

RESEARCH ARTICLE

EXAMINING THE EMERGING IDEAS OF CONNECTION WITHIN NURSING PRACTICE AND EDUCATION

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Abstract

Aim: The purposes are to (a) examine the emerging concepts of connection within nursing practice and education; (b) evaluate current measures of connections within nursing practice and education; and c) identify strategies for enhancing connections between nursing educators and students and for nurses and patients.

Background: Nursing and other disciplines rely on connections, although the term has evolved significantly in recent years due to changes of perceptions and expectations within other disciplines and within society. The lack of an empirical tool and defined attributes has constrained research and knowledge development. The initial exploration provided the first step in understanding the context and meaning of the word connect within the nursing profession. Three specific components were identified in this initial exploration within the nursing perspective: (a) respect, (b) trust, and (c) mutuality. Although the foundation of nursing care is based on the relationship and connections between the nurse and the patient, it is further identified in the first article that the need to further investigate the emerging ideas of connection within nursing practice and education.

Methods: A detailed literature review was used to explore the phenomena of connection. The review of the

literature was performed through searches of CINAHL, EBSCO, and PubMed utilizing resources from the disciplines of transportation, business, technology, and nursing. Criteria for inclusion were (a) peer-reviewed articles; (b) articles published in English; and c) articles published between 2000 and 2014. Search terms included: connect, connection, connected, connectedness, and nursing. The search yielded a total of 114 articles; 33 were selected for inclusion. Definitions and related attributes were organized and classified based on relevance and frequency within the literature.

Results: The attributes that were consistently found in the literature within the nurse to patient connection were: (a) interactions between the person and the object of connection; (b) an inherent need to be part of a social system; (c) use of communication in verbal, written, non-verbal, physical or virtual format; (d) the occurrence of meaningfulness, trust, mutuality and respect; (e) polychronicity; and (f) technology based emphasis. Instruments that measure connections and connectedness provide valuable insight into the concept. However, they do not adequately address the concept of connection as it relates to nursing practice and education with current technological advances and expectations.

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Conclusions: While connection is a common term and fundamental to the role of the nurse/patient relationship, the defining attributes of connect have dynamically changed, and therefore require new understanding. It is critical to restructure the nurse to patient connection and to redefine the term within nursing practice and education with the inclusion of the multifaceted technological advances that define our current generations. Strategies that would enhance the nursing educator and student connection include: a) creation of additional nursing educational based Apps and Apps that focus on self-instruction tutorials and remediation techniques for non-successful students; b) integration of technological learning modalities into nursing curricula in both undergraduate and graduate programs; c) reduction of use of textbooks and inclusion of technology based learning; d) development of learning communities inside and outside of the classroom; e) creation of virtual resource support with simultaneous communication and valuable nursing information; f) and increased use of virtual environment and virtual communication.

Key words: *Connection, connect, connectedness, nurse, nursing, technology, polychronicity, relationship, interaction, concept*

Introduction

Connection is a term that is prevalent in today's society and cultures everywhere. Within the international framework of the concept of connection and its relationship to nursing outcomes, decreased attention has been given to the emerging definitions and changes within the concept of connection as it applies to technology and societal views within the nursing paradigm. As children, connections are seen through games and puzzles while teaching sequences or other facts. Through the transition from youth to adulthood, the concept of connection transforms in meaning, building societal value and forming relationships that foster social support (Lane & Serafica, 2014). In addition, the value placed on connections by society has transformed with the emergence of current

innovations. The history of the meanings of connection coupled with the current values of connection has become an essential component of nursing and other disciplines.

The concept of connection has been explored by Lane and Serafica (2014) initially by examining the concepts' meaning within multiple disciplines: business, transportation, nursing and technology. This examination was considered vital for further development within a nursing framework due to the changes related to generational differences, technological connectivity and rapid transformations within healthcare delivery. Additionally, the concept of connection has the potential to add valuable support for the theoretical underpinnings and paradigm shift of value-added care models, interprofessional education and collaboration, transformation of healthcare delivery models, telemedicine and electronic medical records and database systems (Lane & Serafica, 2014).

Significance

The initial article by Lane and Serafica (2014) provided the first step through concept exploration in understanding the context and meaning of the word connect within the nursing profession and other disciplines. Three specific components were identified in this initial exploration within the nursing perspective: (a) respect, (b) trust, and (c) mutuality. Additionally, Lane and Serafica (2014) identified that connection is an imperative part of today's society. However, the emerging trends within nursing have not clearly defined the transformation of connection within the discipline. Although the foundation of nursing care is based on the relationship and connections between the nurse and the patient, it is further identified in the first article that the need to investigate and analyze the emerging ideas of connection within nursing practice and education in order to fully benefit the nurse, patient, faculty, and student in a more comprehensive approach. By addressing these components, strategies for enhancing connections can be implemented to improve outcomes.

Aims

The purpose of this second article is to examine, analyze, integrate, and synthesize the emerging ideas of connection and to evaluate current measures of connections within nursing practice and education through an integrative review of literature. Moreover, the authors will further examine the concept within nursing practice and education to facilitate application of emerging ideas of nursing connections. Additionally, we will identify strategies for enhancing connections between a) nurses and patients and b) nursing educators and nursing students.

Background

According to Noddings (2002), the concept of caring, which is fundamental to the nurse role, is directly tied to connection and involves the connection between the individual providing care and the cared-for. This relationship requires a degree of reciprocity, in which both the individual providing care and the cared-for both contribute as well as gain from the encounter in different ways. Additionally, Noddings identifies that three elements are required for the caring encounter: (a) Person A cares for Person B, in an encounter that Person A's consciousness is characterized by attention and motivational displacement, (b) Person A performs some act in accordance with the attention and motivational displacement, and (c) Person B recognizes that Person A cares for Person B. Connections have been identified in the literature as imperative in the nurse to patient role encompassing both short and long term encounters, which specifically are useful as a bridge to close the gap created by technology through the promotion of wholeness and integrity (Johnson, 2006). Meaningful connections have been deemed central to the nurse to patient caring experience (Johnson, pg. 135). Peplau (1965) also supported the value of connections through her Theory of Interpersonal Relations, which is centrally based on the human connection between the nurse and patient.

