ABSTRACT

Baccalaureate nursing education prepares students to become registered nurses in evolving health care systems. During their program, students’ perceptions of empowerment in the nursing profession begin to form, and they are introduced to the process of reflective thinking. The purpose of this integrative literature review is unique in that three concepts are examined and linked—structural empowerment (as conceptualized by Kanter), psychological empowerment (as described by Spreitzer), and reflective thinking (as characterized by Mezirow)—and a theoretical model for testing is proposed. In examining the conceptual links, it is apparent that all three are required for learning and nursing practice. By preparing students to be empowered, reflective professionals, it is proposed that they will be more effective in their academic and future practice work. The conceptual links and proposed model described in this article provide the foundation for building a body of evidence to support or refute this contention.

Baccalaureate nursing programs must allow students to develop and refine the knowledge and skills required to practice successfully in complex and changing work environments (Usher, Tollefson, & Francis, 2001). Preparing nursing students as empowered, reflective professionals provides the foundation for them to be life-long learners and to enact change in their work environment (Leyshon, 2002). During baccalaureate education, students’ perceptions of empowerment in the nursing profession begin to form (Clay, 1992; Laschinger, 1996; Roberts & Chandler, 1996), and they are introduced to the process of reflective thinking (Atkins & Murphy, 1993; Ireland, 2008). Nursing classroom and practice environments provide ideal opportunities for learning about, and engaging in, empowering behaviors and reflective thinking, where teachers can be role models, providing guidance and feedback (Brancato, 2007; Harris, 2005; Hokanson Hawks, 1992; Luechauer & Shulman, 2002; Middlemiss & Van Neste-Kenny, 1994).

Understanding which aspects of the learning environment students perceive as empowering and their perceptions of any effect on their ability to engage in reflective thinking is important to refine curricula and ensure that students have opportunities to learn in empowering environments. Currently, no studies exist that examine empowerment and reflective thinking together in the context of nursing education. Thus, in this article, the theoretical links among the concepts are discussed and a model for testing is proposed.

PURPOSE AND RESEARCH QUESTIONS

The purpose of this integrative literature review is to examine and link three concepts important in baccalaureate nursing education: structural empowerment (as conceptualized by Kanter, 1977, 1993), psychological empowerment (as described by Spreitzer, 1995a, 1995b), and reflective thinking (as characterized by Mezirow, 1981, 1991c). The following questions guided this review:

- Question 1: What is the current state of research literature regarding: (a) structural empowerment, (b) psychological empowerment, and (c) reflective thinking in nursing education?
Question 2: Is there a conceptual link among structural and psychological empowerment and reflective thinking relevant to nursing education?

METHOD

Integrative literature reviews are a form of research that have the potential to “build nursing science, informing research, practice, and policy initiatives” (Whittemore & Knaff, 2005, p. 546). Through this method, existing literature is reviewed, synthesized, and critiqued, creating new perspectives on concepts of interest (Torraco, 2005). The current review was conducted to contribute meaningfully to nursing education knowledge and, specifically, knowledge related to the concepts of structural and psychological empowerment and reflective thinking.

Procedure

The research articles examined for inclusion in the review were located using both computer and manual searches. Databases searched included the Cumulative Index for Nursing and Allied Health Literature (CINAHL), Scopus, and Educational Resources Information Center (ERIC). Search words included structural empowerment, psychological empowerment, empowerment, Kanter, Spreitzer, reflective thinking, reflection, Mezirow, nursing education, and undergraduate nursing students. Manual searches of articles’ reference lists were also completed.

Given the number of theorists addressing these concepts in the literature, as well as the large volume of articles that resulted from empowerment and reflective thinking key word searches, a specific theorist’s description of each concept of interest was selected to guide and delimit the review. Three theories had a good conceptual fit and prior application in nursing education research: Kanter’s (1977, 1993) theory because her conceptualizations of empowerment focus on contextual, environmental aspects, and Spreitzer’s (1995a, 1995b) theory, which focuses on personal experiences of the concept; both were considered to be important to provide a comprehensive understanding (Spreitzer, 2008). Mezirow’s (1981, 1991c) theory was chosen because his view of reflection as a process with differing levels of nonreflective and reflective action was thought to be applicable to assess students’ learning, although other theories such as Schön’s (1987) description of reflection in and on practice and King and Kitchener’s (1994) Reflective Judgment Model were considered. Articles selected for this review met the following criteria: are quantitative and qualitative studies with samples of undergraduate nursing students; use conceptualizations of empowerment and reflective thinking based on Kanter’s, Spreitzer’s, or Mezirow’s theories, respectively; and were published in peer-reviewed, English language journals from 1990 to 2009. Unpublished master’s theses and doctoral dissertations were included if they fit the first two criteria.

The structure of this article has three parts. The theoretical framework explaining each concept is briefly discussed and is followed by a literature review and critique. Finally, the link among the three concepts in baccalaureate nursing education is addressed.

