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A Systematic Review of the Antecedents, Mediators and Outcomes of Authentic Leadership in Healthcare

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Abstract

Authentic leadership is a relational leadership style derived from the field of positive organizational behavior and is purported to promote healthy work environments that influence staff performance and positive organizational outcomes. The aim of this thesis was to conduct a systematic review to describe the state of the evidence on the relationship between authentic leadership, staff, and patient outcomes in healthcare. Published English-only research articles that examined the antecedents, mediators and outcomes of authentic leadership practices of leaders/managers in healthcare settings were selected from eleven online bibliographic databases. Quality assessments, data extraction and analysis were completed on all included studies. A total of 44 articles ($n=38$ quantitative and $n=6$ qualitative) representing 27 studies satisfied our inclusion criteria, were retained and included both published research and dissertations and theses. Results were reported as descriptive and narrative syntheses using authentic leadership theory as a guide. Findings provided support for positive relationships between authentic leadership and trust, job satisfaction, structural empowerment, work engagement and work group relationships. Also there were negative associations between authentic leadership and bullying, incivility and burnout. Findings from qualitative studies supported a positive connection between authentic leadership and healthy work environments and leadership characteristics were consistent with authentic leadership theory. Future studies using longitudinal and interventional designs and conducted in a variety of healthcare settings with more diverse and interprofessional samples are warranted. Healthcare leaders and practitioners can use findings of this review as a guide to increase awareness of the processes by which authentic leadership promotes positive outcomes in the workplace.

Key Words: authentic leadership, systematic review, antecedents, outcomes, nursing, healthcare

CO-AUTHORSHIP

Bayan Alilyyani conducted this thesis work under the supervision of Dr. Carol Wong and Dr.

Greta Cummings who will be co-authors on publications resulting from Chapter Two.

Dedication

I dedicate my thesis to my father, Hammady Alilyyani.

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Chapter One

Introduction

Research has shown that leadership has significant, albeit positive or negative, effects on work environments (Malloy & Penprase, 2010; Murphy, 2005), and suggests that the quality of leader-follower relationships predicts important significant individual, group, and organizational outcomes such as workers' job satisfaction, organizational commitment, and turnover intentions (Cummings et al., 2010; Gerstner & Day, 1997; Toney, 2009). In fact, substantial emphasis has been directed to the vital role of leaders in creating healthy work environments for both staff and patients in healthcare organizations (Gardner, Thomas-Hawkins, Fogg, & Latham, 2007, Hansen, Williams & Singer, 2011, Paquet, Courcy, Lavoie-Tremblay, Gagnon, & Maillet, 2013). Also, there is increasing evidence for the connections among healthy work environments, patient safety, and the health and well-being of nurses and other professionals (Paquet et al., 2013). Nonetheless, the mechanisms by which leaders influence change and positive staff and patient outcomes in healthcare organizations are still not well understood (Wong, 2015). Described as a positive, transparent and ethical approach to leadership (Wang, Sui, Luthans, Wang, & Wu, 2014), authentic leadership (AL) theory (Avolio, Gardner, Walumbwa, Luthans, & May, 2004) includes proposed mediating mechanisms such as, identification with the leader and workgroup and trust, through which authentic leaders may influence the work attitudes and behaviors of staff such as job performance, work engagement and voice behaviour (Wong, 2008; Wong & Cummings, 2009a). Applying the relationally based theory of AL may provide new insight into complex processes through which leadership impacts the work related attitudes and behaviors of nurses and other healthcare providers, ultimately affecting

patient outcomes. In this review, research studies examining the effects of AL on both healthcare provider and patient outcomes were assessed.

Background

Despite the widely recognized importance of leadership in creating healthy work environments, there is much debate in the literature as to what constitutes effective leadership in a context of dynamic workplace challenges such as staff shortages, workplace conflicts, technologic advances, economic pressures, and the hectic pace of change, all of which demand strong positive leadership practices (Sherman & Pross, 2010). Leaders are essential in every organization to achieve safe care for patients and positive work environments for staff. Northouse (2007) defined leadership as “a process whereby an individual influences a group of individuals to achieve a common goal” (p.3). At the organizational level, senior nurse leaders participate in decision-making forums by providing their expertise and judgement to influence how nursing is practiced and valued (Huston, 2008; Wong, Laschinger & Cumming, 2010). At the department and unit levels, leaders facilitate staff involvement in decision-making about patient care, staffing and quality improvement activities to enhance care delivery and outcomes (Page, 2004; Thompson et al., 2011; Tregunno, Jeffs, McGillis Hall, Baker, Doran, & Bassett, 2009). Nonetheless, a shortage in nurse manager incumbents is predicted within the next decade because of retirements of managers and few nurses choosing management positions (Laschinger et al., 2013) and this situation points to the need for active leadership development within organizations.

Healthcare leaders, including nurse managers and administrators, are fundamental to nurse/staff retention, and on account of their leadership role, have an inherent duty to ensure a healthy workplace for employees and patients alike (Anthony et al., 2005; Shirey, 2006). Specifically, nurse managers are central to the development of cultures built on trust where

staff can feel comfortable, satisfied, and safe in providing quality care to patients in the healthcare setting (Rogers, 2005). Targeted efforts by managers to address the problems of nurse/staff turnover, such as creating healthy work environments that empower, satisfy, attract and retain registered nurses now and in the future, are not only imperative, but within the scope of the manager role. Recently, high rates of absenteeism and nationwide nursing shortages which have negative consequences for patients, nurses, and organizations have drawn attention to nurses' work environments (Buchan, Duffield, & Jordan, 2015) and heightened awareness about possible links between the quality of the work environment and high levels of staff turnover and poor quality care outcomes (Djukic, Kovner, Brewer, Fatehi, & Cline, 2013; Heath, Johanson, & Blake, 2004; Laschinger & Finegan, 2005). Therefore, the vital role of having strong leadership to promote nurse/staff empowerment, including access to adequate resources and support, and trust in the manager is an essential characteristic to ensure positive outcomes such as retention (Anthony et al., 2005; Shirey, 2006).

In addition to nursing/staff shortages and turnover, incivility and bullying have become key factors in hostile work environments, and are most prevalent among nurses compared with other healthcare professionals (Lewis, 2006; Quine, 2001; Spector, Zhou, & Che, 2014; Vessey, Demarco, & DiFazio, 2009). In some studies, managers have been identified as common sources of nurse bullying (Hutchinson, Vickers, Jackson, & Wilkes, 2005; Lewis, 2006; Simons, 2008). In response to concerns about care quality and work environment including staff outcomes, several studies have called for strong nursing leadership to create cultures of safety through the development of trust in leaders (CNAC, 2002; IOM, 2004; Wong & Cummings, 2007). According to Avolio et al, (2004), AL is considered as the root component of effective leadership needed to build trust and healthier

work environments that promote high quality patient care and positive recruitment and retention of staff. In addition, authentic leaders can affect the work environment by declaring and demonstrating their values and goals and also by showing a high degree of consistency between their values and actions which are considered as key antecedents of AL (Peus, Wesche, Streicher, Braun, & Frey, 2012).

Although there are many leadership theories applied in nursing and healthcare such as transformational leadership (Bass & Avolio, 1994), emotional intelligence/resonant leadership (Boyatzis & McKee, 2005; Goleman, 1995) and leader-member exchange theory (Graen & Uhl-Bien, 1995), many focus primarily on leader or follower characteristics or behaviors, and very few on the leader-follower relationship (Northouse, 2007). Authentic leadership focuses on leader self-awareness and relational transparency, and it concentrates on the relationship between leaders and followers in terms of personal and social identification. Furthermore, it realizes the role of emotions and trust in leader-follower relationships (Wong, 2008). AL also emphasizes the positive role modeling of honesty, integrity, and high ethical standards in the development of leader-follower relationships. In terms of motivation, AL is purported to restore optimism, build confidence, promotes transparent relationships, and fosters trust and commitment which is vitally important to motivate staff and improve patient outcomes (Laschinger & Smith, 2013).

The concept of AL development has been a focus in the AL literature (Avolio et al., 2004; Avolio & Gardner, 2005; Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Shirey (2006) argued that AL was the kind of leadership that is needed to build high quality and positive work environments in healthcare (Shirey, 2006). According to Avolio and Gardner (2005), AL makes a difference in healthcare organizations by helping people find meaning at work, building optimism and commitment among followers, encouraging transparent

relationships that build trust, and promoting inclusive and positive ethical climates.

Authentic leaders usually achieve high levels of authenticity because they know who they are and what they believe and act in accordance with their values and beliefs (Avolio et al., 2004). Furthermore, they demonstrate a sense of caring for their employees and share information with them in terms of what is and is not working well in their work relationships based on ethical and moral standards (Laschinger & Fida, 2014a). Actually, the current approach toward AL and related empirical research emphasizes the essential role authentic leaders can play in creating a positive ethical climate and sustainable follower performance through the development of both authentic leaders and followers (Dickson, Smith, Grojean, & Ehrhart, 2001; Gardner et al. 2005; Shirazi & Sharifirad 2013).

Avolio et al.'s theory (2004) offers a framework which is needed to understand how the AL of nurse /healthcare managers provide positive work environments in healthcare. Nonetheless, up until recently there have been few studies that have empirically tested the theoretical propositions outlined in Avolio et al.'s (2004) AL theory within healthcare settings (Bamford, Wong, & Laschinger, 2013). Despite progress in acknowledging AL as an important factor in staff outcomes, there is an obligation to determine what is known and not known about the antecedents and outcomes of authentic leadership in healthcare settings and also to clarify the possible mechanisms by which authentic leadership affects staff and patient outcomes.

Purpose

The purpose of this systematic review was to identify the relationship between authentic leadership and staff and patient outcomes in healthcare; more specifically, to describe the antecedents and mediators of authentic leadership and the outcomes, both staff and patient, that have been associated with authentic leadership.

Significance

This systematic review aims to provide a clear picture about the contribution of AL in healthcare organizations. Having a description of the current state of the evidence on AL is essential for future research to validate what is known and examine the gaps in the evidence of authentic leadership. The results demonstrate that relationships exist between AL and a wide variety of staff outcomes and some patient outcomes and only one antecedent of AL. The current state of the evidence is described and importantly, recommendations outlined for advancing research on AL. Existing findings are summarized visually in an adapted version of the AL theoretical model (Avolio et al. 2004) and thus, provides a tool for use by nurse/healthcare leaders and researchers. Organizational leaders and healthcare practitioners can use the model to increase awareness of the processes or mechanisms by which AL promotes positive outcomes in the workplace. Researchers can design new studies to test this model in greater depth by examining multiple antecedents, mediators and outcomes with advanced statistical analyses. Additionally, researchers can identify gaps in knowledge and pursue research to fill these gaps and further develop and make changes to the model.

Summary

To summarize, given recent growth in the number of studies examining AL in nursing and healthcare and the importance of new knowledge to inform leadership development strategies within healthcare, there is a need to identify the current state of evidence on AL. Specifically, there is a need for a deeper understanding of the factors that predict AL; the specific staff, patient and organizational outcomes associated with AL; and the processes by which AL is related to outcomes. A systematic review will synthesize evidence on AL in healthcare and make it more accessible to decision makers and help inform policy, enable

prevention, and guide intervention initiatives (Center for Reviews and Dissemination (CRD), 2009). Also, it is vital to improve individual, organizational, and patient outcomes.

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Chapter Two

Manuscript

Managers in healthcare organizations are responsible to create the conditions for nurses' and other care providers' work by framing the quality of support, information, and resources that are available in work areas (Laschinger, Finegan, & Wilk, 2009; Shirey 2006). Nurses respond positively to their work and trust their managers when they perceive their leaders as authentic, open, and truthful and invite their participation in decision-making (Wong & Cummings 2009a; Wong, & Cummings, 2010). In addition, nurses who perceive their leaders to be authentic also feel empowered and supported in their work (Laschinger, Wong, & Grau, 2012). According to Wong and Cummings (2009a), authentic leadership (AL) is rooted in humanistic and patient care values which are at the core of nursing and other health professions. Moreover, AL promotes a positive climate wherein everyone, especially staff, feel respected, trusted and appreciated for their contributions (Blake, Blayney, Loera, Rowlett, & Schmidt, 2012).

Luthans and Avolio (2003) defined AL as “a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviours on the part of leaders and associates, fostering positive self-development” (p.243). According to Avolio, Gardner, Walumbwa, Luthans, and May (2004), authentic leaders have the ability to improve staff outcomes including engagement, commitment, and satisfaction which are required for staff to improve their work performance. Further, Avolio et al. (2004) suggested that authentic leaders facilitate higher quality relationships leading to active engagement of employees in workplace activities, which results in greater job satisfaction and higher productivity and performance. Therefore, authentic leaders are able to achieve high levels of authenticity

because they know who they are and know their values which guide them in their work (Avolio et al., 2004).

Authentic leaders develop follower motivation and self-determination by creating conditions or structures that facilitate two-way communication and follower autonomy, providing coaching and constructive feedback, acknowledging followers' perspectives and interests, and involving them in decision making (Gardner et al., 2005; Ilies et al., 2005; Tetrick, 1989). Authentic leadership is proposed as the root component of effective leadership that is needed to build healthy work environments to promote positive patient and staff outcomes (Avolio et al., 2004). Moreover, authentic leadership theory (Avolio et al., 2004) has gained empirical support in both the management and nursing literature (Laschinger, Borgogni, Consiglio, & Read, 2015) and can be considered a guide for researchers and leaders to identify the process by which leaders can affect follower attitudes and behaviors. The purpose of this study was to conduct a systematic review of antecedents, mechanisms, and outcomes of AL in healthcare by using Avolio et al.'s (2004) authentic leadership as the framework.

Theoretical Framework

The etymology of authentic is traced to the Greek word, 'authento', which means "to have full power" (Trilling, 1972) but specifically power over oneself (Gardner, Coglisier, Davis, & Dickens, 2011). The earliest philosophical conceptions of authenticity within the leadership literature was in the 1960s (Novicevic, Harvey, Buckley, Brown, & Evans, 2006) and include humanistic psychology and the work of Maslow (1968) and Rogers (1961). The model is based on the integration of knowledge from several fields such as positive psychology (Seligman, 2002), positive organizational behaviour (Luthans, 2002), and ethical

and moral perspectives (Schulman, 2002). In early 2000, unprecedented concerns about the ethical conduct of leaders based on high profile examples of corporate scandals caused leadership authors such as George (2003) and Luthans and Avolio (2003) to appeal for a new form of values-based leadership called AL (Avolio et al., 2004; Gardner et al., 2011). Luthans and Avolio (2003) illustrated the most interesting conceptualization of AL and its development because they explained the theoretical underpinnings of their AL model which include positive organizational behaviour (Luthans, 2002), transformational/full-range leadership (Avolio, 1999), and ethical perspective-taking (Kegan, 1982).

The authentic leader builds healthier work environments through four key components which are balanced processing, relational transparency, internalized moral perspective, and self-awareness (Figure 1). Firstly, *self-awareness* refers to demonstrating an understanding of how one derives and makes meaning of the world then how that meaning impacts the way one views himself or herself over time (Kernis, 2003). Secondly, *relational transparency* refers to presenting one's authentic self to others. For example, some behaviour promotes trust through disclosures that involve openly sharing information while trying to minimize displays of inappropriate emotions and expressions (Kernis, 2003). Thirdly, *balanced processing* refers to leaders who show that they objectively analyze all relevant data before making a decision; such leaders also solicit views that challenge their deeply held positions (Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Finally, *internalized moral perspective* refers to the form of self-regulation that is guided by internal moral standards and values rather than group, organization and societal pressures (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).

Authentic Leadership Model

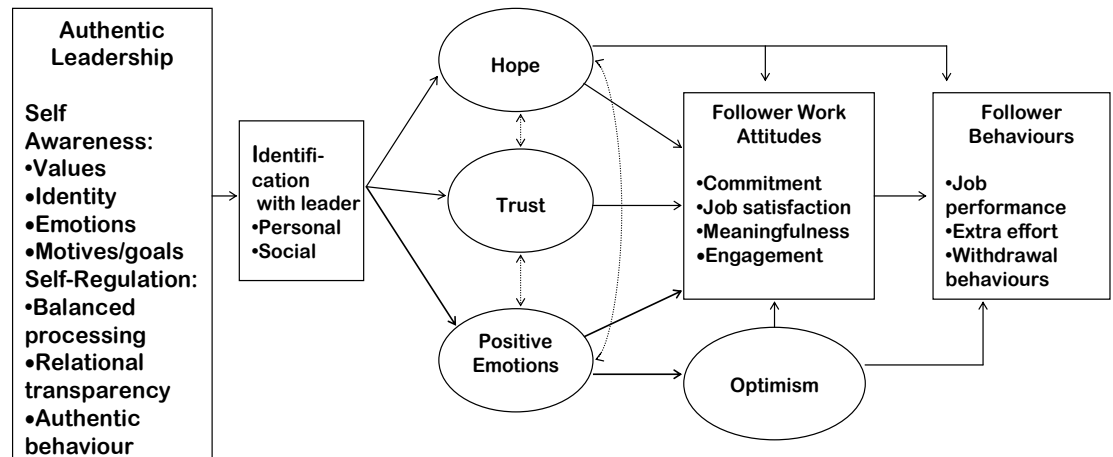


Figure 1. Proposed framework linking authentic leadership to followers' attitudes and behaviours (Avolio et al., 2004).

Leaders who are more authentic develop greater self-awareness and self-regulated behaviours (Gardner et al., 2005). The processes of self-awareness and self-regulation on the part of the leader then fosters followers' authenticity and development, resulting in well-being and improved performance (Avolio & Gardner 2005; Gardner et al., 2005). Authentic leadership theory posits that authentic leaders model and support follower self-determination. 'Self-determination' is one's autonomy or discretion to perform one's work in the way that one chooses, including making decisions about work methods, procedures, pace, and effort (Ilies, Morgeson, & Nahrgang, 2005; Thomas & Velthouse, 1990).

Authentic leaders are able to enhance the engagement, motivation, commitment, satisfaction, and involvement required from followers to constantly improve their work and performance outcomes through the creation of personal identification with the leader and

social identification with the work unit/organization (Kark & Shamir, 2002). Personal identification refers to a process whereby the individual's belief about a person (a leader) becomes self-referential or self-defining (Avolio & Gardner, 2005) while social identification is the degree to which individuals can belong to work with their group and notice the importance of group membership for their identity (Hogg, 2001). In combination with the identification processes, Avolio et al. (2004) posited that authentic leaders draw from their personal, positive psychological resources of hope, trust, positive emotion, and optimism to model and promote the development of these in others. Hope is defined as "a positive motivational state that is based on an interactively derived sense of successful: (1) agency (goal-directed energy) and (2) pathways (planning to meet goals)" (Snyder, Irving, & Anderson, 1991, p. 287). Trust is a "psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another" (Rousseau, Sitkin, Burt, & Camerer (1998), p. 395). Seligman (1998) defined optimism as a cognitive process involving positive outcome expectancies and causal attributions that are external, temporary, and specific in interpreting bad or negative events and internal, stable, and global for good or positive events. However, there is no universal definition of emotion because emotion is a constellation of related positive or negative reaction, so emotion represents a response or reaction to an event or a person (Weiss & Cropanzano, 1996). To summarize, Avolio et al.'s model illustrated that AL influences followers' attitudes and behaviours through the key psychological processes of identification, hope, positive emotions, optimism, and trust, but there are multiple connections among these variables as each variable influences one another.

Two instruments used to measure AL in the empirical literature. *The Authentic Leadership Questionnaire* (ALQ) (Avolio, Gardner, & Walumbwa, 2007; Walumbwa et al.,

2008) is the most common instrument and was developed by the authors of the theory. This measure consists of 16 items divided into four subscales: relational transparency, internalized moral perspective, balanced information processing and self-awareness. Citing some concerns with the ALQ in terms of full public availability of the measure and content validity of the items. *The Authentic Leadership Inventory* (ALI) was developed and validated by Neider and Schriesheim (2011) to measure AL. It was based on the Avolio et al. (2005) theory and the same four dimensions of AL, and consists of 14 items.

Literature Review and Rationale for Review

Two important systematic reviews of the relationships among leadership styles and practices of nursing leaders and staff and patient outcomes are worth describing here as background to this review of AL. Cummings et al. (2010) examined the relationships between various styles of leadership and outcomes for the nursing workforce and their work environments. They searched 10 electronic databases for the period 1985 to May 2009 and found 53 quantitative studies that examined leadership behaviors and outcomes for nurses and organizations. By means of content analysis, a total of 64 outcomes in the 53 included studies were grouped into five themes: staff satisfaction with work, role and pay, staff relationships with work, staff health and wellbeing, work environment factors, and productivity and effectiveness. The findings of this review suggested that relationship or people focused leadership practices contribute to improving outcomes for the nursing workforce, work environments and for productivity and effectiveness of healthcare organizations. In fact, relationally focused leadership styles such as transformational, resonant, and supportive contributed to more frequent and positive outcomes than did other more task focused leadership styles, which included dissonant leadership, management by exception, transactional, instrumental and laissez-faire approaches which led to negative

outcomes. Although this review did not reveal any studies of AL, AL is considered a relationally focused leadership style and hence, lends support for the notion that AL may have similar effects. Cummings et al. (2010) also argued that even though there is a plethora of leadership theories and frameworks, the relationships and mechanisms of action for specific leadership styles and outcomes are still not well understood which makes this an important area for theory development and research.