Defined by the Merriam-Webster Dictionary (2014), connection can mean, "something that joins or connects two or more things", "the act of

connecting two or more things or the state of being connected", "a situation in which two or more things have the same cause, origin, goal, etc." (para 1). Similarly, connection is defined as "the act or state of connecting", "something that connects, joins, or relates; link or bond", "a relationship or association", "logical sequence in thought or expression; coherence", "the relation of a word or phrase to its context", "(often plural) an acquaintance, [especially] one who is influential or has prestige", a relative, [especially] if distant and related by marriage", "an opportunity to transfer from one train, bus, aircraft, ship, etc, to another", "the vehicle, aircraft, etc, scheduled to provide such an opportunity", "a link, usually a wire or metallic strip, between two components in an electric circuit or system", and "a communications link between two points, [especially] by telephone" (Collins English Dictionary, 2013, para 1). Some slang uses of the term connection within the English language may have generational connotations such as an intermediary person, supplier or source for a drug relationship (Collins English Dictionary, 2013) or a virtual gaming connection such as the Xbox Kinect (pronounced connect) (Microsoft, 2013).

Based on the identified foundations of the nurse to patient connection from the literature (Lane & Serafica, 2014), the definitions used to formulate the analysis for the concept of connection included "something that joins or connects two or more things", "the act of connecting two or more things or the state of being connected", "a situation in which two or more things have the same cause, origin, goal" (Merriam-Webster Dictionary, 2014, para 1). For the purpose of this analysis, other definitions were deemed not applicable to this specific application of connection in the nurse to patient connection and therefore were not included. Due to the multitude of definitions and the variety of dynamic characteristics of connection, it is crucial to evaluate the issues that surround connections in the nurse to patient role. These shifting perceptions of connections within health and healthcare, directly impact the role of the nurse and the consumer product within the healthcare industry.

Methodology

A detailed literature review was used to explore the emerging phenomena of the concept of connection and to determine common themes. The review of the literature was performed through searches of CINAHL, EBSCO, and PubMed utilizing resources from the disciplines of transportation, business, technology, and nursing. Criteria for inclusion were (a) peer-reviewed articles, (b) articles published in English, and c) articles published between 2000 and 2014. Search terms included: connect, connection, connected, connectedness, and nursing. The search yielded a total of 114 articles; 33 were selected for inclusion. Definitions and related attributes were organized and classified based on relevance and frequency within the literature.

Connection is not a recent concept. While nursing has not fully developed the concept to in an operational definition, nursing and other disciplines have used connections for years. In Lane and Serafica's (2014) concept exploration, they determined that the concept of connect has other meanings rooted in the disciplines of business, technology, and transportation, which influence how the term is defined in nursing and today's society. However, within these other disciplines, there are four categories of connection that exist in the literature: 1) physical, 2) technological, 3) business, and 4) cognitive. The findings of the detailed literature review are described below and specifically applied to nursing practice and nursing education.

Physical. For most disciplines, such as transportation, the concept has evolved over time. For many decades, connections were needed to bridge one person to another in a physical realm. Throughout time, the level of connection has evolved with inventions. From the invention of the wheel to the current space exploration program, connections have increased and progressed through the ages providing more opportunity for physical connections (Lane & Serafica, 2014). Society has hungered for faster and more efficient connections. For modern society, connections are a current expectation (Fotsch, 2007; Meadow, 2002).

Through trade, war and exploration, the need for increased travel connections have been documented in history with the emphasis moving from the possibilities of connections to the speed and access (Lane & Serafica, 2014).

Within nursing, physical connectedness with family members has been identified as an emerging theme when measuring spirituality of older adults (Narayanasamy et al., 2004). Additionally, relationship building and connections between patients and the healthcare team members have been deemed an integral part of a quality improvement falls prevention program and concurrently named the CONNECT intervention (Anderson et al., 2012; Colon-Emeric et al., 2013). Moreover, Young et al. (2010) found improved clinical outcomes for patients with colorectal cancer utilizing the relationship building and direct connections between staff and patients through implementation of CONNECT via telephone interviews. Nursing practice has transformed over the years with the addition of more responsibility and scope of practice, taking time away from the patient's bedside and reducing the actual physical connection between the nurse and the patient. Despite this radical change, the nurse-patient caring connection remains is one of the foundational components of the nursing discipline. Similarly, the healthcare experience for patients is not opportune for the establishment of the nurse-patient connection due to the decreased length of hospital stays and increased acuity of the patient, creating additional tasks and responsibilities for the nurse and reducing the amount of direct care time between the patient and the nurse.

Technological. Comparable to the physical realms of connections, advances in technology including mobile devices, wireless internet, increased capacity computers, digital cameras, video streaming and more efficient networks are just some of examples of the swift pace of change for societal connections. These technological changes are results of demands for the need of rapid access to information as well as the connection to people. While societal demands have created value and worth related to connections, the focus has continued to shift from connection to speed. Cable lines, dial up internet,

and satellites are semi-recent inventions that produced large amounts of revenue and were showcased as premier items. Despite their contemporary nature, new and faster approaches have quickly replaced these developments (Lane & Serafica, 2014).