STRUCTURAL EMPOWERMENT

Theoretical Framework

Kanter’s (1977, 1993) theory of Structural Power in Organizations evolved from her qualitative study of an American work environment. She proposes that work behaviors and attitudes are responses to work conditions and situations. Framed positively, the word power is defined as “the ability to mobilize resources (human and material) to get things done” (Kanter, 1979, p. 66). Specifically, power is derived from formal and informal sources and obtained through positions held and structural conditions within the organization, rather than individuals’ personality traits or socialization process.

Formal power is evident in jobs allowing discretion, flexibility, creativity, and autonomy in decision making. These jobs are recognized and relevant within the organization (Kanter, 1979). Alternatively, informal power is developed from connections within the organization, including sponsors (who provide support for understanding the organization and opportunities for upward movement), peers (who provide information and reputation), and subordinates (who promote collaboration and support to get things done) (Kanter, 1977, 1979).

Kanter (1977) asserted that individuals with a high degree of formal and informal power are also in positions of increased access to the organization’s work structures of opportunity, power, and proportions. Individuals with high levels of access to opportunity (potential for organizational advancement and the development of knowledge and skills) are motivated to succeed, to be productive, and to strive toward professional growth, and they are committed to and active in organizational innovation and change.

The structure of power involves three sources: resources (supplies, equipment, money, and time to achieve organizational goals), information (knowledge and expertise required to do one’s job well), and support (regular feedback, guidance, advice, and opinions from formal and informal networks) (Kanter, 1977). The proportion structure refers to the social composition (e.g., gender, ethnic minority) of individuals in approximately the same job situation (Kanter, 1977), but its effect will not be examined herein because the majority (more than 90%) of students sampled in a model-testing study will be predominately female, consistent with nursing demographics.

Kanter’s Theory and Nursing Education Research

There is substantial evidence to support Kanter’s (1977, 1993) theory of Structural Power in Organizations in nursing work environments (e.g., Laschinger, 1996, 2008; Laschinger, Finegan, Shamian, & Wilk, 2001, 2004; Laschinger & Leiter, 2006; Laschinger & Wong, 1999), but its application to nursing education environments is not well developed. Six studies using Kanter’s (1977, 1993) theory in nursing education environments were reviewed.

In three quantitative studies, relationships between empowerment and professional nursing practice in clinical environments were examined. Jarvis (2004) found a positive, although not statistically significant ($r = 0.29$, $p = 0.07$), relationship between empowerment and self-efficacy for professional practice competencies. The sample size ($N = 27$) was small. Replication
with larger samples and multiple baccalaureate programs would provide more definitive evidence. Results from Livsey (2009) revealed a direct, positive, and not statistically significant (β = 0.07, \( p = 0.06 \)) path coefficient in a model testing the relationship between student perceptions of empowerment and self-reported professional nursing behaviors. Students’ perceptions of preceptors’ use of empowering teaching behaviors and self-efficacy for professional nursing practice accounted for 27% of the variance in frequency of use of professional nursing practice behaviors, \( R^2 = 0.27, F(2, 36) = 6.58, \beta = 0.004, \) in Avolio’s (1998) work. Student perceptions of preceptors’ use of empowering teaching behaviors and empowerment were positively related, although not statistically significant (\( r = 0.21, p = 0.10 \)) (Avolio, 1998). Clinical faculty fulfill an important role creating an environment students perceive as structurally empowering (Livsey, 2009). However, the importance of fostering empowering learning environments for students preparing to become professionals requires further research.

Siu, Laschinger, and Vingilis (2005) examined the relationship between nursing students’ perceptions of structural empowerment and psychological empowerment within problem-based learning (PBL) and conventional lecture learning (CLL) programs. Students who reported high levels of structural empowerment also reported high levels of psychological empowerment (\( r = 0.58, p = 0.01 \) for PBL; \( r = 0.40, p = 0.00 \) for CLL).Regardless of program, student perceptions of structural empowerment were positively related to psychological empowerment (Siu et al., 2005), providing support for a holistic view of empowerment, including both contextual and personal aspects (Spreitzer, 2008). Although Kanter’s (1977, 1993) perspective of empowerment focuses on context, she asserted that access to empowerment structures could influence work behaviors and attitudes, which are responses to work conditions and situations. The findings of Siu et al. (2005) suggest this relationship is also applicable in learning environments.

Sinclair (2000) interviewed 10 baccalaureate nursing (BScN) students during their final integrative practicum, and Ledwell, Andrusyszyn, and Iwasiw (2006) interviewed 7 post-diploma (post-RN) BScN students enrolled in online courses about their experiences of empowerment in their learning environments. In both studies, semi-structured interview guides based on constructs of Kanter’s (1977, 1993) theory were used. Learning experiences described by students were consistent with Kanter’s theoretical constructs, and examples are presented in Table 1. In the study by Ledwell et al. (2006), two additional themes were discovered: self-direction and determination to succeed. These reflect personal, not structural, aspects of a learning environment and perhaps are a better fit with Spreitzer’s (1995a, 1995b) description of psychological empowerment. Students from two different environments (practice and online), at two different stages (basic and post-RN), were interviewed, and findings from both studies provide evidence to support the importance of empowering learning environments and the relevance of Kanter’s theory in nursing education.

