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YOU ONLY LIVE ONCE: DO LIFE EVENTS SHAPE AUTHENTIC LEADERS?

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Abstract

As society continues to evolve and face constant changes in economic, political and social realms there is a growing interest in leaders who can effectively navigate these changes, showing trust, honesty, integrity and accountability. Referred to as ‘authentic leaders’, such individuals have been shown to have benefits for both organisational performance and employee wellbeing (Avolio & Gardner, 2005; Diddams & Chang, 2012; B. George, Sims, McLean, & Mayer, 2007; May, Chan, Hodges, & Avolio, 2003). Whilst the benefits of authentic leadership have been highlighted, there has been little empirical research on individual predictors of authentic leadership and, more specifically, what variables might serve as precursors to the development of authentic leadership. The purpose of this thesis is to conduct an empirical investigation into the possible predictors of authentic leadership, specifically focusing on the possible role that life events may play in shaping authentic leaders.

Theoretically, it follows that when a leader reflects on their life stories and the events that have shaped them, this knowledge informs their meaning system and ultimately makes them more authentic leaders (Ilies, Morgeson, & Nahrgang, 2005; Shamir & Eilam, 2005). This meaning system is a result of having a deeper awareness of their convictions, beliefs, viewpoints and behaviours (Leary & Tangney, 2003). Preliminary qualitative research into the relationship between life events and authentic leadership has found some support for this idea (George & Sims, 2007). In this thesis, it was hypothesised that leaders who have experienced a rich set of life events would score highly on a measure of authentic leadership compared to leaders who had not experienced such life events. It was further hypothesised that this effect could be attributed to the enhanced self-knowledge that leaders with a rich set of life events would acquire. Finally, it was hypothesised that the relationship between life events and authentic leadership would be stronger in those who had recently reflected on their life events, than those who did not reflect on their life events.

Hypotheses were tested using data from an online questionnaire circulated to a large sample of leaders. Life events, self-knowledge and authentic leadership were measured using a range of previously validated measures. The observed results provide mixed support for the hypotheses;

specifically, it was found that both life events and self-knowledge are related to authentic leadership. Although the results indicate there is a relationship between life events and authentic leadership it is not through self-knowledge, which is contrary to current thinking. Additionally, there is some evidence that recent reflection on life events will temporarily enhance self-reported authentic leadership tendencies.

Practically, the statistical results of this thesis identify life events as an antecedent to authentic leadership and determine a possible way to stimulate self-awareness. This research paves the way for further research into a development approach for authentic leadership that harnesses the beneficial aspects of reflecting on life events.

Keywords: Authentic leadership, life events, self-knowledge, self-awareness, leadership development

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Abbreviations

Authentic Leadership Questionnaire	(ALQ)
Integrative Self-Knowledge Scale	(ISK)
Missing Values Analysis	(MVA)
Recent Life Changes Questionnaire	(RLCQ)
Self-administered Questionnaires	(SAQ)
Social Readjustment Rating Scale	(SRRS)
Variance Inflation Factor	(VIF)

Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet the requirements for a degree or diploma at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another except where due to references is made.

QUT Verified Signature

Melinda Robinson

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Chapter One – Introduction

Introduction

The social and economic climate of the 21st century has been marred by a loss of trust in the business and political landscape and been impacted by societal transformations, terrorist attacks and economic collapses. These events have increased the vulnerability of businesses that were already challenged with increasing rates of change and global competition. The need for leadership at these challenging junctures is widely felt, particularly positive forms of leadership characterised by trust, transparency and authenticity. One such style of leadership, ‘authentic leadership’, has received growing attention over the previous two decades from researchers and practitioners alike. However, despite the call for more detailed investigation of the antecedents of authentic leadership (Gardner, Cogliser, Davis, & Dickens, 2011) this research question has received very little attention. Much of the research on authentic leadership has focused on the consequences of this leadership style, rather than understanding the inputs that assist in the creation of authentic leaders (Avolio and Gardner, 2005; Avolio et al., 2004; Gardner, et al., 2005). The purpose of the current thesis is to explore how the authentic leadership style develops and to make preliminary conclusions about how this leadership style may be cultivated to assist in addressing the challenges across the globe.

This thesis investigates the relationship between life events and authentic leadership in order to test theoretical ideas related to the development of authentic leadership. It also examines the role that self-knowledge plays in the relationship between life events and authentic leadership. This opening chapter details the background of authentic leadership, life events and self-knowledge. The research problem is also outlined in the context of the present study, followed by a summary of the current gaps in literature and the resulting research questions. Following this, an overview of each chapter is presented.

Background to authentic leadership and problem definition

The original view on authenticity was derived from Greek philosophy, which focused on the development of core, or cardinal, virtues. The current definition of authentic leadership focuses on the connection between the leader and follower, such that authentic leaders are characterised by a high level of self-awareness via internalised beliefs, values and morals (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008). Authentic leaders are said to be those who know and act upon their true values, beliefs, integrity and strengths (Avolio & Gardner, 2005; Walumbwa et al., 2008).

After several variations of a definition for authentic leadership were developed, with slightly different nuances, consensus concludes that authentic leadership contains the following clear qualities (Gardner, Avolio, Luthans, May, & Walumbwa, 2005; Ilies et al., 2005; Spitzmuller & Ilies, 2010; Walumbwa et al., 2008):

- Self-awareness: The ongoing process of reflection and re-evaluation by the leader of their strength, weaknesses and values.
- Relational transparency: Honest sharing by the leader of their thoughts and beliefs, balanced by a minimisation of heightened emotions.
- Balanced processing: Consideration of all opposing viewpoints and impartial deliberation of those viewpoints.
- Internalised moral perspective: A positive ethical foundation observed by the leader in their relationships and decisions that are resistant to outside influences.

A groundswell of support for authentic leadership has emerged as the answer to the growing need for integrity and honesty in leaders (Gardner et al., 2011). Authentic leaders apply their own principles, morals and candidness when faced with the dilemmas of our current economic and business environment (Gardner et al., 2011). Previous research has found these authentic characteristics have also been linked with improved organisational performance, greater leader organisational commitment, greater staff engagement and follower support (B. George, 2003; Walumbwa et al., 2008). However, due to the very nature of this personal leadership style, requiring

strong beliefs, attitudes, morals and perspectives, it has been difficult to establish a set of factors that reliably distinguish authentic leaders. Consequently, little is known about how to encourage an authentic leadership style in leaders. Indeed, there is reason to believe that the road to ‘authenticity’ is an individual journey and that development programs attempting to apply a ‘one-size-fits-all’ approach may be inappropriate. Therefore, rather than focus heavily on specific factors associated with authentic leadership, this thesis focuses primarily on a broader set of antecedents that may help individuals develop into authentic leaders.

Each person brings their own true self into their actions and behaviours; therefore, it is extremely difficult, if not impossible, to dismiss one's exclusive self-narrative when communicating or leading others (Weischer, Weibler and Peterson 2013). It is this perspective of life events combined with an understanding of the development of beliefs, morals and values that suggest potential synergies with authentic leadership. When life events can be understood and contextualised to engender a strong moral perspective that is applied to leadership, then the relationship between life events and authentic leadership is worthy of further examination.

Having a deeper understanding of personal values implies two outcomes. One, authentic leaders are cognisant of their own values (Avolio & Gardner, 2005) and, two, they are faithful to these values (Erickson, 1995; Ilies et al., 2005). Consequently, authentic leaders are described as possessing self-knowledge and a personal viewpoint, which suggests clarity about their values and convictions (Shamir & Eilam, 2005). Therefore, the investigation of self-knowledge within the relationship of life events and authentic leadership will provide this study with a holistic perspective.

Research gap and research questions

As a result of the research problem and literature review, three gaps have been identified. These gaps and the related research questions are outlined below:

Gap 1: Having a strong sense of self-knowledge may be derived from a leader's life experiences (Shamir & Eilam, 2005) and to date there has been little research conducted on life events and their relationship with self-knowledge. As such, the following research question has been formulated:

Research Question 1: What influence do life events have on self-knowledge?

Gap 2: Understanding the impacts that life events may have on authentic leadership is essential in identifying antecedents for authentic leadership. The focus to date has been on the positive contribution authentic leaders make to organisational performance or follower satisfaction, without any indication of the experiences these leaders may have had that has shaped this leadership perspective. This gap leads to the second research question:

Research Question 2: What influence do life events have on authentic leadership?

Gap 3: Although there is evidence that self-knowledge is an antecedent to authentic leadership the whole model, including life events, has not been examined. Thus, there is little research on the relationships between life events, self-knowledge and authentic leadership, leading to the final research question:

Research Question 3: Does self-knowledge moderate and/or mediate the relationship between life events and authentic leadership?

Outline of thesis

This thesis is divided into five chapters: Introduction, Literature Review, Methodology, Results and Discussion. Following this opening chapter, the literature relating to this study on authentic leadership, life events and self-knowledge is reviewed (Chapter Two). First, a review is provided of the origins of authenticity, authentic leadership and the four aspects of the theory, insights into self-knowledge and the differences in self-awareness and, finally, a discussion of life events. The dark side of authentic leadership is also acknowledged throughout the review, as are the gaps that exist in the research to date. Hypotheses are then presented and the chapter concludes with an overview of the research questions and the model to be investigated in this study.

Chapter Three addresses the research approach utilised by this study as informed by the literature review and hypotheses presented in Chapter Two. The research viewpoint and paradigm is outlined, followed by a justification of the methodology, including the use of the questionnaire

applied to this research. Reliability and validity issues are considered, followed by the sampling techniques and procedures used. The techniques employed for the data analysis are presented, a review of the sample population provided and the chapter closes with an overview of the ethical considerations.

Quantitative results are presented in Chapter Four, with an initial review of the data preparation required for this study as well as the preliminary data analysis. Finally, the results of the focal analyses, which include correlations, mediation and moderation, are presented.

The final chapter, Chapter Five, reviews the results of the preceding chapter and provides a discussion of the outcomes of the research. The limitations of this study and the corresponding suggestions for future research are discussed, along with the theoretical and practical implications. Finally, this thesis concludes by giving a summary of the dissertation.

Conclusion

Leadership is a fundamental element of the world in which we live—in politics, business, social and family settings. There is a call for a new type of leader, a genuine, values-driven, authentic leader (B. George & Sims 2007). Authentic leadership has been heralded as the solution to restore trust and faith in our leaders through the leader's use of their own personal meaning system as a reference point for leading (Peus, Wesche, Streicher, Braun, & Frey, 2012). To date there has been little research into the antecedents of authentic leadership, whilst the consequences of this leadership style have been proclaimed. This study investigates the relationship between life events, self-knowledge and authentic leadership in a quest to uncover antecedents that may be used to trigger authentic leadership. This identification will enable the next steps towards being able to develop authentic leadership.

Chapter Two – Literature Review

Introduction

Chapter Two provides a literature review on four subjects germane to this study. This review will first examine the origins of authenticity, followed by a specific focus on the four lower-order authentic leadership constructs that have emerged in the past 15 years. Self-knowledge as it relates to self-awareness, a key construct of the authentic leadership theory, is then examined to explore the requirement for self-knowledge as an antecedent to authentic leadership. Finally, the aspect of life events or triggers are considered as another possible antecedent to self-knowledge and, ultimately, authentic leadership. Threaded throughout this review are the many problems associated with the development of an authentic leadership style, highlighting the gaps within the current thinking which form the basis for the research questions and hypotheses.

Authenticity

Although authenticity is not a specific construct of authentic leadership it is pivotal to the understanding of this leadership theory. The original view on authenticity was derived from Greek philosophy, which focused on the development of core, or cardinal, virtues (Hutchinson, 1995). Another perspective stems from the psychological concept of authenticity, defined as “the unobstructed operation of one’s true, or core, self in one’s daily enterprise” (Kernis & Goldman, 2006, p. 294).

Authenticity involves both owning one’s personal experiences (values, thoughts, emotions and beliefs) and acting in accordance with one’s true self (expressing what you really think and believe and behaving accordingly). A more empirically-grounded perspective on authenticity is provided by Kernis (2003) incorporating awareness, unbiased processing, action and relational orientation, as part of a larger theory on the nature of ‘optimal’ self-esteem. It is noted by Erickson (1995) that authenticity is not an either/or position; people are neither completely authentic nor inauthentic. However, they can be described as more or less authentic or inauthentic.

