethnicity		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	African American, African, or Black	73	4.1%	80	5.1%
	American Indian or Alaskan Native	12	0.7%	2	0.1%
	Asian or Pacific Islander	108	6.0%	120	7.6%
	Caucasian or White	1,429	79.7%	1,236	78.8%
	Hispanic, Latino, or Spanish	84	4.7%	82	5.2%
	Biracial or Multiethnic	31	1.7%	22	1.4%
	Other	57	3.2%	27	1.7%
	TOTAL	1,794	100%	1,569	100%
Geographic Location		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Asia Pacific	94	5.2%	82	5.2%
	Canada	161	9.0%	149	9.5%
	Europe, Middle East, or Africa	234	13.0%	216	13.7%
	Latin America	33	1.8%	28	1.8%
	United States	1,249	69.5%	1,082	68.7%
	Other	27	1.5%	19	1.2%
	TOTAL	1,798	100%	1,576	100%

Demographic Category		*Launch One Statistics (Total n = 1,805)*		*Launch Two Statistics (Total n = 1,582)*	
Education Level		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Did not complete high school	3	0.2%	1	0.1%
	High school degree	168	9.3%	147	9.3%
	Associate's degree	115	6.4%	130	8.2%
	Bachelor's degree	621	34.6%	529	33.5%
	Master's degree	721	40.1%	628	39.8%
	Doctorate degree	142	7.9%	122	7.7%
	Other	27	1.5%	22	1.4%
	TOTAL	1,797	100%	1,579	100%

APPENDIX P

Sample Leadership Role Context—Launches One and Two

Sample Leadership Role Context—Launches One and Two

Leadership Descriptive Category		*Launch One Statistics (Total n = 1,805)*		*Launch Two Statistics (Total n = 1,582)*	
Number of Years of Experience in Leadership Role		**Mean**	8.3	**Mean**	7.9
		Median	6	**Median**	5
		SD	7.7	**SD**	7.3
		TOTAL (*n*)	1,765	TOTAL (*n*)	1,534
Number of Direct Reports		**Mean**	9.5	**Mean**	10.8
		Median	6	**Median**	6
		SD	13.5	**SD**	20.9
		TOTAL (*n*)	1,396	TOTAL (*n*)	1,216
Manager vs. Non-Manager		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Manager	1,400	77.8%	1224	77.7%
	Non-Manager	400	22.2%	352	22.3%
	TOTAL	1,800	100%	1,576	100%
Formal vs. Informal Leadership		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Formally Assigned	1,334	73.9%	1183	74.9%
	Informally Taken Up	449	24.9%	381	24.1%
	Other	21	1.2%	16	1.0%
	TOTAL	1,804	100%	1,580	100%
Leadership Setting		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Workplace	1,712	95.3%	1501	95.2%
	Other	85	4.7%	75	4.8%
	TOTAL	1,797	100%	1,576	100%
Currently in Role		**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Yes	1,584	88.9%	1399	89.3%
	No	197	11.1%	168	10.7%
	TOTAL	1,781	100%	1,567	100%

APPENDIX Q

Demographics—Samples One, Two, and Three from Launch Two

Demographics—Samples One, Two, and Three From Launch Two

Demographic Category		*Sample One Statistics (Total n = 552)*		*Sample Two Statistics (Total n = 546)*		*Sample Three Statistics (Total n = 484)*	
Age		**Mean**	49.4	**Mean**	49.6	**Mean**	49.5
		Median	50	**Median**	51	**Median**	49
		SD	9.9	**SD**	9.2	**SD**	9.6
		TOTAL (*n*)	544	TOTAL (*n*)	537	TOTAL (*n*)	471
Gender		**Freq.**	**Percentage**	**Freq.**	**Percentage**	**Freq.**	**Percentage**
	Male	213	38.7%	186	34.1%	211	43.8%
	Female	338	61.3%	359	65.9%	271	56.2%
	TOTAL	551	100%	545	100%	482	100%
Race/Ethn.		**Freq.**	**Percentage**	**Freq.**	**Percentage**	**Freq.**	**Percentage**
	African American, African, or Black	25	4.6%	31	5.7%	24	5.0%
	American Indian or Alaskan Native	0	0.0%	0	0.0%	2	0.4%
	Asian or Pacific Islander	40	7.3%	23	4.2%	57	11.9%
	Caucasian or White	429	78.3%	457	84.0%	350	73.4%
	Hispanic, Latino, or Spanish	38	6.9%	19	3.5%	25	5.2%
	Biracial or Multiethnic	7	1.3%	7	1.3%	8	1.7%
	Other	9	1.6%	7	1.3%	11	2.3%
	TOTAL	548	100%	544	100%	477	100%