In summary and in response to question 1 (probing the current state of research literature regarding structural empowerment), there has been limited use of Kanter’s (1977, 1993) theory in nursing education environments, although study results are positive. All authors (Avolio, 1998; Jarvie, 2004; Ledwell et al., 2006; Livsey, 2009; Sinclair, 2000; Siu et al., 2005) concluded that Kanter’s theory is pertinent. Access to empowerment structures is important for students to perceive themselves as empowered. Continued use of Kanter’s theory in nursing education research will assist in knowing how students understand access to opportunity, resources, information, and support through formal and informal networks in their learning environments. Further research using multiple sites, larger samples, and various educational contexts will build a body of evidence about the value of empowering learning environments.

**PSYCHOLOGICAL EMPOWERMENT**

**Theoretical Framework**

Spreitzer (1995a) conceptualized psychological empowerment as a “motivational construct” (p. 1444) with four dimensions: meaning (fit between individuals’ values, beliefs, and behaviors and the requirements of their work roles), competence (self-efficacy to perform work activities with skill), self-determination (an individual’s sense of choice or autonomy in initiating or continuing work-related behaviors or actions), and impact (degree of influence individuals believe they hold at work). Combined, these suggest an active perspective for one’s work role (Spreitzer, 1995a, 1995b, 1996, 2008; Spreitzer, Kizilos, & Nason, 1997).

Based on the work of Thomas and Vethouse (1990) on a cognitive model of empowerment, psychological empowerment is explained as an intrapersonal process shaped by individuals’ personal experiences or beliefs about their work role. Those who realize the four dimensions are believed to experience psychological empowerment, viewing themselves as more effective and innovative, showing less fear of trying something new in their work (Quinn & Spreitzer, 1997).

**Spreitzer’s Conceptualization of Empowerment and Nursing Education Research**

Spreitzer’s (1995a, 1995b) conceptualization of psychological empowerment is grounded in business organization theory and research. Testing in nursing work environments with RNs is expanding (e.g., Boudrias, Gaudreau, & Laschinger, 2004; Brancato, 2007; Faulkner & Laschinger, 2008; Knol & van Linge, 2009; Koberg, Boss, Senjem, & Goodman, 1999; Kraimer, Seibert, & Liden, 1999). Two studies examining psychological empowerment with nursing student samples (Almost & Anthony, 2003; Siu et al., 2005) were found.

