AUTHENTIC LEADERSHIP CAN BE MEASURED WITHIN ORGANIZATIONS THROUGH THE USE OF LEADERSHIP ASSESSMENT CENTERS: A FACTOR ANALYTIC STUDY OF THE AUTHENTIC LEADERSHIP CONSTRUCT

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Abstract

The need for authentic leaders has been increasing due to corporate scandals, banking failures, and an overall lack of accountability within leadership positions. Corporations can measure authentic leadership using assessment centers. Our study aimed to answer whether leadership assessment center (LAC) measures measure underlying concepts of authentic leadership and whether these measures cluster together in ways consistent with the theory of authentic leadership. Our study consisted of 88 employees from the Hyland Software Company who volunteered to partake in a LAC experience that involved participating in scenarios, simulations, roleplays, and interviews over the span of three days while being evaluated by trained observers. Using a common factor analysis with a maximum likelihood extraction method and an oblique, oblimin factor rotation, results showed a four factor solution with good model fit and strong internal consistency. Thus, the assessment center measured the authentic leadership construct through four established factors labeled: “Communicating with Integrity,” “Leading Through People,” “Confident Problem Solver,” and “Task Project Oriented.” The implications and potential of leadership assessment centers are discussed along with the possible use of cultural assessments to tie organizational culture and leadership together into a cohesive unit.

Keywords: authentic leadership theory, authentic leadership, cultural assessment, leadership assessment centers, Hyland Software Company, simulations, common factor analysis, maximum likelihood (ML) extraction, oblique, oblimin factor rotation
**Introduction**

“Becoming a leader is synonymous with becoming yourself. It’s precisely that simple, and it’s also that difficult” (Bennis & Bennis, 2010, p. xl). This was said by Warren Bennis, one of the founders of modern-day leadership studies. At its simplest form, leadership is defined as “a process whereby an individual influences a group of individuals to achieve a common goal” (Northouse 2010). Those who hold or study leadership positions know leadership to be much more complex than this. Business News Daily interviewed 33 business owners and created a list of definitions that captured the intricacies of leadership. For instance, CEO Kurt Uhlir from Sideqik, an influencer marketing automation platform, defined leadership by stating,

Too many people view management as leadership. It's not. Leadership comes from influence, and influence can come from anyone at any level and in any role. Being open and authentic, helping to lift others up and working toward a common mission, build influence. True leadership comes when those around you are influenced by your life in a positive way. (Helmrich, 2016)

Leadership, however, is not just found in businesses and organizations. Leadership is often a needed role in virtually every aspect of life. Parents and guardians are leaders; teachers and professors are leaders; admirals, lieutenants, and commanders are all leaders. Without leadership, there would be chaos. But it is duly noted that with the wrong leadership, there would also be chaos. In the 2016 United States presidential
campaign, for example, voters had to choose between two candidates widely viewed as unappealing. How does a voter pick the lesser of two evils? The United States needs a leader in the most unambiguous of ways. A sense of authentic leadership must be present. This thesis is focused specifically upon the contemporary theory of authentic leadership and its role in businesses and organizations.

Measurement of leadership can be difficult and has been predominantly limited to self-assessments and questionnaires. For instance, authentic leadership is measured through the use of the Authentic Leadership Questionnaire (Walumba, Avolio, Gardner, Wernsing, & Peterson, 2008). Furthermore, the Multifactor Leadership Questionnaire is often used to measure transformational leadership (Bass & Avolio, 1990). While self-assessments can be beneficial, there is always the possibility for self-report biases to influence the measurement. However, one technique that has gained popular interest is the leadership assessment center (LAC) approach. LACs use a hands-on simulation approach that showcases a participant’s leadership behavior while being rated objectively by trained observers.

The purpose of this thesis is to examine the construct of authentic leadership and evaluate whether it can be measured using the LAC approach. Implications of the findings, which may include cultural factors within the business or organization itself, will be explored. This cultural component could potentially reflect upon the leadership style and values accepted by the company. In turn, those interested in advancing within the business or organization may have the ability, knowledge, and tools to reach the greatest potential a leader could aim for within his or her field. The following sections
will discuss the history and review of literature in terms of the theory of authentic leadership and LACs. Following this section, hypotheses will be specified, and the study design will be introduced.

**Authentic Leadership**

Authentic leadership is a recent leadership theory developed in part to target the millennial generation. This generation consists of those born between 1982 and 2002 who are in the process of replacing the baby boomers. Authentic leadership can be defined as,

A pattern that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. (Walumba et al., 2008, p. 94)

Authentic leadership was developed due to corporate scandals such as those involving Enron and WorldCom in the 1990s as well as the banking failures of the early 21st century. Growing interest in this style of leadership is motivated by the need for trustworthy, credible leaders in an age of social upheaval. The theory is relatively new and in need of research to define the construct, create the theoretical framework, and validate whether it can be assessed as being comprised of the components hypothesized. The development and acceptance of this leadership theory will hopefully reaffirm the importance of leadership character and show that those leaders who hold true to themselves and act with compassion, consistency, and transparency will be considered trustworthy and credible in the eyes of their followers.
**Authenticity: The roots of authentic leadership.** The notion of authenticity originates from Greek philosophy. The aphorism “know thyself” is one of 147 aphorisms that are inscribed at Delphi (Greece). “Know thyself,” in particular, is carved upon the Temple of Apollo. This aphorism is an admonition not to think more highly of oneself than one ought. The concept of “knowing thyself” has been used for centuries by some of the most influential figures known to history; from Plato and Aeschylus to Benjamin Franklin and Ralph Waldo Emerson.