The broad spectrum of authenticity can be demonstrated through a further view of it, not as a personal innate quality, but more so as a characteristic attributed to leaders by others. This perspective challenges the notion that a person is authentic or is not authentic and instead sees it as a relational experience rather than an individual trait. In the context of this thesis, authenticity is understood as the alignment of one's behaviour with one's inner values, beliefs and convictions regardless of their moral values. Authenticity as such does not imply that it concerns positive, ethical or moral behaviour. Indeed, Sparrowe (2005, p. 424) argues "Is the authentic self ...necessarily oriented towards positive values and principles? Even Shakespeare would question that assumption! ... in arguing that authenticity is intrinsically ethical is that 'to thine own self be true' is resolute in its indifference to moral postures." Therefore, from this perspective, while it is generally seen as positive to abstain from establishing a misleading pretence, the actual quality of one's convictions does not necessarily have to be ethical or positive to be authentic.

As noted by Kernis (2003), personal benefits of authenticity, demonstrated by evidence from social, cognitive, and positive psychology in addition to organisational research, include more optimal levels of self-esteem, higher levels of psychological wellbeing, enhanced feelings of friendliness and superior levels of performance (Grandey, Fisk, Mattila, Jansen, & Sideman, 2005). Therefore, when business leaders know and act upon their true beliefs, morals, values and strengths, research suggests that higher levels of employees' wellbeing will accrue, resulting in follower and organisational performance being positively impacted (Ryan & Deci, 2000).

The differing perspectives assigned to the term 'authenticity' have clouded the topic and these same issues have flowed over into the viewpoints on authentic leadership (Gardner et al., 2011). A working definition of authenticity may inform traits or characteristics for authenticity; however, the means to becoming a more evolved authentic leader are still elusive. With authenticity being the key concept within authentic leadership, regardless of it being positive or negative, it is fitting to understand the four constructs within authentic leadership theory and consider their relationship to life events and self-knowledge.

Authentic leadership

The following discussion on authentic leadership shapes the context for this research and examines how authentic leadership has advanced. Understanding the evolution of authentic leadership will help inform the key components of this theory and, with this understanding, set the direction of research required to examine the influences life events may have on the development of an authentic leadership style.

The source of influence for authentic leaders is their creation of meaning for everyone, including themselves, through self-awareness and self-regulation (Luthans & Avolio, 2003; Shamir & Eilam, 2005). In contrast, charismatic leaders often use persuasive speaking strategies to influence their followers (Jackson, 2009); similarly, charismatic and servant leaders inspire others by employing influential, believable practices (Jackson, 2009). Furthermore, both servant and spiritual leaders lack the presence of an explicit presentation of the leader's true self, whereas an authentic leader's main emphasis is on the importance of the altruistic, self-directive, genuine position of one's role as a leader (Gardner, Cogliser, Davis, & Dickens, 2011). The process of reflecting on these key features of a leader is missing from previous leadership theories, demonstrating the critical significance of an authentic leadership theory. Therefore, the deliberate addition of authenticity to leadership theories has been a constructive perspective and builds the case for creating a standalone leadership theory of authentic leadership and researching how this may be developed.

Since 2004, at the inaugural summit hosted by the Gallup Leadership Institute on authentic leadership development, there has been much attention in this field of research. In more recent years, various researchers have sought to clarify the components of authentic leadership, and their definitions have merged around several underlying dimensions (Cooper et al., 2005). This thesis focuses on the work of William Gardner, Bruce Avolio, and their colleagues (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Gardner et al., 2005), which has shaped much research and theory development since the 2004 summit. The basis of their work is derived from social psychology—most importantly, Deci and Ryan's (2002) theory of self-determination, Kernis's (2003) approach to authenticity, positive psychology (Seligman, 2002; Snyder & Lopez, 2002) and

additionally elements of positive organisational behaviour (Luthans, 2002; Luthans & Avolio, 2009). From this perspective and these theories it is believed that authentic leaders benefit from the positive psychological states associated with optimal self-esteem (Kernis, 2003) and also draw from positive psychological capital, including optimism, hope and resilience (Luthans, Avolio, Avey, & Norman, 2007).

As the definition of authentic leadership continues to advance, Walumbwa et al. (2008) focused their attention on authentic leadership through the clear connection of relationships between the leader and follower, interwoven with a high level of self-awareness through internalised beliefs, values and morals. Authentic leaders are said to be those who know and act upon their true values, beliefs, integrity and strengths (Avolio & Gardner, 2005; Walumbwa et al., 2008).

A number of academic literatures assert the theory that authentic leadership may provide a solution to address the current public need for accountability, clarity, integrity and honesty due to a leader's focus on their own principles, morals and transparency when faced with questionable business practices (Avolio & Gardner, 2005; Avolio, Luthans & Walumbwa, 2004; Walumbwa et al., 2008). These authentic characteristics have also been coupled with improved organisational performance (Walumbwa et al., 2008; B. George, 2003). Walumbwa et al. (2008) maintain that these leaders are more committed to their organisations, show greater principled behaviour and staff engagement, while Wong and Cummings (2009) assert that followers of authentic leaders report greater trust and satisfaction with their supervisor. Avolio and Gardner (2005) also suggest that authentic leaders can improve the work attitude of followers, for instance job satisfaction and commitment, and this leads to higher levels of job performance.

Drawing from positive psychology and positive psychology capital concepts (Avolio & Gardner, 2005; B. George, 2003; Kernis, 2003; Luthans & Avolio, 2003), Ilies et al. (2005) developed a four-dimensional model of authentic leadership. The four dimensions include: self-awareness, unbiased processing, authentic behaviour/acting, and authentic relational orientation. While this model positively built upon prior theory, there was a need identified by Cooper et al. (2005) to

develop psychometrically-sound measures to describe the potential behaviours, antecedents and outcomes associated with authentic leadership. In answer to this call, Walumbwa et al. (2008) developed and confirmed the measurement of authentic leadership. Incorporating research from social psychology, moral and ethical philosophy, and the previously mentioned contributions, the authors introduced a four-factor Authentic Leadership Questionnaire (ALQ) and presented psychometric evidence.¹ The multi-dimensional authentic leadership model consists of four factors—self-awareness, relational transparency, balanced processing and internalised moral perspective—with 16 items incorporated into the ALQ.

There are several reasons to choose the four-factor theory that are fundamental to the ALQ as the basis for the theoretical grounds for this research. Firstly, its origins are deeply seated in the present social psychology theory and research on authenticity compared to those who have taken a more initiatory or philosophical approach to theory development (Shamir & Eilam, 2005; Sparrowe, 2005). Additionally, there is a focus on the importance of an internalised moral perspective to authentic leadership, making clear linkages back to authenticity. Furthermore, it is a widely utilised and researched framework for applying the principles of authentic leadership theory; applying the authentic leadership theory from this perspective will provide a solid foundation for defining and measuring authentic leadership in this thesis.

However, there is still much conjecture over how people become authentic leaders. Given the requirements of internalising beliefs, attitudes and behaviours to be considered authentic, there is debate surrounding the development of authentic leadership (Baron & Parent, 2015). Through the research of Baron & Parent, they believe “no study has explored the ‘black box’ of authentic leadership development—the process individuals go through during their development and the elements of training programs that foster that development” (p. 2). Cooper et al. (2005) argue that, unlike other areas of leadership, where competency sets may be attained through traditional training programs, authentic leadership through its very nature of being authentic cannot be approached in this

¹ Although Walumbwa (and others) have had seven papers retracted or called into question due to issues relating to the reporting of data and the inability of the author to produce the original data, this issue has not called into question the development or integrity of the ALQ or the underlying four-factor model. None of the retracted works have been used in this study.

manner. They specifically identify three areas which they believe any training program must address, including the need for the program to be genuine, overcoming the difficulty in recreating the event/s that triggered the changes in thoughts and actions, and finding a way for ethical decision-making to be taught within the development program (Cooper et al., 2005).

The successes of standardised training or development programs that aim to teach leaders how to be authentic by introducing concepts, skills or behaviours are questionable (Endrissat, Müller, & Kaudela-Baum, 2007). Research by Endrissat et al. (2007) found that these programs undermined the idea of finding one's own way of doing things. When managers attended these programs, and followed the advice provided, they in fact would be rejecting their attempt to be authentic. Equally, Shamir and Eilam (2005, p. 409) note that "we should be especially wary of standardised programs because authentic leaders as defined in this paper do not follow fads, yet the yearning for authenticity, in leadership and elsewhere, is currently such a fad." Again, Endrissat et al. conclude that developing authentic leaders can only be successful if the training is tailored and highly personalised with a focus on reflecting the congruence of one's values with the job's requirements and the organisation's culture.

In summary, the need for authentic leadership has been a positive influence on the leadership landscape, with the introduction of authenticity themes within, as well as separate to, leadership theory. This study is primarily concerned with how authentic leadership develops; however, the problems associated with accomplishing this have been highlighted by many authors due to the very nature of being authentic (Avolio and Gardner, 2005; Diddams & Chang 2012). The next section is a greater exploration of the four factors within the ALQ with a view to understand these components and what associations they may have to the life events of leaders.

Relational transparency

Relational transparency refers to the open sharing of the leader's thoughts and beliefs rather than a distorted or false self. The behaviour required would involve the open sharing of information and expressing true feelings, without displaying too much information or emotions (Kernis, 2003). The dimension of relational transparency involves leaders exhibiting open, transparent relations,

demonstrating an individual's true character. Through revealing openness, self-disclosure and trust the leader presents their true self and through this behaviour fosters followers' trust. Information is shared and, consequently, true thoughts and feelings are expressed (Gardner et al., 2005; Kernis, 2003).

Both the positive and negative aspects of a leader's true self are shared through genuine rather than deceptive self-presentation. Relational transparency may be realised through appropriate self-disclosure of the self-awareness categories of values, identity, emotions and goals, resulting in a higher level of trust in the leader (Hughes, 2005). Relational transparency is also a significant predictor of trust in the leader (Hassan & Ahmed, 2011). Finally, there is an emphasis on a level of openness and truthfulness that encourages others to be forthcoming with their ideas, make challenges and share opinions.

Overall, leaders who are honest with themselves and others and are willing to share these beliefs are likely to be high in the relational transparency aspect of authentic leadership. The impact that life events and self-knowledge may have on this element of authentic leadership is explored later in this chapter.

Internalised moral perspective

Internalised moral perspective refers to a positive ethical foundation used by the leader in their decision-making, showing resilience to outside pressures. It is argued by Avolio and Gardner (2005) that authentic leadership and its development requires an ethical or moral element. Furthermore, it is suggested that this moral component, demonstrating an ethical standard and transparent decision-making, is where authentic leaders draw upon their wealth of moral capacity, audacity and resilience to address ethical issues and achieve authentic and sustained moral actions. An internalised moral perspective therefore represents the facet of authentic leadership related to the leader's ability to apply their own internal moral compass to navigate towards appropriate behaviour, particularly when faced with ambiguous moral situations and pressures to act in an unethical way.

A person's internal moral perspective is prone to weaknesses such as unrealistic optimism, ignoring low-probability events, undervaluing collective outcomes and misjudging risks (Diddams &

Chang, 2012). All of these issues can lead to ethical failures, such as poor ethical decision-making (Diddams & Chang, 2012). The difficulty arises that moral situations are often ambiguous and the ability for leaders to access their moral identity may be thwarted or even negatively influenced by factors such as where they sit in the organisation's hierarchy. Diddams and Chang (2012) believe people with a high moral character may be less susceptible to ethical breaches if they believe the business climate is generally ethical. Consequently, if there was a more positive ethical culture it would be easier for leaders to apply an internal moral scope and ensuing moral consideration.

The belief that one possesses moral courage in the absence of testing such resolve has consequences for individual ethical behaviour. Dunning (2005) believes that, in general, people tend to overestimate the likelihood of their own moral behaviour because they do not factor in their emotional responses to unique, stressed-filled situations. As such, they tend to believe that they have more courage to behave morally than they actually do in such situations. Conversely, people who view themselves as having higher morality than others are more likely to cheat when they believe that cheating serves other beneficial ends (Reynolds & Ceranic, 2007). In summary, the view on morality suggests that a strong moral character is not entirely based on one's character and can be influenced by situational and self-belief characteristics.

Whilst it is conceivable to understand the elements of an internal moral perspective there is less material on the ways in which leaders develop this quality. May et al. (2003) pose an integrated framework that examines how awareness of moral issues ultimately leads to ethical actions. By reflecting on their own selves and others, such leaders think with greater depth about moral issues and are better able to grasp the moral implications of a given situation and categorise it as a moral one when it is appropriate to do so (Cooper et al. 2005). The limitations of this approach will depend on the age and experiences from which the leader must draw. In summary, the ability to apply moral and ethical standards is difficult and may limit the development of a moral perspective in authentic leadership.