In 2013, Wong, Cummings and Ducharme conducted a systematic review of studies testing the relationship between nursing leadership practices and patient outcomes. Building on a previous review (Wong & Cummings, 2007), authors searched eight online databases for the period 1 May 2005 to 31 July 2012 and found 20 studies that met study inclusion criteria. A range of leadership styles were tested in the studies but were primarily relational, that is, leader behaviours that are focused on people and relationships to achieve common goals as opposed to a task focus on structures and procedures. Transformational leadership was examined most frequently followed by approaches such as, participative, task- or relationship-oriented, and resonant leadership. Nineteen patient outcome variables were identified and grouped into five categories using content analysis: relationship between leadership and patient satisfaction, patient mortality, adverse events, complications, and patient healthcare utilization. The findings of this systematic review supported that relational leadership styles and practices were positively associated with some types of patient outcomes. There was an association between relational leadership and the reduction of adverse events through leaders' influence on human resource variables (staff expertise, turnover, absenteeism, overtime, and nurse to patient ratios) that may be connected to patient care outcomes. There was also a negative relationship between relational leadership and patient mortality in three of six studies while there was a positive relationship between

leadership and patient satisfaction. Despite the positive connection between relational leadership and patient outcomes none of the included studies examined AL.

There has been a growing body of research studies conducted in other disciplines such as business and industry to examine the effect of AL on outcomes such as organizational commitment (Gatling, Kang, & Kim, 2016), organizational citizenship (Valsania, León, Alonso, & Cantisano, 2012), and trust in the supervisor (Xiong, Lin, Li, & Wang, 2016). A significant increase in the number of studies of AL in a variety of fields prompted Gardner et al. (2011) to conduct a review in 2011 of the studies up to the end of December 2010. The purpose of this review was to clarify the AL construct and the evidence for its antecedents and outcomes. Authors searched EBSCO/Host databases and used specific keywords that were linked to AL such as “authentic leadership”. They found 91 AL publications and coded the type of publications into theoretical, empirical, and practitioner categories. The key findings from their review included: solid support for the predictions advanced by and derived from AL theory; only two quantitative studies explored the relationships between selected antecedents and AL; the high volume of cross-sectional studies limited the interpretations of causality; and a relatively high percentage of qualitative studies prompted authors to recommend greater focus on the credibility and transferability of findings in future research. In summary, this review suggested that there was a need for further research using more rigorous and diverse methods to strengthen confidence in the nomological validity of AL theory and examination of the relationships of specific components of AL and various antecedents and outcomes. As far as we know this review is the only review of AL research to date and studies were not specific to healthcare although three studies by Canadian authors were included in the review (Giallonardo, Wong, & Iwasiw, 2010; Wong et al. 2010; Wong & Cummings, 2009b).

Shirey (2006) and Wong and Cummings (2009a) presented the relevance and applicability of the AL theory to the advancement of nursing leadership practice and research. Shirey was one of the first in nursing to define and describe the attributes of an authentic leader in nursing based on the work of Avolio et al. (2004) and George (2003). She also outlined the proposed mechanisms by which authentic nursing leaders create healthy work environments for practice and suggested practical strategies for developing authentic leaders. More importantly, Shirey (2006) stressed the need for a body of research to investigate the sustainable effects of authentic leaders on healthy work environments. Wong and Cummings (2009a) outlined the origins and key elements of the AL theory as proposed by Avolio et al. (2004), reviewed the theoretical, conceptual and measurement issues associated with AL and advocated the application of AL to contemporary nursing issues. They argued that AL's positive emphasis on the relational aspects of leadership, a strong moral component, and the importance of leader and follower development were closely aligned with nursing's priorities for healthy nursing work environments and also called for leadership research studies incorporating measures of AL. Although the concept of AL is still considered relatively new in healthcare, there have been a number of empirical studies linking AL with work attitudes and outcomes in nursing but fewer studies among other healthcare professions (Wong & Laschinger, 2013).

The first study of AL in nursing using the *Authentic Leadership Questionnaire* (Walumbwa et al., 2008) measure of AL was conducted by Wong, Laschinger, and Cummings in 2010 and tested the theoretical propositions between managers' AL, and staff nurses' trust in the manager, work engagement and voice behaviour among 280 Ontario nurses. Findings showed that AL and trust in the manager played a role in fostering trust, work engagement, voice behaviour, and perceived quality of care which means that findings

supported several of Avolio et al.'s (2004) AL theory propositions. Shortly thereafter, Giallonardo et al (2010) reported that nurse preceptors' AL was significantly related to work engagement and job satisfaction of 170 new graduate nurses. These studies were two examples of studies that have examined the vital role of AL in healthcare organizations specifically in nursing. In response to this growing number of studies examining AL in nursing populations there is a need to conduct a systematic review of the antecedents, mediators and outcomes of AL within healthcare including nursing and other health professionals. Establishing a summary of the evidence on AL is necessary to inform policy development, guide leadership development and intervention planning, and further direct future nursing and healthcare research.

Purpose and Research Questions

The purpose of this thesis project was to identify the relationship between AL and staff and patient outcomes in healthcare and the antecedents and mediators of AL in healthcare settings. Therefore, the research questions are:

1. What antecedents are associated with authentic leadership?
2. What evidence is there that authentic leadership is associated with staff and patient outcomes?
3. What are the mechanisms (mediators) by which AL has been associated with staff and patient outcomes?

Definition of Terms:

Authentic leadership

Authentic leadership is defined as “a pattern of transparent and ethical leader behaviour that encourages openness in sharing information needed to make decisions while accepting input from those who follow” (Avolio, Walumbwa, & Weber, 2009. P.24).

Authentic leaders are defined by Avolio et al. (2004) as “those individuals who are deeply aware of how they think and behave and are perceived by others as being aware of their own and others’ values/moral perspective, knowledge, and strengths; aware of the context in which they operate; and who are confident, hopeful, optimistic, resilient, and high on moral character” (p.4).

Healthcare Staff

Healthcare staff is defined as all people engaged in the promotion, protection or improvement of the health of populations (Adams et al., 2003; Diallo, Zurn, Gupta, & Dal Poz, 2003). This is consistent with the WHO definition of health systems as comprising all activities with the primary goal of improving health. Healthcare professionals, including medicine, surgery, dentistry, respiratory therapy, physiotherapy, occupational therapy, radiology, pharmacy, and nursing, maintain health in humans through the application of the principles and procedures of evidence-based medicine and caring. They study, diagnose, treat and prevent human illness, injury and other physical and mental impairments in accordance with the needs of the populations they serve. Also, they advise on or apply preventive and curative measures, and promote health with the ultimate goal of meeting the health needs and expectations of individuals and populations, and improving population health outcomes.

Staff Outcomes

Staff outcomes include attitudes, behaviours and performance of staff that may be influenced by the attitudes and behaviours of leaders in the workplace (Avolio et al., 2004). These outcomes often include satisfaction with work, roles, and pay; staff relationship with work; and staff health and wellbeing. Staff satisfaction with their work, roles, and pay can be measured as job, intrinsic, and team satisfaction, satisfaction with leader, job mobility and

security, financial rewards, pay, promotion, organizational work satisfaction, time with patients, people, work load, and job autonomy. Staff relationship with work includes staff reports of organizational commitment, intent to stay or leave the profession, and actual turnover such as absenteeism and depersonalization. Staff health and wellbeing outcomes are related to job stress and tension, emotional exhaustion, and anxiety (Cummings, et al., 2010).

Patient Outcomes

Patient outcomes are described as patient mortality, patient safety outcomes such as the incidence of adverse events involving patients (e.g. falls, nosocomial infections) or complications during hospitalization, patient perceptions of satisfaction with care, and healthcare utilization such as length of stay (Doran & Pringle, 2011).

Methods

This review used the guidelines for conducting systematic reviews in health care developed by the Centre for Reviews and Dissemination (2009) at the University of York. Please note that Tables 1- 8 which summarize the key elements of the search and analysis results are located at the end of this chapter.

Search Strategy and Data Sources

The search strategy for this thesis work was completed in January 2017 by using the following 11 electronic databases: ABI Inform Dateline, Academic Search Complete, Cochrane Database of Systematic Reviews (CDSR), PUBMED, CINAHL, EMBASE, ERIC, PsychINFO, SCOPUS, Web of Science, and Dissertations & Theses. The search included databases that publish health-related research in order to identify studies that are specific to healthcare disciplines. Furthermore, ABI Inform Dateline, Academic Search Complete, ERIC, and PsychINFO were also searched as they contain a large body of research on AL.

Finally, theses and dissertations were selected to identify research work that may not yet be published elsewhere.

A combination of similar search terms was used to search all databases (Table 1). The list of terms was selected based on a preliminary review of the literature, and finalized in consultation with a university librarian and supervisory committee. EndNote was used as the reference management system for this thesis work. Once the final search and screening was completed in October 2016, additional strategies were employed to ensure all relevant studies have been located. These strategies included hand-searching reference lists of relevant articles, and current reviews, and searching specific journals such as *Journal of Nursing Management* and *Health Care Management Review* for any additional articles written by experts in the field. The search was repeated the end of January 2017.

Inclusion and Exclusion Criteria

The inclusion and exclusion criteria for the systematic review were identified based on the research question. Also the PICOS framework was used to guide development of the inclusion and exclusion criteria, with consideration given to populations, interventions or comparators, outcomes, and study designs (CRD, 2009; Appendix A). Titles and abstracts were selected for further screening if they met all of the following inclusion criteria: peer-reviewed research; English language full text publication available; full-text published between January 1, 2004 and January 31, 2017 as AL theory did not appear in the literature prior to the publication of the work by Avolio et al. (2004); involve leaders and providers of patient, client and/or resident care in a variety of healthcare settings; measure AL; measure antecedents, mediators and outcomes of AL; and measure relationships among AL and other variables. Quantitative and qualitative studies were included. Qualitative studies were included if they directly explored AL in healthcare settings. Due to the study timeframe and

only English language proficiency in the research team, only studies published in English were included. Theses and dissertations were also included but other grey literature was excluded. Articles that described opinions about AL, were done in fields other than healthcare (e.g., education), or did not have enough (i.e., not full-text) information for data extraction were excluded.

Screening and Study Selection

Articles from the database and manual search were put through two screenings for the systematic review. The first screening stage included review of all titles and abstracts using inclusion criteria. A second reviewer screened all titles and abstracts. Any discrepancies between reviewers were discussed and consensus was reached in all cases. All manuscripts that passed first stage screening proceeded to full-text screening using inclusion criteria. All full-text manuscripts were screened by the primary researcher and a second reviewer reviewed them in order to ensure validity of the screening process.

Quality Appraisal

The primary researcher assessed each included study for methodological quality using a quality-rating tool during data extraction. For correlational studies, a quality appraisal tool adapted from an instrument in previously published systematic reviews (Cowden, Cummings, & Profetto-Mcgrath, 2011; Cummings & Estabrooks, 2003; Cummings et al., 2008, 2010; Germain and Cummings, 2010; Wong & Cummings, 2007) was used to assess four areas of the study: research design, sampling, measurement, and statistical analysis. Thirteen criteria were evaluated in the tool, with a total of fourteen possible points (Table 9a - Appendix B). Based on assigned points, studies were categorized as low (0–4), moderate (5–9), or high (10–14) quality. Included qualitative studies were assessed using the Critical Skills Appraisal Programme (CASP, 2010). It is comprised of ten questions related to rigor,

credibility and relevance, and allows for a possible maximum of nine points to be awarded based on yes/no responses. A score of nine indicates the highest quality rating available with the tool (Table 9b -Appendix B).

Data Extraction

After the final set of studies for inclusion was identified, data from each study were extracted and directly entered into data extraction tables adapted from work by Wong et al. (2013). The following data were extracted from the included studies: author, year, journal, country, study purpose, theoretical framework or conceptual model, conceptualization or definition of AL utilized, methodological approach, setting, sampling method, sample size, description of participants, measurement instruments, reported reliability and validity, identified antecedents, mediators and outcomes of AL, analysis and statistical techniques, and significant and non-significant results (Table 4). For qualitative studies (Table 5), author, year, journal, country, study purpose, conceptual framework, design and data collection process, participant characteristics, definition of AL, rigour, analysis and findings were extracted. Data were entered into a data extraction table by the primary researcher and a second researcher reviewed the extractions for each manuscript.

Analysis

After data were extracted and quality appraisals were completed, the findings were described and analyzed by descriptive and narrative synthesis.

Descriptive Synthesis

For the descriptive synthesis, characteristics of the studies were examined to identify commonalities and differences and possible inferences based on common characteristics, such as authors, where studies were completed, years of study completion, characteristics of

participants, how AL was measured and defined by researchers, theoretical or conceptual frameworks used, instruments used to examine all variables, and analytic techniques utilized.

Narrative Synthesis

The narrative synthesis offers an analysis and interpretation of the evidence found in the included studies. According to the CRD (2009), this process is described as the exploration of relationships within and between studies. Even though there is no strict set of rules for the narrative synthesis, a general framework can be applied in order to help maintain transparency and add credibility to the process (CRD, 2009). The four elements of this framework are: developing a theory of how the intervention works (for intervention studies only), why and for whom; developing a preliminary synthesis of findings of included studies, exploring relationships within and between studies, and assessing the robustness of the synthesis CRD (2009).

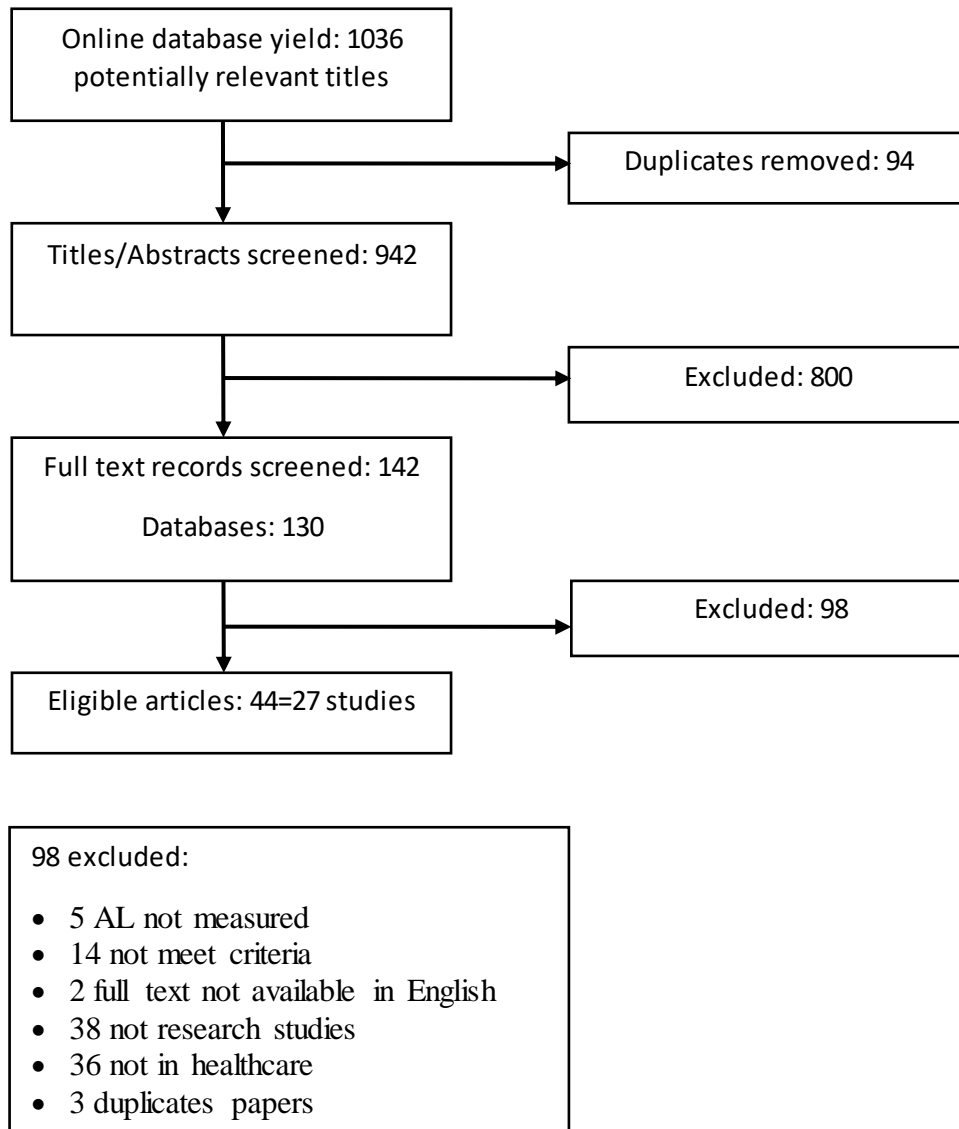
In this study, narrative synthesis, involved a number of steps to analyze relationships among AL, its antecedents, mediators and outcomes that have been examined or measured in the research to date. First, statistically significant and non-significant antecedents, mediators and outcomes of AL in healthcare were examined using content analysis procedures (Krippendorff, 2013). Outcomes were reviewed for common characteristics and grouped into categories and the same was completed for antecedents and mediators. The identified categories were compared to the original AL model (Figure 1) to determine how extensively review findings aligned with or enhanced the model and an adapted model was developed that represented findings from this review. The results of the qualitative studies were also grouped into different categories and compared with the AL model and other review findings.

Results

Search Results

A summary of the search strategy and screening process results is presented in Figure 2. The electronic database search yielded 1036 titles and abstracts. After removal of

Figure 2. Selection of articles for review



duplicates, a total of 942 titles and abstracts were screened using inclusion and exclusion criteria to determine possible eligibility for inclusion. The title and abstract review of the

database search results yielded 142 potentially relevant manuscripts to be retrieved for full text review including 12 additional manuscripts that were identified through consultation with an identified expert in the field of research and review of reference lists of included articles. After final full text review, 44 manuscripts representing 27 studies were included in this review. Since there were multiple papers (2-6) from five studies (Laschinger et al., 2012; Laschinger & Fida, 2014a; Spence Laschinger et al, 2016; Stander et al., 2016; Wong et al., 2010) the multiple papers for each study were counted as one study in the analyses and results. The heterogeneity in mediator and outcome variables in the included studies precluded the ability to statistically summarize these results through meta-analysis.

Included Study Designs

There were 38 manuscripts representing 21 original quantitative studies (Table 4) and 6 qualitative manuscripts representing 6 studies (Table 5) for a total of 27 included studies. Eleven manuscripts were unpublished doctoral dissertations and master's theses and all but one were quantitative studies and the other qualitative. Quantitative studies were primarily non-experimental, correlational studies ($n=18$, 86%); however, there were three time-lagged design studies from three original datasets reported in six papers (Boamah et al., 2017; Laschinger, et al., 2016; Laschinger & Fida, 2014a and 2014b; Nelson et al. 2014; Read & Laschinger, 2015) and one study that used unit level data for AL and outcomes in the analysis (Johnson, 2015). The qualitative component of one mixed methods study (Huddleston & Gray, 2016) was included in this review. Qualitative studies used the following study methodologies: narrative inquiry ($n=2$), qualitative description ($n=2$), grounded theory ($n=1$) and interpretive phenomenology ($n=1$).

Quality Appraisal

The summary results of the quality appraisals are reported in Tables 2 and 3. Both the quantitative and qualitative studies were rated as moderate or high quality, so none of them were excluded (see Tables 10 and 11 in Appendix B for detailed assessment of each study). All but one (moderate = score of 9) of the 21 quantitative studies were rated as strong (10 to 14). The results of the quality appraisal of quantitative studies were as follows: all 21 quantitative studies were prospective; 11(52%) used probability sampling; the samples in 16 studies (76%) were drawn from more than one site; anonymity was protected in all studies; only 4 (19%) of the studies had response rates more than 60%; reliability and validity of instruments were discussed in all quantitative studies; 19 (90%) studies had an internal consistency equal or more than 0.70 for the scale used for measuring AL; in all but one study observed ratings of AL were used; all 21 studies used a theoretical model/framework for guidance; and all of them also analyzed correlations when multiple relationships were assessed (Table 2).