Almost and Anthony (2003) studied the relationships among fourth-year BScN students’ perceptions of educational climate for caring, psychological empowerment, caring self-efficacy, and professional nursing practice behaviors. Students perceived themselves to be moderately psychologically empowered (mean = 4.02, \( SD = 0.36 \)) on a scale of 1 (strongly disagree) to 5 (strongly agree). Educational climate for caring and psychological empowerment were related to self-efficacy for professional nursing practice behaviors (\( \beta = 0.29, p = 0.05 \) and \( \beta = 0.31, p = 0.04 \), respectively), making evident that students preparing to enter the workforce experience psychological empowerment as part of their development of professional practice behaviors.
<table>
<thead>
<tr>
<th>Study</th>
<th>Purpose</th>
<th>Sample</th>
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<tbody>
<tr>
<td>Avolio (1998)</td>
<td>Examine relationships among students’ perceptions of empowering teaching behaviors, self-efficacy for, and frequency of use of professional nursing practice behaviors.</td>
<td>$N = 47$, 4th year BScN students</td>
<td>Students’ self-efficacy for professional practice and frequency of use of professional practice behaviors during their integrative practicum were positively related ($r = 0.41, p = 0.008$). In a post hoc analysis, students’ self-efficacy for professional practice and perceptions of global empowerment were positively related ($r = 0.47, p = 0.001$).</td>
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<tr>
<td>Sinclair (2000)</td>
<td>Understand students’ perceptions of learning experiences in the clinical environment.</td>
<td>$N = 10$, 4th year BScN students</td>
<td>Themes fit with constructs of Kanter’s theory: opportunity was reflected in descriptions of students’ need for occasions to engage in meaningful learning activities; information centered on patient care, unit functioning, instructor expectations, and individual performance; support came mainly from instructors, but also peers, other health professionals in the clinical area, and patients; and resources referred primarily to assistance with patient care.</td>
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<tr>
<td>Almost &amp; Anthony (2003)</td>
<td>Investigate the relationship among students’ perceptions of educational climate for caring, psychological empowerment, caring self-efficacy, and professional nursing practice.</td>
<td>$N = 42$, 4th year BScN students</td>
<td>Students perceived a moderate climate of caring (mean = 4.38, SD = 0.49), level of psychological empowerment (mean = 4.02, SD = 0.36), and ability to practice professional nursing behaviors (mean = 3.89, SD = 0.53). Perceptions of self-efficacy for professional nursing practice (mean = 82.98, SD = 6.13) and caring (mean = 5.17, SD = 0.43) were perceived as high. There were positive relationships between psychological empowerment and professional self-efficacy ($r = 0.49, p &lt; 0.01$), caring self-efficacy ($r = 0.49, p &lt; 0.01$), and professional nursing practice behaviors ($r = 0.30, p &lt; 0.05$). Together, educational climate for caring and psychological empowerment explained 15.7% of the variance in students’ professional nursing practice behaviors.</td>
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<td>Jarvie (2004)</td>
<td>Explore the relationship between nursing students’ perceptions of structural empowerment and self-efficacy for nursing practice competencies.</td>
<td>$N = 27$, 3rd year BScN students</td>
<td>Students perceived themselves as somewhat empowered and somewhat confident in their professional practice competencies. A positive, not statistically significant relationship between structural empowerment and self-efficacy for nursing practice competencies was found ($r = 0.29, p = 0.07$).</td>
</tr>
<tr>
<td>Siu et al. (2005)</td>
<td>Examine relationship between nursing students’ structural and psychological empowerment, in problem-based learning (PBL) and conventional lecture learning (CLL) programs.</td>
<td>$N = 41$ PBL, and $N = 67$ CLL, 4th year BScN students</td>
<td>Students in the PBL program had significantly higher perceptions of structural and psychological empowerment in their learning than those in the CLL program after controlling for exposure to learning strategies (small group, self-directed work, teacher as facilitator, lecture). Based on study results, Siu et al. provided examples of educational strategies using tenets of Kanter’s (1977, 1993) theory as a framework.</td>
</tr>
<tr>
<td>Ledwell et al. (2006)</td>
<td>Examine students’ experiences of empowerment in computer conferencing.</td>
<td>$N = 7$, post-RN students</td>
<td>Themes fit with constructs of Kanter’s (1977, 1993) theory: opportunity was described as occasions for professional and personal growth and application of learning to current practice settings; information was perceived as relevant to learning (e.g., assignment guidelines); support came from two sources—internal (instructor participation and leadership) and external (workplace and family); and resources focused on access to technology and problem-solving assistance, educational opportunities, and flexible use of time.</td>
</tr>
<tr>
<td>Livsey (2009)</td>
<td>Examine associations among student perceptions of structural empowerment, self-efficacy, leadership by clinical faculty, and professional nursing behaviors within the clinical environment.</td>
<td>$N = 243$, recent BScN student graduates</td>
<td>Sample divided into two groups based on mean scores of student perceptions of nursing leadership provided by clinical faculty. Low leadership group: negative path coefficient ($\beta = -0.12, p = 0.23$) between structural empowerment and professional nursing behaviors. High leadership group: positive, statistically significant path coefficient ($\beta = 0.24, p &lt; 0.002$) between structural empowerment and professional nursing behaviors. Results suggest a possible moderating influence of the variable nursing leadership on the relationship between structural empowerment and professional nursing behaviors in the clinical environment.</td>
</tr>
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</table>
Similarly, Siu et al. (2005) found students in both PBL and CLL groups self-reported moderate levels of psychological empowerment (mean = 4.23, SD = 0.48 for PBL; and mean = 3.82, SD = 0.59 for CLL). Students who perceive that their role as learner in the educational environment is psychologically empowering may be more effective in their learning, experience greater self-confidence, and take control of strategies to achieve learning goals (Siu et al., 2005).

In response to question 1 regarding literature examining the concept of psychological empowerment with nursing student samples, two studies were applicable. Students perceive psychological empowerment in their learning environments (Almost & Anthony, 2003; Siu et al., 2005), and further exploration of these experiences is required. The positive relationship between structural and psychological empowerment (Siu et al., 2005) provides preliminary evidence for more testing of the relationship between both conceptualizations of empowerment in learning environments. A chronological summary of empowerment studies in nursing education is provided in Table 1. The conceptual fit between the environmental or contextual and personal aspects of empowerment will be described in the discussion. Next, theory and literature about the third concept, reflective thinking, is presented.

REFLECTIVE THINKING

Theoretical Framework
A key concept of Mezirow’s (1981, 1991c, 2000) theory of transformative learning for adult education is reflection, the: critique of assumptions about the content or process of problem solving. The critique of premises or presuppositions pertains to problem posing as distinct from problem solving. Problem posing involves making a taken-for-granted situation problematic, raising questions regarding its validity. (Mezirow, 1991a, p. 105)

Mezirow (1991c) distinguished between nonreflective and reflective action. Habitual action describes an activity learned in the past that through frequent use becomes performed with little conscious thought (e.g., keyboarding). Thoughtful action requires one to draw on existing knowledge to make inferences and is considered nonreflective because a selective review of prior learning, rather than a deliberate knowledge reappraisal, takes place. Introspection is also nonreflective, with the focus on recognizing rather than examining thoughts and feelings.