Today, **authenticity** is the quality of “knowing oneself” and acting in accordance with one’s “true self,” which aligns with the inner thoughts and feelings of said person (Harter, 2002). In other words, someone who is authentic lives by the laws of his or her own being (Erickson, 1995). Within the last decade or so, social psychologists have refined the construct of authenticity (Walumba et al., 2008). Those who attain authenticity have higher self-esteem, less defensive biases, and are more capable of forming transparent and open relationships (Kernis, 2003). It is important to understand, however, that, according to management theorists, a person can only achieve “levels” of authenticity; he or she will never be able to attain authenticity in its entirety (Erickson, 1995). A recent study also shows that in order to achieve a higher level of authenticity, an individual must avoid letting external threats or social expectations guide his or her choices (Ryan & Deci, 2003). To clarify, an authentic person uses an internalized self-regulation process to make his or her decisions regardless of external forces or pressures to compromise. Due to the rising stakeholder demands for leadership accountability and
higher levels of integrity, a number of research studies were published which eventually coalesced into what is known today as authentic leadership theory.

**Transformational leadership: The birth of authentic leadership.** The idea of an authentic leader came into existence when the leadership research investigator and author Bernard M. Bass wrote about it in his theory of transformational leadership (Bass 1998). At the time, authentic leadership was merely a small part of a much bigger picture, not its own theory. Transformational leadership consists of idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass 1998). The transformational leader is to be a catalyst for change in both individuals and social systems, such as the workplace, with an ultimate goal of developing followers into leaders.

There are a few characteristics that distinguish the theory of transformational leadership from the theory of authentic leadership. First, authentic leadership’s defining feature is *self-awareness*. Self-awareness was not included in the theory of transformational leadership. Second, the outcomes intended for transformational leadership are a little different than authentic leadership. According to Bass (1998), transformational leadership hopes to develop followers into leaders. Walumba et al. (2008) makes it clear that the theory of authentic leadership focuses on the leader developing authenticity within his or her followers. In other words, the follower may or may not develop into a leader, but that is not a required component of the leadership theory. Finally, authentic leadership does not focus on the leader’s charisma. Rather, it
focuses on character, setting a personal example, and dedication to principles (Walumba et al., 2008).

In reality, Bass’s use of the term “authentic” was really just a way to differentiate between transformational leadership and pseudo-transformational leadership. Bass and Steidlmeier (1999) state, “self-aggrandising, fantasising, pseudo-transformational leaders can be branded as immoral. But authentic leaders, as moral agents, expand the domain of effective freedom, the horizon of conscience and the scope for altruistic intention” (p. 211). Pseudo-transformational leadership is the opposite of authentic; a leader who takes on this style is only interested in his- or herself and manipulates followers for his or her own personal gain. Through distinguishing an authentic transformational leader from an inauthentic transformational leader, the concept of authentic leadership was born.

Corporate scandals: The emergence of authentic leadership. The extreme lapses in judgment of leaders in the public eye led to a change in theories of leadership. Stakeholders have become less tolerant of inconsistencies and more expectant of high integrity and ethics (Walumba et al., 2008). The need for authentic leaders took a more serious turn when Enron and WorldCom suffered from two of the worst corporate crimes ever witnessed in U.S. history.

Enron was an energy company created in 1985 through the merging of Houston Natural Gas and InterNorth with Kenneth Lay as CEO and chairman (CNN Library, 2016). In 2000, Enron claimed the seventh spot on the Fortune 500 list and became the sixth largest energy company in the world. By early 2001, the company’s CFO, Jeffrey Skilling, took over Lay’s position, and everything began to unravel. In October and
November of 2001, Enron’s earnings were found to have been overstated by more than several hundred million dollars. The U.S. Securities and Exchange Commission (SEC) opened up an investigation on Enron. Over the next decade, the top executives of Enron were tried for many forms of fraud. Unfortunately, this scandal even led to the suicide of vice chairman J. Clifford Baxter. These deceitful acts made by so many leaders led the public to question the credibility of leaders in all areas of life (Kouzes & Posner, 2011).

To further the need for leadership change, there was the WorldCom scandal. WorldCom got its name in 1995 when Long-Distance Discount Service (LDDS) merged with Williams Telecommunications Group Incorporated. Eventually, WorldCom became one of the second largest long-distance phone companies in the United States. However, by 2002, WorldCom suffered from one of the largest accounting scandals known in history. It was said that the company found improper accounting through an internal audit for expenses totaling over 3.8 billion dollars within a five-quarter period of time (Hancock, 2002). Once again, a company’s top executive officers played a role in the scandal. Brett Trueman, accounting professor at University of California-Berkeley’s Haas School of Business, puts it quite simply, “This is why the market keeps going down every day – investors don’t know who to trust” (Hancock, 2002).

With these two examples at the forefront, it is nearly impossible to deny the need for leaders who are trustworthy, transparent, and consistent. The executives of these companies who were trusted to provide direction and guidance let down their coworkers, employees, stockholders, and the public. Thousands of workers lost their jobs due to these scandals. Many lost money; but more importantly, many lost respect for those in
corporate leadership positions. Once trust is broken, it can be very difficult to gain back, regardless of whether or not it is the person who broke the trust or someone new to the leadership role. Those who hold leadership positions must be aware of this fragile reliance on integrity and authenticity; they must instill a strong sense of confidence in their followers. Most importantly, they must hold true to their values and morals and act ethically. Otherwise, their attempt to influence will be met with cynicism and resistance.

The authentic leadership construct. Leadership is a complex phenomenon dealing with the interaction between multiple dimensions and multiple contexts. In order to fully understand the authentic leadership theory, the construct must be broken down into intrapersonal, interpersonal, and developmental components. The intrapersonal side of authentic leadership deals with how self-concept relates to actions. Followers need to be able to decide whether a leader is legitimate or not based upon the life-story of said leader (Shamir & Elam, 2005). Is the leader genuine and original? Does he or she lead with conviction? Does the leader base actions on his or her own values? All of these are questions that help people judge the characteristics that are necessary for an authentic leader. In terms of the interpersonal aspect, leadership is created by both the leader and the follower (Eagly, 2005). The leader and followers must have shared values in order to achieve an intended outcome. Lastly, there is the developmental aspect of authentic leadership. This aspect explains how leadership needs to be nurtured and developed over a lifetime (Avolio & Gardner, 2005). In other words, a change in leadership style can be triggered by major life events. These life experiences can often be insightful, positive or negative, and a catalyst for change. There are four components of authentic leadership
which are developed with time and a little patience. The components of self-awareness, internalized moral perspective, balanced processing, and relational transparency were mentioned previously in the definition of authentic leadership itself and are necessary to the success of this leadership style.