Technology competency begins in early education, and transforms children's expectations of connection. Children's exposure to the large quantities of technology connections may alter their ability to connect personally to others and interfere in their ability to develop interpersonal relationships throughout their life. With the large range of ages in the workforce, generational differences have emerged regarding technological connections. As Generation Z enters the workforce, there may be a potential of high level of technological connectedness with lower social and interactive connection skills. Within nursing practice, electronic health and telemedicine are quickly becoming an expectation of consumers and electronic medical records are the baseline standard in informatics. Based on these changes, nursing informatics is a critical component of most nursing curricula.

Richardson and Benbunan-Fich (2011) have researched the construct of work-related connectivity. Findings of the research included a blurred vision of work and non-work time due to the emergence of mobile devices that promote higher levels of connectivity at increased intervals. Within this study, antecedents for increased connectivity within work constraints in the 21st century included enhanced technological availability, behavioral intention to use technology, perceptions of availability, polychronicity, personal innovativeness with information technology, and role integration preference. Polychronicity as an antecedent for connectivity has additionally been supported by Bluedom (2007). Examples of emerging connections that require polychronicity are found in nursing practice such as connections with electronic medical records and databases, existence of virtual care centers and telemedicine, intrahospital mobile device connections, and increased responsibilities of healthcare providers due to changing healthcare environments. In nursing education, polychronicity

is demonstrated through multiple avenues of classroom learning, hybrid courses, and mobile device applications for courses and for learning opportunities. Most nurse educators are changing communication styles to accommodate the need for polychronicity and availability by opening avenues of communication to include texting, messaging, and virtual office hours. Due to emergence of technology and the growing expectation of immediate response, communication within nursing has drastically changed altering the concept of connections.

Furthermore, in nursing academics, web based components and technological connections are often included in the course, while some courses are completely online allowing for flexibility in scheduling; this environment may create educational disparities for those who are not technologically competent. For face-to-face education, human-patient simulation has revolutionized nursing education and has been identified as an effective teaching strategy for developing connections with patients (Storr, 2010). Additionally, technological advances such as Facebook have been identified as a positive connection instrument in the process of nursing research for participant recruitment strategies (Amerson, 2011). Likewise, connections developed during e-mentoring between students and experienced public health nurses were deemed as viable strategies to enhance the learning and sharing environment (Miller, Devaney, Kelly, & Kuehn, 2008). Outside of nursing academics, nursing mentorships between retired or senior nurse mentors and new nurses have shown to be effective connections related to education and retention within the workplace (McDonald, Mohan, Jackson, Vickers, & Wilkes, 2010).

In general, technology has revolutionized the concept of connection based on the current demands of society and has changed the meaning within the discipline of nursing. With the vast and prolific nature of technological connection, it is clear that the understood definition of connection related to nursing should be reevaluated.

Business. The discipline of business also focuses on connection as a key concept and is applicable to the understanding of the concept of connect within nursing practice and education. Connection theories and limbic resonance foster relationships among ideas and people, respectively (Pearce, 2003; Puccio, Murdock, & Mance, 2007) and connections have been described as adding value to organizations throughout the business perspective (Gobillot, 2007). Through areas such as complexity science and healthcare, organizational leadership has been investigated further to formulate that relaxed connections or lack of connections between the management and the bedside nurses may signify patient safety concerns (Anderson, Corazzini, & McDaniel, 2004) or other negative outcomes (Kerfoot, 2011). Additionally, authors have described that diverse backgrounds among employees with positive connections to patients are vital in healthcare (Anderson et al., 2004; Colon-Emeric et al., 2013; Nadzam, 2007). Complexity science proposes that connections, such as trust and non-linear interactions affect the quality of care in healthcare and turnover for licensed practical nurses and nursing assistants (Anderson et al., 2005; Anderson et al., 2004). Trust and communication are the common themes for connectivity in business, as well as nursing (Keane, 2007). Similarly, Tarlier (2004) proposed that trust, mutuality, and respect are key measures of relationships, interdependence, and interconnectedness within the business perspective.

Cognitive. In addition to the categories of physical, technological, and business, connections have also been described as cognitive in nature. The cognitive portion of the brain has been directly linked to connectedness (Hallowell, 2011; Kerfoot, 2011; Slap, 2010). For example, Kerfoot describes that being connected and safe within one's environment, creates a response within the brain that leads to peak performance and involvement. Additionally, it has been shown that a loss of connections between management and bedside nursing along with negative cultures within the workplace lead to higher rates of depression and less optimal results (Kerfoot, 2011). Cognitive connections can occur in many realms. For example, cognitive connections between meals and

types of food have been found to be beneficial in nutritional status, transition to nursing homes, and quality of life (Evans, Crogan, & Shultz, 2005).

Cognitive connections can also be linked back to technological advances. Currently, the internet has provided alternative ways to initiate relationships through dating compatibility, chat rooms, and virtual interactions. While some have viewed these changes positively, others have seen negative outcomes of cognitive and emotional connections that result in virtual affairs to others outside of the marriage which have caused conflict in the personal connections that were already established. Apart from these changes, there have also been negative outcomes of internet connections including the more recent phenomenon of catfishing, where false connections are made between two individuals and which one of the individuals has created a fabricated or stolen identity (Saedi, 2014).

Similarly, society has more access to knowledge and a greater access to people. The internet has provided information, support, and discussion for nurses and others creating a shift in the knowledge comprehension of patients (Braccia, 2006; Teel & Shaw, 2005). On the contrary, some information on the internet may be falsified, and may cause negative outcomes if used incorrectly. Many nursing resources such as standards, clinical documentation, networking, tele-medicine, focus groups, academic career support, and idea exchange are available on the internet to enhance the discipline's connection among those within nursing if accurate. Additionally, there is an increased risk of prescribed interventions which could lead to a decrease in critical thinking abilities (Braccia, 2007; Lin, Lin, Jiang, & Lee, 2007; Parse, 2004).