All 6 qualitative studies were rated between 7 and 9. All of them had a clear statement of the aims and used appropriate study designs as well as appropriate methodology. The only weakness that was found in 5 out of 6 studies was the relationship between participants and researchers was not adequately considered in studies (Table 3).

Descriptive Synthesis: Characteristics of Included Studies

Characteristics of each study that was selected in this systematic review are described in detail in Tables 4 and 5. All manuscripts were published between 2009 and 2017 with more than a quarter ($n=13$ papers for 8 studies) published in 2015-16. Twenty-five papers were published in nursing journals. Four studies were published in psychological journals (Coxen, van der Vaart, & Stander, 2016; Laschinger, & Fida, 2014a, 2014b; Nelson et al., 2014), one in a business journal (Rahimnia, & Sharifirad, 2015), one in a human resource

journal (Stander, De Beer, & Stander, 2015), and one in a leadership journal (Wong & Cummings, 2009b).

The majority of studies were conducted in Canada ($n=9$ studies), and the United States ($n=11$). Two studies were completed in India (Malik et al., 2016; Malik, & Dhar, 2017), and one each in Iran (Rahimnia, & Sharifirad, 2015), Israel (Shapira-Lishchinsky, 2014), and Belgium (Mortier, Vlerick, & Clays, 2016), and two in South Africa (Du Plessis, 2014; Stander et al., 2015).

Participant(s)/sample. The total number of participants in all studies was 9,460. As per inclusion criteria, all study participants were registered healthcare professionals working in direct care roles or employed in management, administrative, supervisory, or leadership specific roles. In terms of quantitative studies, 13 studies sampled registered nurses; seven sampled mixed groups (nurses and supervisors, ($n=3$); nurses and physicians, ($n=1$); managers, specialists, administrative personnel, academic professionals, ($n=3$); and one sampled chief nurse executives. As for qualitative studies, five of the six studies sampled nurses in leadership roles as follows: chief nurse executive roles ($n=2$), managers/leaders ($n=2$), and team leaders ($n=1$). One study included registered nurses in direct patient care roles.

Demographics of study samples were reported in all included studies. In relation to registered nurses and work experience, 10 studies sampled experienced nurses and 4 sampled new graduate nurses (less than 2 years) specifically. Of these there was one study (Laschinger, Wong, & Grau, 2013) which compared experienced nurses and new graduate nurses in the same paper.

Studies ($n=24$ studies) were primarily conducted in acute care settings, while one was conducted in hospitals and nursing homes (Rahimnia & Sharifirad, 2015), one specified

hospices (Ahern, 2015), and one was conducted in the private healthcare industry and did not specify level of care or settings (DuPlessis, 2014).

Study purpose. All quantitative studies examined the relationship between AL and a variety of different factors, including mediators and outcomes (Table 4). Only one study examined an antecedent of AL (Haddad, 2013).

For the qualitative studies (Table 5), one explored nurses' and managers' perceptions of the meaning of healthy work environment (Huddleston & Gray, 2016); one explored the experiences of hospital chief nurse executives in becoming and remaining authentic nurse leaders (Murphy, 2012); another examined nurses' ethical decision-making in team simulations in order to identify the benefits of these simulations for AL development (Shapira-Lishchinsky, 2014); Shirey, (2009) investigated the relationship among AL, organizational culture, and healthy work environments using a stress and coping lens; and finally, Ahern, 2015 explored how hospice leaders build resilience within interdisciplinary teams using AL as an element of the study conceptual framework.

Theoretical or conceptual framework. All ($n=21$ studies) quantitative studies included AL theory of Avolio et al. (2004) as a theoretical/conceptual framework in addition to other theories depending on study variables: Maslach & Leiter's (1997) six areas of worklife; Schaufeli and Bakker's (2004) concept of work engagement; Einarsen, Matthiesen, and Skogstad's (1998) notion of workplace bullying; Leiter and Maslach's (2004) burnout model; Aiken and Patrician's (2000) magnet hospital model of supportive professional practice environments; Pisanti, Lombardo, Lucidi, Lazzari, and Bertini's (2008) conceptualization of occupational coping self-efficacy; Borgogni, Consiglio, Alessandri, and Schaufeli's (2012) concept of interpersonal strain at work as part of the expanded model of burnout; Kanter's (1977) workplace empowerment theory; Nahapiet and Ghoshal's (1998)

theory of social capital; Luthans and Jensen's (2005) psychological capital; Scott, Keehner Engelke and Swanson's (2008) organizational socialization model; Mayer, Davis, and Schoorman's (1995) dyadic trust; Donabedian's (1966) of quality healthcare and its three mechanisms for assessing quality, namely structure, process, and outcome; Dutton & Heaphy's (2003) high quality relationship model; Cortina, Magley, Williams, and Day-Langhout's (2001) notion of workplace incivility; and Edmondson's (1999) concept of team psychological safety. Five of six qualitative studies referenced AL theory in the background/literature review.

Instruments to measure authentic leadership. There were two instruments that were used to assess AL in studies. The most common one used ($n=17$ studies) was Avolio et al.'s *Authentic Leadership Questionnaire (ALQ)* (2007) which consists of 16 items divided into four subscales: relational transparency (5 items), internalized moral perspective (4 items), balanced information processing (3 items) and self-awareness (4 items). Neider and Schriesheim's of (2011) *Authentic Leadership Inventory (ALI)* was the other instrument that was found in three studies to measure AL (Mortier et al., 2016; Rahimnia, & Sharifirad, 2015; Stander et al., 2015). It is a 14-item scale divided on four subscales which are: self-awareness (3 items), balanced processing (4 items), relational transparency (3 items), and internalized moral perspective (4 items). This scale is a 5-point Likert-type scale, so the anchors ranged it from never to almost always. Wong and Cummings (2009b) utilized four items from the *Leadership Practices Inventory (LPI)* (Kouzes & Posner 1993) to operationalize the four dimensions of AL.

Instruments to measure factors associated with authentic leadership. Eighty-seven different instruments were used to measure various factors associated with AL. No two studies used the same combination of measurement instruments. Only one instrument

(structural empowerment) was used to measure antecedents of AL. Thirty different instruments were used to measure mediating factors and fifty-five to measure outcome factors. Leiter and Maslach's *Areas of Worklife Scale* (AWS; 2002, 2004, 2011) was frequently used in studies ($n=3$). Also, Schaufeli and Bakker's (2003) *Utrecht Work Engagement Scale* (UWES) was found in three studies. The *Burnout Inventory-General Survey* (MBI-GS) by Schaufeli, Leiter, Maslach, and Jackson (1996) was used to measure burnout and emotional exhaustion in six studies. Lastly, Laschinger, Finegan, Shamian, and Wilk's (2001) of *Conditions of Work Effectiveness Questionnaire-II* (CWEQ-II) measured structural empowerment in seven studies. There were seven different scales utilized to measure job and career satisfaction, but Shaver and Lacey's (2003) was found in two studies.

A majority of studies used advanced statistical procedures such as structural equation modelling (SEM; $n=11$ studies) and multiple linear regression ($n=7$ studies) and path analysis ($n=2$ studies). Correlations ($n=21$ studies) were reported in all studies. Thematic and structural analysis was commonly used as analysis technique in qualitative studies ($n=5$ studies).

Narrative Synthesis of Results

Throughout the analysis, both themes that were consistent with the AL model (Figure 1) and unique themes and subthemes specific to findings from our review of AL studies in nursing/healthcare were identified and included greater emphasis on mediators and outcomes. Using content analysis procedures, the results of studies in the review were organized into two main categories based on the outcomes and mediators of AL examined in studies. Summary of study outcomes and mediators are illustrated in Table 6 and 7 respectively. Due to heterogeneity of the outcome and mediator variables examined, only direction of effects and statistical significance and not specific effect sizes are reported.

Maintaining the same overall structure of the AL model, it was adapted by including new listings of mediators and outcomes based on findings and adding an additional arrow linking AL directly to outcomes (Figure 3). Only one study examined antecedents of AL and this was structural empowerment (Haddad, 2013) and is included in Table 6 and Figure 3.

Relationships between authentic leadership and outcomes. Direct associations between AL and 43 outcomes were found and grouped into two major themes: follower outcomes and patient outcomes.

Follower outcomes. The outcomes of follower were organized into five subthemes: *personal psychological states, satisfaction with work, work environment factors, health & well-being, and performance.*

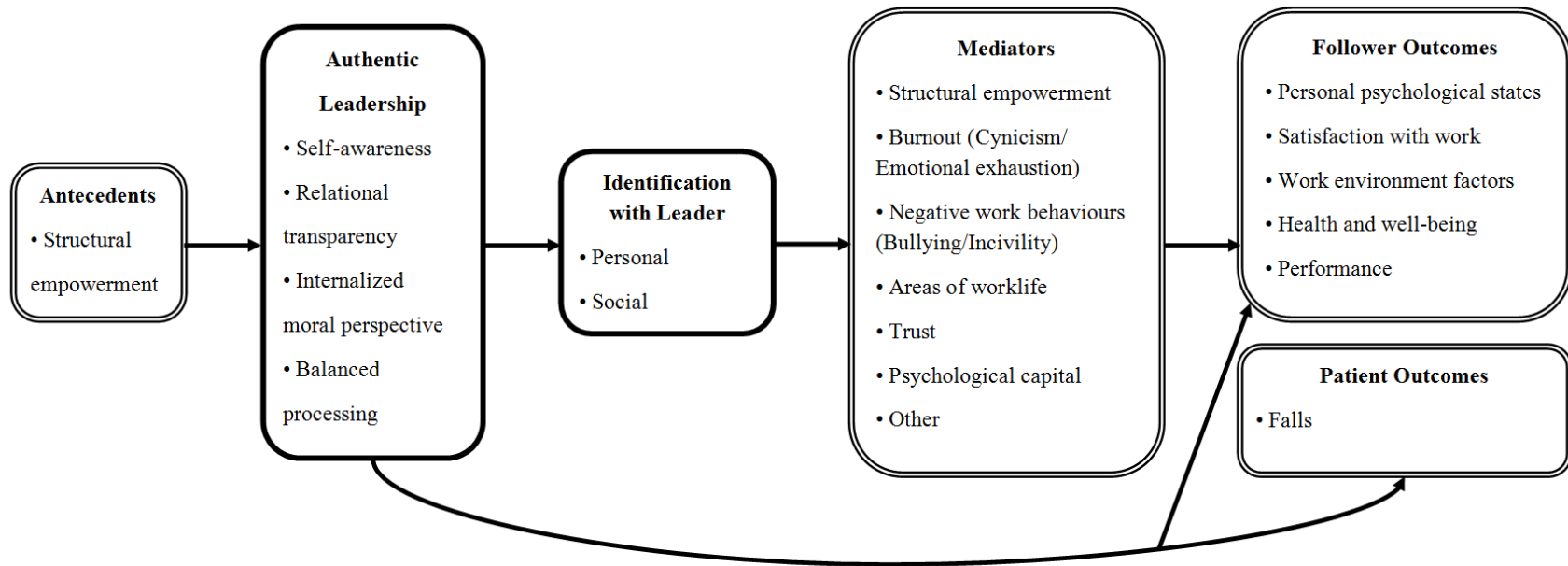


Figure 3. Adapted authentic leadership model based on findings of systematic review of authentic leadership in healthcare

Solid lines indicate that findings from the review support demonstrated relationships.

Double lined boxes indicate additions to the original theory.

Personal psychological states. Three follower outcomes, psychological capital which also includes optimism ($n=4$ studies), identification which includes personal and social/organizational identification ($n=2$ studies) and trust which includes trust in manager, organization or co-worker ($n=3$ studies) reflected personal psychological states. These three concepts were articulated by Avolio et al (2004) and included as central concepts in AL theory. In all but one study (social identification in Wong et al., 2010) AL was positively and significantly associated with these variables.

Satisfaction with work. Five subthemes derived from the content analysis and categorized as variables reflecting satisfaction with work. These were identified as job satisfaction, career satisfaction, job turnover intention, career turnover intention and work engagement. The most frequently identified outcome of AL was job satisfaction and was found to be positively significantly associated with AL in 8 out of 9 studies. Work engagement was also positively significantly associated with AL in three of four studies (Bamford et al., 2013; Du Plessis, 2014; Giallonardo et al., 2010). Laschinger et al. (2016) found that AL and job turnover intention and career satisfaction and career turnover intention were generally not significant.

Work environment factors. Thirteen identified outcome variables suggesting the broad theme of work environment factors were grouped into five subthemes: structural empowerment, negative workplace behaviours, workgroup relationships, practice environment and areas of worklife. Structural empowerment was the most common outcome and was significantly positively associated with AL in five studies. Negative workplace behaviours were all significantly negatively associated with AL in six studies: incivility in three studies and bullying in four studies. Authentic leadership was associated with various aspects of workgroup relationships reflected in six outcomes in six studies. All except team

psychological safety (Plasse, 2015) were significantly positively associated with AL. Regan et al. (2016) and Laschinger & Smith (2013) illustrated the positive and significant relationship between AL and interprofessional collaboration. Practice environment was examined by three outcomes (professional practice environment, nursing professional practice culture and decisional involvement) in three studies and all were significantly positively associated with AL; professional practice environment was examined in one study (Laschinger & Fida, 2015; Fallatah & Laschinger, 2016). Last, two studies (Wong & Giallonardo, 2013; Bamford et al., 2013; Laschinger et al., 2015; Laschinger & Read, 2016) assessed the positive and significant relationship between areas of worklife and AL.

Health and well-being. Seven follower outcomes were related to this subtheme of health and well-being. Burnout which was composed of emotional exhaustion and cynicism was the most frequently identified outcome in this subtheme and each was negatively significantly associated with AL in three studies (Laschinger & Fida, 2014a, 2014b; Wong & Cunnings, 2009b). Stress outcomes, specifically work stress and stress symptoms, were examined by Rahminia and Sharifrad (2015) but were not significant. However, Rahminia and Sharifrad (2015) found that attachment insecurity had a significant negative relationship with AL. Well-being was positively significantly associated with AL in two studies and two outcomes: vitality (Mortier et al., 2016) and psychological well-being (Nelson et al., 2014).

Performance. Seven outcomes suggested aspects of performance and all (job performance, knowledge sharing, creativity, learning and extra role behavior) but two (followership and organizational citizenship behaviour) were positively significantly associated with AL in a total of four studies.

Patient outcomes. Only one study examined a direct relationship between AL and patient outcomes (Johnson, 2015). These were falls with injury, patient satisfaction and

hospital acquired pressure ulcers. Only falls with injury was found to be negatively significantly associated with AL.

Relationship between authentic leadership and mediators. In this review, only the first mediator connecting AL directly and/or indirectly to an outcome was included in any given study. In some studies longer chains of variables were connected to AL in models which were assessed using structural equation modeling. However, the indirect effects of AL on more distal outcomes were not consistently reported and so the focus was placed on mediators and outcomes with the most proximal connection to AL in the model. There were 23 mediators between AL and 35 different outcomes variables in the included quantitative studies.

Structural empowerment was the most frequently tested mediator connecting AL to 10 different outcomes such as job satisfaction, job performance, burnout, social capital, short staffing, worklife interference and professional practice environment. Empowerment was a significant mediator of the relationship between AL and these outcomes in five of seven studies (Boamah et al., 2017; Laschinger et al., 2013; Laschinger & Fida, 2015; Read, 2016; Wong & Laschinger, 2013). Burnout components, emotional exhaustion and cynicism, were mediators in one study with four outcomes described in two papers (Laschinger & Fida, 2014a, 2014b). Emotional exhaustion was a significant mediator between AL and job satisfaction and mental health symptoms (Laschinger & Fida, 2014b) and career but not job turnover (Laschinger & Fida, 2014a). Cynicism was also a significant mediator between AL and job and career turnover (Laschinger & Fida, 2014a) and job satisfaction but not mental health symptoms (Laschinger & Fida, 2014b). Negative work behaviours, specifically, incivility and bullying were examined as mediators of AL in three studies. Incivility negatively mediated the relationship of AL and psychological safety (Plasse, 2015). Bullying

was a significant mediator of AL and emotional exhaustion and job satisfaction in one study (Laschinger et al., 2012) but was not a significant mediator of the relationship between AL and job and career turnover intention in one time-lagged study of new graduate nurses (Laschinger & Fida, 2014a).

Congruence in the areas of worklife was a significant positive mediator between AL and these outcomes: work engagement, (Bamford et al., 2013); occupational self-efficacy (Laschinger et al., 2015); and civility norms (Laschinger & Read, 2016). Areas of worklife was also a significant negative mediator of the relationship between AL and patient adverse events (Wong & Giallonardo, 2013) and was one of few studies linking AL with patient outcomes. As proposed in the Avolio et al. (2004) theory, trust in the manager was a significant positive mediator of the relationship between AL and these three outcomes in two studies: areas of worklife (Wong & Giallonardo, 2013); voice or speaking-up behaviour (Wong & Cummings, 2009b); and work engagement (Wong et al., 2010) but not a significant mediator for organizational citizenship behaviour (Coxen et al., 2016). Trust in the organization was a significant mediator of work engagement (Stander et al, 2015) and the organizational citizenship behaviour (Coxen et al., 2016). Coxen et al (2016) also found that trust in co-workers mediated the relationship between AL and organizational citizenship behavior.

Personal and social identification and psychological capital all of which were proposed as mediators in the in AL theory were examined in two studies. Personal identification with the manager was a significant mediator of AL and trust in the manager (Wong et al. 2010) and organizational identification (Fallatah et al., 2017). Tested in only one study, social identification was not a significant mediator of the relationship between AL and trust in the manager (Wong et al., 2010). Psychological capital (self-efficacy, hope,

optimism and resilience) was tested as a mediator in three studies and found to be a significant mediator of AL and work engagement (DuPlessis, 2014) and extra role behavior (Malik & Dhar, 2017) but not followership (Du Plessis, 2014). In addition, optimism alone was found to be a mediator of AL and work engagement (Stander et al., 2015). A number of other mediators of AL found in studies were tested in individual studies only and the following were significant: knowledge sharing (Malik & Dhar, 2017), work climate (Nelson et al., 2014), job satisfaction (Laschinger et al., 2012), work engagement (Gillonardo et al., 2013), professional practice environment (Fallatah & Laschinger, 2016), empathy of leader (Mortier et al., 2016). The following mediators were not significant: social capital (Read, 2016), followership (DuPlessis, 2014) and high quality relationship (Plasse, 2015).

In six studies, large models (reported in 8 papers) showing multiple mediators between AL and some outcomes were examined. Positive indirect effects of AL on nurse assessed quality of care were clearly significant (Wong et al., 2010) and either non-significant (Read, 2016) or not clearly reported (Boamah et al., 2017; Laschinger & Fida, 2015). There were significant negative indirect effects of AL on nurses' mental health symptoms in one study (Laschinger & Fida, 2015; Laschinger et al., 2015). Significant indirect effects of AL on emotional exhaustion (negative; Laschinger & Read, 2016) and job satisfaction (positive; Read & Laschinger, 2015) were found but not reported for AL on job turnover intention in another study (Haddad, 2013).

Findings from qualitative studies. Four different categories were identified from qualitative studies: *authentic leadership associated with healthy work environments, becoming and maintaining authenticity, characteristics of authentic leaders and development of AL.*

Authentic leadership associated with healthy work environments. Huddleston and Gray (2016) found that AL was one of six characteristics of a healthy work environment including, appropriate staffing, effective decision making, meaningful recognition, skilled communication, and true collaboration. Also, AL was defined in the study as the ability to be goal oriented, to meaningfully engage followers, to be approachable and trustworthy, a good communicator, open minded, confident, coaches, visible, transparent, and responsive to needs of the staff. Furthermore, Shirey (2009) illustrated the relationship among AL, organizational culture, and healthy work environments using a stress and coping lens, and found that nurse managers working in positive organizational cultures generally worked in healthy work environments and engaged in more AL behaviors while those working in negative cultures reported less optimism and more challenges engaging in AL practices.

Becoming and maintaining authenticity. Murphy (2012) concluded that authentic leaders are able to maintain their authenticity by having the moral courage to do the right thing and using values in decision making in order to maintain their authenticity.

Characteristics of authentic leaders. Authentic leaders were described as collaborative and supportive which are qualities needed to influence positive patient outcomes and organizational performance (Prestia, 2015). Findings also showed that senior nurse leaders demonstrated resilience, hope, and optimism, and were self-regulating, self-monitoring, and self-reflecting. The other features of authentic leaders stressed were self-efficacy and awareness of self and others (Ahern, 2015).

Development of authentic leadership. Shapira-Lishchinsky (2014) explored nurses' ethical decision-making in team simulations in order to identify the benefits of these simulations for AL development, and the result was that there were four core simulation benefits, which were derived from the quantitative analysis of the 50 simulation sessions, and

can be summarized as follows: self-awareness (23 cases), relational transparency (15 cases), balanced processing (9 cases), and internalized moral perspective (3 cases).