Balanced processing

Balanced processing within authentic leadership is the practice of objectively analysing all relevant data before coming to a decision. Kernis (2003) uses the label 'unbiased processing' to describe the absence of denials, exaggerations, distortions or ignorance of internal experiences, private knowledge and external evaluations of the self, which he attributes to the core components of authenticity. Unbiased processing is a difficult concept to qualify due to the strong evidence from the work of social physiologists demonstrating that humans are inherently flawed and biased (Kernis, 2003). Therefore, as information processors, when it comes to processing information about the self, the term 'balanced processing' is favoured (Gardner et al., 2005).

Balanced processing can be understood by considering how personal biases impact the processes that people with fragile high or low self-esteem select and interpret information (Kernis, 2003). These people struggle to acknowledge personal shortcomings or undesirable attributes or certain negative emotions. Kernis (2003) argues that authentic people, including authentic leaders, who possess healthy levels of self-worth have a different pattern of information processing due to their ability to have a composed view of their character and attributes, therefore they can impartially process both relevant and irrelevant information relating to self-esteem.

Indeed, there are many times when leaders' needs and values are incompatible with the demands of their community, organisation or society (Kernis, 2003). In such cases authenticity may be reflected by the leader's awareness of their needs and a balanced assessment of the situation as it relates to the concept of their own self. As for the leader's behaviour, it may appear authentic in some cases, but not others. Still, to achieve authentic leadership, authenticity must be attained with respect to interactions with others; that is, because followers' perceptions of, and trust in, the leader are based largely on the leader's actions, these actions must be aligned with espoused and enacted values to convince followers of the leader's integrity. Moreover, to be truly authentic, the leader's core and espoused end values must reconcile (Kernis, 2003).

Authentic leaders act through objectively analysing all information and data before making decisions. This balanced assessment as well as the transparency and moral perspective suggest that the

development of authentic leadership is contingent upon the leader having explicit knowledge of themselves so that they readily act in accordance with this knowledge. A leader's ability to understand themselves and the proficiency to make a balanced assessment emphasise the importance of self-awareness, as discussed in the next section.

Self-awareness

Finally, self-awareness refers to the heart of authentic leadership: being true to oneself. Self-awareness refers to the demonstration of an understanding of how one obtains and makes sense of the world and then how that new understanding influences the way a person views themselves. Self-awareness entails the knowledge and understanding of the leader's strengths and weaknesses (Kernis, 2003) as well as beliefs, values and personality (Ilies et al., 2005). Self-awareness is a process where a person continually questions and reassesses their strengths and weaknesses, making it an active process of reflection and re-examination (Avolio, Griffith, Wersning, & Walumbwa, 2010). The consistent aspect of literature on authentic leadership speaks to the notion of being true to oneself as the core construct (Avolio & Gardner, 2005). Therefore, authentic leadership theory is very distinct from other leadership concepts due to the authenticity being achieved through a leader's self-regulation—a process through which authentic leaders align their values with their aims and actions.

Through the process of self-awareness, a person can take a journey of self-discovery to uncover the reality of personal motives, beliefs, values and goals, and thereby grow into a more developed authentic leader (Sparrowe, 2005). However, to date there have been no developmental practices that have been able to demonstrate this viewpoint. Researchers have tended to focus on the consequences of authentic leadership, with a limited focus on antecedents (Peus 2012). Through a focus on these antecedents there may be an opportunity to develop insights into the precursors for people who lead authentically.

Interaction of the four aspects of authentic leadership

Walumbwa et al. (2008) define authentic leadership as “a pattern of leader behaviour 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” (p. 94). This definition highlights how each element of authentic leadership is integrated and related to this leadership theory. It is apparent that self-awareness and the monitoring of an internalised moral perspective, relational transparency and balanced processing are core components required to develop an authentic leadership style.

Authentic leaders are deeply aware of their beliefs, strengths and weaknesses and endeavour to reflect and understand how their leadership impacts others. Therefore, the reflective cycle of self-awareness is a key aspect. Self-awareness and the difference to self-knowledge are examined next to appreciate the distinctions between these terms.

Self-awareness versus self-knowledge

As discussed previously, the foundation of authentic leadership is self-awareness as it ascribes to the proven understanding of one's strengths, weaknesses and the way we understand ourselves (Avolio, Walumbwa, & Weber, 2009). Diddams and Chang (2012) maintain that if self-awareness was just a simple alignment of self-identity and action then anyone, “even the mere clueless could muster an authentic self” (p. 596). Therefore, a key component of both authenticity and authentic leadership is the need for a high level of self-concept clarity and self-knowledge (Avolio et al 2010; Gardner et al., 2005; Kernis, 2003; Shamir & Eilam, 2005).

For several authors the advancement of authentic leadership practices is closely related to gaining self-knowledge of personal values (Avolio, Luthans, & Walumbwa, 2004; Bennis, 2003; Shamir & Eilam, 2005). According to Shamir and Eilam (2005), leaders who possess a high degree of self-knowledge are clear on their beliefs, values and principles, and Peus et al (2012) emphasise that it is the knowledge and understanding of self-concept that help leaders elicit meaning from a situation which then informs feeling, thinking and acting authentically. Therefore, it is the self-knowledge about personal values and beliefs, as well as the understanding of individual strengths and

weaknesses, that are prerequisites for leaders acting in a way that is perceived as authentic by their followers (Peus et al., 2012).

There are two fundamental differences between self-awareness and self-knowledge (Peus et al., 2012). Self-knowledge depicts the fact that a person has knowledge about their values, beliefs, motives, and strengths and weaknesses. However, self-awareness describes the cycle that a person goes through to repeatedly question and reassess their strengths and weaknesses. As Gardner et al. (2005) point out “self-awareness is a process whereby one comes to reflect on one’s unique values, identity, emotions, goals, knowledge, talents and/or capabilities” (p. 349). Ladkin and Taylor (2010) explain that it is the expression through the enactment of a person’s awareness of self that is negotiated and then made sense of. Finally, Wong and Cummings (2009) highlight “self-awareness is not an end in itself but a process of developing insight into one’s strengths and weaknesses and being aware of and trusting one’s feelings” (p. 890). The conclusion is that the notion of self-awareness is a dynamic process involving reflection and re-examination of values and beliefs, whereas self-knowledge is to first know one’s values, goals and beliefs.

A second distinction between self-knowledge and self-awareness considers the fact that self-awareness comprises self-confidence (Wong and Cummings, 2009) or, as Spitzmuller and Ilies (2010) state, is a leader’s “trust in his/her personal characteristics, values, motives, feelings, and cognitions” (p. 310). Consequently, self-knowledge and self-awareness are not the same, but instead self-knowledge is an antecedent of self-awareness (Peus et al., 2012). It is first necessary to know beliefs and values before being able to ‘re-evaluate’ them and “seeking feedback in order to improve interactions with others” (Peus et al., 2012, p. 333), as per the items determining self-awareness within the ALQ (Walumbwa et al., 2008). In summary, knowledge is required about one’s personal qualities and beliefs before being able to have trust in them and then act on them.

Whilst there has been advancement in the theory and measures for authentic leadership there is still limited empirical evidence for antecedents of authentic leadership. Peus et al. (2012) recently validated the ALQ in a German setting and established self-knowledge as an antecedent to authentic

leadership, which in turn affected followers' satisfaction with the leader and organisational commitment. As the only study to have validated this distinction, it is clear there is further opportunity to investigate additional antecedents. Gardner et al. (2005) postulate that to act authentically one should "know oneself" and "act in accordance with one's true self" (p. 347), hence the need for self-knowledge. However, self-knowledge must also rely on antecedents as an input into the discovery of values and beliefs.

In an effort to uncover what may contribute towards leaders understanding themselves better, consideration is given to the effect life events may have as an antecedent on the development of personal values, beliefs, morals or perspectives. The next section examines how leaders interpret these personal histories, sometimes referred to as triggers, and how these events may inform their self-identity as leaders and influence their moral development and values.

Life events or triggers

Popular leadership author Bill George conducted a qualitative study to learn if there is a methodology on how people become and remain authentic leaders. The results did not produce the profile of an ideal leader as expected, finding that there are no universal characteristics, skills, traits or leadership styles that lead to success (George & Sims, 2007). Instead leadership emerges from the stories of leaders' life experiences. The consistent theme within this qualitative approach showed these leaders are constantly testing themselves through their experiences in the world and reframing their life stories to make sense of who they are. This process helps them discover the purpose of their leadership and this genuineness makes them more effective (B. George et al., 2007). A consistent challenge of these leaders is to understand themselves well enough to discover where they can use their leadership talents to serve others. Developing self-awareness from their life experiences is a key to move from just being a passive observer to allow that reflection to shape their values and principles: "It is the personal narrative that matters not the mere facts of your life" (B. George et al., 2007, p. 132).

As part of this study by B. George et al. (2007) they found that as the authentic quality takes shape there is a requirement to have courage and honesty to open up and examine experiences. As knowledge expands, leaders become more humane and are willing to be vulnerable (B. George et al., 2007). The study found that leaders are able to easily recount living their values and beliefs while things are going well, but when under pressure or when personal career success is threatened, their career or even life hangs in the balance there is a greater understanding of what they are prepared to sacrifice, give up or exchange, making these life experiences an essential aspect to challenge their true values or beliefs (B. George et al., 2007).

Self-knowledge addresses those questions one asks about “Who am I?” The answers to these questions are often organised in the form of life stories using the narrative form of knowing (Shamir & Eilam, 2005). Life stories are a way that storytellers express their identities, which have been formed from their life experiences. In developing these narratives, the individual endeavours to determine rational connections among life events. According to Shamir and Eilam (2005), “highly developed self-knowledge in terms of a life-story provides the authentic leader with self-concept clarity because it organises life events into a gestalt structure that establishes connections between those events so that the person's life is experienced as a coherent unfolding process” (p. 402).

Personal histories and the analysis of trigger events are claimed to improve self-awareness and personal development (Gardner et al., 2005). Trigger events are moments in life when noticeable personal growth is the result of a catalysing event (Cooper et al., 2005). Weischer, Weibler and Peterson (2013) believe that childhood experiences, family and cultural influences, and other accrued life experiences enhance or diminish self-development. These stored memories are the self-knowledge that shapes one's identity. Life stories can provide an authentic leader with a “meaning system”, from which to feel, think and act. They enable the analysis and interpretation of events in a way that gives a personal meaning (Kegan, 1982, p. 220). Shamir and Eilam (2005) argue that authentic leadership rests heavily on the meanings leaders attach to their life encounters. Ultimately these explanations are captured in the leader's life story through self-knowledge, self-concept clarity and person–role merger (Shamir and Eilam, 2005). Therefore, there is good reason to believe that life events and the

construction of life stories are major ingredients in the development of authentic leaders. More specifically, it follows that having a rich set of critical life events to draw upon and learn from will foster the development of self-knowledge and, consequently, authentic leadership.

Although theoretically it follows that life events, self-knowledge and authentic leadership are related, to date there has been no research bringing all these elements together. It is expected that leaders who have the ability to understand their strengths and weaknesses and reflect on their life stories and then act on this knowledge/awareness will score highly in some of the key components of authentic leadership. Furthermore, based on research by Peus et al. (2012) regarding self-knowledge as an antecedent to authentic leadership, it is reasonable to consider self-knowledge as a potential mediator and/or moderator between life events and authentic leadership.

Research questions and hypotheses

The objectives of the current study are to examine the relationship between life events, self-knowledge and authentic leadership, specifically examining the influence of life events on self-knowledge. In addition, it aims to investigate the potential mediating and/or moderating relationships between life events and authentic leadership. These research objectives have been consolidated into the three broad research questions developed from the reviewed literature:

1. What influence do life events have on self-knowledge?
2. What influence do life events have on authentic leadership?
3. Does self-knowledge moderate and/or mediate the relationship between life events and authentic leadership?

Specific hypotheses have been developed from these research questions and are graphically displayed in Figure 1 and explained further below.