*Self-awareness*, or the state of being conscious of one’s individual personality, allows a leader to reflect upon his or her strengths and weaknesses as well as core values, emotions, motives, and the like. Authentic leadership requires a leader to be aware and trusting of his or her own feelings. Kernis (2003) describes someone who is self-aware as being able to gain insight into the nature of his- or herself by the exposure and impact he or she has on others.

*Internalized moral perspective* is a self-regulatory process in which the leader uses internal moral standards to guide the his or her behavior. The leader should want to “do the right thing” through a concern for ethics and fairness (Riggio, 2014). Promoting justice and looking out for the greater good of the organization are just two examples of using an internalized moral perspective. Originally, this component was split between internalized regulation and positive moral perspective (a topic which will be discussed in the following paragraph). After a detailed review of literature, it was decided that both of these fit within the same domain (Walumba et al., 2008). Hence, the name internalized moral perspective was created.

*Balanced processing*, on the other hand, deals with the ability to analyze information in an objective manner while also taking into consideration the opinions of other people in order to make a decision. This component supports and encourages fair-
mindedness; all options are considered before choosing what course of action will be taken. With all of this in mind, it is important, however, to take on a form of relational transparency. *Relational transparency* means that the leader is open and honest in presenting his or her true self to followers. To put it simply, the leader must be genuine.

**Authentic leadership and positive psychology.** There are four positive psychological capacities that relate to authentic leadership and are considered the personal resources of those in leadership positions: confidence, optimism, hope, and resiliency (Luthans & Avolio, 2003). These capacities are said to heighten self-awareness and self-regulatory behaviors through positive self-development (Avolio & Gardner, 2005). A positive moral perspective is also an important tool for an authentic leader. According to Luthans and Avolio (2003), authentic leadership has a very distinct ethical/moral component. Others argue that authentic leadership is ethically neutral and that positive psychological resources may more or less be consequences of authentic leadership itself and not part of the foundation (Cooper et al., 2005; Shamir and Eilam, 2005; Sparrowe, 2005). These researchers question whether someone in a leadership position who has narcissistic tendencies, for example, could also be considered an authentic leader due to his or her self-awareness and self-acceptance. Gardner, Avolio, and Walumba (2005) defend their position against this idea through the concept that those leaders who have less than adequate morals and ethics will most likely be unable to successfully self-reflect which is critical to understanding the self as well as others. The component of internalized moral perspective in the definition of authentic leadership is
influenced by positive moral perspective and internalized regulation, allowing behavioral integrity to be a necessary factor of this leadership style (Walumba et al., 2008).

**Strengths of authentic leadership.** As previously mentioned, authentic leadership theory fulfills a societal need for trustworthy leaders. In a world plagued with uncertainty, the authenticity of a lead figure fills a special void for his or her followers. What makes this style of leadership so special? First, it is grounded within the theories of transformational leadership and servant leadership, leadership styles which are supported by a substantial amount of empirical evidence (Bass 1998; Bass & Steidlmeier 1999; Russell & Stone, 2002; Stone, Russell, & Patterson, 2004). Authentic leadership adds a moral component to the mix and states broad guidelines for those who want to become an authentic leader; anyone and everyone can learn to be more authentic. Additionally, researchers shaping and studying authentic leadership have established a validated instrument to measure this authenticity, The Authentic Leadership Questionnaire or ALQ (Walumba, Avolio, Gardner, Wernsing, & Peterson, 2008).

Walumba et al. (2008) built a strong case for the need for a “higher order, multidimensional theory-based questionnaire” that related to the most recent findings in authentic leadership research (p. 91). They hoped to acquire some basic evidence for construct validity. Walumba et al. (2008) used the four components of authentic leadership to develop the ALQ: self-awareness, internalized moral perspective, balanced processing, and relational transparency.

In order to develop items for the questionnaire, Walumba and colleagues (2008) performed a comprehensive review of the literature on the theory, development, and
practice of authentic leadership in conjunction with a group discussion consisting of faculty and graduate students which was then content analyzed to decide upon the four components mentioned above. Next, these four components were compared to ethical and transformational leadership which produced several items. Out of 35 items, 22 were selected to be assessed for content validity. This assessment resulted in the determination of the final 16 items.

After the items had been selected, Walumba et al. (2008) performed a confirmatory factor analysis based on samples from both the United States and the People’s Republic of China. The participants “were asked to judge how frequently each statement fit his or her supervisor using a 5-point scale ranging from 0 (not at all) to 4 (frequently, if not always)” (Walumba et al., 2008, p. 98). A one factor model, first-order factor model, and second-order factor model were all used, with the latter being the best-fitting model. Results showed that the four factors were strongly correlated with a “substantial convergent validity” and barely any compelling differences between the two samples (Walumba et al., 2008, p. 101).

**Weaknesses of authentic leadership.** Because the theory of authentic leadership is still in its formative stages, some of the concepts within its practical approaches are not fully developed. There are a variety of opinions being advanced due to the lack of empirical evidence. Some theorists have even attempted to refute the foundation of this leadership style through means such as Object Relations Theory (Ford & Harding, 2011). Further questions remain: Does authenticity actually have positive organizational outcomes? Is authentic leadership sufficient enough to achieve organizational goals? Do
higher values such as justice inform authentic leadership? What is the rationale for including positive psychological capacities? In what ways can authentic leadership theory be measured? Researchers are working hard to answer these questions and more.