Demographics and authentic leadership. In this review, six studies reported relationships between AL and demographics. Level of nurses' education was positively associated with AL ratings (Johnson, 2015; Nelson et al., 2014) as was frequency of contact with supervisor (Nelson et al., 2014). Self-ratings of AL were positively correlated with age and tenure in executive nursing roles (Anderson, 2011). However, Bennett (2015) reported a negative correlation between nurses' age and their ratings of AL in their managers. Lastly, full-time nurses reported significantly lower levels of manager AL than part-time nurses (Fillmore, 2013) and higher AL was perceived in male leaders versus female leaders (Du Plessis, 2014).

Discussion

The purposes of this review were to explore the relationship between AL and staff and patient outcomes in healthcare and specifically, to examine the antecedents, mediators and outcomes of AL in empirical studies conducted in healthcare settings. Findings illustrated significant growth in the number of studies of AL since 2010 primarily in nursing samples and a few in broader healthcare professional groups. In all but one of the quantitative studies AL was measured using one of two current AL instruments. To date the majority of studies examined a wide variety of staff personal, job, health and well-being, and work environment factors as mediators and/or outcomes of AL and only a few examined patient outcomes of AL. Only one study examined antecedents of AL (Haddad, 2013). The findings of this review provide support for positive relationships between AL and personal psychological states such as trust in the manager, satisfaction with work outcomes such as job satisfaction, and work environment factors such as structural empowerment, work

engagement and work group relationships. Key findings related to negative associations between AL and staff outcomes included negative workplace behaviours (bullying and incivility) and burnout including both emotional exhaustion and cynicism. These results suggest that AL of leaders and managers in healthcare environments is essential to enhance employee work engagement and satisfaction which may be linked to enhanced staff performance (Avolio et al., 2004). Some aspects of this review's findings are similar to Gardner et al.'s review (2011) which showed positive relationships between AL and outcomes including satisfaction with supervisor, supportive group, and organizational citizenship behaviors.

Because this review was based on Avolio et al.'s (2004) theory of AL, the adapted model in this review was used to further illustrate the study findings as applied to nursing and healthcare (Figure 3). The figure adds the one antecedent of AL (Haddad, 2013) that was found and illustrates that a few studies (Fallatah et al., 2017; Wong et al. 2010) supported the role of personal and social identification with the leader as mediating mechanisms between AL and outcomes. Studies reflecting a wider variety of mediators than were included in the original AL model (Figure 1) were identified even though trust and psychological capital (hope, optimism, resilience, and self-efficacy) were important mediators in this review as well. Studies also showed direct as well as indirect connections between AL and a broad list of staff outcomes including both follower work attitudes and follower behaviors and some patient outcomes. However, there were very few studies connecting AL to patient outcomes such as quality of care and adverse patient events and these were nurse assessed outcomes. Only one study (Johnson, 2015) attempted to link AL to objective patient care outcomes such as, patient falls with injuries which was significantly negatively associated with AL and patient satisfaction and hospital acquired pressure sores which were not significantly

associated with AL. Johnson noted that inconsistencies in data collection procedures for pressure ulcers and insufficient unit numbers in the study could have accounted for insignificant results. In addition Johnson (2015) stated that her study did provide support for the strength of the relationship between unit level authentic leadership and structural empowerment and patient outcomes and this should be tested with a path model in future research. Nevertheless future examination of the connections between AL and organizational and patient outcomes is essential to future studies of authentic leadership in healthcare.

Structural empowerment was found as the only antecedent of AL in this review (Haddad, 2013). The results of Haddad's study confirmed the important roles of empowerment and AL within nursing. Gardner et al.'s (2011) review also noted only two quantitative studies examining the antecedents of AL which included psychological capital (PsyCap) and self-monitoring. Since that review, findings from a study of personnel in a broad range of business industries, showed that self-knowledge and self-consistency positively predicted authentic leadership (Peus et al. (2012). Self-knowledge about leaders' values, strengths, and weaknesses was positively associated with being an authentic leader (Peus, 2012). Also self-consistency which refers to coherence between leaders' values, beliefs, and actions is essential for leaders to being perceived as authentic (Peus, 2012). The significant gap in understanding of AL antecedents signals the need for further examination of antecedents of AL in healthcare leaders. Increased empirically based knowledge of the attitudes and skills such as building self-awareness, understanding others' needs and expressing genuine feelings that may be preconditions for AL is needed in order to fully advance AL in the practice of leadership (Peus, et al. 2012). In addition psychological capital as a predictor of AL in healthcare samples and settings needs to be examined. This research

information could provide guidance for the development of future leadership development strategies and programs within healthcare organizations.

Some individual study findings suggested some interesting areas for future research. For example, the significant positive relationship between AL and employee creativity through knowledge sharing behaviour and employee creativity was noteworthy (Malik et al., 2016). Some previous studies in other industries have shown that AL increases employee creativity (Černe, Jaklič & Škerlavaj, 2013; Rego, Sousa, Marques & e Cunha, 2012). More specifically, sharing information and relational transparency have been found to promote creativity. The current need for innovative solutions to a variety of problems in healthcare work environments including patient safety suggests the important role of staff creativity for improving staff and patient outcomes and its positive relationship with AL signals the need to explore this variable in future studies. Also, Malik et al. (2016) showed that AL had a positive relationship with knowledge sharing which is considered as an essential component of AL (relational transparency) and has an important influence on staff satisfaction and engagement. These findings suggest that there is a need to look at staff creativity and the importance of knowledge sharing which may lead to positive organizational outcomes.

In terms of qualitative findings, AL was associated with healthy work environments (Huddleston & Gray, 2016; Shirey, 2009). This supports findings in the literature that emphasize the key role of leadership in creating healthy work environments that promote safe patient care and positive staff outcomes (Canadian Nurses Advisory Committee, 2002; Cummings et al., 2010; Shirey, 2006). Shirey (2009) found that AL was associated with a positive organizational culture which helps to create and sustain healthy work environments for healthcare quality practice. This supports the importance of examining the role of

organizational climate and culture in developing AL in future research. Murphy (2012) found that authentic leaders have the moral courage to do the right thing which means that moral courage is required in order to act morally and make the right decisions for patients and staff. Further exploration of the relationship between AL and moral courage in both qualitative and quantitative studies deserves attention in future healthcare research. Lastly, Prestia (2015) found that authentic leaders demonstrated resilience, hope, and optimism. This is an important observation as resilience, hope, and optimism are considered as factors that are related to AL which supports the theory of AL outlined by Avolio et al. (2004).

Limitations

Even though meticulous methods were employed in this review there were limitations. First, while dissertations and theses were included in this review, all grey literature databases were not searched and, as such, this review may not be representative of all relevant work in the field. There could be reporting bias due to the fact that English only studies were included which may have excluded other potentially relevant studies. Where details of study methods were not clear, no attempt was made to clarify these details by contacting the manuscript authors. This may have resulted in aspects of methods being scored lower in the quality assessment phase, possibly reflecting quality of the reporting rather than the actual methods used. With the exception of three time-lagged studies, the majority of studies were cross-sectional correlational designs which do not allow for causal inferences, nor do they support claims of specific directionality of effect. All but one study (Johnson, 2015) included studies using self-reported data, which introduces a potential response bias and limits objectivity of findings and no studies were excluded on the basis of quality. The majority of studies focused on registered nurses working in acute care settings which limits generalizability of findings to acute care registered nurses.

Conclusion

Findings of this review point to an increased body of research on the study of the relationship between AL and its antecedents, mediators and outcomes in nursing and healthcare. The current evidence supports positive relationships between AL and the staff outcomes of job satisfaction, structural empowerment, work engagement, and trust in the manager. There was also evidence supporting negative associations between AL and negative workplace behaviours (bullying and incivility) and burnout. In addition, this review showed that a number of studies included the testing of strong conceptual models of AL and the mechanisms of influence on staff /follower outcomes and some on patient outcomes. Structural empowerment, trust, areas of worklife, burnout, and bullying/incivility were significant mediators of the effect of AL on outcomes. However, the prominence of cross-sectional designs and the heterogeneity in many outcome variables and few studies of patient outcomes mean that robust evidence to support that AL that predicts a wider variety of staff outcomes such as, turnover and commitment, and specifically patient and organizational outcomes is limited. Although the majority of studies examined AL in acute care settings with registered nurses and notably, there were three time-lagged studies in this review, there is a need for future studies using longitudinal and interventional designs and conducted in a variety of healthcare settings with more diverse, interprofessional, and randomly selected samples. Since only one study included an antecedent of AL, studies examining potential predictors and strategies for developing AL are also warranted.

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Table 1

Literature Search: Electronic Databases

Database January 2004 to January 2017	Search terms	Number of articles
Main Search Terms/Concepts:	Nurse AND Authentic Leadership AND Patient Outcome OR Healthcare Professionals AND Staff Outcome	
ABI Inform Dateline	“Authentic leader*” AND Staff OR employee* OR “healthcare professional*” OR worker OR nurs* OR doctor* OR physician* OR “healthcare sector*” OR “healthcare discipline*” OR “healthcare” OR pharmacist* OR anesthesiologist* OR cardiologist* OR dermatologist* OR endocrinologist* OR gastroenterologist* OR surgeon* OR hematologist* OR immunologist* OR nephrologist* OR neurologist* OR gynecologist* OR oncologist* OR ophthalmologist* OR physiotherapist* OR psychiatrist* OR radiologist* OR urologist* AND Patient* OR client* AND Outcome* OR influence* OR result* OR effect* OR relation* OR consequence* OR impact*	204
Academic Search Complete	As above	188
Cochrane Database of Systematic Reviews (CDSR)	As above	0
ERIC	As above	359
PsychINFO	As above	16
SCOPUS	As above	16
Web of Science	As above	52
Dissertations & Theses	As above	18
PUBMED	“Authentic leadership” (All Field)	54
CINAHL	“Authentic leadership”	54
EMBASE	Authentic leadership.mp.	63
Total		1036
Total minus duplicates		942
Manual search		12
Papers reviewed		142
Final Selection		44=27 studies

Table 2

Summary of Quality Assessment – 21 included quantitative studies

Criteria	No. of studies	
Scores	YES (=1)	NO (=0)
Design:		
Prospective studies	21	0
Used probability sampling	11	10
Sample:		
Appropriate/justified sample size	20	1
Sample drawn from more than one site	16	5
Anonymity protected	21	0
Response rate >60%	4	17
Measurement:		
Reliable measure of leadership	21	0
Valid measure of leadership	21	0
*AL was observed rather than self-reported	20	1
Internal consistency $\geq .70$ when scale used	19	2
Theoretical model/framework used	21	0
Statistical Analyses:		
Correlations analyzed when multiple effects studied	21	0
Management of outliers addressed	21	0
*This item scored 2 points. All others scored 1 point		
Weak (0-4) Moderate (5-9) Strong (10-14)		Moderate (n=1) Strong (n=20)

Table 3

Summary of Quality Assessment – 6 included qualitative studies

Criteria	No. of studies	
	YES (=1)	NO (=0)
Scores		
Clear statement of research aims	6	0
Appropriate methodology	6	0
Appropriate research design	6	0
Appropriate recruitment strategy	6	0
Appropriate data collection	6	0
Relationship between the researcher and participants described	1	5
Ethical issues considered	5	1
Sufficient data analysis	6	0
Clear statement of findings	5	1
Total Score: 9	3 studies= 8	2 studies=7 1 study=9

Table 4

Characteristics of Included Quantitative Studies

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
1	Wong, C.A., & Cummings, G.G. (2009b). <i>Journal of Leadership Studies</i> , 3(2), 6-23 Canada	To test a model linking authentic leadership behaviors with trust in management, perceptions of supportive groups and work outcomes using a health care employee dataset and structural equation modeling procedures Avolio et al.'s authentic leadership theory (2004) and the framework of dyadic trust of Mayer et al. (1995)	Quantitative survey – secondary analysis	Two groups: (1) the clinical group comprised responses from 147 clinical provider staff, including registered nurses, pharmacists, physicians, radiation therapists, and other health care professionals; and (2) nonclinical group included 188 administrative, research, and support staff; randomly selected Response rate=NR Final n= 147 and 188 Demographics: Reported: yes	Self-awareness, balanced information processing, authentic behavior, and relational transparency: Leadership Practices Inventory (LPI; Kouzes & Posner, 2003) Mediating Factor(s): Trust in management and supportive group: Areas of Worklife Scale (AWS; Leiter & Maslach, 2004) Outcome Factor(s): Voice behavior, self-rated performance, and burnout: Maslach Burnout Inventory General Survey (MBI-GS; Maslach, Jackson, & Leiter, 1996)	NR/NR NR/NR NR/NR	Structural equation Modeling Pearson correlations
2a	Wong, C. A., Spence Laschinger, H. K., Cummings, G. G., (2010). <i>Journal of Nursing Management</i> , 18(8), 889–900 Canada	To test a theoretical model linking authentic leadership with staff nurses' trust in their manager, work engagement, voice behaviour and perceived unit care quality Avolio et al.'s authentic leadership theory (2004)	A non- experimental, predictive survey	600 registered randomly selected nurses working in acute care teaching and community hospitals in Ontario Response rate: 48% Final n: 280 Demographics:	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.35 SD=0.99 Mediating Factor(s): Personal identification: Personal Identification Questionnaire (Kark et al., 2003)	$\alpha = 0.97/\text{CFA}$ $\alpha = 0.95/\text{CFA}$ $\alpha = 0.90/\text{CFA}$	Structural Equation Modelling Path Analysis Pearson's Correlations Reliability estimates

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
				Reported: yes	Social identification: Social Identification Questionnaire (Kark et al., 2003)	$\alpha = 0.83$ / EFA	
					Trust: Trust in Management Scale (Mayer & Gavin, 2005)	$\alpha = 0.90$ / CFA	
					Work engagement: Utrecht Work Engagement Scale (UWES) short version (Schaufeli & Bakker, 2003)		
					Outcome Factor(s): Voice behavior: Helping and Voice Behaviours Scale (VanDyne & LePine, 1998)	$\alpha = 0.92$ / Construct	
					Perceptions of unit care quality: from Hospital Staffing and Organization of Patient Outcomes (Aiken et al., 2001)	NR/NR	
2b	Wong, C. A., & Laschinger, H. K. S. (2013). <i>Journal of Advanced Nursing</i> , 69(4), 947–959 Canada	To test a model linking authentic leadership of managers with nurses' perceptions of structural empowerment, performance, and job satisfaction Authentic leadership theory (Avolio et al., 2004)	A non-experimental, predictive survey	600 registered nurses (RNs) randomly selected working in acute care teaching and community hospitals in Ontario Response rate: 48% Final n: 280 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean=2.35 SD=0.98 Mediating Factor(s): Structural empowerment: Conditions of Work Effectiveness Questionnaire II (CWEQ-II) (Laschinger et al., 2001) Outcome Factor(s): Job satisfaction: Global Job Satisfaction Survey (Quinn & Shepard, 1974)	$\alpha = 0.97$ / CFA $\alpha = 0.88$ /CFA $\alpha = 0.95$ / correlations with other variables	Structural equation modelling Path analysis Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					Performance: General Performance scale (Roe et al., 2000)	$\alpha = 0.81$ / correlations with other variables	
2c	Bamford, M., Wong, C., & Laschinger, H. (2013). <i>Journal of Nursing Management</i> , 21, 529–540 Canada	To examine the relationships among nurses' perceptions of nurse managers' authentic leadership, nurses' overall person– job match in the six areas of worklife and their work engagement Six areas of worklife (Maslach & Leiter, 1997) and authentic leadership theory (Avolio et al., 2004)	A non- experimental, predictive survey design	A random sample of 600 nurses working in acute care hospitals in Ontario and employed in a direct-care nursing position; selected from the College of Nurses (CNO) Response rate= 48% Final= 280 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.35 SD=0.99 Moderating Factor(s): Person–job match in the six areas of worklife: The Areas of Worklife Scale (AWS) (Leiter & Maslach, 2002) Outcome Factor(s): Work engagement: The Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003)	$\alpha = 0.97$ /CFA $\alpha = 0.89$ / Criterion validity $\alpha = 0.90$ /CFA	Hierarchical multiple regression and mediation analysis Pearson correlations
2d	Wong, C. A., & Giallonardo, L. M. (2013). <i>Journal of Nursing Management</i> , 21(5), 740–752 Canada	To test a model examining relationships among authentic leadership, nurses' trust in their manager, areas of work life and nurse- assessed adverse patient outcomes Authentic leadership theory (Walumbwa et al. 2008)	Secondary analysis of data collected in a cross- sectional survey	600 nurses randomly selected working in acute care hospitals across Ontario fulltime and part-time Response rate: 48% Final n: 280 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean=2.35 SD=0.98 Mediating Factor(s): Trust in manager: Trust in Management Scale.(Mayer & Gavin, 2005) Person–job match: The Areas of Worklife Scale (AWS) (Leiter & Maslach 2002) Outcome Factor(s):	$\alpha = 0.97$ /CFA $\alpha = 0.83$ / Factor analysis $\alpha = 0.98$ correlations with other variables $\alpha = 0.81$ /	Reliability estimates Pearson correlations Structural Equation Modelling

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					Adverse patient outcomes: American Nurses Association (ANA) Nursing Quality Indicators (Sochalski, 2001)	correlations with other variables	
3	Giallonardo, L., Wong, C., & Iwasiw, C. (2010). <i>Journal of Nursing Management</i> , 18, 993– 1003 Canada	To examine the relationships between new graduate nurses’ perceptions of preceptor authentic leadership, work engagement and job satisfaction Authentic leadership (Avolio et al., 2004) and concept of work engagement (Schaufeli & Bakker, 2004)	A non- experimental, predictive survey design	500 randomly selected from the College of Nurses of Ontario (CNO); nurses working in acute care settings with <2 years nursing experience. The inclusion criteria were later modified to include new graduate nurses with less than or equal to 3 years of nursing experience. Response rate= 39% Final= 170 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 3.05 SD = 0.62 Mediating Factor(s): Work engagement: The Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003) Outcome Factor(s): Job satisfaction: Index of Work Satisfaction scale (IWS) (Stamps, 1997)	$\alpha = 0.91$ / CFA $\alpha = 0.86$ / CFA $\alpha = 0.90$ / NR	Pearson’s correlations, hierarchical multiple regression and mediation analysis
4a	Laschinger, H., Wong, C., & Grau, A. (2012). <i>International Journal of Nursing Studies</i> , 49, 1266–1276 Canada	Test a model linking authentic leadership to new graduate nurses’ experiences of workplace bullying and burnout, and subsequently, job satisfaction and intentions to leave their jobs Authentic leadership (Avolio et al., 2004), notion of workplace	A cross- sectional survey design	907 newly graduated nurses with less than two years of experience in acute care hospitals across Ontario drawn randomly from registry list of practicing nurses in Ontario Response rate=38% Final n= 342 Demographics:	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.47 SD=0.85 Mediating Factor(s): Workplace bullying: Negative Acts Questionnaire-Revised (Einarsen & Hoel, 2001). Outcome Factor(s): Burnout: Emotional exhaustion subscale of the Maslach	$\alpha = 0.95$ / CFA $\alpha = 0.92$ / CFA $\alpha = 0.92$ /	Structural equation modelling (SEM) Pearson correlations Reliability Assessments