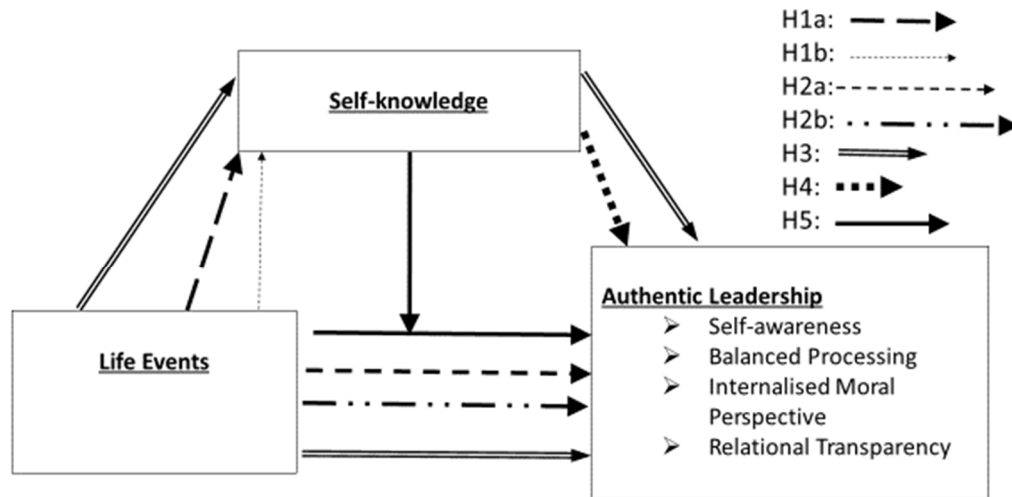


Figure 1. Hypotheses based on research questions

Based on the four factors of the authentic leadership model discussed in the previous section, as well as the related research on this theory also reviewed, it is proposed that:

Hypothesis 1a – Life events will predict self-knowledge.

Hypothesis 1b – Participants instructed to recollect their major life events will self-report higher levels of self-knowledge in the short term than those not instructed to recollect such events.

These hypotheses are based on the literature review findings that authentic leaders have the tendency to reflect and reframe their life stories. Please note that hypothesis 1b provides a more specific (though still preliminary) test of the proposed causal relationship between life events and self-knowledge suggesting that leaders *required* to re-visit life events as part of this study will, at least in the short term, score higher in a measure of self-knowledge than those who still consider their life events but only after they have completed the ALQ.

Overall, there is limited quantitative research investigating the influence of life events and authentic leadership. This gap in research suggests an area for investigation to qualify if there is any relationship between life events and authentic leadership. Therefore, it is proposed that:

Hypothesis 2a – Life events are a predictor of authentic leadership.

Hypothesis 2b – Participants instructed to recollect their major life events will self-report higher levels of self-knowledge in the short term, than those not instructed to recollect such events first. This will be most noticeable in the ‘self-awareness’ component of authentic leadership.

Note that like hypothesis 1b, hypothesis 2b is based on research suggesting that reflecting and reframing life-stories is a developmental precursor to authentic leadership. Therefore, it is suggested that leaders who are required to firstly revisit critical life events as a part of this study will score higher in a measure of authentic leadership (particularly the ‘self-awareness’ component) compared to participants who self-rate their authentic leadership and then consider their life events.

Further, based on authentic leadership theory (Shamir and Eilam, 2005), as well as research by Peus et al. (2012) demonstrating that self-knowledge is an antecedent of authentic leadership, it is expected that:

Hypothesis 3 – Self-knowledge will mediate the relationship between life events and authentic leadership.

Hypothesis 4 – Self-knowledge directly relates to authentic leadership.

Finally, it is also expected that self-knowledge will act as a moderator in the relationship between life events and authentic leadership. This is because, as mentioned earlier, simply having life events is necessary but not sufficient to enhance authentic leadership. Theoretically, this will only happen in people who use this information to inform their self-knowledge. Therefore, the relationship between life events and authentic leadership should be strong in individuals with relatively high levels of self-knowledge, as such:

Hypothesis 5 – Self-knowledge will moderate the relationship between life events and authentic leadership.

Conclusion

After an extensive literature review, only one piece of research has found that self-knowledge is an antecedent for authentic leadership and there is no conclusive evidence that life events have an impact on leaders demonstrating authentic leadership characteristics. Through testing and building on past research in authentic leadership this study will expand the erudition of this leadership theory. The extensive research that has been undertaken over the past 20 years on authentic leadership has mainly looked at the consequences of leading authentically, not at the factors that contribute to people becoming more authentic leaders. This study will contribute to the body of authentic leadership knowledge by examining the gaps in literature on the influences that life events and self-knowledge have in the development of authentic leadership. In addition, whether self-knowledge is a mediator or moderator between life events and authentic leadership will be assessed.

The results of this study will assist future research in creating methods to develop authentic leaders, something that has eluded researchers to date. It has been suggested that more authentic leaders in leadership roles will address the current public need for accountability, clarity, integrity and honesty, based on authentic leaders' focus on their own principles, morals and transparency when faced with questionable business practices. Therefore, it is imperative to identify the antecedents to authentic leadership as this may then establish development practices in this field.

Chapter Three – Methodology

Introduction

Chapter Two covered a thorough review of the literature regarding authentic leadership, with a special interest in self-knowledge as it relates to self-awareness, and the connection life events may have as antecedents to authentic leadership. This chapter outlines the rationale and design of the study undertaken to test the hypotheses developed to address the identified gaps in knowledge. Specifically, this chapter outlines the perspectives which inform this research project. An overview of the research methodology and design are discussed, followed by the research philosophy and data collection techniques used in this study. The chapter continues by describing the sampling strategy adopted and the research measures employed. Finally, methodological limitations and ethical considerations are reviewed.

Research philosophy and methodology

According to Willis, Jost and Nilakanta (2007), a paradigm is a “comprehensive belief system, world view, or framework that guides research and practice in a field” (p. 245). The paradigm signals the philosophical assumptions of the research and is interpreted into different ontological, epistemological and methodological approaches. There is an interconnectedness suggested by Fleetwood (2005) showing that all three approaches are interconnected, thereby establishing the researcher’s view of the nature of reality (ontology), influencing the belief of what constitutes acceptable knowledge in a field of study (epistemology) and the data collection techniques commonly used (methodology and research technique).

Due to the type of research questions applied within this study the most appropriate approach is the perspective of a post-positivist paradigm. In management research post-positivism is the most commonly used paradigm (Thomas, 2006). The aim of post-positivism is to uncover rubrics which can be used to predict human activity (Cavana, Delahaye, & Sekaran, 2001). Post-positivism indicates the production of objective, precise and quantitative data that can be generalised (Collis & Hussey,

2003). There is also an element of subjectivity that is applied to the way information is interpreted (Fisher, 2004). Therefore, applying a post-positive perspective to this research when using self-reporting on self-knowledge as a construct it is understood that it cannot be measured in an exact way. However, it is still valuable to understand the construct with quantifiable data that can be generalised.

For the development of rigorous research it is imperative that there is a methodological fit between the research questions, paradigm, maturity of a research topic and research design (Edmondson & McManus, 2007). Leadership has been studied extensively, as have other topics covered in the literature review, as such these topics are described as mature topics. As there are existing measures for self-knowledge, authentic leadership and life events the present research adopts a deductive approach. Consequently, this study aims to test and build on existing theory and verify hypotheses, as opposed to an inductive approach of developing theory through findings (Bryman & Bell, 2003). This research will facilitate the exploration of the mediating effects of self-knowledge in the relationship between life events and authentic leadership.

An empirical approach to investigate the relationships drawn from the literature is then used to test the hypotheses. A quantitative approach is most appropriate as it merges deductive logic with pragmatic reflections of how individuals behave to discover and confirm general patterns of human activity (Neuman, 1997). The basis of quantitative analysis relies on the testing of hypotheses rather than the qualitative view of capturing meaning and discovery once the researcher becomes immersed in the data. For this research topic, quantitative research is crucial to answering the research questions involving the relationships between pre-existing, defined constructs.

The following research questions are answered using a quantitative research approach:

1. What influence do life events have on self-knowledge?
2. What influence do life events have on authentic leadership?
3. Does self-knowledge moderate and/or mediate the relationship between life events and authentic leadership?

Questionnaire research method

The “gathering of information from individuals using a formally designed schedule of questions” (Veal, 2005, p. 143) is one of the most commonly used practices in management research. Conducting survey research involves using a cross-sectional design to gather data, which will then be appraised to assess relationships between variables (Bryman & Bell, 2003), and aims to produce generalisations about populations (Thomas, 2004). Descriptive research using attitude and opinion questionnaires enables the researcher to identify and describe the changeability in different phenomena (Saunders, Lewis & Thornhill, 2009). Additionally, Veal (2005) advocates the use of questionnaires to seek an understanding of connections between individuals’ characteristics, perceptions, attitudes and/or behavioural tendencies, making this method appropriate for the type of research being conducted: hypotheses testing.

Although sometimes used interchangeably, surveys and questionnaires are entirely different. Surveys involve gathering data from a broad range of individuals using several data collection techniques, which may include but are not limited to personal interviews, telephone interviews, direct observation or self-administered questionnaires (SAQs) (Scheaffer, Mendenhall, & Ott, 1990). On the other hand, a questionnaire is regarded as a tool used to gather data in which the data are collected in a predetermined order by each respondent (Saunders et al., 2009). The research in this thesis has used an SAQ as part of the survey approach to gather data on a number of constructs relating to authentic leadership and life events.

The efficiency of an SAQ is suited to this type of research, where the researcher knows exactly what information is required to collect and holds suitable measures of variables (Sekaran, 2003). SAQs have numerous advantages: there is a reduction of respondent fatigue as SAQs tend to be shorter than other collection methods (Bryman & Bell, 2003); they limit confidentiality issues (Zikmund, 2003), creating the opportunity for more truthful responses; they allow for ease of access to a large and geographically-dispersed population (Cavana et al., 2001); and they are less expensive to administer than face-to-face interviews (Burns, 2000). The collection of data is also very diverse

with SAQs and can be administered personally, sent via post or electronically distributed (Saunders, et al., 2009). Finally, SAQs reduce the bias introduced when an interviewer is involved (Bryman & Bell, 2003).

Although the SAQ method has numerous advantages, one common drawback is self-selection bias (Zikmund, 2003). This bias occurs when respondents who are interested in or hold intense views on the subject are potentially more likely to participate in a survey than those with less interest in the topic (Zikmund, 2003). Other response biases can occur when participants respond in a way, unconsciously or consciously, that misrepresents their actual behaviours, motivations, perceptions, attitudes or intentions (Cooper & Schindler, 2006). This causes an inaccuracy of the reflected views of responses compared to others in the sample and the population (Creswell, 2009). As a self-reporting tool, the tendency to be socially acceptable (social desirability bias), to be agreeable (acquiescence) or even use extremes when responding to questions (extremity bias) may encourage participants to alter their responses (Zikmund, 2003). As the survey was administered anonymously and there was the ability to take the survey at any time or place, the potential for such bias to occur was reduced.

Online distribution method

The survey was administered online using the program Qualtrics. Emails were sent to potential participants drawn from the research team's networks, providing a hyperlink to the web-based SAQ. In addition, information about the research was advertised on professional websites. In these communications participants were encouraged to refer the email or information about the study on to other leaders and thus create a snowball effect. The use of the questionnaire and its distribution was prompted by several factors. Most importantly, it is easy to administer the same survey to a large number of people regardless of their location (Cooper & Schindler, 2006; Zikmund, 2003). This enabled a large sample regardless of location in an inexpensive and cost-effective way. Secondly, online distribution enabled faster data collection through quick turnaround and delivery. Online questionnaires have the added advantage through their convenience, with respondents being able to undertake the survey during a time suitable to them (Evans & Mathur, 2005). Anonymity is another

advantage of online questionnaires that are accessed on a secure server (Cooper & Schindler, 2006). Finally, electronic questionnaires have an efficiency advantage in that there is the ability to transfer data directly to suitable statistical software without the need for manual data entry (Saunders et al., 2009).

Despite the advantages of online questionnaires, potential limitations have been identified and mitigation strategies put in place to minimise these affects in the current study. The most limiting aspects of online questionnaires are that they are restricted to those participants who have access to the internet and who are computer literate (Cooper & Schindler, 2006; Neuman, 2006). Although often raised as a problem for online questionnaires generally, these were not considered noteworthy given this study used an email invitation or online distribution, indicating that participants had access to the appropriate facilities. In other conditions, online distribution may not be a true representation of the general population; however, the target population of this study engage in technology-enabled activities daily as part of their jobs so were considered appropriate to target in this way.

Online survey methods can be viewed as impersonal and, as Evans and Mathur (2005) identify, participants can have issues with privacy and security, with some participants viewing the survey as junk mail. Moreover, Veal (2005) identifies low response rates potentially being a problem for some studies due to these concerns. To offset these limitations and respond to self-selection and response bias, mitigating techniques were used, such as the researcher attaching a personal cover letter to the questionnaire, assuring confidentiality and providing a contact point if there were any concerns (Evans & Mathur, 2005). These techniques were incorporated into the current study.

Questionnaire design and measures

The study can be described as a primarily cross-sectional, correlation-based study with an experimental component containing one between-subject factor (i.e. recent recollection of critical life events). Specifically, all focal variables were measured in all participants; however, the sequence of questionnaires was varied in order to define the between-subject factor. As explained in more detail below, half of the participants completed the questionnaire requiring them to recall critical life events

prior to reporting their levels of self-knowledge and authentic leadership. The remaining half of the participants completed the questionnaire requiring them to recall critical life events *after* reporting their levels of self-knowledge and authentic leadership. Consequently, half of the participants had just engaged in a task which theoretically should enhance self-knowledge and self-awareness, whereas half of the participants had not.