In nursing practice, school nurses have shown that using electronic journal clubs increased the connection among specialty nurses and enhanced the use of Evidence-Based practice within the workplace (Sortedahl, 2012). Furthermore, connections made between parents and school nurses through intervention programs have been shown as effective models for changing adolescent behavior (Suydum, & Garcia, 2010). In long term

care, connections have been demonstrated as positive intervention through the use of storytelling (Heliker, 2009; Heliker & Nguyen, 2010). Heliker and Nguyen identified that shared values, affective closeness, shared pleasurable activities, and reciprocity were significantly higher for relationships between nurse aides using storytelling and residents as compared to nurse aides who only used a specific set of communication skills. Storytelling has also been used as an effective tool for educators to connect with diverse populations of students from various cultural and ethnic backgrounds in an effort to promote student success and retention within nursing programs (Rivera-Goba & Campinha-Bacote, 2008).

The value of emotional and cognitive connections and disconnection between the nurse and the patient have been described as a vital part of the nursing process allowing for healing and social support for optimal health outcomes within nursing practice (Schnek, 2006). Schnek also describes that connections between the nurse and the patient should serve as a motivation for providing the highest quality health care to our patients. Kutaka (2002) examined the lived experience of nurses' connections within the context of healing. Themes that emerged from this qualitative study included: connection as a process, the nurse as exemplar, personal transformation and connection as healing. Kutaka found that connection begins with the selection of a patient and involves cognitive, emotional and personal processes and spontaneous reactions. Participants within the study described the connection experience as a bubble of energy with physiological changes in the environment which included calmness, peace and warmth. Consequences of the connection for the nurse to patient relationship included a gained perspective of clarity and purpose in life. In a concept analysis of nurse to patient connection within a healing paradigm, the attributes of connection included: intimacy, focused attention on the patient, spiritual transcendence, energy, and relating spirit-to-spirit (Kutaka). This analysis does not adequately define a broader sense of the term connection in the nurse to patient relationship due to the narrowed focus on healing and the inclusion of literature support from

past decades. Due to the continuous changes within healthcare delivery, nursing practice, nursing education and technological influence, this concept analysis must be revisited.

On the theoretical levels, connection has been identified by Parse in the theory of human becoming. Parse is quoted as stating that connection-separation "relates to the ways persons create patterns of connecting and separating with people and projects. Connecting-separation is about the paradox communion-aloneness and the ways people separate from some to join with others" (Tomey & Alligood, 2002, p. 532). Connectedness was also used as a theme in the theory of generative quality of life for the elderly. In this model, the term connected "refers to a state of synchronous, harmonious, and interactive presence" while not being constrained by time or space (Register & Herman, 2006, p. 343). Six aspects of connectedness are defined by this model: metaphysically connected, spiritually connected, biologically connected, connected to others, environmentally connected, and connected to society (Register & Herman, 2006). This model of connectedness described quality of life scores for individuals, but it is possible that this model could be adapted for nursing in other areas.

Similarly, women's ways of knowing include connected knowing and learning, and allow for things such as intuition, a fundamental element of the art of nursing (Clinchy, 1996, p. 205). Clinchy states that through examination, "connected knowing with the other and connected knowing with the self are reciprocal rather than oppositional processes: neither partner disappears into the other; each makes and keeps the other present" (p. 232). Without examining connected knowing, we cannot truly produce congruency between the nurse and patient connection (Lane & Serafica, 2014).

Likewise, nursing research has continued to use connection in middle range theory and qualitative research. Specifically, the formulation of theoretical premises related to Latina nursing

educators and pediatric nursing models examined connection as a critical component (Canales & Bowers, 2001; Coetzee, 2004). Connections were found to influence perception of educators, and to enhance learning opportunities related to pediatric care (Canales & Bowers, 2001; Coetzee, 2004). In long term care, connections has been defined in food preference and memories, as well as a need for closeness of relatives and significant others related to spirituality of older adults identifying the increased need for assessment per groups of people, as well as individually (Evans, Crogan, & Shultz, 2005; Narayanasamy et al., 2004).

Findings

Despite the research and current knowledge around the concept connect; there are still areas of the concept that needs further exploration. Throughout the literature connections have clearly been identified as critical encounters between the nurse and patient interactions and fundamental to the philosophical underpinnings of the role of the nurse. Some of the attributes that were consistently found in the literature within the nurse to patient connection were: (a) interactions between the person and the object of connection, (b) an inherent need to be part of a social system, (c) use of communication in verbal, written, non-verbal, physical or virtual format, (d) the occurrence of meaningfulness, trust, mutuality and respect, (e) polychronicity, and (f) technology based emphasis.

When examining connection in a broader sense, it is transparent that the expectations of connections have transitioned and are continuing to emerge as technology and our world evolves. The societal views of connections have quickly transformed focus from simply the ability to connect, into an emphasis on speed and efficiency of the connection itself. These changes have influenced healthcare practice and the role of the nurse including the foundational nurse-patient connection. These views are especially clear within nursing and other healthcare related disciplines. However, within nursing the emergence of polychronicity within the workforce environment may have initiated reformation of the perceptions

of connections between the nurse and patient. The focus may be shifting from the quality of the connection into the quantity, speed, and efficiency of the connections only. While it is clear that the value of the connection between the nurse and patient is exceedingly relevant in the profession, the attention given to the connection may be losing importance in the eyes of the nurse, during which the focus has turned to increased and multiple roles as the care provider and the blending of various views, values and perceptions related to connection.