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		bullying (Einarsen et al., 1998), and burnout model (Leiter & Maslach, 2004)		Reported: yes	Burnout Inventory-General Survey (MBI-GS) (Schaufeli et al., 1996).	correlations with other variables	
					Job satisfaction: Job Satisfaction Scale (Hackman & Oldham, 1975)	$\alpha = 0.80$ / correlations with other variables	
					Turnover Intentions: Turnover Intentions Scale (Kelloway, Gottlieb & Barham, 1999)	$\alpha = 0.87$ / correlations with other variables	
4b & 2a	Laschinger, H., Wong, C. & Grau, A. (2013). <i>The Journal of Nursing Management</i> , 21, 541-552 Canada	To examine the effect of authentic leadership and structural empowerment on the emotional exhaustion and cynicism of new graduates and experienced acute-care nurses Empowerment theory (Kanter, 1977, 1993), AL theory (Avolio et al, 2009), and burnout theory (Leiter & Maslach, 2004)	A secondary analysis of data from two studies	907 new graduate nurses randomly selected with <2 years of practice experience and 600 nurses with more than 2years experience Response rate: 37.7% for new graduate (NG) and 48% for the experienced nurses (EN) Final n: 342 NG and 273 EN Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.37 SD=0.98 Mediating Factor(s): Structural Empowerment: The Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) (Laschinger et al., 2001) Outcome Factor(s): Emotional exhaustion and cynicism: The Maslach Burnout Inventory-General Survey (Schaufeli et al., 1996)	$\alpha =$ EN:0.97 NG: 0.95/ CFA $\alpha =$ EN: 0.84 NG:0.83/ CFA $\alpha =$ EN:0.93; 0.89 NG: 0.92; 0.85/NR	Structural equation modelling (SEM) Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
4c	Read, E., & Laschinger, H. K. (2013). <i>The Journal of Nursing Administration</i> , 43(4), 221–228 Canada	To explore correlates of new graduate nurses' experiences of workplace mistreatment Organizational and personal correlates of new graduate nurses' experiences of workplace mistreatment (incivility and bullying) (Read & Laschinger, 2013)	Secondary data analysis of cross-sectional survey	907 RNs newly registered randomly selected with the College of Nurses of Ontario within the last 2 years Response rate: 48% Final n: 342 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (Walumbwa et al., 2008) Mean= 2.47 SD=0.86 Workplace mistreatment: Incivility: Workplace Incivility Scale (Cortina et al., 2001) Bullying: Negative Acts Questionnaire (Einarsen et al., 2009)	$\alpha = 0.94/\text{NR}$ $\alpha = 0.89/\text{NR}$ $\alpha = 0.90/\text{NR}$	Pearson's correlations
4d	Laschinger, H. & Smith, L. (2013). <i>The Journal of Nursing Administration</i> , 43, 24–29 Canada	To examine new-graduate nurses' perceptions of the influence of authentic leadership and structural empowerment on the quality of interprofessional collaboration in healthcare work environments Authentic leadership theory (Avolio et al., 2004) and workplace empowerment Theory (Kanter, 1977)	A correlational survey design	342 new graduates randomly selected from the College of Nurses of Ontario registry list with less than 2 years' experience Response rate: NR Final n: 194 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al. 2007) Mean= 2.35 SD= 1.00 Structural empowerment: Conditions of Work Effectiveness Questionnaire-II. (Laschinger et al., 2001) Mediating Factor(s): NR Outcome Factor(s): Interprofessional collaboration: A researcher-constructed Interprofessional Collaboration Scale (Kenaszchuk et al., 2010; Orchard et al., 2005)	$\alpha = 0.96/\text{CFA}$ $\alpha = 0.84/\text{CFA}$ $\alpha = 0.75/\text{EFA}$	Hierarchical multiple linear regression
5a	Laschinger, H. & Fida, R. (2014a). <i>European Journal of Work and Organizational Psychology</i> , 23, 739–753	To examine: 1) The relationship between authentic leadership and new graduate nurses experiences of workplace bullying and	Two-wave study utilized questionnaire data gathered	907 new graduated nurses randomly selected with less than 2 years of experience in acute care hospitals	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.49 SD=0.88	$\alpha = 0.94/\text{NR}$	Structural equation models (SEM) Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
	Canada	burnout over a 1-year timeframe in Canadian healthcare settings. 2) The process from workplace bullying to subsequent burnout dimensions, and to job and career turnover intentions Authentic leadership theory (Avolio et al., 2004)	in 2010 (Time 1) and 2011 (Time 2)	across Ontario, Canada Response rate: Time 1=37.7%, Time 2=59.9% Final n:T1= 342, T2= 205 Demographics: Reported: yes	Mediating Factor(s): Work-related bullying: Negative Acts Questionnaire (NAQ-R; Einarsen & Hoel, 2001) The emotional exhaustion and cynicism: Maslach Burnout Inventory–General Survey (MBIGS; Schaufeli, Leiter, Maslach, & Jackson, 1996) Outcome Factor(s): Job turnover: Job Turnover Intentions Scale (Kelloway, Gottlieb, & Barham, 1999) Career turnover intention: Job Turnover Intentions Scale (Kelloway, Gottlieb, & Barham, 1999)	$\alpha = 0.80/$ NR $\alpha = 0.92-0.85/$ NR $\alpha = 0.88/$ NR $\alpha = 0.82/$ NR	
5b	Laschinger, H. K., & Fida, R. (2014b). <i>Burnout Research</i> , 1(1), 19–28 Canada	To investigate the influence of authentic leadership, an organizational resource, and psychological capital, an intrapersonal resource, on new graduate burnout, occupational satisfaction, and workplace mental health over the first year of employment Authentic leadership (Avolio & Gardner, 2005) and psychological	A two-wave survey (Time 1 in 2010; Time 2 in 2011)	907 newly graduated nurses randomly selected with less than two years of experience in acute care hospitals across Ontario Response rate: Time 1=37.7%, Time 2=59.9% Final n:T1= 342, T2= 205 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean=2.49 SD=0.88 Psychological capital: Psychological Capital Questionnaire (Luthans et al., 2007; Luthans et al., 2007) Mediating Factor(s): Emotional exhaustion and cynicism: Maslach Burnout Inventory-General Survey (MBIGS) (Schaufeli, Leiter, Maslach, & Jackson, 1996)	$\alpha = 0.94/$ correlations with other variables $\alpha = 0.90/$ correlations with other variables $\alpha = 0.92-0.84/$ correlations with other variables	Conditional latent growth model (LGM) with two time points Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		capital (Luthans & Jensen, 2005)			Outcome Factor(s): Work and career satisfaction: (Shaver & Lacey, 2003)	$\alpha = 0.85/$ correlations with other variables	
					Mental health: Mental Health Index (MHI-5) (Ware & Sherbourne, 1992)	$\alpha = 0.82/$ correlations with other variables	
5c	Read, E. & Laschinger, H. (2015). <i>Journal of advanced nursing</i> , 71(7), 1611-1623 Canada	To examine a theoretical model testing the effects of authentic leadership, structural empowerment and relational social capital on the mental health and job satisfaction of new graduate nurses over the first year of practice Structural empowerment (Kanter, 1977, 1993), authentic leadership theory (Avolio & Gardner, 2005), and social capital theory (Nahapiet & Ghoshal, 1998)	A longitudinal survey design	709 new graduate nurses randomly selected in Ontario with <2 years of experience Response rate: Time 1=48.2%, Time 2=55.8% Final n:T1= 342, T2= 191 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 2.47 SD=0.88 Mediating Factor(s): Structural empowerment: Conditions of Work Effectiveness Questionnaire II (CWEQ-II) (Laschinger et al., 2001) Outcome Factor(s): Relational social capital: Areas of Worklife Scale (AWS) (Leiter & Maslach, 2003) Mental health symptoms: Mental Health Inventory (MHI-5) (Ware & Kosinski, 2000) Job satisfaction: (Shaver & Lacey, 2003)	$\alpha = 0.95 /$ CFA $\alpha = 0.80/$ CFA $\alpha = 0.81/$ NR $\alpha = 0.86/$ NR $\alpha = 0.82/$ NR	Structural equation modelling Pearson correlations Path Analysis
5d	Regan, S., Laschinger, H. K. S., & Wong, C. A. (2016). <i>Journal of Nursing Management</i> , 24(1), 54–61	To examine the influence of structural empowerment, authentic leadership and professional nursing practice environments	A predictive non-experimental design	2012 experienced registered nurses (those with greater than 5 years' experience)	Structural empowerment: Conditions of Work Effectiveness Questionnaire – II (CWQ-II) (Laschinger et al., 2001)	$\alpha = 0.85/$ correlations with other variables	Hierarchical multiple linear regression analyses Pearson Correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
	Canada	on experienced nurses' perceptions of interprofessional collaboration Structural empowerment (Kanter, 1977; Laschinger, 1996), authentic leadership (Walumbwa et al. 2008), and professional nursing practice environments (American Association of Colleges of Nursing, 2002)		Response rate:13% Final n: 220 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2012) Mean= 2.28 SD=1.04 Professional nursing practice environment: Nursing Work Index- Revised (NWI-R) (Aiken & Patrician, 2000) Mediating Factor(s): NR Outcome Factor(s): Interprofessional collaboration: Interprofessional Collaboration Scale (IPCS) (Laschinger & Smith, 2013)	$\alpha = 0.97$ / correlations with other variables $\alpha = 0.82$ / correlations with other variables $\alpha = 0.90$ / correlations with other variables	
5e	Laschinger, H., & Fida, R. (2015). <i>Journal of Nursing Administration</i> , 45(5), 276–283 Canada	A model linking authentic leadership, structural empowerment, and supportive professional practice environments to nurses' perceptions of patient care quality and job satisfaction was tested AL theory (Avolio & Gardner, 2005), structural empowerment theory (Kanter, 1977, 1993), and Magnet Hospital Model (MHM) (McClure et al., 2002)	A cross-sectional provincial survey	723 nurses working in direct patient care settings randomly selected Response rate: NR Final n: 723 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 2.29 SD=1.05 Mediating Factor(s): Structural empowerment: Conditions of Work Effectiveness-II (CWEQ-II) (Kanter, 1977) Outcome Factor(s): Supportive practice environments and adequate staffing: Nursing Work Index-Revised (NWI-R) (Aiken & Patrician, 2000) Quality of care: Nurse-assessed patient care quality was measured using A) a single item How would you describe the	$\alpha = 0.97$ / correlations with other variables $\alpha = 0.86$ / correlations with other variables $\alpha = 0.80$ / correlations with other variables NR/ correlations with other variables	Structural equation modeling Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					quality of nursing care delivered to patients in your unit? B) In the last month, how often has short-staffing affected your ability to meet your patient/clients' needs? Job satisfaction: (Cammann et al., 1983)	$\alpha = 0.77$ / correlations with other variables	
5f	Fallatah, F. & Spence Laschinger. H., (2016). <i>Journal of Research in Nursing</i> , 21(2), 125–136 Canada	To test a theoretical model linking authentic leadership to new graduate nurses' job satisfaction through its effect on supportive professional practice environments Authentic leadership theory (Avolio et al., 2004) and Magnet Hospital model of supportive professional practice environments (Aiken & Patrician, 2000)	Tested the hypothesized model by using data from a larger two-wave study of new graduate nurses in their first two years of practice	93 new graduate nurses randomly drawn from the registry list of the College of Nursing in Ontario; working in acute care settings and with less than two years of experience Response rate: NR Final n: 93 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.31 SD= 0.79 Mediating Factor(s): Supportive professional practice environments: Nursing Worklife Index (NWI-R) (Aiken & Patrician, 2000) Outcome Factor(s): New graduate nurses' job satisfaction: North Carolina Center for Nursing – Survey of Newly Licensed Nurses (Scott et al., 2008)	$\alpha = 0.92$ / correlations with other variables $\alpha = 0.79$ / correlations with other variables $\alpha = 0.79$ / correlations with other variables	Mediation analysis of Baron and Kenny (1986). Hierarchical multiple linear regression Pearson correlations
6a	Laschinger, H. K. S., Cummings, G., Leiter, M., Wong, C., MacPhee, M., Ritchie, J., ... & Young-Ritchie, C. (2016). <i>International Journal of Nursing Studies</i> , 57, 82-95	To investigate factors influencing new graduate nurses' successful transition to their full professional role in Canadian hospital settings and to determine predictors of job and career	A time-lagged	3906 Registered Nurses randomly selected with less than 3 years of experience currently working in direct patient care but the results of this study were described from nurses who responded	Time 1: Authentic leadership: Authentic Leadership Questionnaire (Walumbwa et al., 2008) Mean: T1= 2.64 T2=2.51 SD: T1= 0.87 T2=0.90 Outcome Factor(s): Time 2:	$\alpha = 0.96$ / CFA	Paired t-tests Pearson's correlations Hierarchical multiple linear regression

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
	Canada	satisfaction and turnover intentions over a one-year time period in their early employment Organizational socialization model (Scott et al., 2008)		to both Time 1 and Time 2 Response rate: Time 1= 27.3% Time 2=39.8% Final n: Time 1=1020 Time 2= 403 of Time 1 Demographics: Reported: yes	Job satisfaction: (Cammann et al., 1983) Job turnover intentions: (Kelloway et al., 1999) Career satisfaction: (Shaver & Lacey, 2003) Career turnover intentions: (Kelloway et al., 1999)	$\alpha=0.88$ / previous studies $\alpha=0.88$ / previous studies $\alpha=0.77$ / previous studies $\alpha=0.75$ / previous studies	
6b	Laschinger, H, Borgogni, L., Consiglio, C. & Read, E., (2015). <i>International Journal of Nursing Studies</i> , 52, 1080–1089 Canada	To test: 1) a model linking authentic leadership, areas of worklife, occupational coping self-efficacy, burnout, and mental health among new graduate nurses and 2) the validity of the concept of interpersonal strain at work as a facet of burnout Authentic leadership (Avolio & Gardner, 2005), six areas of worklife model (Leiter & Maslach, 2004; Maslach & Leiter, 1997), conceptualization of occupational coping self-efficacy (Pisanti et al., 2008), and concept	A cross-sectional national survey	3743 new graduate nurses randomly selected with less than 3 years of nursing experience working in direct patient care settings from across Canada Response rate: 27% Final n: 1009 Demographics: Reported: yes	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean=2.60 SD=0.87 Mediating Factor(s): Areas of worklife: Areas of Worklife Scale (Leiter & Maslach, 2011) Outcome Factor(s): Occupational coping self-efficacy: Occupational Coping Self-Efficacy Scale (Pisanti et al., 2008) Burnout: Burnout Inventory - General Survey (Borgoni et al., 2012)	$\alpha=0.96$ / CFA $\alpha=0.81$ / CFA $\alpha=0.83$ / CFA $\alpha= 0.82-0.92$ / CFA	Structural equation modelling (SEM) Pearson correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		of interpersonal strain at work as part of the expanded model of burnout (Borgogni et al., 2012)			Mental health: General Health Questionnaire (Goldberg & Williams, 1988)	$\alpha=0.85$ / previous studies	
6c	Laschinger, H. K. S., & Read, E. A. (2016). <i>Journal of Nursing Administration</i> , 46(11), 574-580 Canada	To examine influence of authentic leadership, person-job fit with 6 areas of worklife, and civility norms on coworker incivility and burnout among new graduate nurses Authentic leadership theory (Avolio & Gardner, 2005)	A cross-sectional mail survey	3906 new graduate nurses randomly selected from the nursing registry bodies of 10 Canadian provinces Response rate= 27.3% Final= 1020 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (Walumbwa et al., 2008) Mean= 2.61 SD= 0.87 Mediating Factor(s): Areas of worklife: Areas of Worklife Scale (Leiter & Maslach, 2000) Outcome Factor(s): Civility norms: Civility Norms Questionnaire (Walsh et al. 2012) Co-worker incivility: Straightforward Workplace Incivility Scale, Co-worker Incivility Subscale (Leiter & Day, 2013) Emotional exhaustion: Maslach Burnout Inventory (MBI), Emotional Exhaustion Subscale (Schaufeli et al., 1996)	$\alpha= 0.96$ / CFA $\alpha=0.77$ / CFA $\alpha= 0.89$ / CFA $\alpha=0.93$ / CFA $\alpha= 0.92$ / CFA	Structural equation modeling (SEM) Correlation analysis
6d	Boamah, S. A., Read, E. A., & Spence Laschinger, H. K. (2017). <i>Journal of Advanced Nursing</i> , 73(5), 1182–1195 Canada	To test a hypothesized model linking new graduate nurses' perceptions of their manager's authentic leadership behaviours to structural empowerment, short-	A time-lagged study	3,743 registered nurses randomly selected with less than 3 years of nursing work experience currently working in direct patient care roles were selected from the	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 2.64 SD= 0.86 Mediating Factor(s): Structural empowerment: Conditions of Work	$\alpha= 0.93$ / CFA $\alpha= 0.85$ / CFA	Structural equation modelling Pearson correlation

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		staffing and work–life interference and subsequent burnout, job satisfaction and patient care quality Authentic leadership theory (Avolio & Gardner, 2005), structural empowerment (Kanter, 1993), and burnout theory (Maslach & Leiter, 1997)		nursing registry database of each of the 10 Canadian provinces Response rate= Time 1= 27.3% Time 2= 39.8% Final= Time 1= 1,020 Time 2= 406 of Time 1 Demographics: Reported: yes	Effectiveness-II (CWEQ-II) (Laschinger et al., 2001) Outcome Factor(s): Work-life interference: The Work Interference with Personal Life (WIPL) (Fisher-McAuley et al., 2003) Short-staffing: A single-item how often working short-staffed affects nurses' ability to provide quality patient care (Pineau Stam et al., 2015) Burnout: Maslach Burnout Inventory General Survey (MBI-GS) (Schaufeli et al., 1996) Job satisfaction: Michigan Assessment of Organizations Questionnaire (Cammann et al., 1983) Nurse-assessed quality of care: (Aiken & Patrician, 2000)	$\alpha = 0.85$ / NR NR/ NR $\alpha = 0.81$ - 0.92/ Previous studies $\alpha = 0.86$ / NR NR/ NR	
6e	Fallatah, F, Laschinger, H, & Read, E, (2017). <i>Nursing Outlook</i> , 65(2), 172-183 Canada	To examine influence of authentic leadership on new nurses' job turnover intentions through new graduate nurses' personal identification with their leader, organizational identification, and occupational coping self-efficacy	A cross-sectional design	3,906 new graduate nurses with less than three years of experience currently working in acute care and community settings Response rate: NR Final n: 998	Authentic leadership: Authentic Leadership Questionnaire (Walumbwa et al., 2008) Mean= 2.60 SD= 0.87 Mediating Factor(s): Personal identification: Relational Identification Scale (Sluss, Ployhart, Cobb & Ashforth, 2012)	$\alpha = 0.93$ / previous studies $\alpha = 0.89$ / Previous studies	Pearson's r correlations Structural equation modeling (SEM) Confirmatory factor analysis (CFA)

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		Authentic leadership theory (Avolio et al., 2004)		Demographics: Reported: yes	Outcome Factor(s): Organizational identification: The Organizational Identification Scale (Sluss & colleagues, 2012) Occupational coping self-efficacy: The Occupational Coping Self-Efficacy Questionnaire (Pisanti, Lombardo, Lucidi, Lazzari & Bertini, 2008) Job turnover intention: Turnover Intention Scale (Kelloway, Gottlieb & Barham, 1999)	$\alpha = 0.87$ / previous studies $\alpha = 0.82$ / Previous studies $\alpha = 0.87$ / previous studies	
7	Nelson, K., Boudrias, J., Brunet, L., Morin, D., Civita, M., Savoie, A., and Alderson, M. (2014). <i>Burnout Research</i> , 1, 90–101 Canada	To examine link between authentic leadership and psychological well-being by considering the mediational effect of work climate Psychological well-being (Gilbert et al., 2011) and authentic leadership theory (Avolio & Gardner, 2005)	A non-experimental time-lagged design	7997 nurses randomly selected Response rate: Time 1=10.7%, Time 2=71.8% Final n:T1= 859, T2=608 of T1 Demographics: Reported: yes Examined/ Analyzed: yes (education and frequency of contact with supervisor are positively associated with AL)	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 3.49 SD= .90 Mediating Factor(s) Work climate: Work Climate Scale (Roy, 1989) Outcome Factor(s): Psychological well-being at work: Psychological Well-Being Scale (Gilbert et al., 2011, 2006)	$\alpha=0.82-0.95$ / CFA $\alpha=0.97$ / CFA $\alpha=0.95$ Exploratory factor analysis	Confirmatory Factor Analysis Correlational analyses Multiple linear regression analyses Mediation assessed using ordinary least squares path analysis with the PROCESS macro developed by Hayes (2013) in SPSS 21.0

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
8	Rahimnia, F., & Sharifirad, M. S. (2015). <i>Journal of Business Ethics</i> , 132(2), 363-377 Iran	To investigate relationship between authentic leadership and the three dimensions of employee well-being (job satisfaction, perceived work stress, and stress symptoms) and attachment insecurity Authentic Leadership and Employee Well- Being (Avolio & Gardner, 2005)	A non- experimental, predictive survey design	352 health care providers with patient contact- 5 hospitals/ randomly selected (nurses = 67.2%; MDs = 32.8%) Response rate:60.2% Final n: 212 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Inventory (ALI) (Neider & Schriesheim, 2011) Mean= 3.11 SD= 0.57 Mediating Factor(s): Attachment insecurity: Close Relationships Inventory Scale (Brennan et al., 1998) Outcome Factor(s): Job satisfaction: (Cammann et al., 1979) Perceived work stress: (Siu et al., 2007, 2006) Stress symptoms: Organizational Stress Screening Tool (Cartwright & Cooper, 2002)	$\alpha=0.91$ /CFA $\alpha=0.88$ /CFA $\alpha=0.84$ / NR $\alpha=0.87$ /NR $\alpha=0.92$ /NR	Confirmatory Factor Analysis Structural equation modeling Pearson correlations
9a	Stander, F. W., De Beer, L. T., & Stander, M. W. (2015). <i>Journal of Human Resource Management</i> , 13(1), 12-pages South African	To determine whether AL predicts optimism, trust in the organization and work engagement and to establish whether optimism and trust in the organization mediates relationship between AL and work engagement Authentic leadership theory (Walumbwa et al., 2008)	A cross- sectional survey research design	633 public health employees from 27 hospitals and clinics and who work in various functions (management = 7.4%; administration = 19.6%; specialist=12%; other=50.9%)/ convenience sampling selected Response rate: NR Final n: 633 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Inventory (ALI) (Neider & Schriesheim, 2011) Mean= NR SD=NR Job resources of relationship with colleagues and communication: VBBA (Van Veldhoven et al., 1997) Mediating Factor(s): Optimism: PsyCap Questionnaire (Luthans, Avolio, Avey & Norman, 2007) Trust in the organization: Workplace Trust Survey (WTS; Ferre's & Travaglione, 2003)	$\alpha = 0.93$ /CFA $\alpha = 0.83$ - 0.84/ CFA $\alpha =0.74$ / CFA $\alpha =0.88$ /CFA	Structural equation modelling Confirmatory factor analysis Correlation analyses