Overall the questionnaire consisted of the five same sections; however, there were two versions, ordered differently to achieve the between-subject manipulation (Meyer & Schvaneveldt, 1971). The first two sections of the questionnaire were identical, starting with participant information and then demographic questions. The next section was either the life events questionnaire or authentic leadership questionnaire and then, finally, self-knowledge questions. Existing scales were used as they tend to retain higher levels of validity and reliability (Hinkin, 1995). Developing a new scale can be problematic and time consuming, therefore established scales are deemed superior where development is not practical (Hinkin, 1995). Refer to Appendix A for a copy of the online distributed questionnaire. Table 1 is an outline of the measures used in this study with descriptions afterwards.

Table 1

Measurement and scales

Type of measurement	Scale	Author
Authentic Leadership (ALQ) – 16 item	Five- point Likert scale	Walumbwa et al., 2008
Integrative Self-Knowledge (ISK) – 12 item	Five- point Likert scale	Ghorbani, Watson, & Hargis, 2008
Recent Life Changes Questionnaire (RLCQ)	Open ended numerical score	Holmes & Rahe, 1967

Demographic variables

Participants were asked to answer a series of questions in this section that were related to the individual and their leadership experience. Demographic questions were included regarding participants’ age, gender and the most recent type of leadership role held.

Authentic leadership

Authentic leadership was measured using a combination of the 16-item ALQ (Walumbwa et al., 2008). The level of agreement with all items were measured using a five-point Likert-type scale ranging from 1 'not at all' to 5 'frequently, if not always'. Typically, Likert scales are used to measure how strongly participants agree or disagree with statements relating to a belief or attitude (Zikmund, 2003). Example questions from the ALQ relating to the four components of the theory are listed below:

Self-awareness:

- Seeks feedback to improve interactions with others.
- Accurately describes how others view his or her capabilities.

Relational transparency:

- Says exactly what he or she means.
- Is willing to admit mistakes when they are made.

Internalised moral perspective:

- Demonstrates beliefs that are consistent with actions.
- Makes decisions based on his/her core beliefs.

Balanced processing:

- Solicits views that challenge his or her deeply held positions.
- Listens carefully to different points of view before coming to conclusions.

Self-knowledge

The Integrative Self-Knowledge (ISK) Scale has been used to measure a temporally integrated understanding of processes within the self (Ghorbani, Watson, & Hargis, 2008). The ISK Scale measures tendencies to engage in a cognitive process of uniting past, present and desired future self-experience into a meaningful whole. The 12 questions required a response on a five-point Likert

scale from 1 'largely untrue' to 5 'largely true'. Nine of the 12 questions were reverse scored. This reverse coding was performed as part of the data screening and is discussed in Chapter Four. Example statements, including some that are reverse-coded (indicated by R), are provided:

- What I have learned about myself in the past has helped me to respond better to difficult situations.
- If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviours.
- While I am in the middle of a personal problem, I get so involved that I just can't at the same time rise above the situation and clearly examine what I am thinking and feeling. (R)
- Most of the time, I get so involved in what is going on that I really can't see how I am responding to a situation. (R)

Life events

The Recent Life Changes Questionnaire (RLCQ) was used in this research as an aggregate measure of the quantity and significance of life events. This tool measures the stress individuals undergo through life changing events and is an appropriate measure for this study as it has five categories—work, home and family, health, personal and social, and financial—that are examined to holistically assess the events that have occurred in an individual's life. A value is associated with each life event and this provides a total life events score. Although this measure was first used for collecting information on life change, the total score is a good indicator of whether people have lived a life with a rich set of positive and negative experiences and can put a value on the total number of these experiences.

The RLCQ was adapted from the original Social Readjustment Rating Scale (SRRS), more commonly known as the Holmes and Rahe Stress Scale (Holmes & Rahe, 1967). It has since been updated to better reflect the impact of today's stress and different lifestyles (Miller & Rahe, 1997). For this study, the 73 life event questions were reduced to 54 items, removing the items that were repetitive or not reflective of today's environment, bearing in mind that these recent revisions occurred nearly 20 years ago. The value associated with each life event was retained and each

respondent was asked to identify the number of times this event has occurred in their lives. The overall score per respondent reflects the number of times each life event has occurred and the impact (associated value) of the life event. A high score may indicate many life events have happened that were not heavily weighted, for example many promotions (weighted 30) or alternatively there may have been fewer life events that have a higher magnitude (death of spouse, 119; death of parent, 100). To control for the confounding role that age would play on this variable (older people will have experienced more significant life events on average) age was statistically controlled in all focal analyses.

Validity, reliability and objectivity

To ensure that the design of a methodology is sound, according to Cavana et al. (2001) it must have rigour: a high level of caution, meticulousness and a degree of precision in the research. Rigour can be measured against the methodological design and a set of evaluation criteria. Consideration should be given to internal and external validity, reliability and objectivity when evaluating a quantitative study from a post-positivist perspective (Guba & Lincoln, 2005). The data set for this study was tested for validity and reliability of its constructs before thorough data analysis was undertaken.

Validity

Validity is an important and essential criterion for evaluation, although at times there can be a trade-off between achieving suitable internal and external validity. Validity is assessed in this research using four measures of validity, these being internal and external validity, and construct and content validity. Internal validity refers to the degree of confidence placed in the cause and effect relationship (Cavana et al., 2001). Ultimately the researcher is seeking a delineation that indicates that variable A causes variable B. External validity refers to “the ability to generalize to (and across) times, settings, or persons” (Cooper & Schindler, 2001, p. 403). The focus of this research is whether a relationship exists between variables, which is consistent with the post-positivist approach: the ability to generalise results (Guba & Lincoln, 2005). Thus, the aim is to achieve high external validity to ensure results can be generalised to leaders across the population. To achieve this aim the researcher ensured

that the initial email inviting responses went to a diverse population including age, gender, industry and location. Additionally, there was the opportunity for respondents to forward the survey link onto others which may add more variation within the respondents.

Construct validity, also referred to as measurement validity, questions how well the measurement tool characterises the constructs intended to be measured (Saunders et al., 2009). Construct validity is important in organisational research because erroneous conclusions may be derived from the data when a researcher fails to measure the aspects that were intended (Doty & Glick, 1998). As suggested by Cooper and Schindler (2001), this study utilised correlations to ensure the construct adequacy of the measurements, and to determine construct validity; the results of which are discussed in Chapter Four – Results.

Lastly, content validity was also considered. This involved ensuring that the scale logically appears to accurately reflect what it claims to measure (Zikmund, 2003). Content validity was confirmed in the present study using scales derived from previously-validated research instruments. Careful consideration was made when the data set was selected to ensure that the items in the questionnaire reflected the concepts of interest identified in the extensive research conducted in Chapter Two.

Reliability

Reliability is concerned with “the degree to which measures are free from error and therefore yield consistent results” (Zikmund, 2003, p. 300). Using pre-existing validated scales within this research provides a level of assurance that previous researchers have tested the measurement scales and have identified high reliability (Allen & Meyer, 1990; Bartlett, 2001; Okun & Schultz, 2003). In order to verify the reliability in this study, the Cronbach’s alpha (Cronbach, 1951) was examined for each construct. Cronbach’s alpha is the most popular test of internal consistency and therefore reliability (Cavana et al., 2001). This assessment measure ranges from 0 to 1, with the higher the coefficient value, the better the measuring instrument (Cavana et al., 2001). A Cronbach’s alpha value of 0.70 or above has been recommended by Hair, Black and Babin (2013) as an acceptable level of internal consistency. These results are reported in Chapter Four.

Objectivity

Finally, this research design is objective in its approach. Although the online questionnaire data collection method has its limitations and disadvantages, such as non-response error and response bias (Zikmund, 2003), it enables a distance to be placed between the researcher and participants (Cooper & Schindler, 2001), thus ensuring objectivity. In comparison, a method such as interviews requires more subjectivity and interaction with the researcher and, therefore, would not have been as objective (Creswell, 2009).

Sampling

If it is not possible to conduct a census and collect data from every member of the study's population, consideration must be given to the sample selection and sampling technique. Important questions should be answered in making the decision for defining a sample. First, the total group of population elements relevant to the research about which inferences can be made should be identified (Cooper & Schindler, 2006). The unit of analysis must also be identified, along with the sample size and appropriate sampling method. It is important to carefully define the target population at the outset of the research process to identify the most appropriate source from which the data can be collected (Zikmund, 2003). As this research aims to investigate individuals' authentic leadership and life events the unit of study is an individual. The population of interest for this research is anyone who identifies as a leader, either paid or unpaid.

Purposive (or judgement) sampling is the probability technique where a sample is selected based on some judgement about a characteristic that is required in the sample of members (Zikmund, 2003). The central attribute for sampling was for participants to have leadership experience; therefore, the sampling strategy was purposive sampling as the group were self-determined leaders.

Sample size can substantially affect the results of a study; therefore, it is essential that the method and design of the study are suitable to achieve an adequate sample size and reach statistical significance (Hair et al., 2013). Sekaran (2003) suggests that sample sizes larger than 30 and less than 500 are appropriate for most research. In multivariate research the sample size should be preferably

10 times or more as large as the number of variables in the study (Hair et al., 2010). This study includes six variables, so a minimum sample size for this research is 60 leaders. Additionally, a power analysis using gPower 3.1 (Faul et al., 2007) was also incorporated. This analysis demonstrates that, based on the model tested, a sample of 111 is required for a power of .8 with an estimated medium effect size. A final sample size of 153 was achieved thus confirming an adequate sample size for this study was attained.

Sample and participant characteristics

The sample consisted of 153 responses from 95 females (62.1%) and 58 males (37.9%). According to the Workplace Gender Equality Agency (2015), in 2015 women represented 45.9% of the labour force. The representation of women in these results is higher than the norm reported by the Workplace Gender Equality Agency (2015). However as found by Sax, Gilmartin and Bryant (2003), the odds of survey responses was 2 times higher for women than men in online surveys indicating a basis for this higher representation.

Participants were asked to select a range for their age. According to the Australian Bureau of Statistics the median age of Australians as at June 2015 was 37.4 years (Australian Bureau of Statistics, 2016), which is similar to this sample, with 34.6% being 36–45 years of age. The researcher also actively monitored the age of respondents as questionnaires were being completed to ensure there was a representative distribution. Table 2 summarises the range of ages.

Table 2

Participant age

Age range	Number	Percentage
18–25	4	2.6
26–35	31	20.3
36–45	53	34.6
46–55	41	26.8
56–65	14	9.2
Over 65	10	6.5
Total	153	100

Leadership experience was predominantly in the formal paid category (81.0%); however, 98% of respondents reported some level of leadership experience. A summary of participants' leadership experience is displayed in Table 3.

Table 3

Leadership experience

Leadership experience	Number	Percentage
Formal, paid role	124	81.0
Informal, paid role	12	7.8
Formal, unpaid role	8	5.2
Informal, unpaid role	6	3.9
No leadership role	3	2.0
Total	153	100.0

Recollection of life events prior to self-reporting on their leadership style was a requirement for one of the two research groups within the hypothesis testing. This was achieved for the relevant group through the ordering of the questionnaire, as previously discussed in the design and measures section. The number of responses for each survey type was actively monitored to ensure there were even numbers in each group. At one stage in the data gathering there was an uneven spread, therefore the researcher sent more invitations to try to even the numbers in each group. The final numbers were 75 responses for the questionnaire with authentic leadership first, and 78 responses with the life events questions first.

Data analysis

Serial mediation modelling via PROCESS was deemed to be best suited to this research, as correlation between the mediator variable—self-knowledge—may not be solely due to life events, thus there are grounds to investigate a causal relationship (Hayes, 2013). The serial mediation model allows exploration of a causal model from life events → self-knowledge → authentic leadership.

Ethics

The research described in this report was granted ethics approval by the Queensland University of Technology (QUT) Human Ethics Committee (QUT approval number: 1600000385) according to the standard ethical guidelines and the National Statement on Ethical Conduct in Human Research (Australian Government, 2007). A number of ethical issues were considered before conducting this study, with attention to Patton's (2002) comprehensive framework of ethical issues within research projects, including explaining the research purpose, promises and reciprocity, risk assessment, confidentiality, informed consent, data access and ownership.