Society's philosophies of connection have changed radically within the past decade changing the consumer forefront for healthcare. Digital technological advances have developed into the standard way of living for most Americans directly affecting information accessibility, socialization and communication. It has been customary to receive information or knowledge within seconds due to technological advances. These expectations have directly prompted the movement towards electronic medical records and telemedicine. Continued progression towards faster and more efficient health information will continue to drive the healthcare market and revolutionize the role of the nurse and patient connection within the digital workforce. Within the prevalence of social media and changing connection expectations of society, nurses and/or patients may extend the connection outside of the professional environment; guidelines to assist nurses to make appropriate decisions regarding social media connections have been established (National Council of State Boards of Nursing, 2011). While some negative results of the increased social media presence have been documented, the role of social media and its effect on the nurse to patient connection is unclear. Generational differences may also shape the value and nature of connections within the nurse to patient role. These changes within connections of the nurse to patient role will have direct influence on healthcare educational programs that prepare our future workforce.

This same trend of instant, fast and efficient connections may also influence the type and style of communication connections between healthcare providers and patients, theoretically reducing the

traditional model of nurse to patient connections and fostering alternate connections for the nurse and patient. While the emerging trends of societal views of connections are evident, these types of connections have not been well researched nor have quantifiable methods of evaluation.

Empirical Measurements. Within nursing, it has become difficult to accurately measure and operationalize the concept of connection due to the evolving nature of connections and associated expectations. There is a lack of understanding and clarity in the shift of connections within the nursing discipline. The development of connectedness scales were established in the literature, however all findings were outside of the nursing discipline. The critical analysis of the literature resulted in identification of connectedness through several tools that may be used to measure the concept of connection and could be adapted for use within nursing practice and education. Bekker and van Assen (2010) have used connectedness to assess gender linked autonomy in terms of self-awareness, sensitivity to others, and capacity for managing new situations. Social connectedness and social assurance scales were also constructed to measure belongingness based on Kohut's self- psychology theory (Lee & Robbins, 1995, 1998). The Hemmingway Measure of Adolescent Connectedness scale was developed to measure adolescent connections to school, family, friends, romantic partners, and self (Karcher, 2013; Karcher & Lee, 2002; McWhirter & McWhirter, 2008).

While these tools may provide valuable insight into the concept of connectedness, they do not address the concept as it relates to nursing practice and education and do not address the shift in the concept itself. While there are several empirical measures of connectedness outside of nursing, none of these instruments measure connections in a global approach that meets the needs of patients within the healthcare system or identifies the changing meanings of connection. Further review of these instruments is recommended in the development of a tool that specifically measures patients' connectedness within the context of nursing and healthcare. In addition, it is recommended that a connections measure related

to nursing education be developed for assessment and use with students to enhance student learning and to optimize the connections between the educator and student.

Discussion

Connection should be measured and defined individually to assure therapeutic connections and to establish congruency between the nurse and patient and/or the nursing educator and the student nurse. Without individual assessment, it is probable that the nurse and patient and/or the nursing educator and the student nurse will have varying views based on each person's experiences, biases, and motivations. Additionally, there may be generational differences in the expectations of connections. Efforts should be made related to identification of gaps in connections and to redefine how to establish a relevant and appropriate connection in today's nursing environment. By establishing connections and the gaps in current nursing practice and education, we can refocus connections to optimize quality care, patient-centered outcomes within practice and to create more effective learning environments for nursing students. A significant transformation is needed to restructure the nurse to patient connection through education of current and future nurses to redefine the term and adapt the multifaceted technological advances that define the current generations.

Through the examination of other tools used to quantify related concepts, an empirical measure of connection may be developed for nursing practice and education. This tool not only will be useful in nursing, but potentially could be designed for interdisciplinary measurement. Within the development of this tool, specific research is needed to determine if perceptions of connections vary among generations, cultures, and healthcare disciplines. Due to the emerging technologies over the past decades, many generations' perceptions of connections may be impacted by the instant connections associated with text messaging, video gaming, internet, and social media that have been an integral part of their daily activities. This change related to connection within society may

impact the value of face-to-face connections such as holding someone's hand, crying with a patient, or providing personal touch and emotions that written words, texts, or emoticons may not be able to fully portray.

Ironically, the expectation of the ability to connection and the innovative construction of connection have created levels of isolation within society by decreasing face-to-face contact and in the case of nursing, replacing personal touch (Lane & Serafica, 2014). Through the discipline of nursing, it is evident that personal connections are still valued, but have been overshadowed by the changing societal expectations and distorted by the presence of emerging technology. These changes in the concept of connection need to be studied further to determine the consequences of societal demands related to connectivity in the realm of technology. With the strong surge towards evidence based practice, it is imperative to maintain the personal connections while infusing technological connections, otherwise, the art of nursing is lost. Based on the results of the research, the following questions are posed: Does the evolving nature of connections change our nursing profession and practice? If efficiency and speed are the focus on connections, how do we maintain the art of nursing? Further research is needed to determine the answers.

With the broadening of societal connection views of geographical proximities, it can be ascertained that the perception of connections will continue to evolve. Continued evaluation of connections is needed to determine the sustainability and progress of connections among healthcare providers and networks, between healthcare providers and patients, and educators and students. In light of healthcare reform, there is a robust movement of increased care outside of the hospital setting and the proliferation of online education. For patients, the connections to healthcare providers have been expedited through patient portals to allow for direct connections to secure electronic messages, medical records, billing, and scheduling of appointments. These types of accessibility allow for patient and healthcare provider engagement and increased

compliance and quality of healthcare communication. Due to the changes in healthcare, these expedited connections are only the beginning changes of expectations within healthcare connections from both the provider and the patient and the student nurse. It can be expected based on the historical background of the proliferation of technology and that these changes will only continue to multiply.

The meaning of connection may vary among cultures and within different global arenas. Through qualitative research, nursing could seek to determine the meaning of connection for specific groups and establish if disparities related to connectedness exist among race, age, or other clusters of people with similar characteristics. Assessment is needed to identify the needs and priorities for the patient or groups, and the connections that can influence goal related success and decision-making behaviors for those persons.