Reflective action is differentiated as content—"what [emphasis added] we perceive, think, feel, or act upon" (Mezirow, 1991a, p. 107); process—how we perceive, think, feel, or act; and premise—why we perceive, think, feel, and act as we do. A critique and reappraisal of the reasons for, and consequences of, prior knowledge and actions are also part of premise reflection. A discrepancy between prior knowledge and the current situation may lead to perspective transformation, a process that occurs after experiencing a sudden insight, or a series of unexpected events, which challenge currently held meaning perspectives. A meaning perspective is a frame of reference (Mezirow, 2000), described as the knowledge, feelings, assumptions, attitudes, values, and beliefs that shape how the world is perceived and interpreted (Mezirow, 1991b). When the insight or event can no longer be explained and resolved within the current meaning perspective, perspective transformation begins. Perspective transformation, an outcome of consciously questioning why during premise reflective action, is often described as a difficult experience because it involves a life-changing insight or event whereby meaning perspectives are transformed (Mezirow, 1991b). The nonreflective and reflective action components of the theory were the focus of reflective thinking in this review.

Mezirow’s Conceptualization of Reflective Thinking and Nursing Education Research
Although literature about the concept of reflection is extensive (Boud, Keogh, & Walker, 1985; Boyd & Fales, 1983; Brookfield, 1995; Dewey, 1933; Gibbs, 1988; King & Kitchener, 1994; Kolb, 1984; Kolb & Fry, 1975; Mezirow, 1981, 1990, 1991c, 2000; Schön, 1987), less is known about the level of reflective thinking (e.g., nonreflective or reflective actions) in which students engage in their BScN programs (Kember et al., 1999; Kember et al., 2000; Kember, McKay, Sinclair, & Wong, 2008). Theory-based, objective research efforts to measure the concept are also limited (Atkins & Murphy, 1993; Carroll et al., 2002; Cotton, 2001; Hannigan, 2001; Jones, 1995; Mackintosh, 1998; Usher et al., 2001). Educators agree that reflection is important in nursing education; however, there is a lack of consistency about how it is evaluated (Kember et al., 1999; Kember et al., 2000; Kember et al., 2008; Wong, Kember, Chung, & Yan, 1995). Only recently has a theoretically derived protocol been published to provide guidance in determining the level of reflection in students’ writing, in particular journals and scholarly articles (Kember et al., 2008). Further, Kember et al. (2000) developed a quantitative, theory-based, self-report questionnaire to assist in determining students’ levels of reflective thinking. Most research examining students’ reflective thinking is based on nurse educators’ reading and evaluating students’ journal submissions (Chirema, 2007; Jensen & Joy, 2005; Kember et al., 1999; Kember et al., 2008; Richardson & Maltby, 1995; Wong et al., 1995; Wong et al., 1997).

In four studies, independent coders consistently scored the majority of entries in journals or diaries at lower to mid-levels of reflection, commenting that journal or diary writing assisted students with the process of reflective thinking, thus developing their skills in reflection and learning (Jensen & Joy, 2005; Richardson & Maltby, 1995; Wong et al., 1995; Wong et al., 1997). Jensen and Joy (2005) and Wong et al. (1997) noted that students who receive feedback and guidance (written and verbal) about reflection may be assisted to a more in-depth understanding of the reflective process and use higher levels of reflective thinking more often. Researchers concluded that Mezirow’s (1991c) general descriptions of nonreflective and reflective actions were useful guides to determine the level of reflective thinking in students’ journal writing, and that educators may assist students to engage in reflective thinking by helping them make linkages between theory and practice, prompting them to consider the what, how, and why (Jensen & Joy, 2005; Kember et al., 1999; Richardson & Maltby, 1995; Wong et al., 1995).

Wong et al. (1995) and Wong et al. (1997) interviewed a subsample of post-RN students whose written work had been evaluated for evidence of reflective thinking. Suggested in
their data was that students may be engaging in higher levels of reflection, but not documenting the details of their thought processes. Although students voiced additional insights, this was not sufficient to move them to the next level of reflection, suggesting that written work can be used reliably to distinguish students’ level of reflective thinking (Wong et al., 1995). However, a method to consistently evaluate the level of reflection in students’ written work still remains elusive (Jensen & Joy, 2005; Wong et al., 1995).

Jensen and Joy (2005) suggested that students’ learning environments must provide opportunities that prompt higher levels of thinking and include critical discussions examining situations from multiple points of view. Findings from the study by Wong et al. (1997) support this suggestion; the authors determined that independent reflective journal writing and faculty-facilitated dialogue strategies were complementary. Journal writing was a private activity, a time for contemplation, whereas dialogue allowed students to question one another, share ideas, gain further insights, and, in some cases, change perspectives. Use of these private and group strategies in combination enhances students’ understanding of reflective thinking and encourages use of reflective actions to advance learning, resulting in experiences of perspective transformation during their education (Jensen & Joy, 2005; Wong et al., 1997).

Results from a study by Leung and Kember (2003) examining the relationship between approaches to learning (based on Marton & Säljö, 1976, adapted by Biggs, 1987) and levels of reflection based on Mezirow (1981, 1991c) demonstrated an important conceptual difference and a logical relationship: lower levels of reflection and superficial approaches to learning are related, as are higher levels and deeper approaches (Table 2; available as supplemental material at http://www.slackjournals.com/jne). This is important information for nurse educators because it provides insight into the link between how students’ levels of reflective thinking fit with knowledge assimilation and construction.