A personal email was sent to participants clearly explaining the purpose of the research, contacts for further information and simple directions on how to access the survey. The information on the Participant Information Form was presented in language suitable to the audience. In regards to promises and reciprocity, it was clearly outlined in the Participant Information Form that, although the research may not directly benefit participants, the findings may be used to assist in developing leadership programs. A risk assessment was conducted prior to commencing the research and this study was low risk. The only possible risk may have been for participants who had experienced past trauma in life events, with the recalling of these traumatic events having the potential to trigger an emotional occurrence. The details for counselling services were provided on the Participant Information Form.

Conclusion

Chapter Three addressed the study's chosen methodology and provided a comprehensive justification of the research methodology employed. To assist in the effective achievement of the research objectives, and to address the research questions and hypotheses, a quantitative and descriptive research approach has been adopted. The research topic of leadership is considered 'mature' as there have been extensive studies in leadership and management literature. Edmondson and McManus (2007) suggest several 'rules of thumb' to ensure methodological fit is achieved. This research is congruent with mature research as it uses quantitative data which focus on existing

measures and constructs, and it utilises an SAQ to obtain this data (Edmondson & McManus, 2007).

The sampling technique and procedures were also outlined. Chapter Four details the data analysis performed to test the proposed hypotheses.

Chapter Four – Results

Introduction

The purpose of this chapter is to report the results of the research that addressed the hypotheses specified in Chapter One and detailed in Chapter Two. To briefly recap, the aim of this study was to investigate the relationship between a leader's life events and their authentic leadership, and examine the potential role of self-knowledge within this relationship. Specifically, this study proposes that life events are a predictor of authentic leadership and self-knowledge, and that self-knowledge will either mediate or moderate the relationship between life events and authentic leadership. Additionally, this study aims to determine the short-term effect of re-visiting life events to alter the scores of self-knowledge and/or authentic leadership.

Hypotheses were tested using a combination of correlation, mediation and moderation tests in SPSS (v24). All statistics were evaluated at a two-tailed significance level of $p < .05$. However, higher levels of significance are reported where appropriate (Cohen, 1992).

Data preparation and screening

The data from the survey were exported from Qualtrics™ into SPSS (v24). A missing values analysis (MVA) was conducted to determine whether missing data on any one variable was systematic (i.e. related to other variables in the data set). The MVA revealed that the data missing were random and, consequently, list-wise deletion was used to handle the missing data (Tabachnick & Fidell, 2007). Composite scores for each variable were created by reverse scoring and then summing scores on respective items. Following this, values for the life events variables were inserted using the scoring procedure as described by Miller and Rahe (1997).

Assumptions of correlation and regression were also examined. Skewness and kurtosis statistics were not significant for age, indicating a relatively normal distribution on this variable. There was a mild level of skew across gender; however, there were sufficient numbers of males (58 or 37.9%) and females (95 or 62.1%). Self-knowledge and authentic leadership scores were tested for

normal distribution. Authentic leadership and self-knowledge fell within the acceptable ranges of ± 2 for Skewness and ± 7 for Kurtosis (D. George & Mallery, 2010).

Exploring the descriptive statistics of each of the variables revealed an outlier in life events in the stem and leaf plot. Removal of this respondent did not substantively alter the results (i.e. in terms of significance tests related to the hypotheses). Therefore, it was concluded this case was non-influential on the testing results and was therefore retained in the consequent analyses. Consideration for multicollinearity was examined using the Variance Inflation Factor (VIF) analysis (Hair et al., 2010). The VIF measures how much the divergence of the regression coefficients is inflated by multicollinearity problems. A maximum acceptable VIF value is 10 (Hair et al., 2010). All VIFs were below 10; therefore, multicollinearity was not considered a threat to analyses.

Descriptive statistics

Descriptive statistics including the means, standard deviations and Cronbach's (1951) alpha coefficients are illustrated in Table 4. The results show that, generally, the respondents rated their authentic leadership highly, with a mean of 16.363 out of the highest possible rating of 20. Examining ALQ scores from other research shows lower mean scores, for example self-knowledge 2.53, relational transparency 2.81, internalized moral perspective 2.87, balanced processing 2.46 and ALQ overall score 10.67 (Walumbwa et al. 2008) indicating largely higher ALQ scores for this study of 16.363. In this study, self-knowledge was also rated highly, with a mean score 4.07 (out of 5), indicating that respondents scored 'often true' to the self-knowledge questions. Life events were calculated by the number of events identified by the respondent and multiplied by a predetermined factor within the Holmes and Rahe (1967) scale. Due to the number and type of life events, these scores were more varied: mean 2273 and standard deviation 1568.

Table 4

Descriptive statistics for focal variables

Variables	Mean	SD	Cronbach's α
AL	16.3630	1.390	.777
AL Trans	4.1554	.4138	.603
AL Moral	4.2729	.4925	.645
AL Bal	4.0543	.5449	.599
AL SelfA	3.8804	.5007	.588
Life Events	2273.69	1568.35	.699
Self-Knowledge	4.0708	.5152	.597

AL= Authentic Leadership total, AL Trans = Authentic Leadership Construct Transparency, AL Moral = Authentic Leadership Construct Moral Perspective, AL Bal = Authentic Leadership Construct Balanced Processing, AL SelfA = Authentic Leadership Construct Self-Awareness.

The internal reliabilities of the subscales were measured using Cronbach's alpha and revealed an acceptable level of internal consistency for the ALQ (.777). Although it is generally recommended that the Cronbach's alpha be at 0.7 or above (Hair et al., 2010) it was decided that although the self-knowledge scale at 0.597 was not ideal it would be retained for the analysis as it was at a borderline level.

Hypotheses 1a, 2a and 4

Hypotheses 1a, 2a and 4 were assessed by inspecting the correlation coefficients between the focal variables expressed as Pearson's r (see Table 4). Hypothesis 1a predicted that life events would be a predictor of self-knowledge, but life events did not show a significant relationship with self-knowledge ($r = .090$), thus hypothesis 1a was not supported. Hypothesis 2a predicted that life events would be a predictor of authentic leadership and, as anticipated, life events displayed a significant positive relationship with authentic leadership ($r = .199$, $p < .05$), thus providing support for hypothesis 2a. The final correlation examination was for hypothesis 4, examining self-knowledge as a predictor of authentic leadership, and this demonstrated a highly significant positive relationship with authentic leadership ($r = .433$, $p < .01$), thus supporting hypothesis 4.

In addition to correlations between the independent variables (IVs) and the total score for authentic leadership, Table 5 also includes correlations between the IVs and subscale scores for authentic leadership. These correlations were included to assess whether the effect of life events on authentic leadership was similar over the different constructs within authentic leadership

(transparency, moral perspective, balanced processing and self-awareness). It was found that individuals who scored high in self-awareness also scored highly on life events ($r=.185, p<.05$), as did individuals who scored highly in balanced processing ($r=.208, p<.05$). There was no correlation between life events and the two remaining subscales of authentic leadership (transparency and moral perspective).

Table 5

Correlations amongst authentic leadership constructs, total authentic leadership, self-knowledge and life events

Variables	AL	AL Trans	AL Moral	AL Bal	AL SelfA	Life Events	Self Kn
AL	1						
AL Trans	.607**	1					
AL Moral	.749**	.394**	1				
AL Bal	.733**	.165*	.386**	1			
AL SelfA	.741**	.293**	.351**	.432**	1		
Life Events	.199*	.122	.043	.208*	.185*	1	
Self Kn	.433**	.229**	.261**	.218**	.518**	.090	1

Note. * $p<.05$. ** $p<.01$ AL= Authentic Leadership total, AL Trans = Authentic Leadership Construct Transparency, AL Moral = Authentic Leadership Construct Moral Perspective, AL Bal = Authentic Leadership Construct Balanced Processing, AL SelfA = Authentic Leadership Construct Self-Awareness, Self Kn = Self-knowledge

Hypotheses 1b and 2b

Hypothesis 1b predicted that recollection of life events prior to assessment of leadership style would increase levels of self-knowledge, and hypothesis 2b proposed that the recollection of life events would increase levels of authentic leadership. To assess hypotheses 1b and 2b independent sample t-tests were conducted. Regarding hypothesis 1b, it was found that activation of life events did not result in participants scoring higher in self-knowledge, $t(151) = -.239, p = .811$. Hypothesis 1b was therefore not supported. Regarding hypothesis 2b, again it was found that recollection of life events did not result in participants scoring higher in authentic leadership. To further test hypothesis 2b, independent sample t-tests were also conducted on subscales of authentic leadership. As indicated in Table 6, these were also not significant. However, there was a near significant difference on the two conditions for self-awareness, with participants who had recently recalled life events scoring higher in self-awareness than participants who had not been asked to recall these life events, $p = .057$.

Table 6

Order of life events survey

	Survey A or B	N	Mean	Std. Deviation	Sig. (2-tailed)
Self-knowledge	Authentic leadership first	75	4.0606	.52808	.811
	Life events first	78	4.0807	.50589	
Authentic leadership total	Authentic leadership first	75	16.2602	1.11499	.372
	Life events first	78	16.4618	1.61351	
AL_Transparency	Authentic leadership first	75	4.2003	.35351	.189
	Life events first	78	4.1122	.46279	
AL_Moral	Authentic leadership first	75	4.2446	.45210	.487
	Life events first	78	4.3002	.53003	
AL_Balance	Authentic leadership first	75	4.0118	.48709	.343
	Life events first	78	4.0952	.59553	
AL_Awareness	Authentic leadership first	75	3.8036	.46284	.057
	Life events first	78	3.9542	.52708	

Hypothesis 3

Hypothesis 3 specified that self-knowledge would mediate the relationship between life events and authentic leadership. To assess this hypothesis the program PROCESS (Hayes, 2013) was used in SPSS. PROCESS is a macro in SPSS that tests the significance of indirect effects using bootstrapping. By employing bias-corrected bootstrap confidence intervals within a single test of indirect effects, PROCESS provides a method for testing of indirect effects that is more powerful than causal steps and that minimizes bias in results that can arise from non-normal sampling distributions (Hayes, 2013). For regression to be realised, c path should be closer to 0 than the C^1 path. The results of this analysis are summarised in Figure 2.

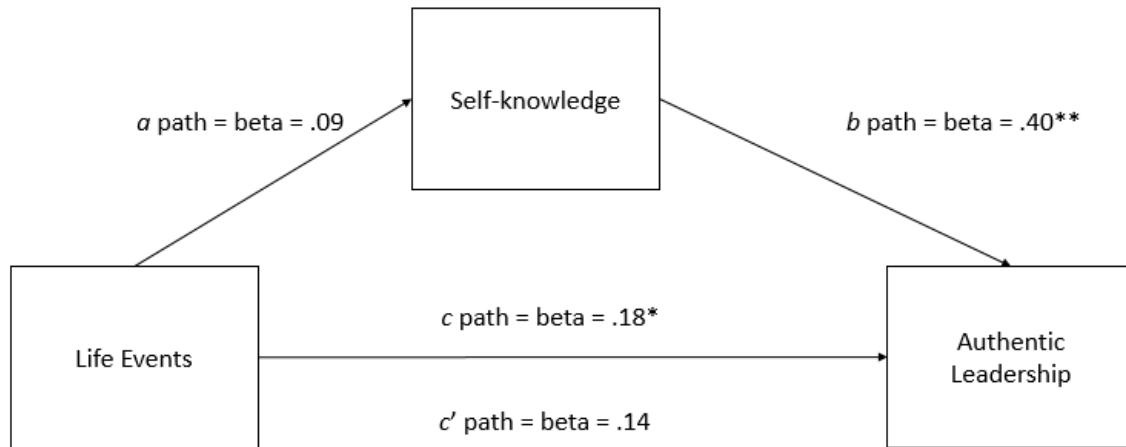


Figure 2. Regression coefficients and indirect effects of the self-knowledge mediation model

As indicated in Figure 2, the total effect of life events on authentic leadership (*c* path) was positive and significant ($\beta = .18$, $p = .0375$). However, the indirect effect from life events to authentic leadership via self-knowledge was not significant ($b = .037$, 95% BCCI [-.035, .110]). It seems that this indirect effect was not significant because life events did not predict self-knowledge (*a* path, $\beta = .09$, $p = .305$), although self-knowledge did predict authentic leadership (*b* path, $b = 1.12$, $p = .000$).

Hypothesis 5

Hypothesis 5 specified that self-knowledge would moderate the relationship between life events and authentic leadership. To test this hypothesis a hierarchical regression analysis was conducted, with life events and self-knowledge entered in the first step and the interaction term between life events and self-knowledge entered in the second step. R-squared is the statistical measure of how close the data is to the fitted regression line. ΔR^2 is the change in R square values from one model to another. The p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect). A low p-value (< 0.05) indicates that the changes in the predictor's value are related to changes in the response variable. At step 1, life events and self-knowledge were significant, $\Delta R^2 = .203$, $F(2, 150) = 20.314$, $p < .01$. However, at step two, the addition of the interaction term resulted in no significant increase in levels of authentic leadership, $\Delta R^2 = .0397$, $F(1, 151) = 6.25$, $p = .0135$.