Recent research has offered evidence on the relationship between authentic leadership theory and several other dimensions in the workplace such as organizational justice, perceived stress, affective organizational commitment, and turnover intention. These workplace factors and outcomes were examined by Kiersch and Byrne (2015) in an attempt to determine whether or not authentic leadership should be considered a “fair” style of leadership. Organizational justice deals with employees’ perceptions of fairness within the workplace and can be further divided into distributive, procedural, informational, and interpersonal categories. Kiersch and Byrne (2015) gathered data from 187 employees in 25 organizations with 37 supervisors. These employees took an online survey which consisted of questionnaires that aimed to measure authentic leadership, organizational justice, perceived stress, affective organizational commitment, and turnover intention. Using a multilevel structural equation model (MSEM) with both “within-group” and “between-group” variance, it was shown that authentic leadership is predictive of organizational justice, although causal direction cannot be supported in terms of the relationship between authentic leadership and fairness (2015). At an individual level, authentic leadership negatively relates to employee stress and turnover intentions while positively relating to organizational commitment. In terms of group level, authentic leadership negatively relates to turnover intentions. These findings have
contributed to the framework of authentic leadership as well as proven, yet again, that this style of leadership is complex and multi-dimensional.

There has been negative feedback about authentic leadership theory, as well. Ford and Harding (2011), for example, take an object relations theoretical approach to the leadership style through the work of psychoanalyst Jessica Benjamin. *Object Relations Theory* is a by-product of psychoanalytical theory which stresses that interpersonal relations during childhood help in the development of the psyche and affects how an individual relates to others in his or her adult life. In short, this psychoanalytical thought process leads a person to believe that the theory of authentic leadership forces both the leader and the follower not to necessarily find their sense of self, but to align their beliefs and values with that of the organization’s, therefore becoming “pawns on an organizational chequerboard” (p. 476). This view emphasizes that authentic leadership does not leave room for imperfections in its leaders or followers; both would preferably be viewed as flawless. Furthermore, the “leader” and “follower” descriptors signify a hierarchy that consists of domination and submission. Overall, the conclusion is that authentic leadership is a paradox in which “the follower has to sacrifice his or her own values in order to be authentic” (2011, p. 472). In reality, the basis for this viewpoint may be a little outdated, but it provides us with another perspective to analyze. Ford and Harding (2011) believe that authentic leadership could be a viable option if the focus were shifted more towards improving interactions within the workplace that relate to the people rather than to the organization.
Assessment Centers

A brief overview. According to the Guidelines and Ethical Considerations for Assessment Center Operations, an assessment center is defined as “a standardized evaluation of behavior based on multiple inputs” (International Task Force on Assessment Center Guidelines, 2000). To clarify, an assessment center consists of trained assessors who evaluate the behavior of assessees based on assessment simulations that are developed for the sole purpose of evaluating behavior. The International Task Force on Assessment Center Guidelines (2000) defines assessment simulations as exercises that are designed to provoke behaviors through situational stimuli that are related to job performance and help distinguish the most significant needs of the position that is to be considered. Typically, simulations consist of in-basket exercises, group discussions, analysis or decision-making problems, and simulated interviews with “clients” (Byham 1986). The following will give a brief history on the development that has led to today’s standard assessment center as well as describe the main factors that make up the process that is an assessment center including job analysis and behavioral classification, assessment techniques, assessors and assessor training, recording behavior, reports, and integration discussion. The specifics of The Hyland Software Leadership Potential Center will be discussed in further detail within the methodology section of this thesis.

History. The initial emergence of assessment centers can be linked to the drafting of German military officers in World War I through leadership tests created by psychologist Max Simoneit (Rowe, 2013). Similar leadership centers were created during World War II, including the British Army’s War Office Selection Board (WOSB) and the
Royal Navy’s Admiralty Interview Board (Ballantyne & Povah, 2004). The Office of Strategic Services’ William J. Donovan and Robert C. Tyron introduced assessment center methods in the United States in the 1940s in order to select spies (MacKinnon, 1980). These methods consisted of psychological assessments and situational tests which vastly improved the OSS. The first legitimate “assessment center” in private industry was created in the 1950s through the AT&T Management Progress Study (Bray, Campbell, & Grant, 1974). This longitudinal study focused on newly hired managers in the Bell Telephone operating company and was valid in predicting progress up to 20 years (Byham, 1986). The assessment center consisted of numerous personality assessments, interviews, manufacturing games, and situational tests. Assessment centers were developed and defined more thoroughly through the 3rd International Congress on the Assessment Center Methods in 1975 when the first set of ethical guidelines were created. Since then, the guidelines have been revised several times, the most current edition being endorsed at the 28th International Congress in 2000 (International Task Force on Assessment Center Guidelines, 2000).

**Process.** One of the first steps in creating an assessment center is conducting a job analysis in order to define what will be evaluated by the assessment center. A *job analysis* identifies competencies, motivation, and knowledge that are important to job success within the target position (Byham 1986). Competencies are further defined as organizational strengths, goals, valued objectives, constructs, or related behaviors (International Task Force on Assessment Center Guidelines, 2000). These competencies must be easily observable in the assessment center procedures. The job analysis is
considered one of the critical factors linked to content validity within the assessment
center process as well as one of the ten classic assessment center errors when performed
inadequately (Caldwell et al, 2003). In conjunction with the job analysis, behavioral
classification is also necessary. The behaviors of the participants must be classified into
categories such as skills, dimensions, qualities, and the like.

The next step in the creation of an assessment center program is the need to
design assessment techniques that will be used to evaluate the dimensions that are linked
through the use of a competency-by-exercise/assessment technique matrix (ITF, 2000).
These assessment techniques were mentioned previously and come in the form of
interviews, simulations, personality tests, and the like. Typically, these techniques will be
pretested to make sure that they actually measure the behaviors that they are supposed to
measure and produce reliable and relevant results.

Assessors are selected to make objective judgements of those participating in the
assessment center program and are often selected based on their experience with or
knowledge of the organization while not in direct relation to the assessees (ITF, 2000).
Assessors must be reliable and accurate in their assessments, avoiding bias at all costs.
The selection of assessors takes into account diversity as well as the number of assessees
participating in the program. For instance, there is usually one assessor to every two
assessees. Assessor training deals with coaching the selected assessors on the context of
the assessment center, the dimensions and examples of said dimensions being assessed,
the techniques themselves, and the evaluation, rating, and feedback procedures (ITF,
According to the ITF (2000), “The time between assessor training and initial service as an assessor must not exceed six months” (p. 8).