Demographic Category		*Sample One Statistics (Total n = 552)*		*Sample Two Statistics (Total n = 546)*		*Sample Three Statistics (Total n = 484)*	
Geog. Location		**Freq.**	**Percentage**	**Freq.**	**Percentage**	**Freq.**	**Percentage**
	Asia Pacific	29	5.3%	18	3.3%	35	7.3%
	Canada	51	9.2%	52	9.6%	46	9.6%
	Europe, Middle East, or Africa	86	15.6%	73	13.4%	57	11.9%
	Latin America	10	1.8%	9	1.7%	9	1.9%
	United States	370	67.0%	386	71.1%	326	67.8%
	Other	6	1.1%	5	0.9%	8	1.7%
	TOTAL	552	100%	543	100%	481	100%
Edu. Level		**Freq.**	**Percentage**	**Freq.**	**Percentage**	**Freq.**	**Percentage**
	Did not complete high school	0	0.0%	0	0.0%	1	0.2%
	High school degree	45	8.2%	63	11.5%	39	8.1%
	Associate’s degree	45	8.2%	45	8.2%	40	8.3%
	Bachelor’s degree	178	32.3%	180	33.0%	171	35.5%
	Master’s degree	233	42.3%	210	38.5%	185	38.4%
	Doctorate degree	46	8.3%	40	7.3%	36	7.5%
	Other	4	0.7%	8	1.5%	10	2.1%
	TOTAL	551	100%	546	100%	482	100%

APPENDIX R

Leadership Role Context—Samples One, Two, and Three From Launch Two

Leadership Role Context—Samples One, Two, and Three From Launch Two

Leadership Descriptive Category		*Sample One Statistics (Total n = 552)*		*Sample Two Statistics (Total n = 546)*		*Sample Three Statistics (Total n = 484)*	
Number of Years of Experience in Leadership Role							
		Mean	7.5	**Mean**	7.8	**Mean**	8.4
		Median	5	**Median**	5	**Median**	6
		SD	7.2	**SD**	7.2	**SD**	7.6
		TOTAL (*n*)	533	TOTAL (*n*)	531	TOTAL (*n*)	470
Number of Direct Reports							
		Mean	8.9	**Mean**	11.7	**Mean**	11.9
		Median	6	**Median**	6	**Median**	6
		SD	11.6	**SD**	23.3	**SD**	25.7
		TOTAL (*n*)	420	TOTAL (*n*)	434	TOTAL (*n*)	362
Manager vs. Non-Manager		**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Manager	424	77.2%	434	79.9%	366	75.6%
	Non-Manager	125	22.8%	109	20.1%	118	24.4%
	TOTAL	549	100%	543	100%	484	100%
Formal vs. Informal Leadership		**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Formally Assigned	403	73.0%	423	77.8%	357	73.8%
	Informally Taken Up	142	25.7%	116	21.3%	123	25.4%
	Other	7	1.3%	5	0.9%	4	0.8%
	TOTAL	552	100%	544	100%	484	100%
Leadership Setting		**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Workplace	526	95.6%	518	95.2%	457	94.8%
	Other	24	4.4%	26	4.8%	25	5.2%
	TOTAL	550	100%	544	100%	482	100%