Additionally, the influence of polychronicity within the nursing practice and nursing education may impact the values and levels of connections within the nurse to patient and nurse educator to student roles. Due to the increased expectations for multiple connections to be occurring at one time, it is uncertain if the level and quality of the connections that are occurring are achieving the desired outcomes. Within the nurse to patient connection, variables that may impact polychronicity may include acuity of patients, nurse-to-patient ratios, staffing within the organization, electronic medical records, and other nurse related assignments and responsibilities. For nursing education, variables that may impact polychronicity include academic faculty workload, faculty to student classroom ratios, expectations regarding scholarship, service and teaching, and other educator related assignments and responsibilities. Comparative studies evaluating connections and the quality of outcomes of these connections may provide insight into the effectiveness. Without this information it is difficult to ascertain whether these shifting perceptions of connections within health and healthcare delivery impact patient satisfaction and consumer demand within the healthcare market which may impact financial and economic outcomes within the era of

healthcare reform. Additionally, these changes in connections will directly impact the preparation of our current and future nursing workforce.

Limitations. This evaluation was inclusive of global publications; however, the majority of the articles included in the literature review were within the constraints of the United States. Inclusion of non-English published articles would greatly provide insight into connection in a more global approach.

Implications for Nursing Practice. Within the context of nursing practice, the foundation of nursing lies with the nurse-patient relationship. Without the establishment of connections between the nurse and the patient, the health outcomes of the interaction may not achieve optimal results. The patient and nurse expectations of the connection need further exploration. In addition, the following question is critical in the preparation of nurses and the current role of the nurse: Has the role of the nurse-patient connection changed with both the healthcare providers' and patients' perspectives or is there a division between the expectations of the nurse and the patient? What do these changes mean to our role as nurses? Therefore, connection is a critical part of any nurse-patient interaction and should be highly valued by the discipline of nursing and other interdisciplinary team members.

Connections promote collaboration between the nurse and other healthcare providers in order to expand and integrate high quality care and safety for the patient. Connections may enhance the ability of the nurse to appropriately respond to planned and unanticipated situations within nursing practice. Additionally, establishing a connection provides increased opportunities for health education and collaboration with plan of care between the nurse and the patient. Furthermore, patient family members or significant others may benefit from the connections that occurs during the nurse-patient relationship by enhancing knowledge, confidence, communication and dynamics. Specifically, with the movement of technology and healthcare towards telemedicine and other related technology based health models, connections are a concept that must be addressed in

order to maintain or redefine the meaning for optimal health outcomes and established congruent expectations are needed for the patient, nurse and other healthcare team members. In-hospital virtual communities would offer resource support and enhanced connections to nurses in direct patient care roles. Offering 24 hour virtual access to a nurse or other healthcare team members may address connection needs for patients. Another potential strategy might include offering electronic mail or text communication for triage care. Many of these technological based strategies are already being offered by comprehensive healthcare organizations that service a wide array of people and geographic locations.

Implications for Nursing Education. Preparing future nurses to practice requires a commitment of all nursing educators to recognize the inherent significance of connections in the practice of nursing and the value of teaching connections and most effective ways to connect in today's society to achieve high quality patient outcomes. Educational strategies and student evaluation must include a focus on connections among nurse and patient interactions and must be modeled throughout the nursing educational process both didactically and clinical-based. Additionally, connections are extremely relevant between the nurse educator and student role. Students must begin early in their educational opportunities to recognize the importance of connections to school and faculty to establish professional growth. Nursing educators should also demonstrate connections in their own practice and make students aware of the benefits of connections within life-long learning.

Nursing education may provide opportunities to model meaningful connections and to establish therapeutic relationships between the nurse educator and the student. Doing so enhances opportunities to recognize early problems and assist with retention and remediation of nursing students. By more thoroughly understanding the evolving nature of connections within the nurse to patient role, educators can adapt educational

opportunities to mimic the expectations of connections and provide significant learning experiences. More research is needed to determine if the conceptual meaning of connections vary from the nurse to patient role when compared to the nurse educator to student role.

Strategies to enhance nursing connections between the educator and the student include consistent use and creation of nursing based Apps. Focusing on Apps that include self-instruction tutorials and remediation techniques may be useful for students in nursing programs. Furthermore, the creation of Apps that help students become more familiar with therapeutic communication and other connection strategies may offer insight for student nurses or new graduate nurses to build communication and connection skills. Nursing educators must integrate technology learning modalities into the classroom and nursing curricula in both undergraduate and graduate programs. Concurrently, the increased use of technology based learning and decreased use of textbooks will help to address generational differences in learning and may enhance connections between the educator and the student nurse. The development of learning communities offers other opportunities to reinforce or establish connections between the educator and the student. By implementing these types of resources, the students can learn connections through virtual resource support allowing for simultaneous communication and valuable nursing knowledge. These learning communities could be established inside or outside the classroom. Specifically these communities would be beneficial within educational platforms such as Moodle or Blackboard, on social networks sites, through gaming systems, or even in Second Life through avatars. Increasing the use of virtual environments may assist in facilitating the students' learning needs at their educational level while offering alternate ways to teach connections within nursing. Second Life offers the opportunity to experience connections in a variety of situations introducing other factors such as cultural diversities, language differences, other barriers, and biases that students may struggle with when developing connections with patients.