Another critical step in the development of an assessment center is determining how the behaviors will be recorded. *Recording behavior* deals with the procedure which the assessors will use during the program to accurately record behavior. Generally, recording consists of notes taken by the assessor during the tasks or exercises in conjunction with behavior checklists. These observations must then be put into a *report*, or record of observations for each exercise, which is then shared during an integration discussion between the assessors (ITF, 2000). The *integration discussion* allows the assessors to come together and share their reports in order to come to a collaborative, final decision on specific dimension/behavior ratings.

After these steps have been accomplished, the assessment center program must make sure that it has guidelines in place for the participants themselves. Guidelines typically include, but are not limited to, informed consent and participant rights. The organization is required to inform the participant on the objectives and purpose of the assessment center, how he or she was selected, choices that he or she may have to make, the staff involved, the materials used, how the results will be utilized, the feedback that will be given, whether there will be a reassessment, whether he or she will have access to reports, and who he or she can contact about said reports (ITF, 2000). The rights of the participants are protected under the Freedom of Information Act and the Privacy Act of 1974 (ITF, 2000).
**Hyland Software, Inc. and Scitrain.** The LAC used in this study was The Hyland Software Leadership Potential Center (Hyland Software, Inc., Westlake, OH). Hyland was founded in 1991 and is responsible for the creation of OnBase, an enterprise content management (ECM) software suite that helps businesses organize information in order to create a business process that is efficient and effective. The core values of Hyland Software, Inc., reflect this idea with statements such as, “We conduct ourselves with honesty, integrity and fairness in our relationships with our partners, customers, employees and shareholders,” “We deliver configurable business solutions that are intuitive to use,” and “We are motivated people passionately dedicated to the success of the company” (2016). The corporation has been featured in *Fortune* magazine’s “100 Best Companies to Work For” list for the past three years (2016).

Hyland Software, Inc., is a client of Scitrain (scientific assessment and training), a leadership development company who specializes in HR solutions that are custom-tailored to each organization they work with (Scitrain, ltd., Canton, OH). Its mission is to “help businesses to align talent and leadership development efforts systematically with their business strategy.” In conjunction with Scitrain, Hyland Software, Inc., was able to create a LAC in order to determine who would be capable and reliable leaders, managers, and the like.

Scitrain has created its own “quality model” which provides a comprehensive view of the quality and dimensions found within its successful assessment centers. This model was part of the foundation in creating the Hyland Software Leadership Potential Center. There are four dimensions to the model: Relevance, Structure, Quality of
Assessors (Assessor Expertise), and Interaction. Relevance deals with the need for an assessment center to be custom-fitted to the company and its needs through the examination of competencies, success factors, and behaviors that the company looks for in its leaders. Structure is synonymous for the need to document and create methodological approaches to define the assessment center processes, including calculations for data and the creation of manuals. Next, Quality of Assessors, or Assessor Expertise, stresses the importance of training assessors in behavioral observation and rehearsals of the assessment process to allow the assessor to become accustomed to the experience. Furthermore, this dimension states that it is essential to use both external and internal perspectives to help avoid bias. Lastly, Interaction accentuates the need for transparent communication among participants which will, in turn, lead to trusting and credible experiences with thorough and timely feedback. Scitrain focuses on these dimensions in order to create successful outcomes through its assessment centers.

Current Study

The growing prominence of authentic leadership theory necessitates valid measures of this construct, and self-report measures have obvious limitations. The LAC approach shows promise in being able to assess authentic leadership in a more thorough and naturalistic context, but there are no reports of the effectiveness of LAC measures of authentic leadership. Therefore, this study had two aims: to evaluate whether the assessment center measures measure underlying concepts of authentic leadership and whether the assessment center measures factor structure approximates that specified by the theory of authentic leadership.
Methodology

Participants

There were 88 participants consisting of both men and women. All of the participants were employees in leadership positions at Hyland Software Company who participated in the assessment center on a voluntary basis. In order to avoid any perception of the possibility of discrimination, for the purposes of this study the participants were not asked to state their age, sex, or ethnicity. Participants were also told that the assessment center was strictly for research and the employees’ personal and professional development as leaders, and that, therefore, the results would not be used in any promotional decisions.

Procedures

The study was conducted between 2007 and 2012. Participation was voluntary, and verbal consent was obtained. Institutional Review Board approval was not required for this exempt research, which used de-identified archival data. The studies took place in a business setting. Participants completed a number of exercises which collectively comprised the leadership assessment over a three-day period of time. The exercises are listed in Table 1 (see page 43), along with which component(s) of the authentic leadership construct they are purported to measure.

Each assessment varied between 20 to 100 minutes depending on the complexity of the task or scenario. The time at which the simulations were conducted was the same
for every participant. For each simulation, there were three observers in the room with the exception of the group discussion and incorporation scenarios, when there were as many as eight observers. In this case, one observer was dedicated to a specific participant.

**Measures**

**Exercises.** There were eight exercises used in this assessment center: strategy discussion, incorporation scenario I, incorporation scenario II, employee conversation, incorporation scenario III, conflict resolution, customer interaction, and personal interview.

The *strategy discussion* was a 50-minute, leaderless group discussion in which participants brought together their business plans for a new cosmetics company. The goal was to come to consensus on how they would run this new company. This exercise measured competencies such as “problem solver,” “able to work with others,” and “confident/dedicated.” Each competency had approximately 8 behavioral descriptions that the assessors used to rate the participants.

*Incorporation scenario I* was a 60-minute, leaderless group discussion in which participants used a computer-aided business simulation that covered a “4-month period” of their cosmetic company time. This exercise measured the same competencies as the strategy discussion: “problem solver,” “able to work with others,” and “confident/dedicated.” Once again, each competency had 8 behavioral descriptions to help the assessors rate participants.
Next, *incorporation scenario II* was a 50-minute session in which participants continued to use the computer-aided business simulation that covered the next “4-month period” of their cosmetic company time. This exercise measured competencies such as “problem solver,” “able to work with others,” and “self-directed.” Once more, each competency had 8 behavioral descriptions to aid assessors with scoring participants.