Leadership Descriptive Category		*Sample One Statistics (Total n = 552)*		*Sample Two Statistics (Total n = 546)*		*Sample Three Statistics (Total n = 484)*	
Currently in Role		**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
	Yes	486	88.8%	489	90.2%	424	88.7%
	No	61	11.2%	53	9.8%	54	11.3%
	TOTAL	547	100%	542	100%	478	100%

APPENDIX S

Launch Two Reliabilities, Subscale Means, and Subscale Standard Deviations for Existing Measures

Launch Two Reliabilities, Subscale Means, and Subscale Standard Deviations for Existing Measures

Subscale	Reliability	Subscale Mean	Subscale Standard Deviation
Self-Concept Clarity	0.89	3.96	0.66
KIMS Observe	0.90	3.77	0.69
External Regulation (SRWNE)	0.79	3.89	1.16
Introjected Regulation (SRWNE)	0.83	3.73	1.19
Identified Regulation (SRWNE)	0.75	5.29	0.88
Integrated Regulation (SRWNE)	0.81	5.43	1.10
Self-Alienation (AS; Sample 1)	0.80	2.00	1.17
Self-Alienation (AS; Sample 3)	0.75	1.97	0.99
Authentic Living (AS; Sample 1)	0.80	6.04	0.87
Authentic Living (AS; Sample 3)	0.82	5.94	0.84
Social Influence (AS; Sample 1)	0.83	3.12	1.31
Social Influence (AS; Sample 3)	0.82	3.15	1.24
Self-Esteem	0.74	5.42	0.90
Social Desirability	0.69	2.23	0.82
Autonomy (PWB)	0.67	5.24	0.92
Environmental Mastery (PWB)	0.79	5.43	1.07
Personal Growth (PWB)	0.71	6.27	0.76
Positive Relations with Others (PWB)	0.76	5.80	0.93
Purpose in Life (PWB)	0.74	5.88	0.92
Self-Acceptance (PWB)	0.82	5.64	1.02
Life Satisfaction	0.88	5.37	1.17
Internalization (SIMI)	0.73	4.66	0.45
Symbolization (SIMI)	0.82	3.56	0.76
Integrity	0.80	4.06	0.46

Note. KIMS = Kentucky Inventory of Mindfulness Skills; SRWNE = Self-Regulation of Withholding Negative Emotions; AS = Authenticity Scale; PWB = Psychological Well-Being; SIMI = Self-Importance of Moral Identity.

APPENDIX T

REAL's Component-Level and Concept-Level Criterion-Related Validity Correlations With Psychological Well-Being, Self-Esteem, Life Satisfaction, and Integrity

REAL's Component-Level and Concept-Level Criterion-Related Validity Correlations With Psychological Well-Being, Self-Esteem, Life Satisfaction, and Integrity

	Autonomy	Environmental Mastery	Personal Growth	Positive Relations with Others	Purpose in Life	Self-Acceptance	Self-Esteem	Life Satisfaction	Integrity
Self-Knowledge	.326**	.309**	.378**	.289**	.360**	.320**	.291**	.248**	.321**
Self-Awareness	.166**	.210**	.262**	.287**	.153**	.236**	.131**	.171**	.211**
AB – Values/Beliefs	.267**	.259**	.314**	.283**	.275**	.256**	.320**	.263**	.481**
AB – Expressive	.286**	.235**	.233**	.300**	.216**	.277**	.205**	.217**	.257**
External Regulation	-.460**	-.308**	-.303**	-.203**	-.238**	-.286**	-.342**	-.158**	-.254**
Introjected Regulation	-.225**	-.173**	-.156**	-.198**	-.093*	-.156**	-.232**	-.153**	-.188**
Identified Regulation	.013	-.015	.044	.000	-.010	.015	-.099*	-.019	.021
Integrated Regulation	-.018	-.008	.035	-.061	.056	.023	-.013	-.009	.097*
Authenticity Total	.441**	.355**	.410**	.348**	.320**	.376**	.329**	.258**	.410**

Note. AB = Authentic Behavior.
* $p < .05$, ** $p < .01$; pairwise deletion, *n*s ranged from 482 to 550.