Green (2002) asked BScN participants to share their perspectives of the usefulness of the reflective process, and Smith and Jack (2005) held a focus group interview with BScN students to understand whether reflection was a meaningful activity and a beneficial part of the learning process. Chirema (2007) conducted individual interviews to learn post-RN students’ views on reflection and their experiences of writing a reflective journal. The results from the post-RN group were similar to the perceptions expressed by the basic BScN groups—that is, engaging in reflection was considered a positive and meaningful experience, assisting in making sense of theoretical learning and the real-world experience of practice (Chirema, 2007; Green, 2002; Smith & Jack, 2005).

Researchers recognized that an instrument is needed to assist in consistently identifying students’ levels of reflective thinking (Chirema, 2007; Jensen & Joy, 2005; Kember et al., 1999; Richardson & Maltby, 1995; Wong et al., 1995; Wong et al., 1997). In response, Kember et al. (2000) developed a theory-based, self-report questionnaire based on Mezirow’s (1981, 1991c) conceptualizations of reflective thinking. The Reflection Questionnaire contains four scales representing progressively higher levels of reflective thinking. Researchers concluded that the psychometric properties of the scale were respectable (Table 2). The use of this self-report questionnaire in a teaching-learning environment is intended to help educators understand which levels of reflective thinking students perceive they are using and determine whether teaching-learning strategies in a course promote reflective thinking in students, assist them to move from lower to higher levels of reflective thought, or both (Kember et al., 2000).

Kember et al. (2008) developed and tested a four-category protocol for assessing the level of reflective thinking present in students’ written work. The four levels were the same as those derived in the development of the Reflection Questionnaire (Kember et al., 2000). The scheme was outlined and a description of the four levels of reflective thinking provided, with examples of how the levels may be portrayed in written work. Four assessors reviewed a sample of four articles as a preliminary test of the protocol (Table 2). Although the first trial was limited in size and scope, it demonstrated that a clearly described scheme can provide educators with a reliable method to assess the level of reflective thinking in students’ written work. The protocol has yet to be used with nursing students, and further testing is invited (Kember et al., 2008). See Table 2 for a chronological summary of reflection studies in nursing education.

In response to question 1 regarding the current state of research literature regarding reflective thinking, the importance of the concept of reflection in nursing education is supported by research evidence (Chirema, 2007; Green, 2002; Jensen & Joy, 2005; Kember et al., 1999; Kember et al., 2000; Kember et al., 2008; Leung & Kember, 2003; Richardson & Maltby, 1995; Smith & Jack, 2005; Wong et al., 1995; Wong et al., 1997). Authors of several studies support the use of Mezirow’s (1991c) conceptualizations of nonreflective and reflective action to assess for evidence of reflection in student learning (Chirema, 2007; Green, 2002; Jensen & Joy, 2005; Kember et al., 1999; Kember et al., 2000; Kember et al., 2008; Richardson & Maltby, 1995; Smith & Jack, 2005; Wong et al., 1995; Wong et al., 1997). Using theory-based, objective tools to measure students’ perceptions of their engagement in reflective thinking, and to assess levels of reflection in their written work, assists in providing evidence to support developing the reflective thinking process with students (Kember et al., 1999; Kember et al., 2008; Wong et al., 1995; Wong et al., 1997). Despite differences among designs and methodologies of the studies reviewed, the importance of students’ learning the process of reflective thinking during BScN education and the need to evaluate its presence resonated. Generating a body of theoretically derived research is important to advance the development of reflective thinking in learning and practice (Lethbridge, 2006).

**DISCUSSION**

Overall, from this integrative literature review, there is evidence to support that (a) accessing empowerment structures as described in Kanter’s (1977, 1993) theory is applicable in nursing education environments (Avolio, 1998; Jarvie, 2004; Ledwell et al., 2006; Livsey, 2009; Sinclair, 2000; Siu et al., 2005); (b) students perceive psychological empowerment in learning environments (Almost & Anthony, 2003; Siu et al.,
also lead directly to an increased use of reflective action. Access to empowerment structures may occur. Nurse educators, through formal power, and peers, through informal power, can provide access to opportunities, information, support, and resources. Siu et al. (2005) proposed several teaching strategies based on tenets of Kanter’s (1977, 1993) theory to assist in creating empowering learning environments. For example, including students in decision making about course objectives, facilitation of classes, and evaluations is a strategy to increase students’ access to formal and informal power networks through a collaborative approach to learning. In addition, educators can provide opportunities to practice the reflective process (in classroom and practice) through written assignments and group dialogue; resources, either through direction to other sources (e.g., library, Web sites, community agency) or being available to help students with learning needs; information, through discussion of learning needs and expectations and written and verbal feedback; and support, through time to listen, recognize accomplishments, and showcase learning strengths (Siu et al., 2005). Peers can also provide access to these structures through informal power networks, in similar ways. Students may work together to share resources and information and support one another through opportunities to practice learning activities and skills, share concerns, and celebrate successes.