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					Outcome Factor(s): Work engagement: Utrecht Work Engagement Scale (Schaufeli et al., 2002)	$\alpha = 0.90$ /CFA	
9b	Coxen, L., van der Vaart, L., & Stander, M. W. (2016). <i>SA Journal of Industrial Psychology</i> , 42(1), 13-pages South Africa	To investigate the influence of authentic leadership on organizational citizenship behavior, through workplace trust Authentic leadership theory (Walumbwa et al., 2008)	A quantitative cross-sectional survey	633 employees working in the public health care sector – 27 hospitals and clinics and who work in various functions (management = 7.4%; administration = 19.6%; specialist=12%; other=50.9%)/ (convenience sampling) Response rate=NR Final n= 633 Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean: 3.37 SD: 0.92 Mediating Factor(s): Trust in the organization, trust in the immediate supervisor, and trust in co-worker: The Workplace Trust Survey (WTS) (Ferres, 2003) Outcome Factor(s): Organizational citizenship behavior (organization and co- worker): Organizational Citizenship Behavior Scale (OCBS) (Rothmann, 2010)	$\alpha = 0.92$ / CFA $\alpha = 0.87$ / CFA $\alpha = 0.73$ / CFA	Structural equation modelling (SEM) Pearson correlations Confirmatory factor analyses (CFA)
10	Malik, N., Dhar, R. & Handa, S. (2016). <i>International Journal of Nursing Studies</i> , 63, 28- 36 India	To examine the relationship between AL and employee creativity, while determining the mediating effect of knowledge sharing behaviour and moderating effect of use of information technology on this association Authentic leadership (Walumbwa et al., 2008) and employee	A questionnaire- based survey	620 nurses and their supervisors for hospitals and nursing homes/ convenience sampling Response rate:65.32% Final n: 405 nurses and 81 supervisors = 405 nurse-supervisor dyads Demographics: Reported: no	Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 1.875 SD=1.12 Mediating Factor(s): Knowledge sharing behavior: (Lu et al., 2006) Moderating Factor(s): Use of information technology: (Saga & Zmud, 1993) Outcome Factor(s):	$\alpha = 0.97$ / CFA $\alpha = 0.96$ / CFA $\alpha = 0.93$ / CFA	Confirmatory factor analyses (CFA) Pearson correlations Path analysis using SPSS macro named PROCESS (Hayes, 2013)

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		creativity (Amabile, 1988; Oldham & Cummings, 1996)			Employee creativity: (Oldham & Cummings, 1996)	$\alpha = 0.84/$ CFA	
11	Mortier, A.V., Vlerick, P. & Clays, E. (2016). <i>Journal of Nursing Management</i> , 24, 357–365 Belgium	To examine relationship between authentic leadership and two dimensions of thriving (learning and vitality) among nurses, and to study the mediating role of empathy in this relationship Nurses' wellbeing model (Utriainen et al., 2014) and authentic leadership theory (Avolio & Gardner, 2005)	A cross-sectional design	950 nurses in large hospital approached for study/convenience sample Response rate: 37.9% Final n: 360 Demographics: Reported: yes	Authentic Leadership: Authentic Leadership Inventory (ALI) (Neider & Schriesheim 2011) Mean= 53.40 SD= 10.58 Mediating Factor(s): Empathy: (Wong & Law, 2002) Outcome Factor(s): Thriving: (Porath et al., 2012)	$\alpha=0.93/$ NR $\alpha=0.87/$ NR $\alpha=0.80-0.86/$ NR	Hierarchical multiple linear regression analyses 3-step procedure of Baron and Kenny (1986) Sobel test for mediation Correlational analyses
12	Malik, N., & Dhar, R. L. (2017). <i>Personnel Review</i> , 46(2), 277-296 India	To examine the relationship between authentic leadership and employee extra role behavior (ERB) while determining the mediating effect of psychological capital (PC) and moderating effect of autonomy on that relationship Authentic leadership (Luthans, Youssef and Avolio, 2007) and employee extra role behavior (Clapp-Smith et al., 2009; Moriano et al., 2011)	A quantitative, descriptive, correlation design	900 questionnaires were distributed among nurses and an equal number among 163 supervisors in hospitals – convenience sample Response rate for nurses=57.77 and for supervisors= 63.66 Final n= 520 nurses and their 163 supervisors Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (Avolio & Chan, 2008) Mean= 2.316 SD= 1.39 Mediating Factor(s): Psychological capital: Psychological Capital Scale (Luthans, Avolio, Avey, & Norman, 2007) Moderating Factor(s): Autonomy: (Park & Searcy, 2012) Outcome Factor(s): Extra Role Behavior: (Eisenberger et al., 2010)	$\alpha= 0.98/$ CFA $\alpha= 0.98/$ CFA $\alpha= 0.94/$ CFA $\alpha= 0.97/$ CFA	Correlations Path analysis employing SPSS macro named PROCESS (Hayes, 2013) Confirmatory factor analysis (CFA) Sobel test for mediation

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
UNPUBLISHED DISSERTATIONS & THESES							
13	Anderson, T. L. K. (2011). (Doctoral dissertation, College Of Saint Mary) U.S	To examine the perceived levels of transformational and authentic leadership among chief nurse executives (CNEs) of acute care U.S. hospitals Anderson Predicted Nurse Executive Leadership Conceptual Model developed for study	A quantitative, descriptive, correlation design/web-based survey	184 CNEs speaking English, working within United States acute care hospitals; convenience sampling Response rate= NR Final= 144 used in analysis Demographics: Reported: yes Examined/ Analyzed: yes; AL positively correlated with age, and tenure in executive nursing roles, but not level of education	Transformational leadership: Multifactorial Leadership Questionnaire (MLQ) (Avolio & Bass, 2004) Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al. 2007) Mean= 3.36-3.80 SD=.30-.48 (subscales) Mediating Factor(s): NR Outcome Factor(s): Organizational context; (Nursing Professional Practice Culture, NPPC): Nursing Professional Practice Culture scale (ANCC, 2008)	$\alpha=.56-.72$ / NR $\alpha=.43-.77$ / NR $\alpha=.66$ /NR	Frequency distributions Spearman rho correlations Mann-Whitney <i>U</i> -tests Chi square Pearson correlations
14	Stearns, M. (2012). (Doctoral dissertation, Grand Canyon University) U.S	To investigate whether there was a relationship between the authentic leadership behaviors of nurse managers and staff RN job satisfaction and retention Avolio et al. (2004) model of authentic leadership	A descriptive correlational design	355 staff RNs and 29 nurse managers working on medical-surgical units at the study hospitals participated in the study - purposive sampling Response rate:43.2% Final= 139 staff RNs and 29 nurse managers Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 3.22 SD= 0.25 Mediating Factor(s): NR Outcome Factor(s): Job satisfaction: Satisfaction Scale (MMSS) (Mueller & McCloskey, 1990) Unit level retention data ($n=9$ sample size too small to utilize)	$\alpha= 0.96$ / previous studies $\alpha=0.94$ / previous studies	Correlational analysis Regression analysis

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
15	Yemi-Sofumade, H. B. (2012). (Doctoral dissertation, Capella University) U.S	To determine whether the perceived ethical and authentic leadership characteristics of the frontline nurse leaders may be related to the turnover intentions of subordinate staff nurses Ethical leadership (Brown, Trevino & Harrison, 2005) and AL (Walumbwa et al., 2008)	A quantitative survey	350 nurses randomly selected who were members of the ANA (American Nurses Association) in the Southeastern region of the U.S Response rate:40.9% Final= 116 Demographics: Reported: yes	Ethical leadership: The Ethical Leadership Scale (ELS) (Brown, Trevino, & Harrison, 2005) Mediating Factor(s): NR Moderating Factor(s): Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= NR SD= NR Outcome Factor(s): Turnover intentions: The Turnover Intentions Questionnaire (TIQ) (Jackofsky & Slocum, 1987)	$\alpha=0.95/$ Exploratory Factor Analysis $\alpha=0.97/$ CFA $\alpha=0.71/$ NR	Linear regression Pearson correlations
2e	Fillmore, K. (2013). (Master thesis, UWO) Canada	To examine the relationship among authentic leadership, structural empowerment, and nurses' trust in their manager in a sample of Ontario acute care nurses, and determine if structural empowerment mediates the relationship between authentic leadership and trust The authentic leadership model Avolio et al. (2004)	A non-experimental, cross-sectional, predictive survey design	600 registered nurses randomly selected working full-time and part-time in direct care positions in acute care community and teaching hospitals in Ontario Response rate= 48% Final= 280 Demographics: Reported: yes Examined/ Analyzed: yes - Full-time nurses have lower levels of authentic leadership than part-time nurses	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Avolio, Gardner, & Walumbwa, 2007; Walumbwa et al., 2008) Mean= 2.35 SD=0.99 Mediating Factor(s): Structural empowerment: Conditions of Work Effectiveness Questionnaire II (CWEQ-II) (Laschinger, Finegan, Shamian, & Wilk, 2001) Outcome Factor(s): Trust in manager: Trust in Manager Scale (Mayer & Gavin, 2005)	$\alpha=0.97/$ CFA $\alpha=0.97/$ CFA $\alpha=0.83/$ CFA	Pearson correlations Hierarchical multiple linear regression Mediation regression analysis

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					(Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002)		
					Intent to leave: Turnover Intentions Scale (Kelloway et al., 1999)	$\alpha=0.81$ / NR	
17	Du Plessis, M. (2014). (Doctoral dissertation, University of the Western Cape) South Africa	To create a theoretical model of the relationships between authentic leadership, psychological capital, followership, and work engagement that will assist in developing organizational development (OD) interventions and leadership practices in order to improve work engagement Work Engagement (Bakker & Demerouti, 2007), Psychological Capital (Luthans, Youssef & Avolio, 2007), Followership (Kelley, 2008), AL (Avolio & Gardner, 2005)	A quantitative, cross-sectional online survey design	855 academic professionals and managers in a national South African private healthcare industry organization; purposive sampling Response rate= 76% Final= 647 Demographics: Reported: yes Examined/ Analyzed: yes—higher AL perceived in male leaders	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 2.80 SD= 0.84 Mediating Factor(s): Psychological capital: Psychological Capital Questionnaire (PCQ) (Avolio, et al., 2007) Followership: (Kelley, 1992) Outcome Factor(s): Work engagement: Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003)	$\alpha=0.95$ /CFA $\alpha= 0.89$ /CFA $\alpha= 0.79$ /CFA $\alpha= 0.92$ / CFA	Confirmatory and exploratory factor analyses, reliability assessment, Pearson correlation analysis, multiple liner regression analysis and ANOVA Structural equation modeling Baron & Kenny (1986) mediation analysis Sobel test or mediation
18	Bennett, K. (2015). (Master's Thesis, University of Manitoba) Canada	To use the Organizational Framework for Predicting Nurse Retention to explore the relationship between workplace bullying, job satisfaction, and	Descriptive correlational cross-sectional survey	317 medical-surgical nurses working in the province of Manitoba; convenience sampling (2061) invited to participate Response rate= NR	Organizational climate: The Perceived Nurse Working Environment (PNWE) (NWI-R; Aiken & Patrician, 2000) Control and autonomy: The McCloskey Mueller Satisfaction	$\alpha = \text{NR}$ / Previous studies NR/ NR	Bivariate tests Multivariate ordinal regression analysis Kruskal-Wallis test Spearman-rho correlations

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
		authentic leadership among medical-surgical nurses Organizational Framework for Predicting Nurse Retention (OFNPR) by Sawatzky and Enns (2012)		Final= 317 Demographics: Reported: yes Examined/ Analyzed: yes – nurses' age negatively correlated with AL of manager	Scale (MMSS; Mueller & McCloskey, 1990) Bullying: Negative Acts Questionnaire-Revised (NAQ-R) (Notelaers & Einarsen, 2012) Authentic leadership: The Authentic Leadership Questionnaire (ALQ) (Avolio et al. 2007) Mean= 2.34 SD= 16.28 Mediating Factor(s): NR Outcome Factor(s): Job satisfaction: (Lu et al., 2012; Sawatzky & Enns, 2012)	NR/ Previous studies NR/ Previous studies NR/NR	
19	Johnson, S. H. (2015). (Doctoral dissertation, Boston College) U.S	To examine the influence of unit-level authentic leadership and structural empowerment on staff nurse decisional involvement and patient quality outcomes Donabedian theory of quality healthcare and its three mechanisms for assessing quality, namely structure, process, and outcome (1966)	A cross- sectional, web-based, survey	1,669 staff nurses working in on general care units in the 11 acute-care hospital settings/convenience sampling – unit level data ($n=105$ units) Response rate= 39% Final= 1,669 from 105 units Demographics: Reported: yes Examined/ Analyzed: yes - AL positively associated with level of education	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al. 2008) Mean= 2.92 SD= 0.93 Structural empowerment: Conditions of Work Effectiveness Questionnaire-II (CWEQ-II) (Laschinger et al., 2001) Mediating Factor(s): NR Outcome Factor(s): Staff nurse decisional involvement: Decisional Involvement Scale (DIS) (Havens & Vasey, 2005)	$\alpha= 0.97/$ CFA $\alpha= 0.86/$ CFA $\alpha=0.92-0.94/$ NR	Correlational analysis Multiple regression using linear mixed effect models Multilevel modeling

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
					Patient quality outcomes: Patient satisfaction measure (HCAHPS) (CMS, 2006)	α =NR/ NR	
20	Plasse, M. J. (2015). (Doctoral dissertation, Northeastern University) U.S	To explore the congruence between nurse director's self-evaluation of authentic leadership style and staff nurses' evaluation of leadership style, To determine the impact of leadership style on team psychological safety, and to identify if leadership style's impact on psychological safety as mediated by peer-to-peer relationship quality Avolio, Gardner, Walumbwa, Luthans, & May (2004) authentic leadership model, Dutton and Heaphy's (2003) high quality relationship model, Cortina, Magley, Williams, and Day-Langhout (2001) notion of workplace incivility and Edmondson's (1999) notion of team psychological safety	Cross-sectional online survey	2210 staff nurses and nurse working in general medical and surgical units within an acute care hospital setting; convenience sampling Response rate: nurse directors=55% staff nurses=21% Final= 455 staff nurses and 17 directors Demographics: Reported: yes	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Avolio et al., 2007) Mean= 4.30 for staff and 3.59 for directors SD= 1.10 for staff and 0.26 for directors Mediating Factor(s): Relational quality: High-Quality Relationship Tool (Dutton & Ragin, 2007) Workplace incivility: Workplace Incivility Scale (WIS) (Cortina, Magley, Williams, & Langhout, 2001; Cortina & Magley, 2003; Leiter, Laschinger, Day & Oore, 2011) Outcome Factor(s): Psychological safety: Psychological Safety (Edmondson, 1999)	α =0.98/ CFA α = 0.93/ NR α = 0.90/ NR α = 0.74/ NR	Pearson correlations Intra-class correlation coefficients (ICC) Structural Equation modeling - Path and mediation analysis using Mplus
21	Read, E. A. (2016). (Doctoral dissertation, University of Western Ontario)	To develop and test a self-report questionnaire to measure nurses' workplace social capital	A cross-sectional survey (online)	1000 nurses randomly selected working in teaching or non-	Authentic leadership: Authentic Leadership Questionnaire (ALQ) (Walumbwa et al., 2008) Mean= 2.41 SD=0.99	α =0.97/ CFA	Pearson's correlations Structural equation modeling

Study	Author(s)/ Journal/ Country	Purpose/ Conceptual framework	Design	Subjects/ Sample	Measurement/ instrument	Reliability/ Validity	Analysis
	Canada	and examine the nomological network of the concept including authentic leadership and structural empowerment as precursors of social capital and team effectiveness and patient care quality as outcomes Nahapiet & Ghoshal's (1998) theory of social capital within organizations		teaching hospitals in direct care staff nurse Response rate: 25.3% Final= 247 Demographics: Reported: yes	Mediating Factor(s): Structural empowerment: Conditions of Work Effectiveness Questionnaire II (CWEQ-II) (Laschinger et al., 2001) Workplace social capital: Workplace Social Capital Questionnaire (Read, 2016) Team effectiveness: Technical quality Subscale (Shortell et al., 2001) Outcome Factor(s): Nurse-assessed patient care quality: (Aiken & Patrician, 2000)	$\alpha = 0.84$ / CFA $\alpha = 0.70$ / a content validity index (CVI) $\alpha = 0.91$ / CFA one item/ NR	Confirmatory Factor analysis

Table 5

Characteristics of Qualitative Studies

Study	Author(s)/ Journal	Purpose/ Conceptual framework	Design	Subjects/ Sample	Authentic Leadership	Rigour	Analysis
22	Shirey, M. R. (2009). <i>Critical Care Nursing Quarterly</i> , 32(3), 189-198 U.S	To show relationships among authentic leadership, organizational culture, and healthy work environments using a stress and coping lens Authentic leadership, organizational culture, and healthy work environments (Shirey, 2008)	A qualitative descriptive study/ 14- question face-to- face interview/secon dary analysis of findings from previous study	21 nurse managers employed at 3 US acute care hospitals, registered nurses holding the title of nurse manager for 1 year or more and having 24-hour accountability for at least 1 patient care unit	AL is the glue that holds together the healthy work environment	Audio recorded interviews which were transcribed Three researchers coded data for themes	Immediately following each interview, the investigator completed a debriefing session and summarized the preliminary themes emerging from the interview
23	Murphy, L. G. (2012). <i>Journal of Nursing Administration</i> , 42(11), 507- 512 U.S	To explore experiences of hospital chief nurse executives (CNEs) in becoming and remaining authentic nurse leaders Authentic leadership theory (Walumbwa et al., 2008)	Narrative inquiry/ 2 semi structured interview	Three nurses known as authentic nurse leaders, 1 current and 2 former hospital CNEs from the western region of the U.S; Each had experience CNE for at least 3 years	Authenticity, described as being oneself - identified as most important quality of leadership AL seen as emphasizing character versus behaviours and traits	Interviews transcribed verbatim Member checking – reviewed transcripts for accuracy	Sorting and organizing data into themes or patterns
24	Shapira- Lishchinsky, O. (2014). <i>Journal of Nursing Management</i> , 22(1), 60–69	To explore nurses’ ethical decision- making in team simulations in order to identify the benefits of these simulations for authentic leadership	Qualitative data analysis based on Grounded Theory/group interviews	50 nurses came from different specialties from 10 Israeli hospitals and HMOs in the center of Israel	AL defined consistent with using Avolio et al. (2004) and Gardner et al. (2005)	Videotaped simulations and discussions were all transcribed verbatim	Data analysis followed a three-step process, as outlined by Strauss and Corbin (1998): 1-open coding 2-axial coding 3-selective coding