Conclusion

In conclusion, this integrative review and synthesis of the concept of connection has determined specific defining attributes and evaluated the emerging ideas of connection within the literature focusing on the influence on nursing practice. Specifically, four themes within the literature were found: a) physical, b) technological, c) business, and d) cognitive within the disciplines' perspectives of connect defined by Lane and Serafica (2014). Current empirical measures of connection were reviewed in relation to patient connections within the nursing discipline but found to be limited and narrow in scope. New empirical measures reflecting the current societal perceptions of connections are needed. The emerging nature of connections was not clearly addressed in the empirical measurements and the consequences of the emerging expectations of connections were not found in the literature. The findings of this analysis demonstrated that the fundamental values of a personal connection are still demonstrated within the attributes of the concept diminishing the ambiguity associated with the concept connection. However, this analysis also identified that the evolving perceptions of connections related to technology and polychronicity are not fully understood within the discipline of nursing. By clarifying this concept, the first step in facilitating further research investigation regarding the polychronicity and technological impact on personal connections has been completed. Future research is integral to evolvement of the nurse to patient and educator to student connections. There are many strategies to assist in facilitating the movement towards technology based connections in the academic nursing educator role. Additionally, the strategies mentioned can also be directly applied to the role of the nurse through implementation in hospitals and organizations through staff development educational programs. Healthcare must embrace the changing facade of the nurse to patient connection and determine best to how maintain the fundamental role of the nurse but also address current technological needs of efficiency, speed, and polychronicity.

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References

- Amerson, R. (2011). Facebook: A tool for nursing education research. *Journal of Nursing Education, 50*(7), 414-416, doi:10.3928/01484834-20110331-01
- Anderson, R. A., Ammarell, N., Bailey, D. E., Colon-Emeric, C., Corazzini, K., Lekan-Rutledge, D., et al. (2005). The power of relationship for high-quality long term care. *Journal of Nursing Care Quality, 20*(2), 103-106.
- Anderson, R. A., Corazzini, K. N., & McDaniel, R. R. (2004). Complexity science and the dynamics of climate and communication: Reducing nursing home turnover. *The Gerontologist, 44*(3), 378-388.
- Anderson, R. A., Corazzini, K. N., Porter, K., Daily, K., McDaniel, R., & Colón-Emeric, C. (2012). CONNECT for quality: Protocol of a cluster randomized controlled trial to improve fall prevention in nursing homes. *Implementation Science, 7*(11).
- Bekker, M. & van Assen, M. (2005). A short form of the Autonomy Scale: Properties of the autonomy-Connectedness Scale (ACS-30). *Journal of Personality Assessment, 86*(1), 51-60.
- Bluedom, A. (2007). Polychronicity, individuals, and organization. *Research in the Sociology of Work, 17*, 179-222, doi:10.1016/S0277-2833(07)17006-0
- Braccia, D. (2006). Tech talk. Virtual communities provide a great way to connect with ONS colleagues. *ONS News, 21*(12), 7-7.
- Braccia, D. (2007). Web connect. *ONS Connect, 22*(1), 13-13.
- Canales, M. K., & Bowers, B. J. (2001). Expanding conceptualizations of culturally competent care. *Journal of Advanced Nursing, 36*(1), 102-111.
- Clinchy, B. M. (1996). Connected and separate knowing. In N. R. Goldberger, J. M. Tarule, B. M. Clinchy & M. F. Belenky (Eds.), *Knowledge, difference, and power*. New York: Harper Collins Publishers.
- Colon-Emeric, C., McConnell, E., Pinheiro, S., Corazzini, K., Porter, K., Earp, K....Anderson, R. (2013). CONNECT for better fall prevention in nursing homes: Results from a pilot intervention study. *Journal of the American Geriatrics Society, 61*(12), 2150-9.
- Coetzee, M. (2004). Learning to nurse children: Towards a model for nursing students. *Journal of Advanced Nursing, 47*(6), 639-648.
- Collins English Dictionary. (2013). Connection. Retrieved from <http://www.collinsdictionary.com/dictionary/english/connect>
- Evans, B. C., Crogan, N. L., & Shultz, J. A. (2005). Innovations in long-term care. The meaning of mealtimes: Connection to the social world of the nursing home. *Journal of Gerontological Nursing, 31*(2), 11-17.
- Fotsch, P. M. (2007). *Watching the traffic go by: Transportation and isolation in urban America*. Austin: University of Texas Press.
- Gobillot, E. (2007). *The connected leader: Creating agile organizations for people, performance, and profit*. London: Kogan Page.
- Hallowell, E. (2011). *Shine: Using brain science to get the best from your people*. Boston: Harvard Business Review Press
- Heliker, D. (2009). Enhancing relationships in long-term care through story sharing. *Journal Of Gerontological Nursing, 35*(6), 43-49.
- Heliker, D., & Nguyen, H. T. (2010). Story sharing enhancing nurse aide-resident relationships in long-term care. *Research in Gerontological Nursing, 2*(4), 240-251.
- Johnson, J. (2006). A dialectal examination of nursing art. In Cody, W. (Ed.) *Philosophical and theoretical perspectives* (131-142). London: Jones and Bartlett Publishers International.
- Karcher, M. J. (2013). Hemmingway Measure of Adolescent Connectedness. Retrieved from <http://adolescentconnectedness.com/survey.php>
- Karcher, M. J., & Lee, Y. (2002). Connectedness among Taiwanese middle school students: A validation study of the Hemmingway Measure of Adolescent Connectedness. *Asian Pacific Education Review, 3*, 91-114.
- Keane, B. (2007). Communication transparency: Clarity creates trust. Retrieved from <http://www.studergroup.com/dotCMS/knowledgeAssetDetail?inode=211506>