Students who access empowerment structures may also experience psychological empowerment (Spreitzer, 1995a, 1995b), which is shaped by the value students attribute to their learning (Spreitzer, 2008). Students who perceive meaning in their learning sense a fit between what they need from the institution, curricula, and educators, and their personal beliefs, values, and behaviors about learning. If students’ learning experiences lead them to question their meaning, an opportunity arises to use reflective actions and question the what, how, and why of the circumstances. Students may access formal and informal power networks for support in this process, as well as seek information and access available resources to assist with understanding. This sense of self-determination may also facilitate competence or self-efficacy in the skills and abilities to participate successfully in their learning. Celebrating achievements and constructively examining areas needing improvement are ways students can assess the impact of their learning. The context of an empowering environment may facilitate students’ understanding of personal experiences of empowerment, which has the potential to improve their use of reflective thinking.

Students who access empowerment structures that mobilize them to further their learning (Siu et al., 2005) can receive feedback (information), guidance (support), and the opportunity to practice and develop their use of reflective actions, resulting in more meaningful learning, and fostering competence, self-determination, and impact. Feedback from faculty (formal) and peers (informal) may provide students with the context in which to explore their learning experiences (meaning), build confidence in participating in this process (competence), and, in doing so, choose (self-determination) to use more reflective actions, resulting in greater achievements in their learning (impact). In accordance with these propositions, Leung and Kember (2003) reported a positive relationship
between higher levels of reflective thinking and deeper approaches to learning.

Learning occurs through social interactions and individual deliberations, and opportunities for both exist in educational environments. Evidence from one study suggests students’ ability to engage in reflective thinking may be enhanced through information gained from group dialogue with faculty (formal) and peers (informal) and time (resource) for personal reflections (Wong et al., 1997). Kanter (1977) asserted that the use of both formal and informal networks can foster a sense of achievement and success in work environments, a process applicable to educational environments. Students, who learn to mobilize empowerment structures and experience the competence and self-determination to advance their learning, may then transfer this process to future work environments (Siu et al., 2005).

Educators can use the empowerment structures to help students, and students can use them to gain access for assistance with their learning. Students who access empowerment structures and experience personal empowerment may be more willing to use reflective actions and question the what, how, and why of their learning experiences. By engaging in reflective thinking about their learning experiences, students may be more likely to develop more consistent use of reflective actions in their learning, such as using research evidence in practice; taking time to link theory with practice; critically evaluating, questioning, dialoguing about, and problem solving clinical situations and practices; enacting changes in their practice and thinking; debating implications of their actions in practice; taking risks to challenge previously held values, beliefs, and assumptions; and integrating new learning with prior knowledge (Green, 2002; Harris, 2005; Jensen & Joy, 2005; Johns, 1999; Kember et al., 2000; Luechauer & Shulman, 2002; Smith & Jack, 2005).

In addition to structural aspects of learning environments, students’ experiences shape their personal beliefs about their learning within classrooms and practice areas. Spreitzer (2008) contended that both aspects of empowerment, structural and psychological, are necessary for a comprehensive understanding of empowerment at work. Siu et al. (2005) suggested this contention is also applicable in PBL and CLL classroom environments. Testing the proposed theoretical model will allow further exploration of the relationship between structural and psychological empowerment in different types of learning environments. Although there is preliminary research supporting the link between structural and psychological empowerment, relationships among these three concepts have not been tested. Therefore, it is also important to test the direct path from structural empowerment to reflective thinking. If research findings support the model, consideration can be given to building the model to include feedback loops among the concepts, and further testing can be undertaken.

In Ontario, Canada, reflective practice is a requirement to maintain registration with the nursing regulatory body (Gill, 2009; Wansbrough, 1996). Thus, to prepare students for practice, educators can create and support empowering learning environments where students can experience psychological empowerment and engage in the process of reflective thinking. Nursing students may then transfer these skills and experiences to their future practice. Nursing work environments are complex, and educators can help students question and explore the uncertainties inherent in practice. By preparing students to be empowered, reflective professionals, it is proposed that they will be more effective in their academic and future practice work. The conceptual link and proposed model described in this article provide the foundation for building a body of evidence to support or refute this contention.

**IMPLICATIONS FOR NURSE EDUCATORS**

Access to empowerment structures in nursing education environments can lead to students perceiving both contextual and personal aspects of empowerment. Theoretical linkages between the concepts are evident, and there is preliminary research evidence to support this relationship in nursing education environments (Siu et al., 2005). Throughout the discussion, strategies to foster empowering learning environments are suggested. It is worthwhile to implement and systematically evaluate these strategies because educators can directly affect students’ perceptions of structural empowerment, thus influencing their awareness of psychological empowerment. The importance of reflective thinking in nursing education is supported by research evidence; however, the effects of empowerment on reflective thinking have not been examined. Testing the proposed model will provide evidence to determine whether promoting empowering learning environments assists students toward effective achievement of reflective thinking and to support implementation of teaching-learning strategies and curricula to foster these concepts together during BScN education. If the model is supported, the influence of empowering learning environments on other learning outcomes could also be assessed.