Study	Author(s)/ Journal	Purpose/ Conceptual framework	Design	Subjects/ Sample	Authentic Leadership	Rigour	Analysis
	Israel	Authentic leadership theory (Avolio et al., 2004)				Data analyzed independently by three people	Data were organized using the ATLAS.TI 5.0 software package that enables qualitative analysis of textual data
25	Prestia, A. S. (2015). <i>Journal of Nursing Administration</i> , 45(11), 575-581 U.S	To explore factors leading to chief nursing officer (CNO) sustainment in the professional practice of nurse executive leadership Theory of bureaucratic caring (Ray, 1989), authentic leadership theory (Avolio & Gardner, 2005), and resiliency theory (Earvolino-Ramirez, 2007)	An interpretative phenomenological approach/ individual interview using 5 questions	20 CNOs currently practicing for 2 plus consecutive years in the role at their current acute care	CNO's described authentic leadership theory components of self-awareness and behaving in accordance with one's true self as important to their ability to be sustained	Credibility of the data Validity with an inquiry audit Audio-taped interviews conducted Advisor reviewed 5 unaltered transcripts prior to the theme development	A step-by-step process described by Smith (2008); Hsieh & Shannon (2005); Montgomery & Bailey (2007), and Taylor & Gibbs (2013), which included levels 1 and 2 coding for themes and subthemes Key words and phrases grouped under individual study questions; subthemes developed, themes refined, and potential conceptual framework for CNO sustainment emerged
26	Huddleston, P., & Gray, J. (2016). <i>Journal of Nursing Administration</i> , 46(9), 462-467 U.S	To explore the nurse leaders' and direct care nurses' perceptions of the meaning of a Healthy Work Environment (HWE), to describe the nurse leaders' and direct care nurses' perceptions of a HWE, and to define the characteristics of a HWE	Exploratory descriptive designs using focus groups and guided questions with tape-recorded interviews	Purposive sampling; 72 nurse leaders from 10 acute care settings in 9 focus groups. Nurse leaders with less than 2 years of experience; 57 direct care nurses from 11 acute care settings in 10 focus groups; new graduate nurses, agency and contract nurses, and a nurse who was the daughter of the principal investigator (PI) were excluded from the direct care nurse sample	Authentic leadership defined as "ability to be goal oriented, to get the followers to follow, be approachable and trustworthy, a good communicator, open minded, confident, coaches, visible, transparent, and responsive to	Comparing & cross-checking data by observations of interviews Credibility - researcher's years of study on HWE Triangulation - use of multiple researchers analyzing transcripts and comparing findings	Interviews transcribed verbatim Transcripts coded line by line, sentence by sentence, using open coding to identify labels, common themes, or concepts NVIVO software (Burlington, Massachusetts) to assist with identification of themes and to develop word clouds to map themes

Study	Author(s)/ Journal	Purpose/ Conceptual framework	Design	Subjects/ Sample	Authentic Leadership	Rigour	Analysis
		Quality Care Model (Donabedian, 1996), structural empowerment (Laschinger et al., 2003) and psychological empowerment (Spreitzer, 1995)			requests and needs of the staff”(p.465)	Memos & diagrams	
UNPUBLISHED DISSERTATIONS & THESES							
27	Ahern, G. R. (2015). (Doctoral dissertation, Antioch University) U.S	To examine how hospice team leaders build resilience for themselves and within the interdisciplinary teams they lead Three key leadership theories - servant (Grenleaf, 1977), spiritual and authentic Authentic leadership theory (Gardner et al., 2005)	Narrative inquiry using phenomenologic -al approach to interviews	Purposeful sampling eight team leaders (all registered nurses) interviewed were from a range of hospices in diverse settings and all were directly responsible for leading interdisciplinary teams	AL is a pattern of transparent and ethical leader behavior that encourages awareness of self and other and openness in sharing information that is needed to make decisions while accepting follower inputs	Audio-recorded interviews transcribed Field notes and Verbatim transcripts with member checking Peer de-briefer who also coded	Thematic and structural Analysis as defined by Riessman (2008)

Table 6

Summary of Study Antecedents and Outcomes (Direct Effects) of Authentic Leadership

Antecedent/Outcome	Source	Direction	Significance*
Antecedents:			
• Structural empowerment	Haddad (Diss., 2015)	+	S
Follower Outcomes:			
<i>Personal Psychological States</i>			
• Psychological capital	Laschinger & Fida (2014b)	+	S
	Du Plessis (Diss., 2014)	+	S
	Malik & Dhar (2017)	+	S
• Optimism	Stander et al. (2015)	+	S
Identification:			
• Personal	Wong et al. (2010)	+	S
	Fallatah et al. (2017)	+	S
• Social	Wong et al. (2010)\	+	NS
• Organizational	Fallatah et al. (2017)	+	S
Trust in:			
• Manager	Wong et al. (2010)	+	S
	Wong & Giallonardo (2013)	+	S
	Wong & Cummings (2009b)	+	S
	Fillmore (Thesis, 2013)	+	S
	Coxen et al. (2016)	+	S
• Organization	Stander et al. (2015)	+	S
	Coxen et al. (2016)	+	S
• Co-workers	Coxen et al. (2016)	+	S
<i>Satisfaction with work</i>			
• Job satisfaction	Rahminia & Sharifrad (2015)	+	S
	Wong & Laschinger (2013)	+	S
	Laschinger & Fida (2015)	+	S
	Laschinger et al (2012)	+	S
	Giallonardo et al. (2010)	+	S
	Fallatah & Laschinger (2016)	+	S
	Laschinger & Fida (2014b)	+	S
	Laschinger et al. (2016)	+	NS
	Bennett (Diss., 2015)	+	S
	Haddad (Diss., 2013)	+	S
	Stearns (Diss., 2012)	+	S
• Job turnover intention	Laschinger et al. (2016)	-	NS
	Yemi-Sofumade (Diss., 2012)	-	S
• Career satisfaction	Laschinger et al. (2016)	-	NS
• Career turnover intention	Laschinger et al. (2016)	-	NS
• Work engagement	Stander et al. (2015)	+	NS
	Bamford et al. (2013)	+	S
	Giallonardo et al. (2010)	+	S
	Du Plessis (Diss., 2014)	+	S
<i>Work Environment Factors</i>			
• Structural empowerment	Wong & Laschinger (2013)	+	S

Antecedent/Outcome	Source	Direction	Significance*
	Laschinger & Fida (2015)	+	S
	Laschinger et al. (2013)	+	S
	Fillmore (Thesis, 2013)	+	S
	Read & Laschinger (2015)	+	S
	Laschinger et al (2016)	+	S
	Read (Diss., 2016)	+	S
	Boamah et al. (2017)	+	S
Negative workplace behaviours:			
• Incivility:			
- Co-worker	Read & Laschinger (2013)	-	S
- Supervisor	Read & Laschinger (2013)	-	S
- Combined	Haddad (Diss., 2013)	-	S
	Plasse (Diss., 2015)	-	S
• Workplace bullying:	Laschinger et al. (2012)	-	S
	Read & Laschinger (2013)	-	S
	Laschinger & Fida (2014a)	-	S
	Bennett (Diss., 2015)	-	S
Workgroup relationships			
• Interprofessional collaboration	Regan et al. (2016)	+	S
	Laschinger & Smith (2013)	+	S
• High quality relationship	Plasse (Diss., 2015)	+	S
• Team psychological safety	Plasse (Diss., 2015)	+	NS
• Social capital	Read (Diss., 2016)	+	S
• Work climate	Nelson et al. (2014)	+	S
• Empathy of leader	Mortier et al. (2016)	+	S
Practice environment:			
• Professional practice environment	Laschinger & Fida (2015)	+	S
	Fallatah & Laschinger (2016)	+	S
• Nursing professional practice culture	Anderson (Diss., 2011)	+	S
• Decisional involvement	Johnson (Diss., 2015)	+	S
• Areas of worklife	Wong & Giallonardo (2013)	+	S
	Bamford et al. (2013)	+	S
	Laschinger et al. (2015)	+	S
	Laschinger & Read (2016)	+	S
Health & Well-Being			
Burnout:			
• Emotional exhaustion	Laschinger & Fida (2014a)	-	S
	Laschinger & Fida (2014b)	-	S
	Wong & Cummings (2009b)	-	S
• Cynicism	Laschinger et al. (2013)	-	S
	Laschinger & Fida (2014a)	-	S
	Laschinger & Fida (2014b)	-	S
Stress:			
• Work stress	Rahminia & Sharifrad (2015)	-	NS
• Stress symptoms	Rahminia & Sharifrad (2015)	-	NS
• Attachment insecurity	Rahminia & Sharifrad (2015)	-	S
Well-being:			
• Vitality	Mortier et al. (2016)	+	S
• Psychological well-being	Nelson et al. (2014)	+	S

Antecedent/Outcome	Source	Direction	Significance*
<i>Performance</i>			
• Job performance	Wong & Cummings (2009b)	+	S
• Knowledge sharing	Malik et al (2016)	+	S
• Creativity	Malik et al (2016)	+	S
• Learning	Mortier et al. (2016)	+	S
• Followership	Du Plessis (Diss., 2014)	+	NS
• Employee extra role behavior	Malik & Dhar (2017)	+	S
• Organizational citizenship behaviour	Coxen et al. (2016)	+	NS
<i>Patient Outcomes:</i>			
• Patient falls with injury	Johnson (Diss., 2015)	-	S
• Patient satisfaction	Johnson Diss (2015)	+	NS
• Hospital acquired pressure ulcers	Johnson Diss (2015)	-	NS

*Significance: NS = not significant, S = significant at $p < 0.05$

Diss. = Dissertation

Table 7

Summary of Study Mediators: Indirect Effects of Authentic Leadership on Outcomes

Mediators	Source	Direction	Significance
AL → Structural empowerment:			
→ Job satisfaction	Wong & Laschinger (2013)	+,+	S
→ Job performance	Wong & Laschinger (2013)	+,+	S
→ Prof. practice environment	Laschinger & Fida (2015)	+,+	S
→ Short staffing	Laschinger & Fida (2015)	+,-	S
	Boamah et al. (2017)*	+,-	S
→ Emotional exhaustion	Laschinger et al. (2013)	+,-	S
→ Cynicism	Laschinger et al. (2013)	+,-	S
→ Relational social capital	Read & Laschinger (2015)*	+,+	S
→ Social capital	Read (Diss., 2016)	+,+	S
→ Worklife interference	Boamah et al. (2017)*	+,-	S
→ Trust in Manager	Fillmore (Thesis, 2013)	+,+	NS
AL → Burnout:			
Emotional exhaustion:			
→ Job turnoverintention	Laschinger & Fida (2014a)*	-,+	NS
→ Career turnoverintention	Laschinger & Fida (2014a)*	-,+	S
→ Mental health symptoms	Laschinger & Fida (2014b)*	-,+	S
→ Job satisfaction	Laschinger & Fida (2014b)*	-,+	S
Cynicism:			
→ Job turnoverintention	Laschinger & Fida (2014a)*	-,+	S
→ Career turnoverintention	Laschinger & Fida (2014a)*	-,+	S
→ Mental health symptoms	Laschinger & Fida (2014b)*	-,+	NS
→ Job satisfaction	Laschinger & Fida (2014b)*	-,+	S
AL → Negative work behaviours:			
Bullying:			
→ Job turnoverintention	Laschinger & Fida (2014a)*	-,+	NS
→ Career turnoverintention	Laschinger & Fida (2014a)*	-,+	NS
→ Emotional exhaustion	Laschinger et al. (2012)	-,+	S
→ Job satisfaction	Laschinger et al. (2012)	-,+	S
Incivility:			
→ Psychological Safety	Plasse (Diss., 2015)	-,+	S
AL → Areas of worklife:			
→ Adverse events	Wong & Giallonardo (2013)	+,-	S
→ Work engagement	Bamford et al. (2013)	+,+	S
→ Occupational self-efficacy	Laschinger et al (2015)	+,+	S
→ Civility norms	Laschinger & Read (2016)	+,+	S
AL → Trust in manager:			
→ Areas of worklife	Wong & Giallonardo (2013)	+,+	S
→ Voice	Wong & Cummings (2009b)	+,+	S
→ Work engagement	Wong et al. (2010)	+,+	S
→ Org. Citizenship behaviour	Coxen et al. (2016)	+,+	NS
Trust in organization:			
→ Work engagement	Stander et al. (2016)	+,+	S
→ Org. Citizenship behaviour	Coxen et al, (2016)	+,+	S
Trust in co-workers:			
→ Org. Citizenship behaviour	Coxen et al, (2016)	+,+	S

AL→Attachment insecurity:				
→ job satisfaction	Rahminia & Sharifrad (2015)	-,-	S	
→ work stress	Rahminia & Sharifrad (2015)	-,+	S	
→ stress symptoms	Rahminia & Sharifrad (2015)	-,+	S	
AL→ Identification:				
Personal:				
→ Trust in manager	Wong et al. (2010)	+,+	S	
→ Organizational identification	Fallatah et al. (2017)	+,+	S	
Social:				
→ Trust in manager	Wong et al. (2010)	+,+	NS	
AL → Psychological capital:				
→ Work Engagement	Du Plessis (Diss., 2014)	+,+	S	
→ Followership	Du Plessis (Diss., 2014)	+,+	NS	
→ Employee extra role behavior	Malik & Dhar (2017)	+,+	S	
Optimism:				
→ Work engagement	Stander et al. (2015)	+,+	S	
AL → Empathy of leader:				
→ Vitality	Mortier et al. (2016)	+,+	S	
→ Learning	Mortier et al. (2016)	+,+	NS	
AL → Social capital:				
→ Patient care quality	Read (Diss., 2016)	+,+	NS	
→ Team effectiveness	Read (Diss., 2016)	+,+	NS	
AL → Knowledge sharing → creativity	Malik et al (2016)	+,+	S	
AL → Work climate → Psychological well-being	Nelson et al. (2014)*	+,+	S	
AL → Job satisfaction → Turnover intention	Laschinger et al. (2012)	+, -	S	
AL → Work engagement → Job satisfaction	Giallonardo et al (2010)	+,+	S	
AL → Professional practice Environment → Job satisfaction	Fallatah & Lashinger (2016)	+,+	S	
AL → Followership → Work Engagement	Du Plessis (Diss., 2014)	+,+	NS	
AL → High Quality Relationship → Psychological Safety	Plasse (Diss., 2015)	+,+	NS	

NOTE: S= significant; NS= Not significant; Diss= Dissertation; *=time-lagged studies

Table 8

Findings and Categories from Qualitative Studies

Categories	Source	Findings
<ul style="list-style-type: none"> AL contributes to or is associated with healthy work environments 	<p>Huddleston & Gray (2016)</p> <p>Shirey (2009)</p>	<ul style="list-style-type: none"> AL identified as one of 6 original AACN characteristics of HWE Added to AL definition notions of goal orientation, approachability, trustworthiness, sound communication, open mindedness, confidence, visibility, transparency and responsiveness to staff needs Nurse managers working in positive organizational cultures generally worked in healthy work environments and engaged in more authentic leadership behaviors while those working in negative cultures reported less optimism and more challenges engaging in authentic leadership practices
<ul style="list-style-type: none"> How leaders become and maintain their authenticity 	Murphy (2012)	<ul style="list-style-type: none"> -Authentic leaders are able to maintain their authenticity by having the moral courage to do the right thing Importance of reframing, reflection in alignment with values, and the courage needed as nurse leaders progress to authenticity
<ul style="list-style-type: none"> CNOs exemplify authentic leadership traits through collaborating with other supportive leaders to influence positive patient outcomes and organizational performance 	Prestia (2015)	<ul style="list-style-type: none"> AL was described as important to leaders' ability to be sustained
<ul style="list-style-type: none"> Ethically resilient team leaders align with four components of AL leaders 	Ahem (2015)	<ul style="list-style-type: none"> All participants reflected ethically resilient practitioners who define themselves within the understandings of servant, spiritual, and authentic leadership Authentic leaders worked with resilience, hope, and optimism; are self-regulating, self-monitoring, self-reflecting, and have self-efficacy; have good awareness of self and others
<ul style="list-style-type: none"> Team-based simulations of nurses' ethical decision-making reflect the 4 components of AL 	Shapira-Lishchinsky (2014)	<ul style="list-style-type: none"> Four core simulation benefits derived from data are consistent with components of AL: (1) self-awareness (2) relational transparency (3) balanced processing; and (4) internalized moral perspective

Chapter Three

Discussion

This review illustrated the relationship between authentic leadership (AL), staff, and patient outcomes in healthcare, and the key antecedents of AL. The results of this review provided an extensive understanding of outcomes and mediators to date that have been associated with AL in healthcare. The findings also highlighted the direct, indirect, positive, or negative relationships between AL, outcomes, and mediators. Additionally, findings of the review supported the essential elements of Avolio, Gardner, Walumbwa, Luthans, and May's (2004) theory that was used as a framework for the majority of studies in the review. This review may provide a guide for future researchers and leaders to explore the application of authentic leadership in healthcare. Implications for nursing theory, practice, policy, education and research of results are presented in this chapter.

Implications for Theory

Theory is a fundamental guide for research as it identifies the important variables and how they may be interrelated so they can be empirically tested (Shalley, 2012). The fact that all quantitative studies used a theoretical framework indicated that the validity of research findings on AL in healthcare was strengthened by theory. In support of the AL theory by Avolio et al. (2004) findings suggested that authentic leaders may contribute to strengths-based organizations by promoting the elements of healthy work environments for staff and patients. Specifically there were positive associations between AL and job satisfaction, structural empowerment, areas of worklife, positive workgroup relationships, and trust and negative associations with negative work group behaviours and burnout (Avolio & Gardner, 2005). Findings also supported that the four dimensions of AL (balanced processing,

relational transparency, internalized moral perspective, and self-awareness) as articulated in Avolio et al.'s (2004) theory were related to varying follower outcomes that encompassed a range of work attitudes (job satisfaction, work engagement, well-being, etc.) and to a lesser extent some behaviours (extra role behavior, knowledge sharing, turnover, etc.). Since only two studies examined the postulated relationship between AL and outcomes mediated through personal and social identification and the findings of these studies were mixed, there is a need for further testing of these mediating mechanisms. Other mediators proposed in the theory such as psychological capital and trust were reasonably well supported by review findings.

A wide variety of staff or follower outcomes were associated with AL in this review and these were organized into specific categories that went beyond the work attitudes and behavior of the original AL theory. These categories were: *personal psychological states*, *satisfaction with work*, *work environment factors*, *health & well-being*, and *performance* and since there were direct associations between AL and these outcomes as well as evidence for indirect mechanisms, an additional arrow was added in Figure 3 thus adapting Avolio et al.'s original model. Several significant mediators (structural empowerment, areas of worklife, burnout, and negative workplace behaviours) not specified in AL theory were also added to Figure 3. There were some findings linking AL to organizational performance outcomes such as patient outcomes. Avolio and Gardner (2005) argued that AL contributed to “sustainable performance” (p. 333) at the individual, group and organizational levels and there was some evidence for associations between AL and patient outcomes in a few studies (Johnson, 2015; Wong, Laschinger, & Cummings, 2010). Cummings et al. (2010) argued in their review of nursing leadership and staff outcomes that despite an excess of leadership styles or theories, the relationships and mechanisms of action for specific leadership styles and outcomes was

under-theorized and required future research. Thus, findings of this review of the current state of the AL theory in nursing and healthcare does address the issue of mechanisms of action albeit for one leadership perspective that is, AL.

Implications for Leadership Practice and Policy

Healthcare's rapid changes and growing complexity necessitate that all care providers collaborate and maximize their efficiency as never before and effective leaders are integral to creating the conditions where challenging problems can be solved (Cummings et al., 2010; Shirey & White-Willimas, 2015). Documented concerns about a future shortfall of future healthcare leaders (Titzer, Shirey, & Hauck, 2013) underscore the necessity to recruit, develop and retain leaders who can meet these challenges and contribute to care environments and processes that produce positive outcomes needed in dynamic healthcare systems (Waite, McKinney, Smith-Glasgow, & Meloy, 2014). Given that findings provided some support for Avolio et al.'s (2004) theory and positive associations between AL and outcomes for staff there is some merit in considering the application of AL theory and strategies to increase authentic leadership in nursing and healthcare settings.

Leaders who are authentic have the ability to develop greater self-awareness and self-regulated behaviors (Gardner, Avolio, Luthans, May, & Walumbwa, 2005). Self-awareness is one of components of authentic leadership that authentic leaders must develop. Self-evaluation can be considered as a vital part of self-awareness as many leaders are not aware of how they are perceived by others and need to engage in purposeful strategies to gather self-evaluative information for their personal leadership development (Murphy, 2012; Waite et al., 2014). Knowing one's strengths and weaknesses provides direction for improving performance. According to Andrade and Valtcheva (2009) self-assessment promotes learning and improvements in one's work and has been shown to promote achievement.

Senior nurse leaders provide direction for evaluation approaches that allow managers opportunities to assess their performance on a regular basis and thereby, enhance their self – assessment. Feedback from multiple sources or ‘360-degree feedback’ is an evaluation approach that relies on input from numerous individuals, including supervisors, colleagues and subordinates and others (Martin, McCormack, Fitzsimons, & Spirig, 2012), therefore contributing to enhanced self-awareness. However, managers must be open to receiving feedback and directors must communicate feedback constructively and honestly for this process to be most meaningful. In addition, consistent with positive organizational psychology, feedback must not only identify weaknesses in performance, but emphasize and leverage manager’s strengths (Spreitzer, 2006).