Thus, self-knowledge was not a moderator of the relationship between life events and authentic leadership.

Conclusion

To summarise, this chapter opened by outlining the initial preparation procedures that were undertaken on the data to prepare them for analysis. After some preliminary data analysis the relationships between the variables were revealed and this became the basis for assessing the proposed hypotheses. The analysis uncovered some significant results, including the support for H2a—life events are a predictor of authentic leadership. H4 was also supported, showing that self-knowledge displays a significant positive relationship with authentic leadership. There was no support for the mediation or moderation of self-knowledge via life events and authentic leadership. Additionally, the temporary recollection of life events had no significant effect on either authentic leadership or self-knowledge, although it is noted that there is near significance with self-awareness, an element within authentic leadership. The results of the data analysis are interpreted and discussed further in Chapter 5 – Discussion.

Chapter 5 – Discussion

Introduction

This chapter provides a final discussion and clarification of the research results in conjunction with the current literature on authentic leadership. First, the theoretical implications of the results are discussed, followed by a discussion of the practical implications for the advancement of authentic leadership. Limitations of the research are also presented, accompanied by recommendations for future research on the relationship between life events and authentic leadership. This chapter concludes by presenting an overall summary of this study.

Overview of findings

The core thread running through this research has been the effect of life events on authentic leadership, with an additional interest in the relationship that self-knowledge plays in this interaction. Understanding these relationships and identifying further antecedents to authentic leadership will add depth to this important leadership theory. Whilst there is significant research on the importance of authentic leadership as an outcome (B. George, 2003), and tangible ways to measure authentic leadership (Walumbwa et al., 2008), to date there has been little research into the antecedents of authentic leadership. Three research questions were proposed in response to the gaps found in the current literature and these, along with the hypotheses and outcomes of the study, are captured in Table 7.

Table 7

Summary of research questions, hypotheses and findings

Research questions	Hypotheses	Outcome	Details
What influence do life events have on self-knowledge?	1a – Life events are a predictor of self-knowledge	Not supported	No correlation
	1b – Temporary activation of life events will increase levels of self-knowledge	Not supported	Activation did not change self-knowledge results
What influence do life events have on authentic leadership?	2a – Life events are a predictor of authentic leadership	Supported	Positive correlation between life events and authentic leadership
	2b – Temporary activation of life events will increase levels of authentic leadership	Partially supported	Positive correlation within one subscale of authentic leadership
Does self-knowledge moderate and/or mediate the relationship between life events and authentic leadership?	3 – Self-knowledge will mediate the relationship between life events and authentic leadership	Not supported	No evidence of mediation
	4 – Self-knowledge directly relates to authentic leadership	Supported	Positive correlation between self-knowledge and authentic leadership
	5 – Self-knowledge will moderate the relationship between life events and authentic leadership	Not supported	No evidence of moderation

The findings of this study extend the literature on authentic leadership by exploring whether leaders with a rich set of critical life experiences are likely to be higher on authentic leadership compared to leaders with fewer positive and negative life experiences. The notion of life events or trigger events has been discussed from a qualitative view point (B. George et al., 2007); however, there has not been a quantitative study conducted concerning these combined aspects. The unique attribute of this research is the consideration of the number and impact of an individual's life events

and the association to authentic leadership. There was support for hypothesis 2a, examining life events as a predictor of authentic leadership. Furthering this, hypothesis 2b examined the effect of first recalling life events prior to self-reporting on authentic leadership and exploring the effect on authentic leadership. There was partial support for this through the near significant difference in self-awareness over the two groups.

The introduction of self-knowledge into the life events and authentic leadership equation has previously not been examined, although there is some literature on the effects of self-knowledge on authentic leadership (Peus et al., 2012). Considering the possible link of self-knowledge within this relationship is another distinctive aspect of this research and is covered through hypotheses 1a, 1b, 3, 4 and 5. Hypothesis 1a sought to identify whether there was a relationship between life events and self-knowledge and this was not supported. The mediation and moderation of self-knowledge on life events and authentic leadership was examined in hypotheses 3 and 5 with no support evident. Temporary activation of life events to improve self-knowledge as observed in hypothesis 1b was also not supported. Finally, the impact of self-knowledge on authentic leadership was tested via hypothesis 4 and was fully supported. The following sections elaborate on the findings displayed in Table 5, as well as explore these findings in terms of where they align with current literature and a discussion of contrary findings. The connection between life events and self-knowledge is discussed first, followed by the relationship between life events and authentic leadership.

Life events and self-knowledge

The first hypothesis tested whether life events are a predictor of self-knowledge. There was no significant relationship between these variables; therefore, this hypothesis was not supported. The literature suggests that gaining self-knowledge is a prerequisite to authentic leadership (Bennis, 2003) and it is through the understanding of their values and convictions that leaders can act authentically (Erickson, 1995). To understand these values and convictions B. George et al. (2007) found authentic leaders examine their life stories to understand who they are at their core. Whilst it has been argued in

previous literature that life events and self-knowledge have a strong relationship the research results do not support this hypothesis.

Building on this first hypothesis, the next consideration was examining the ability to temporarily activate an individual's life events to improve their level of self-knowledge. The survey questions on life events were placed before any self-knowledge questions in an effort to have participants remember these life events and assess if this recollection affects self-knowledge. Again, this approach is grounded in the theory that self-knowledge is developed through examining life stories and allows an authentic leader to connect and organise these life events, providing a structure for clarity on values and convictions (Shamir & Eilam, 2005). In this instance there was no support for this hypothesis, thus challenging the literature suggesting that life events can predict self-knowledge. This was tested in two ways, via correlation and via experimental manipulation demonstrating the robust nature of these findings.

Life events and authentic leadership

Hypothesis 2 specifically examines the relationship between life events and authentic leadership and analyses whether there is a relationship between the two to answer the research question posed. The literature suggests that it is through reflecting upon their "personal narratives" (Sparrowe, 2005, p. 11) or "life stories" (Shamir & Eilam, 2005, p. 6) that the authentic leader is able to understand themselves better, and this understanding arises from having a deep insight into their feelings, beliefs, attitudes, values, goals and behaviours (Leary & Tangney, 2003). Thus, the authentic leader acts in alignment with their feelings, principles, attitudes and values and then they can lead in a style that is recognised as authentic. The results of this study found that leaders who scored highly for life events also scored highly in authentic leadership, thus supporting the themes identified in the literature.

When examining the subscales within authentic leadership and how each of them relate to life events there is a positive correlation with both self-awareness and balanced processing. This further supports previous research that has identified the need for a deep grasp of one's self in order to

effectively challenge one's views whilst carrying out balanced processing (Peus et al., 2011). Through this full understanding a leader can capably make a balanced assessment using their life events. A deep awareness of personal characteristics and values enables leaders to have trust in these values and seek feedback or re-evaluate them as part of the self-awareness cycle. Based on results from this research, it would appear that high-scoring authentic leaders are able to draw on life events and use these experiences to enhance their conviction in their values and beliefs. Most importantly, they are then able to put these beliefs and values into action in order to be perceived as authentic.

Hypothesis 2b provided a second test of the theoretical relationship between life events and authentic leadership; however, it did so using an experimental manipulation. This was done to strengthen claims that the relationship between life events and elements of authentic leadership is causal. Specifically, hypothesis 2b examined whether participants who recently recollected a large number of significant life events would score higher in aspects of authentic leadership compared to those who had not recollected such events. Through asking questions on life events before asking questions on authentic leadership it was proposed that this act of remembering the events would prompt the respondents of these particular happenings in their lives. The hypothesis was not supported when examining the total authentic leadership score. However, when reviewing the four components of authentic leadership, self-awareness was found to have a near significant difference. Theoretically this might be expected as self-awareness should be the aspect of authentic leadership most affected by remembering critical life events.

Shamir and Eilam (2005) view life stories as the manifestation and expression of events as understood and interpreted by the individual experiencing them. These personal narratives are not just remembered but constructed, and have less to do with facts and more to do with associated meanings. Authentic leaders select the elements of a story to confer meaning on prior events, and the mere act of acknowledging the event in a survey may not allow the stimulation of the overall meaning of the occurrence. However, with results of near significance, there may be evidence to suggest that greater recollection of these events may trigger this deeper understanding of the event and impact on authentic leadership. This concept is discussed further in the limitations section.

Self-knowledge, life events and authentic leadership

Peus et al. (2012) established a correlation between self-knowledge and authentic leadership in a German setting in 2012. Other authors, including Bennis (2003), B. George (2003) and Sparrowe (2005) consider self-knowledge of personal values to be a prerequisite for authentic leadership; however, this is mainly speculative, drawing on previous research studies. These authors believe that for an authentic leader to be true to their values they must first have knowledge of their personal values. Peus et al. (2012) were the first to be able to empirically prove the relationship using a German version of the ALQ and the German inventory on self-concept and self-confidence. In contrast, the research undertaken in the current study was conducted in an Australian setting but also established a relationship between self-knowledge and authentic leadership, thus supporting hypothesis 4.

Building on this established relationship between life events and authentic leadership found in hypothesis 2a, and then considering the findings from hypothesis 4, with the influence of self-knowledge on authentic leadership, it could be argued that self-knowledge may have an impact on these relationships. As Shamir and Eilam posit, “we should view leaders’ life-stories as stories that are constructed for self-knowledge” (2005, p. 413), crystallising the belief that there is a strong relationship between these concepts. However, the findings of this study did not support the mediation (hypothesis 3) or moderation (hypothesis 5) of self-knowledge between life events and authentic leadership. As such, rather than self-knowledge mediating or moderating the effects of life events on authentic leadership it would appear that life events are a separate, uncorrelated predictor of authentic leadership.

This finding was surprising as the previous literature on authentic leadership, life events and self-knowledge makes a convincing argument linking these elements (Sparrowe, 2005; Kernis, 2003; Peus et al., 2012). Theoretically, it follows that authentic leaders can interpret life events to inform their leadership character as influenced by knowledge of their morals and values. However, this was not the case. A plausible explanation for this finding is that both life events and self-knowledge

operate as antecedents to authentic leadership, but they exert independent effects on this construct. In other words, life events directly act on authentic leadership rather than indirectly affect the construct via self-knowledge. Consistent with this idea, life events had the greatest impact on the balanced processing and self-awareness components of authentic leadership. Furthermore, it is plausible then that both life events and self-knowledge act as separate ‘information triggers’ which might operate to enhance authentic leadership over time. The experimental component of this study provides partial support for this idea, considering that those who recently remembered critical life events scored marginally higher in self-awareness than those who had not. According to Shamir and Eilam (2005), “in other words, highly developed self-knowledge in terms of a life-story provides the authentic leader with self-concept clarity because it organises life events into a gestalt structure that establishes connections between those events so that the person's life is experienced as a coherent unfolding process” (p. 402). This research has found that the higher the score in life events (indicating a number of events or range in significance of events) the higher the levels of authentic leadership. Experiencing these life events provides a stimulus where beliefs, morals and values can be drawn upon and applied to authentic leadership. The more life events that are available to draw upon, the more viewpoints that can be utilised in authentic leadership; this perspective also suggests that authentic leadership is an element within all leaders that could be enhanced through examining life events.

Theoretical implications

The findings of this research have valuable theoretical implications in the area of life events, self-knowledge and authentic leadership. In addition, this study has provided support for self-knowledge as an antecedent of authentic leadership within an English-speaking context. This research has made an important contribution to the present gap in the literature by showing the positive relationship between life events and authentic leadership that up until now has only been theorised. This paper has added to authentic leadership literature by finding support for the examination of life events as a technique to develop authentic leadership. There is a dearth of literature that is able to clearly demonstrate an approach for authentic leadership development. On the contrary, there are

many studies demonstrating the organisational outcomes of a highly-authentic leader at the helm; however, despite this, there is a gap when examining ways to build authentic leadership in our leaders. This study provides evidence of a new antecedent to authentic leadership and, with the support of the experimental manipulation, demonstrates how the reflection on life events may enhance authentic leadership.

Literature on the subject of self-knowledge has also been expanded through the exploration of the influence of self-knowledge on the relationships between life events and authentic leadership. Whilst there was no support for the models proposed in this research, it does expand the body of knowledge on self-knowledge. Clearly the effects of life events do not impact on self-knowledge, making self-knowledge and life events separate influences on authentic leadership. However, self-knowledge has close links to self-concept found in the literature, and development of this self-concept comes through understanding beliefs, attitudes and values which provides a greater self-knowledge. Therefore, the theories suggest a relationship between self-knowledge and a leader's life events although the research indicates otherwise. The implications of these findings are further explored in the practical implications.