The fourth exercise was the *employee conversation*. This exercise was a 20-minute session in which the participant had a one-on-one conversation with an “employee” (an assessor roleplaying as an employee) who was said to resent the participant due to his/her recent promotion. The participant was given 20 minutes to prepare for the exercise. This exercise measured three competencies: “communicates clearly,” “able to work with others,” and “ethical/honest.” “Communicates clearly” had 11 behavioral descriptors used to rate participant’s performance while “ethical/honest” had 7 behavioral descriptors. “Able to work with others,” as previously stated, had 8 behavioral descriptors.

*Incorporation scenario III* was the final computer-aided business simulation. This exercise was a 100-minute session with a 10-minute time-out that covered a “9-month period” of the participant’s cosmetic company time. The scenario was based upon whether the cosmetic company was doing well or poorly. If the company was doing well, then the participants had to challenge themselves by adding new products. If the company was doing poorly, then the participants had to consolidate and create a growth track. This exercise measured competencies such as “able to work with others,” “self-directed,” and
“adaptable.” “Adaptable” had 10 descriptions of behavior that the assessor had to take into consideration as he or she rated the participants. “Able to work with others” and “self-directed” each had 8 behavioral descriptions.

The next exercise was conflict resolution which consisted of a 25-minute session in which two participants sat down and discussed an arising issue through roleplaying the positions of “manager of production” and “project manager.” Each participant was given 25 minutes to prepare for the exercise. In short, some issues had arisen which dealt with delayed decision-making on management’s part as well as narrow time-frames given to meet production requirements. This exercise measured three competencies: “communicates clearly,” “adaptable,” and “ethical/honest.” In this scenario, there were 11, 9, and 8 behavioral descriptions that made up these competencies, respectively.

The customer interaction exercise was a 20-minute session in which the two participants from the conflict resolution exercise sat down with a customer who was upset with production and quality issues dealing with a specific product. The purpose of this exercise was to resolve the customer’s issue. The competencies rated in this exercise were “ethical/honest,” “adaptable,” and “customer service oriented.” “Customer service oriented” ratings were based upon 11 behavior descriptions, while “ethical/honest” had 8 descriptors, and “adaptable” had 7 in this scenario.

Finally, there was the personal interview exercise. This 50-minute interview allowed the assessors to get to know the participant better, learn about the participant’s previous experiences, and understand the participant’s goals for future endeavors. There
were three competencies evaluated in this interview: “willing and able to learn,” “motivation,” and “value fit.” The “motivation” competency was subdivided into “motivation for managing tasks,” “motivation for managing projects,” and “motivation for managing people.”

At the conclusion of each exercise, the assessors met together to evaluate each of the participants using a proprietary behavioral rating scale. The assessors agreed on a rating for each competency measured. The ratings were as follows: 4 was many positive observations which “by far” outbalanced negative observations, 3 was a substantial number of positive observations which outbalanced negative observations, 2 was few positive observations and negative observations outbalanced positive observations, and 1 was no observations and negative observations “by far” outbalanced positive observations. Observer ratings may not differ by more than 1 point, and the ratings must be whole numbers.

**Domains and competencies.** The 11 competency domains measured during the study were the competencies previously mentioned in the descriptions of the exercises: ethical/honest (ethics and values), confident/dedicated, self-directed (achieving results), adaptable (flexible and adaptive), able to work with others, communicates clearly, customer service oriented (customer focus), problem solver (analytical problem solving), willing and able to learn, motivation (managing tasks, people, and projects), and value fit. There were 11 domains overall, each specifying a competency relevant to authentic leadership. Due to copyright restrictions, the specific behavioral descriptions for each
competency cannot be divulged. However, a brief conceptual definition for each follows below.

- *Ethical/honest* (ethics and values): The leader should be fair-minded in all situations, refrains from manipulation, and gives constructive feedback.

- *Confident/dedicated*: The leader should show focus and passion for what he or she is doing while also addressing issues with assertiveness and determination.

- *Self-directed* (achieving results): The leader should work independently to set goals and plan for said goals in a proactive manner.

- *Adaptable* (flexible and adaptive): The leader should be a quick learner who is open to new experiences and maintains a calm exterior when faced with difficult circumstances.

- *Able to work with others*: The leader should be “we”-oriented and should respect his or her followers while putting the team’s goals before personal goals.

- *Communicates clearly*: The leader should be forward-thinking, should listen actively while keeping eye-contact, and should speak with inspiration and purpose.

- *Customer service oriented* (customer focus): The leader should take responsibility and approach a customer with respect while addressing his or her concerns with commitment.
• **Problem solver** (analytical problem solving): The leader should use the information given to him or her to analyze issues as well as to rationalize arguments and to make decisions.

• **Willing and able to learn:** The leader should be capable of changing behavior (for the better) based upon learning from his or her successes and failures.

• **Motivation** (managing tasks, people, and projects): The leader should have self-knowledge of his or her competencies that fit with a specific career position which the leader wishes to hold and what he or she may need to do in order to achieve such a goal.

• **Value Fit:** The leader’s values should align with the values of the organization while also leaving room for open-minded improvement where it may be needed.