- Kerfoot, K. (2011). The art and neurobiology of connection: The leader's challenge. *Nursing Economics*, 29(2), 94-95.
- Kutaka, G. (2002). *The essential structure of the lived experience of connection between nurse and patient*. (Unpublished Doctoral Dissertation). University of Hawaii at Manoa: Honolulu, Hawaii.
- Lane, S. & Serafica, R. (2014). An exploration of the concept of connect. *Nursing Forum*, 49(1), 39-48. doi:10.1111/nuf.12035
- Lee, R., & Robbins, S. (1998). The relationship between social connectedness and anxiety, self-esteem, and social identity. *Journal of Counseling Psychology*, 45(3), 338-345.
- Lee, R., & Robbins, S. (1995). Measuring belongingness: The Social Connectedness and the Social Assurance Scales. *Journal of Counseling Psychology*, 42(2), 232-241.
- Lin, J., Lin, K., Jiang, W., & Lee, T. (2007). An exploration of nursing informatics competency and satisfaction related to network education. *Journal of Nursing Research*, 15(1), 54-66.
- McDonald, G., Mohan, S., Jackson, D., Vickers, M., & Wilkes, L. (2010). Continuing connections: The experiences of retired and senior working nurse mentors. *Journal of Clinical Nursing*, 19, 3547-3554, doi: 10.1111/j.1365-2702.2010.03365.x
- McWhirter, E. & McWhirter, B. (2008). A future expectations of work, education, family, and community development of a new measure. *Youth & Society*, 40(2), 182-202. doi:10.1177/0044118X08314257
- Meadow, C. T. (2002). *Making connections: Communications through the ages*. Lanham: Scarecrow Press, Inc.
- Merriam-Webster. (2014). Connection. Retrieved from <http://www.merriam-webster.com/dictionary/connection>
- Microsoft. (2013). Xbox. Retrieved from <http://www.xbox.com/en-US/kinect?xr=shellnav>
- Miller, L., Devaney, S., Kelly, G., & Kuehn, A. (2008). E-Mentoring in public health nursing practice. *Journal of Continuing Education in Nursing*, 39(9), 394-399.
- Nadzam, D. M. (2007). Patient safety: Time to connect the dots. Retrieved from http://www.hhnmag.com/hhnmag_app/jsp/articledisplay.jsp?dcrpath=HHNMA G/Article/data/10OCT2007/071016HHN_Online_Na dzam&domain=HHNMAG
- Narayanasamy, A., Clissett, P., Parumal, L., Thompson, D., Annasamy, S., & Edge, R. (2004). Responses to the spiritual needs of older people. *Journal of Advanced Nursing*, 48(1), 6-16.
- National Council of State Boards of Nursing. (2011). White paper: A nurse's guide to the use of social media. Retrieved from https://www.ncsbn.org/Social_Media.pdf.
- Noddings, N. (2002) *Starting at home. Caring and social policy*. Berkeley: University of California Press.
- Oxford Dictionary. (2013). Connect. Retrieved from <http://oxforddictionaries.com/definition/english/connect>.
- Parse, R. R. (2004). Person-centered care. *Nursing Science Quarterly*, 17(3), 193.
- Pearce, T. (2003). *Leading out loud*. San Francisco: Jossey-Bass.
- Peplau, H. E. (1965). The heart of nursing: Interpersonal relations. *Canadian Nurse*, 61, pp. 273-275.
- Puccio, G. J., Murdock, M. C., & Mance, M. (2007). *Creative leadership: Skills that drive change*. Thousand Oaks: Sage Publications.
- Register, E., & Herman, J. (2006). A middle range theory for generative quality of life for the elderly. *Advances in Nursing Science*, 29(4), 340-350.
- Richardson, K., & Benbunan-Fich, R. (2011). Examining the antecedents of work connectivity behavior during non-work time. *The City University of New York*, 21(3), 142. Retrieved from <http://www1.cuny.edu/mu/scholarship/2011/09/20/examining-the-antecedents-of-work-connectivity-behavior-during-non-work-time/>
- Rivera-Goba, M., Campinha-Bacote, J. (2008). Making a connection: The use of storytelling as a strategy to enhance faculty's success with Latina nursing students. *Hispanic Health Care International*, 6(4), 205-225, doi: 10.1891/1540-4153.6.4.205
- Saedi, G. A. (2014). Millennial Media. Retrieved from <http://www.psychologytoday.com/blog/millennial-media/201212/catfish-and-the-perils-online-dating>.
- Schnek, L. (2006). Reason to connect. *Reflections on Women's Health: The Association of Women's Health, Obstetric and Neonatal Nurses*, 10(4), 347-348. doi: 10.1111/j.1552-6356.2006.00066.x
- Slap, S. (2010). Bury my heart at conference room B. New York: Portfolio Penguin.
- Sortedahl, C. (2012). Effect of online journal club on evidence-based practice knowledge, intent, and utilization in school nurses. *Worldviews on Evidence-Based Nursing*, (2nd Quarter), 117-125, doi: 10.1111/j.1741-6787.2012.00249.x
- Storr, G. (2010). Learning how to effectively connect with patients thorough low-tech simulation scenarios. *International Journal for Human Caring*, 14(2), 36-40.
- Suydum, L., & Garcia, A. (2010, July). School nurses connect schools and parents from home to homeroom to prevent teen medicine abuse. *The National Association of School Nurses*, doi: 10.1177/1942602X10371008
- Tarlier, D. S. (2004). Beyond caring: The moral and ethical bases of responsive nurse-patient relationships. *Nursing Philosophy*, 5(3), 230-241.
- Teel, C. S., & Shaw, J. A. (2005). Building and critiquing qualitative research websites: a cyberspace project to connect undergraduate nursing students in Canada and the United States. *Nursing Education Perspectives*, 26(3), 163-167.
- Tomey, A., & Alligood, M. (2010). *Nursing theorists and their work* (7th ed.). St. Lois: Mosby.
- Young, J., Harrison, J., Solomon, M., Butow, P., Dennis, R., Robson, D., & Auld, S. (2010). Development and feasibility assessment of telephone-delivered supportive care to improve outcomes for patients with colorectal cancer: Pilot study of the CONNECT intervention. *Support Care Cancer*, 18, 461-470, doi: 10.1007/s00520-009-0689-0