The literature in the authentic leadership field has also been enhanced through the findings that balanced processing and self-awareness—subscales of the authentic leadership model—are related to life events. These findings demonstrate that self-awareness contributes to the way that authentic leaders frame their life stories and use this awareness to lead using their principles and values. Furthermore, authentic leaders are careful to balance their motivations so that they are driven by these inner values and principles. The ability of leaders to use self-awareness and balanced processing to examine their life stories and then become more authentic in their leadership style is another important addition to the authentic leadership literature.

In the search to find how life events may influence authentic leadership and the use of recalling life events in some of the respondents, an interesting effect was found in the authentic leadership subscale of self-awareness. A near significant difference was found for participants who

recalled life events first, scoring higher in self-awareness than participants who were not asked about life events initially. This effect has not been reported previously and the literature tends to focus on self-awareness and self-concept as internal dialogues and processes, rather than looking at the external activators (or events) that may trigger the initiation of these processes. The results of this research highlight the importance of recalling life events as a method to stimulate self-awareness and contribute to authentic leadership. Beyond these theoretical implications for authentic leadership, the next section considers the practical implications of the research findings.

Practical implications

This research has many implications for the practical application of authentic leadership, not only for individual leaders but also for organisations, consultancies and training providers. For these businesses this research provides empirical evidence to further understand the antecedents to authentic leadership. With a greater understanding of these inputs, a genuine way to develop authenticity within the leadership environment can be obtained. The ability to train for authenticity has been considered a paradox. With the findings from this research there is now a real possibility to examine the effects of life events to help leaders understand their beliefs, goals, values and attitudes and then develop a meaning system from which to feel, think and act with authenticity. The need for a solid methodology for authentic leadership development has been highlighted by some of the leading researchers in this field (Avolio et al. 2010; Avolio & Gardner 2005; Cooper et al 2005) and this study has been able to uncover an important input into this next stage of advancement for authentic leadership development.

Examining how life stories are constructed is where the cross-over between life events and authentic leadership occurs. This study has established that self-knowledge and life events are precursors to authentic leadership. Other findings in this research determined that there is no relationship between life events and self-knowledge. Therefore, it may be perceived that using life stories, and how they have been constructed, will create a greater awareness of meaning systems for leading and thereby enhance authentic leadership. The potential to use this information in the development of leadership programs to enhance authentic leadership cannot be underestimated.

This study has identified that simply recalling life events prior to self-reporting on authentic leadership helps to increase self-awareness. This provides an important breakthrough for the development of authentic leadership, as the research has pinpointed a mechanism to stimulate self-awareness. Rather than just finding there is a relationship between two variables, through clearly identifying that it is the recollection of past events in someone's life that can increase their level of self-awareness, there is now an approach that can be further researched in the quest to develop an authentic leadership program.

Finally, the scope of this study is only limited by participants having some form of leadership experience. These findings could be considered by a wide range of industries and profit or not-for-profit organisations. By understanding the relationship between life events and authentic leadership and the utility of leaders drawing on their past life stories, with further research in this area, there is hope that all levels of leaders will have the ability to authentically develop their leadership talents.

Limitations and future research

Several limitations inherent in the study should be noted and considered when interpreting the findings. The following are the key limitations for this research and accompanying suggestions for future research.

Firstly, the findings of this study rely on self-reported, cross-sectional data rather than longitudinal data. Cross-sectional research recognises the inter-correlations between various events and beliefs providing important insights (Zikmund, 2003). However, as this research did not employ a longitudinal design the causal relationship between life events and authentic leadership cannot be concluded (Neuman, 2006). Future research should aim to use a longitudinal design to track the level of authentic leadership throughout a lifetime or considerable chunks of a leader's lifetime.

The self-report aspect of this study may also present a limitation with all instruments assessing a leader's subjective perspective of their leadership style and abilities. As mentioned in Chapter Three, without the direct feedback from followers, or tracking any changes in organisational outcomes, it is only a singular perspective of leadership being analysed. It is suggested that any future

research incorporates followers' viewpoints to have an objective measure examining how the leader's approach fits within the authentic leadership model.

The next aspect to consider in this study is the organisational diversity, differing levels of experience, age and gender, thus increasing the generalisability of the findings (Scandura & Williams, 2000). However, generalisability may still be restricted due to the small sample size achieved. This study could be replicated, targeting a wider representative sample of leaders, which would improve the generalisability of the results.

The method of having half the participants recall their life events prior to reporting on their levels of authentic leadership may have been too subtle, thus the limited support for this notion. Further research and more in-depth recollection and reflection may be required to positively support this hypothesis, as there was some noticeable change in recalling these life events and the impact on authentic leadership levels. The literature reviewed strongly champions this concept and warrants further investigation.

Common method bias is a predominant criticism of cross-sectional and self-report survey research (Spector, 2006). Common method bias can occur when the variance resulting from two or more constructs are from the same data collection method and/or the same source (Doty & Glick, 1998). The possible affect is that the association between the constructs may be inflated or deflated by sources of common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Common method bias can increase the risk of acquiescence or participants choosing responses that are socially acceptable (Spector, 2006). To minimise the potential for common method bias several actions were implemented as recommended by Podsakoff et al. (2003). Procedure remedies were contemplated and a deliberate choice of using previously validated scales was employed. Additionally, anonymity was assured, with no mandatory requirement for participants to provide personal details. These actions reduced evaluation apprehension, thus making participants less likely to modify their responses to be more socially desirable, moderate and agreeable (Zikmund, 2003).

Despite the noted limitations, the research reported here provides many important insights. It is one of the first studies to have empirically investigated the process by which authentic leadership could be stimulated using life events. It thereby provides support for the relationship between a leader's life events and authentic leadership regardless of the leader's age, gender, leadership experience or industry. Furthermore, it demonstrates the relationship between life events and authentic leadership, particularly in the aspects of self-awareness and balanced processing. In addition, the research gave further insights into the assumed role that self-knowledge plays in the connections between life events and authentic leadership. The literature suggests that it is the insight into the self or self-knowledge that provides the link between life events and authentic leadership, although there is no support for this in this study. However, the study presented here does provide a solid rationalisation for further research into authentic leadership and life events.

Conclusion

This thesis has examined the relationship between life events and authentic leadership, as well as any influence self-knowledge may have on that relationship. The need for authentic leadership has been discussed, although ways to foster this are still illusive. The focus on antecedents to authentic leadership has been heralded as a key ingredient to authentic leadership development, although literature in this area is quite sparse. This research has provided a valuable contribution to further expand the understanding of precursors to authentic leadership. Furthermore, with evidence supporting the positive impact of recalling life events prior to reporting on authentic leadership, this study has finally uncovered a potential process for authentic leadership enhancement. Practically, this thesis reports on leaders' abilities to draw on life events as a means to progress authentic leadership. By providing the first empirical evidence of the influence life events have on authentic leadership and the stimulation of authentic leadership through recalling life events, as well as pointing out several directions for future research, this study makes a significant contribution to the field of leadership.

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Appendix A

Self-administered questionnaire

Thank you for participating in this survey. I'm looking for males and females over the age of 18 available to complete a 20-minute online questionnaire. The survey is about leadership, so ideally you will have leadership experience to draw from and answer the questions. Your experience does not need to be formal or paid, it may be leading a sporting team, school or community committee or another unpaid experience that required you to lead others. The first few questions will capture demographic information, then go onto the formal survey.

Select your age

18-25

26-35

36-45

46-55

56-65

over 65

Male

Female

Non-specific

Your current or most recent type of leadership role (select only one option)

- Formal, paid role
- Informal, paid role
- Formal, unpaid role
- Informal, unpaid role
- No leadership role

The next survey looks at **work** events that may have occurred during your lifetime. For each line item consider if this event has occurred to you and how often. For example, in answering the question about promotion, if you had many promotions, however only 3 promotions were important to you, your score would be 3. Indicate the number in the text box to the left of the item.

- A promotion
- A demotion
- A transfer
- Changed jobs
- Trouble with your boss
- Trouble with your co-workers
- Trouble with those you supervise
- Other work troubles
- Major business readjustment
- Retirement
- Laid off
- Fired

The next questions look at **home and family** events that may have occurred during your lifetime. For each line item consider if this event has occurred to you and how often. Indicate the number of times this event has occurred in the text box to the left of the item.

- Move within same city or town
- Move to different town, city, or province
- Major change in living conditions
- Major change in health or behaviour of a family member
- Marriage
- Pregnancy
- Miscarriage or termination
- Relative moves in with you
- Spouse begins or stops work
- Child leaves home
- Change in arguments with spouse
- Problems with relatives/in-laws
- Parents divorce
- A parent remarries
- Separation from spouse due to work
- Separation from spouse due to marital difficulties
- Divorce
- Birth of a grandchild
- Death of a spouse
- Death of a child
- Death of a parent
- Death of a sibling

The following questions look at **health and personal** events that may have occurred during your lifetime. For each line item consider if this event has occurred to you and how often. Indicate the number of times this event has occurred in the text box to the left of the item.

- An illness or injury that kept you in bed for more than a week or sent you to the hospital
- Major dental work
- Major change in eating habits
- Major change in sleeping habits
- Change in school or college
- Change in political beliefs
- Change in religious beliefs
- Sexual difficulties
- Traveled for a total of 6 months or more
- An accident
- 'Falling out' of a close personal relationship
- Minor violation of the law
- Being held in jail
- Major personal achievement
- Death of a close personal friend

These questions look at **financial** events that may have occurred during your lifetime. For each line item consider if this event has occurred to you and how often. Indicate the number of times this event has occurred in the text box to the left of the item.

- Major loss of income
- Major increase in income
- Investment and/or credit difficulties
- Loss/damage to personal property
- Foreclosure on a mortgage or loan

Please read the following statements and judge how true you believe they are

	Largely untrue	Frequently untrue	Sometimes	Often true	Largely true
By thinking deeply about myself, I can discover what I really want in life and how I might get it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What I have learned about myself in the past has helped me to respond better to difficult situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
While I am in the middle of a personal problem, I get so involved that I just can't at the same time rise above the situation and clearly examine what I am thinking and feeling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Largely untrue	Frequently untrue	Sometimes	Often true	Largely true
Most of the time, I get so involved in what is going on that I really can't see how I am responding to a situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often, I am unaware of my thoughts and feelings as they are happening, and only later get some idea about what I may really have been experiencing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I get upset, I immediately react without any clear awareness of what I am doing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Often my feelings about an experience are so complex and contradictory that I don't even try to understand them as they are going on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Largely untrue	Frequently untrue	Sometimes	Often true	Largely true
During a demanding experience, I never even try to understand the thoughts and feelings that are flowing through me because it is all too confusing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In some situations, I almost never can understand why I have behaved in particular ways, so I usually don't even try.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spending time to know and understand my thoughts and feelings has almost never helped me to know myself better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anytime I try to analyse my contributions to a problem, I get confused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following survey items refer to your leadership style, as you perceive it. Please judge how frequently each statement fits your leadership style.

As a Leader I.....

	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
Say exactly what I mean	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Admit mistakes when they are made	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encourage everyone to speak the truth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell the hard truth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Display emotions exactly in line with feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Demonstrate beliefs that are consistent with actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make decisions based on my core values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
Ask staff to take positions that support your core values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make difficult decisions based on high standards of ethical conduct	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Solicit views that challenge my deeply held positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyse relevant data before coming to a decision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listen carefully to different points of view before coming to conclusions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek feedback to improve interactions with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accurately describe how others view my capabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
Am fair and unbiased when assigning tasks to members	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can be trusted to carry out promises and commitments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insist on doing what is fair and ethical even when it is not easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acknowledge mistakes and takes responsibility for them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regard honesty and integrity as important personal values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Set an example of dedication and self-sacrifice for the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Oppose the use of unethical practices to increase performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
Am fair and objective when evaluating member performance and providing rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Put the needs of others above my own self-interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hold members accountable for using ethical practices in their work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are a number of personality traits that may or may not apply to you. Please indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

	Disagree strongly	Disagree moderately	Disagree a little	Neither agree nor disagree	Agree a little	Agree moderately	Agree strongly
Extraverted, enthusiastic.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Critical, quarrelsome.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dependable, self-disciplined.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anxious, easily upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Open to new experiences, complex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reserved, quiet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sympathetic, warm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disorganized, careless.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Calm, emotionally stable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional, uncreative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>