**Analytic Strategy**

All data analyses were conducted using SPSS PC Version 18.0 (IBM Corporation, Armonk, NY, USA). Analyses were conducted at the .05 level of significance. The factor structure was evaluated using a common factor analysis with a maximum likelihood extraction method and fitting procedure. An oblique, oblimin factor rotation was used for the rotation method. Maximum likelihood was the best choice based on the concept that “it allows for the computation of a wide range of indexes of the goodness of fit of the model [and] permits statistical significance testing of factor loadings and correlations among factors and the computation of confidence intervals” (Fabrigar, Wegener,
MacCallum, & Strahan, 1999, p. 277). The oblique, oblimin factor rotation was chosen because it “provided superior simple structure [and] knowledge of the existing correlations among factors” (Fabrigar et al., 1999, p. 287). Reliability was assessed using the theta (θ) statistic. The goodness of fit of the factor structure was assessed using chi-square (X²) statistic.
Results

Common factor analysis revealed four factors which were labeled “Communicating with Integrity,” “Leading Through People,” “Confident Problem Solver,” and “Task Project Oriented.” Factor loadings for the individual components (i.e., leadership domains) of the assessment are presented in Table 2 (see page 44). The four-factor solution was a good fit for the data $X^2(41) = 57.48$, $p = .0145$. Internal consistency was also strong, at $\theta = .87$. The correlation matrix of factors is presented in Table 3 (see page 45), revealing that factor 1 (“Communicating with Integrity”) and 2 (“Leading Through People”) were positively correlated at $r = .328$, and that factors 2 (“Leading Through People”) and 3 (“Confident Problem Solver”) were positively correlated at $r = .407$. Factor 4 (“Task Project Oriented”) was largely orthogonal to the other factors ($r$’s < .13).
Discussion

Here we report that the LAC approach to measurement of authentic leadership is a reliable and valid approach to measuring authentic leadership. Internal consistency of the resulting model was strong, and the factor structure revealed four theoretically expected factors, which had a good fit for the data. Specifically, the measures loaded onto four factors: “Communicating with Integrity,” “Leading Through People,” “Confident Problem Solver,” and “Task Project Oriented.” The first three factors were closely related to the components of authentic leadership discussed previously: self-awareness, internalized moral perspective, balanced processing, and relational transparency (Walumba et al., 2008, p. 94). “Communicating with Integrity” is described in the words of Shamir and Eliam (2005) as how leaders exhibit genuine leadership, lead from conviction, base their actions on their values. “Leading Through People” is explained by Eagly (2005) through his interpretation of authentic leadership: an interpersonal process that emphasizes the relationship between leaders and followers together. “Confident Problem Solver” is shown through Luthens and Avolio’s (2003) idea that authentic leaders possess confidence hope, optimism, and resilience. Notably, “Task Project Oriented” was orthogonal to the first three factors and is the least specified by the theory of authentic leadership. However, this characteristic is considered an “admission price” for Hyland Software leadership roles, as Hyland looks for leaders who are task-oriented and can complete projects in a productive and timely manner.
**Strengths and Limitations**

Strengths of this study include the naturalistic environment and potential external validity afforded by the LAC study context. Also, it would appear to be harder to inflate authentic leadership assessment scores from LAC evaluations compared to self-report measures, which typically lack embedded validity indices.

A number of limitations also merit consideration. Given the LAC context of the study, demographic information was not collected. Due to the company’s hope to avoid any form of discrimination, the LAC did not ask participants for their age, sex, ethnicity, and the like. Future studies should collect additional information, including demographic information and the performance of assessed leaders in their respective employment roles which will allow for the examination of possible gender or age effects.

In addition, people being assessed are giving their best effort, so factors such as the Hawthorne effect may influence scores. Another limitation could potentially be the fact that the LAC experience was completed voluntarily and could have an impact on motivation or other factors. For example, some employees may not have been as willing to participate on a voluntary basis which would, in turn, limit the number or type of employees who actually participated in the assessment center (i.e., selection effect).

**Future Directions**

The next phase of research could include a confirmatory factor analysis of self-assessments which were completed by each participant at the end of the LAC process and would allow for a replication of the factor structure using a different method. Collecting organizational outcome data is another step that could be taken, specifically focusing on
profitability, turnover, promotion, engagement, and performance in regards to those participants who took part in the study. By studying these organizational outcomes, we will help gauge how leadership assessment centers may influence other dimensions of the workplace. More specifically, we may be able to tie performance outcomes to elements of authentic leadership. Further directions should also focus on including additional companies with varying organizational cultures to evaluate whether the factors assessed by the LAC measures are stable across different companies as well as the exploration of how elements of authentic leadership are related to organization culture.

**Cultural assessment.** To focus more specifically on the future direction of studying relations between authentic leadership and corporate culture, Bass and Avolio (1993) looked into other leadership theories and their relation to the culture of an organization. Ultimately, an organization’s culture can develop based upon its leadership while its leadership develops based upon its organizational culture; one cannot thrive without the other. Bass and Avolio (1993) state, “How leaders react to problems, resolve crises, reward and punish followers are all relevant to an organization’s culture as well as how the leader is viewed both internally by followers and externally by clients/customers” (p. 113). While Bass and Avolio (1993) were referencing transformational leadership theory specifically, it is clear that this relationship between leadership and organizational culture could be translated over to other leadership theories such as authentic leadership theory. The importance of followers’ views of their leader, especially in terms of authenticity, depicts a key aspect of the leadership style. Bass and Avolio (1993) also stress the role of top level leaders who are “symbols of the
organization’s [new] culture” (p. 115). After all, an organization’s culture typically sprouts from the mind of the founders which, in turn, leads organizations to “often hire people who have similar values to those dominant in the organizational culture” (Bass and Avolio, 1993, p. 114). Many organizations promote internally so that the roots of an organization’s values can live on while being reshaped as needed while not straying too far from its foundation.

Ogbonna and Harris (2000) also studied leadership style and organizational culture. However, they added another element into the mix by hypothesizing that organizational culture actually mediates the relationship between leadership style and performance. There are very limited findings that prove that certain leadership styles can increase performance. On the other hand, studies on organizational culture and performance show that there is diverse, empirical evidence of a relationship between the two. Ogbonna and Harris (2000) used a descriptive quantitative research design to study employees of registered United Kingdom firms. Using factor analysis, they were able to break organizational culture down into four categories: innovative, competitive, bureaucratic, and community. Leadership was also broken down into categories: participative, supportive, and instrumental. Results confirmed Ogbonna and Harris’s (2000) hypothesis. Innovative and competitive cultures had a direct effect on organizational performance. Contrary to belief, bureaucratic and community cultures had an indirect effect. All of the leadership styles were indirect effects, as well. In conclusion, all of these factors had some degree of effect on performance, but the impact and form of the effect differed among factors. It can be said that “leadership style is not directly
linked to performance but is merely indirectly associated” (Ogbonna & Harris, 2000, p. 781). Another conclusion that can be drawn from this research says that an externally oriented, organizational culture (e.g. competitive or innovative) is significantly influenced by the relationship between leader and follower in terms of how supportive the leader is and whether or not he or she includes followers in decision-making processes (Ogbonna & Harris, 2000).