Moreover, authentic leaders build healthier work environments through the other key components of authentic leadership which are balanced processing, relational transparency, and internalized moral perspective. Balanced processing is the ability of leaders to objectively analyze all relevant data before making a decision (Gardner et al., 2005). Managers can demonstrate balanced processing by soliciting staff feedback, creating an environment in which staff feel comfortable providing feedback and involving staff in decision making when appropriate (Gardner et al., 2005; Ilies et al., 2005; Tetrick 1989). Senior leaders facilitate balanced processing of their managers by organizing meetings where managers have the opportunity to present new ideas or practice challenges to administrators. This would allow managers to receive feedback from other nursing and/or allied health managers, as well as program directors. In addition, healthcare organizations should encourage the use of the best available evidence to inform management decisions by providing managers with access to evidence informed guidelines or policies and professional practice support. Decisions that are made without access to the best quality evidence can

cause an increase the inappropriate or ineffective management decisions (Pullin & Knight, 2003).

Relational transparency is related to presenting one's authentic self to others (Kernis, 2003). Leaders or managers share their ideas or knowledge with others and encourage their staff on the importance of sharing ideas together. The intent here is to promote an atmosphere of openness and honesty and inspire staff to feel comfortable in discussing problems and potential solutions with their managers. Not only departmental managers but also unit level managers need to be honest and straightforward in dealing with staff because relational transparency is considered a key component of AL that is proposed to build trust in followers (Wong, 2008). Involving staff in unit decision-making allows them to experience a sense of positive purpose in their work which leads to increase positive consequences for their work engagement and performance. Asking for feedback, listening to and accepting others' points of view, and acting on suggestions are ways for leaders to increase trustful environments (Wong, 2008).

Internalized moral perspective is the final component of authentic leadership and means that the leader's behaviour is guided primarily by their internal moral standards and values rather than those of others (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008). According to Cianci, Hannah, Roberts and Tsakumis (2014), leaders who exhibit the dimensions of authentic leadership are likely to affect employees' moral stance and decisions based on their ethics. Actually, if leaders are engaged in authentic leadership, they tend to express moral maturity linked with their internal personal values (Avolio et al., 2004). When leaders communicate with their staff, they must present a respectful, honest, and trusting demeanor and align their actions with their core principles and values. The moral component of the authentic leader can be enhanced by exposure to and discussion of moral dilemmas

through case studies or unit issues that highlight ethical leadership in practice (May, Hodges, Chan, & Avolio, 2003; Storch, Makaroff, Pauly, & Netwon, 2013). These learning activities can stimulate individuals to think about problems in new and alternative ways, increase awareness of moral dilemmas in practice and promote confidence in decision making which may improve performance (May et al., 2003). Senior leaders can also support the internalized moral perspective of managers by validating the significance of acting in harmony with one's moral values rather than bowing to external pressures. Indeed, sometimes it takes moral courage to stand up for what is right and defend one's actions in the face of workplace pressures (Murphy, 2012).

According to Kark and Shamir (2002), engagement, motivation, commitment, satisfaction, and involvement of staff will increase if their leaders are authentic. Therefore, health care organizations should recruit their leaders/managers based on the essential components of AL. Also leadership development programs that incorporate AL theory can enhance leadership competencies and ultimately the work environments for staff and patients. Findings of Baron's (2016) recent study of a three-year leadership development program showed an increase in authentic leadership development amongst leaders in middle management positions in Quebec. This program was based on action learning principles and primarily focused on the application of authentic leadership development by working through real problems, experiments, activities, and case studies with peers and receiving coaching. Although Baron's is one of very few studies of AL development, results suggested that authentic leadership can be developed but also indicated that adequate resources must be directed to leadership development in organizations for this to happen.

Implications for Education

Leadership education in undergraduate education should include some focus on authentic leadership to serve as a foundation for effective leadership by preparing students with the competencies of AL and enabling them to become effective practitioners and potential future leaders. Many healthcare leadership experts have suggested that leadership skills are critical at every level and in wide-ranging healthcare contexts (MacPhee, Chang, Lee, & Spiri, 2013; Porter-O'Grady, 2011). Thus, it may be essential to introduce students to leadership development during their nursing education as one approach to promoting future graduates' influence on the profession and health care outcomes (Laschinger et al., 2013; Waite et al., 2014). As discussed earlier, a focus on self-development through reflection and feedback from others is central to building effective leadership competencies. New and emerging leaders must be able to actively participate in solving problems and strategies for creating change, such as building collaborative alliances and positively influencing climate and culture (Scully, 2015; Waite et al. 2014). By way of example, Waite et al (2014) reported on positive outcomes for the implementation of a unique authentic leadership course within an undergraduate nursing program in the United States. The aim of this course was to enhance undergraduate nursing students' self-awareness and self-development. Teaching strategies used were learner-centered and action oriented and included both in-person and online learning approaches. Therefore, students were engaged through round table debates, cross-cultural interviews, autobiographies, mind mapping, and reflective analysis journals. Positive student feedback acknowledged the value of self-examination associated with authentic leadership in ongoing personal and professional development (Waite et al, 2014). Educating students and new graduate nurses to be equipped with AL competencies should be a priority so that knowledge can be translated into the development of future healthcare leaders (Cummings et al., 2010; Laschinger et al., 2013).

Recommendations for Future Research

As far as it is known, this review is considered the first review of authentic leadership research in nursing and health care; therefore, these findings may provide direction for future research in authentic leadership. The findings of the review were based on Avolio et al.'s (2004) theory of authentic leadership and suggest the following as priorities for future research. Firstly, there is a significant gap in terms of exploring the antecedents of authentic leadership and future studies need to increase knowledge of the attitudes and skills such as building self-awareness, understanding others and expressing authenticity that may be prerequisites of AL to inform the practice of AL. Secondly, there are some other areas that have not been examined well in studies. For example, Avolio et al.'s (2004) theory explained the relationships between authentic leadership, hope, and positive emotions but there were only a few studies examining this relationship (Du Plessis, 2014; Laschinger & Fida, 2014b; Malik & Dhar, 2017; Stander et al. 2015) and this requires further study. In terms of patient outcomes, only one study (Johnson, 2015) empirically tested the relationship between authentic leadership and actual or objective patient outcomes. However, the relationship between authentic leadership and nurse assessed care quality was examined in three studies (Boamah, Read & Spence Laschinger 2017; Laschinger & Fida, 2015; Read, 2015; Wong et al., 2010) and results were mixed. There is a need for future studies using objective ratings of actual patient outcomes to build on findings from this review. Similarly only a few studies examined important staff retention outcomes like job turnover and findings were mixed; there were no studies of staff commitment and few of organizational citizenship behaviours such as voice behaviour and extra role behaviour.

Future studies need to include longitudinal, quasi-experimental or experimental designs in order to examine the causal association between authentic leadership and

outcomes. It was noteworthy that six studies presented time lagged data showing significant associations between AL and job satisfaction and mental health symptoms (Laschinger & Fida, 2014b; Read & Laschinger, 2015), psychological well-being (Nelson et al., 2014), burnout (Boamah et al., 2016) and mixed results for job and career turnover intentions (Laschinger & Fida, 2014a; Laschinger et al., 2016). However, it is concerning that even though there was a substantial increase in the number of AL since 2010, the majority were cross-sectional in design. Most of the studies were multi-sited and this is an important factor in obtaining adequate sample sizes for multi-level analysis. The use of random sampling procedures significantly strengthens studies but in this review there was still 1/3 that included convenience sampling. One notable issue was that only 4 (11%) studies had a response rate of 60% or more which signals concern for future survey studies in healthcare. Additional activities to increase response rates would improve reliability of the results and strengthen data analysis, although the challenge of accessing subjects in healthcare that is becoming increasingly complex in dynamic fast-paced work settings must be acknowledged.

Most of studies in this review were conducted in acute health care organizations and used primarily nurses as participants and thus, limiting generalizability of the review findings to primarily acute care nurses. Future studies should be expanded to include more diverse samples of healthcare professionals and a wider variety of healthcare settings that include settings such as, long term care, community care, public health, mental healthcare etc. Examining the influence of AL on various levels of leaders and staff within organizations and using multilevel analysis procedures may help to illuminate understanding of how AL is enacted within and across organizations.

Conclusion

A synthesis of the current research on the antecedents, mediators and effect of authentic leadership on staff and patient outcomes in nursing and healthcare was conducted. Based on Avolio et al.'s (2004) theory of authentic leadership, findings of this review provide support for this theoretical framework in future research in nursing/healthcare but there is a need for more research of AL among other healthcare professionals. Knowledge generated by this systematic review provides a more comprehensive understanding of authentic leadership, which can be used to educate future leaders and managers about the importance and benefits of authentic leadership. Further, findings may provide guidance for future research on AL in healthcare settings. Although there were six time-lagged studies in this review, there is a need for future studies using longitudinal and interventional designs and conducted in a variety of healthcare settings with more diverse, interprofessional, and randomly selected samples. Finally, illuminating the current evidence for the positive outcomes of authentic leadership in healthcare has the potential to improve leadership development strategies and outcomes within healthcare organizations.

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Appendix A

Systematic Review Inclusion and Exclusion Criteria

PICOS Elements*	Inclusion Criteria	Exclusion Criteria
Population	<ul style="list-style-type: none"> ▪ Articles that consider any healthcare providers as a population such as PRNs, PSWs, physiotherapists, physicians, radiologists, respiratory therapists, nutritionists, and laboratory technicians ▪ Can include nurse managers or nurses in manager roles and any manager in healthcare settings. ▪ Studies that consider patients or clients outcomes and their perspectives of authentic leadership as a part of the study 	<ul style="list-style-type: none"> ▪ Studies that consider non-healthcare professionals as a population in the study
Interventions/Comparators	<ul style="list-style-type: none"> ▪ Studies examining the relationship between authentic leadership; staff work, attitude, and behaviour; and patient outcomes ▪ Studies that include self-assessment of managers. ▪ Studies that examine role of authentic leadership in healthcare and patient care ▪ Studies examining the impact of authentic leadership on creating healthy work environments ▪ Studies that predict, examine, develop, influence, affect authentic leadership. 	<ul style="list-style-type: none"> ▪ Studies examining the relationship between authentic leadership and non-healthcare professionals
Outcomes	<ul style="list-style-type: none"> ▪ Articles that examine or measure the effect of authentic leadership on staff work, attitude, and behaviour and patient outcomes ▪ Studies where authentic leadership is examined and measured as an outcome of the study 	<ul style="list-style-type: none"> ▪ Articles that examine or measure authentic leadership as an outcome for not healthcare sectors
Study Design	<ul style="list-style-type: none"> ▪ Peer-reviewed research studies (quantitative and qualitative) ▪ Dissertations and theses ▪ Published in English with full text available ▪ Published 2004-2016 	<ul style="list-style-type: none"> ▪ Full text not available ▪ English full text not available

*PICOS elements adapted from: Center for Reviews and Dissemination (CRD) (2009)

Appendix B**Quality Appraisal Forms and Detailed Appraisal Results**

Table 9a

Quality Assessment Tool for Correlational Studies

Quality Assessment and Validity Tool for Correlational Studies		
Study: First Author: Publication Date: Journal:		
Design: 1. Was the study prospective? 2. Was probability sampling used?	No <input type="checkbox"/> <input type="checkbox"/>	Yes <input type="checkbox"/> <input type="checkbox"/>
Sample: 1. Was the sample size justified? 2. Was the sample drawn from more than one site? 3. Was anonymity protected? 4. Response rate more than 60%?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Measurement: Measurement: Factor associated with authentic leadership (DVs): (assess for IVs correlated with DVs only) 1. Was the factor measured reliably? 2. Was the factor measured using a valid instrument? Authentic leadership (IV): 1. Are the effects observed rather than self-reported? (2 points) 2. Did the scale used for measuring authentic leadership have an internal consistency ≥ 0.70 ? 3. Was a theoretical model/framework used for guidance?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Statistical Analysis: 1. If multiple factors were studied, are correlations analyzed? 2. Are outliers managed?	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Overall Study Validity Rating: (0-4=LOW; 5-9=MED; 10-14=HIGH)	Total: _____ LO MED HIGH	

*Adapted from Cummings et al. (2010) and Germain & Cummings (2010)

Table 9b

Quality Assessment Tool for Qualitative Studies

CASP Qualitative Criteria*	Study: First Author: Publication Date: Journal:		
1. Was there a clear statement of the aims of the research?	No <input type="checkbox"/>	Yes <input type="checkbox"/>	Explanation of answer:
2. Is a qualitative methodology appropriate?	<input type="checkbox"/>	<input type="checkbox"/>	
3. Was the research design appropriate to address the aims of the research?	<input type="checkbox"/>	<input type="checkbox"/>	
4. Was the recruitment strategy appropriate to the aims of the research?	<input type="checkbox"/>	<input type="checkbox"/>	
5. Were the data collected in a way that addressed the research issue?	<input type="checkbox"/>	<input type="checkbox"/>	
6. Has the relationship between the researcher and participants been adequately considered?	<input type="checkbox"/>	<input type="checkbox"/>	
7. Have the ethical issues been taken into consideration?	<input type="checkbox"/>	<input type="checkbox"/>	
8. Was the data analysis sufficiently rigorous?	<input type="checkbox"/>	<input type="checkbox"/>	
9. Is there a clear statement of findings?	<input type="checkbox"/>	<input type="checkbox"/>	
10. How valuable is the research?	<input type="checkbox"/>	<input type="checkbox"/>	
Total Score: _____/9 possible yes answers			

* Adapted from: Critical Appraisal Skills Programme (CASP)

Table 10

Detailed Summary of Quality Appraisal of Quantitative Studies

Detailed Summary of Quality Assessment of Quantitative Studies																	
First Author /Year/ Journal	1. Design		2. Sample				3. Measurement					4. Stat. Analysis		5. Summary			
							Types		Effects								
	1	2	1	2	3	4	1	2	1	2	3	1	2	Total	Rating	Inc.	Exc.
Wong, C./2009b/ <i>Journal of Leadership Studies</i>	1	1	1	1	1	0	1	1	2	0	1	1	1	12	strong	✓	
Wong, C./2010/ <i>Journal of Nursing Management</i> <ul style="list-style-type: none"> • Bamford, M./2013/ <i>Journal of Nursing Management</i> • Wong, C./2013/ <i>Journal of Nursing Management</i> • Wong, C./2013/ <i>Journal of Advanced Nursing</i> • Fillmore, K./2013/ Master's thesis, UWO 	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Giallonardo, L./2010/ <i>Journal of Nursing Management</i>	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Laschinger, H./2012/ <i>International Journal of Nursing Studies</i> <ul style="list-style-type: none"> • Laschinger, H./2013/ <i>Journal of Nursing Management</i> • Laschinger, H./2013/ <i>Journal of Nursing Administration</i> • Read, E./2013/ <i>The Journal of Nursing Administration</i> 	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Laschinger, H./2014a/ <i>European Journal of Work and Organizational Psychology</i>	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	

Detailed Summary of Quality Assessment of Quantitative Studies																	
First Author /Year/ Journal	1. Design		2. Sample				3. Measurement					4. Stat. Analysis		5. Summary			
							Types		Effects								
	1	2	1	2	3	4	1	2	1	2	3	1	2	Total	Rating	Inc.	Exc.
<ul style="list-style-type: none"> • Spence Laschinger, H. K./ 2014b/ <i>Burnout Research</i> • Read, E./ 2015/ <i>Journal of Advanced Nursing</i> • Laschinger, H./ 2015/ <i>Journal of Nursing Administration</i> • Regan, S./ 2016/ <i>Journal of Nursing Management</i> • Fallatah, F./2016/ <i>Journal of Research in Nursing</i> 																	
Nelson, K./ 2014/ <i>Burnout Research</i>	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Spence Laschinger, H./2016/ <i>International Journal of Nursing Studies</i> <ul style="list-style-type: none"> • Laschinger, H./ 2015/ <i>International Journal of Nursing Studies</i> • Laschinger, H./2016/ <i>Journal of Nursing Administration</i> • Boamah, S. A./2017/ <i>Journal of Advanced Nursing</i> • Fallatah, F/ 2017/ <i>Nursing Outlook</i> 	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Rahimnia, F./2015/ <i>Journal of Business Ethics</i>	1	1	1	1	1	1	1	1	2	1	1	1	1	14	strong	✓	
Stander, F./2015/ <i>South African Journal of Human Resource Management</i> <ul style="list-style-type: none"> • Coxen, L./2016/ <i>SA Journal of Industrial Psychology</i> 	1	0	1	1	1	0	1	1	2	1	1	1	1	12	strong	✓	
Malik, N./2016/ <i>International Journal of Nursing Studies</i>	1	0	1	1	1	1	1	1	2	1	1	1	1	13	strong	✓	

Detailed Summary of Quality Assessment of Quantitative Studies																	
First Author /Year/ Journal	1. Design		2. Sample				3. Measurement					4. Stat. Analysis		5. Summary			
							Types		Effects								
	1	2	1	2	3	4	1	2	1	2	3	1	2	Total	Rating	Inc.	Exc.
Mortier A.V./2016/ <i>Journal of Nursing Management</i>	1	0	1	0	1	0	1	1	2	1	1	1	1	11	strong	✓	
Malik, N./ 2017/ <i>Personnel Review</i>	1	0	1	1	1	1	1	1	2	1	1	1	1	13	strong	✓	
Anderson, T./2011/ Doctoral dissertation, College Of Saint Mary	1	0	1	0	1	0	1	1	0	1	1	1	1	9	moderate	✓	
Steams, M./2012/ Doctoral dissertation, Grand Canyon University	1	0	1	0	1	0	1	1	2	1	1	1	1	11	strong	✓	
Yemi-Sofumade, H./2013/ Doctoral dissertation, Capella University	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Haddad, L. M./2013/ Doctoral dissertation, University of Tennessee	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	
Du Plessis, M./2014/ Doctoral dissertation, University of the Western Cape	1	0	1	0	1	1	1	1	2	1	1	1	1	12	strong	✓	
Bennett, K./ 2015/ Master's Thesis, University of Manitoba	1	0	0	1	1	0	1	1	2	0	1	1	1	10	strong	✓	
Johnson, S./2015/ Doctoral dissertation, Boston College	1	0	1	1	1	0	1	1	2	1	1	1	1	12	strong	✓	
Plasse, M./2015/ Doctoral dissertation, Northeastern University	1	0	1	0	1	0	1	1	2	1	1	1	1	11	strong	✓	
Read, E./2016/ Doctoral dissertation, University of Western Ontario	1	1	1	1	1	0	1	1	2	1	1	1	1	13	strong	✓	

Maximum score= 14, studies were categorized as low (0–4), moderate (5–9), or high (10–14) quality

Table 11

Detailed Summary of Quality Assessment of Qualitative Studies

Detailed Summary of Quality Assessment: Qualitative Studies										
First Author/Year/Journal	1. Aim	2. Method	3. Design	4. Recruitment	5. Data Collection	6. R/P Relationship	7. Ethics	8. Analysis	9. Findings	Total Score
Huddleston, P./2016/ <i>Journal of Nursing Administration</i>	1	1	1	1	1	0	0	1	1	7
Murphy, L. G./ 2012/ <i>Journal of Nursing Administration</i>	1	1	1	1	1	0	1	1	0	7
Prestia, A. S./ 2015/ <i>Journal of Nursing Administration</i>	1	1	1	1	1	0	1	1	1	8
Shapira-Lishchinsky, O./ 2014/ <i>Journal of Nursing Management</i>	1	1	1	1	1	0	1	1	1	8
Shirey, M. R./2009/ <i>Critical Care Nursing Quarterly</i>	1	1	1	1	1	0	1	1	1	8
Ahem, G. R./2015/ Doctoral dissertation, Antioch University	1	1	1	1	1	1	1	1	1	9

Maximum score=9, 1= yes, 0=no

Appendix C

Curriculum Vitae

Name:	Bayan Alilyyani
Post-Secondary Education:	<p>Master of Science in Nursing Arthur Labatt Family School of Nursing The University of Western Ontario London, ON, Canada 2015-2017</p> <p>Bachelor of Nursing College of Nursing Umm Al-Qura University Makkah, Saudi Arabia 2007-2012</p>
Honours and Awards:	<p>King Abdullah Scholarship Ministry of Higher Education Riyadh, Saudi Arabia 2013-Present</p> <p>CultureWorks ESL Scholarship King's University College London, Ontario, Canada 2015</p> <p>Third rank for the best research project Nursing Department, Umm Al-Qura University Makkah, Saudi Arabia 2012</p>
Related Work Experience:	<p>Teaching Assistant Taif University Taif, Saudi Arabia 2016- Present</p> <p>Palliative Care Coordinator King Abdullah Medical City Makkah, Saudi Arabia 2012-2013</p> <p>Intern Nurse Student King Abdullah Medical City</p>

Makkah, Saudi Arabia
2011-2012
Intern Nurse Student

Maternity and Children Hospital
Makkah, Saudi Arabia
2012

Professional Memberships: Registered Nurses Association of Saudi Arabia