**Conclusion**

Leaders are needed for every business, organization, culture, and society. The need for authentic leaders - those who act with compassion, consistency, and transparency - continues to grow each day. The desperate need for authenticity is especially evident in the lack of moral compass seen in leaders who betrayed businesses and organizations such as Enron and WorldCom. This study looked at a method of measuring authentic leadership, through the use of a LAC. The results supported that LACs are a valid way to measure the construct and help pinpoint where our leaders’ authenticities lie. The study of leadership theory and how it can be measured in a natural context as opposed to a self-reflecting questionnaire is a stepping stone in leadership and organizational research that may open many doors to improved ways of learning about leadership styles and how they can be applied not only in an organizational culture but in our society as a whole.
References


Dunnette, M. D. (1992). It was nice to be there: Construct validity then and now. Human Performance, 5(1-2), 157-169.


Jones, R. G., & Whitmore, M. D. (1992). When will developmental feedback from an assessment center make a difference in people's careers?


Table 1

Relation between Exercises and Leadership Domains/Competencies

<table>
<thead>
<tr>
<th>Exercise</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
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<tbody>
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<td>Strategy Discussion</td>
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<td>Incorporation Scenario I</td>
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<td>Incorporation Scenario II</td>
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<tr>
<td>Employee Conversation</td>
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<tr>
<td>Incorporation Scenario III</td>
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<td>Customer Interaction</td>
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<td>Personal Interview</td>
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</tr>
</tbody>
</table>

Notes. The + symbol notes a significant relation between exercise and leadership domain/competency.

The numbers 1 through 11 correspond with a specific leadership domain/competency listed below.

1. Ethics and Values
2. Confident/Dedicated
3. Achieving Results
4. Flexible and Adaptive
5. Able to Work with Others
6. Communicates Clearly
7. Customer Focus
8. Analytical Problem Solving
9. Willing and Able to Learn
10. Motivation (Managing Tasks, Projects, People)
11. Value Fit
Table 2

**Factor Loadings of the Individual Leadership Domains/Competencies**

<table>
<thead>
<tr>
<th>Leadership Domains/Competencies</th>
<th>Communicating with Integrity</th>
<th>Leading Through People</th>
<th>Confident Problem Solver</th>
<th>Task Project Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem Solver</td>
<td>.432</td>
<td>.612*</td>
<td>.768*</td>
<td>-.003</td>
</tr>
<tr>
<td>Able to Work with Others</td>
<td>.517*</td>
<td>.564*</td>
<td>.682*</td>
<td>-.300</td>
</tr>
<tr>
<td>Confident</td>
<td>.260</td>
<td>.313</td>
<td>.884*</td>
<td>-.193</td>
</tr>
<tr>
<td>Self-Directed</td>
<td>.298</td>
<td>.694*</td>
<td>.521*</td>
<td>-.017</td>
</tr>
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<td>Communicated Clearly</td>
<td>.951*</td>
<td>.183</td>
<td>.338</td>
<td>.139</td>
</tr>
<tr>
<td>Ethical/Honest</td>
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<td>.593*</td>
<td>.166</td>
<td>-.443</td>
</tr>
<tr>
<td>Adaptable</td>
<td>.433</td>
<td>.672*</td>
<td>.459*</td>
<td>-.337</td>
</tr>
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<td>Customer Service</td>
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<td>.573*</td>
<td>.391</td>
<td>-.023</td>
</tr>
<tr>
<td>Willing and Able to Learn</td>
<td>.013</td>
<td>.596*</td>
<td>.385</td>
<td>.067</td>
</tr>
<tr>
<td>Motivation – Managing Tasks</td>
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<td>-.068</td>
<td>-.381</td>
<td>.674*</td>
</tr>
<tr>
<td>Motivation – Managing Projects</td>
<td>-.229</td>
<td>-.286</td>
<td>-.244</td>
<td>.594*</td>
</tr>
<tr>
<td>Motivation – Managing People</td>
<td>.152</td>
<td>.329</td>
<td>.499*</td>
<td>-.190</td>
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<tr>
<td>Value Fit</td>
<td>.143</td>
<td>.408*</td>
<td>.086</td>
<td>-.053</td>
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<tr>
<td>Conscientiousness</td>
<td>.348</td>
<td>.442</td>
<td>.325</td>
<td>.485*</td>
</tr>
</tbody>
</table>

*Note. Communicating with Integrity, Leading Through People, Confident Problem Solver, and Task Project Oriented are the four factors distinguished by analysis.*

Extraction Method: Maximum Likelihood
Rotation Method: Oblimin with Kaiser Normalization
Table 3

*Correlation Matrix of Extracted Factors*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Communicating with Integrity (1)</th>
<th>Leading Through People (2)</th>
<th>Confident Problem Solver (3)</th>
<th>Task Project Oriented (4)</th>
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</thead>
<tbody>
<tr>
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<td>.328</td>
<td>.240</td>
<td>-.066</td>
</tr>
<tr>
<td>2</td>
<td>.328</td>
<td>1.000</td>
<td>.407</td>
<td>-.075</td>
</tr>
<tr>
<td>3</td>
<td>.240</td>
<td>.407</td>
<td>1.000</td>
<td>-.121</td>
</tr>
<tr>
<td>4</td>
<td>-.066</td>
<td>-.075</td>
<td>-.121</td>
<td>1.000</td>
</tr>
</tbody>
</table>