**CONCLUSION**

This review linking structural empowerment, psychological empowerment, and reflective thinking provides the theoretical basis for seminal work examining students’ perceptions of structural and psychological empowerment and reflective thinking in classroom and practice settings. Findings from the study testing this model are to be published elsewhere.

Fostering an empowering learning environment through access to formal and informal power networks and empowerment structures (Kanter, 1977, 1993), enabling the dimensions of psychological empowerment (Spreitzer, 1995a, 1995b), and engaging students as reflective thinkers, who thoughtfully question and evaluate their practice (Mezirow, 1991a), are ways nurse educators can work with students to prepare them to respond to the changes and uncertainties of professional nursing practice (Ireland, 2008). Methods to evaluate students’ perceptions of structural and psychological empowerment in their learning environment and their engagement in reflective thinking are necessary to ensure that students are graduating with the professional knowledge, resources, abilities, and skills they require. Research evidence to support teaching-learning environments and activities that are successful in the development
of empowered, reflective professionals is critical. By testing the proposed model, it may be determined whether attending to these concepts together in learning environments improves students’ use of reflective thinking more effectively than if educators work to develop them in isolation.

REFERENCES


### Table 2

**Summary of Reflection Studies in Nursing Education**

<table>
<thead>
<tr>
<th>Author</th>
<th>Purpose</th>
<th>Sample &amp; data source</th>
<th>Results</th>
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<tbody>
<tr>
<td>Richardson &amp; Maltby</td>
<td>Examine baccalaureate nursing (BScN) students’ reflective diaries to determine the extent and level of reflection and learning evident.</td>
<td>2nd year BScN students, data from 30 diaries; 8 students participated in a focus group interview</td>
<td>Most entries (94%) scored at the lower levels of reflectivity, 6% scored at the highest levels. Three themes revealed—assessment: students’ feelings of apprehension in describing perspectives about a situation since their diary was evaluated, viewed diary as a place for self-assessment and evaluation of own clinical practice; thinking (remembering, analyzing, learning): mulling over the experience and its meaning; and feelings: the unease students felt about a particular clinical situation that prompted reflection. Faculty should clearly specify the purpose and aims of the reflective writing assignment to help ease students’ apprehension, and encourage more in-depth thinking about the experiences examined.</td>
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<tr>
<td>Wong et al. (1995)</td>
<td>Develop a replicable process for evaluating levels of reflective thinking in students’ written work.</td>
<td>Undergraduate post-RN students, data from 45 papers</td>
<td>Most excerpts from papers classified in the attending to feelings, association, and integration elements, considered antecedents to the higher levels of validation, appropriation, and outcomes of reflection (6 elements based on Boud et al., 1985). Six students (13.3%) identified as non-reflectors, 34 (75.6%) as reflectors, and 5 (11.1%) as critical reflectors (3 categories based on Mezirow, 1990). Reliability among coders was between 0.50 and 0.75 (6 elements), and 0.88 (3 categories).</td>
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<tr>
<td>Wong et al. (1997)</td>
<td>Determine “How could nurses be prepared to be reflective practitioners” through action research.</td>
<td>Undergraduate post-RN students, data from reflective journals, a reflective paper, dialogues, and 15 interviews</td>
<td>Thirty percent of students classified as non-reflectors; 70% as reflectors. Of the 70% reflectors, 14.3% considered critical reflectors. Two attributes were evident in the reflector and critical reflector group: a willingness and commitment to the endeavor, and open-mindedness.</td>
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Table 2 (continued).

<table>
<thead>
<tr>
<th>Reference</th>
<th>Methodology</th>
<th>Sample Size</th>
<th>Cronbach’s alpha for internal consistency was 0.65 (initial test).</th>
</tr>
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<tbody>
<tr>
<td>Kember et al.</td>
<td>Identify, measure, and evaluate students’ depth of reflective thinking in</td>
<td>Undergraduate health sciences students, data from 36 papers</td>
<td>Four assessors (2 involved in the initial test) evaluated students’</td>
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<td>(1999)</td>
<td>journals and reflective papers using coding scheme based on Mezirow’s (1981)</td>
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<td>year-end reflective papers. Each independently evaluated nine papers</td>
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<td></td>
<td>seven levels of reflectivity.</td>
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<td>categorized according to the highest level of reflection determined</td>
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<td></td>
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<td>by the assessor. Inter-rater reliability was 0.74.</td>
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<tr>
<td>Kember et al.</td>
<td>Develop and test a theory-based, self-report questionnaire to measure the</td>
<td>N = 350 undergraduate health sciences students</td>
<td>Mezirow’s (1981) levels are useable for determining the level of</td>
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<td>(2000)</td>
<td>levels of students’ reflective thinking during their course work.</td>
<td>N = 303 from eight classes (six undergraduate, one postgraduate diploma, and one masters)</td>
<td>reflective thinking in students’ journal writing.</td>
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<td>Three rounds of revisions based on alpha reliabilities and confirmatory factor analysis. The final instrument includes four scales with four items each. The scales labeled habitual action and understanding are adapted from Mezirow’s (1991a) descriptions of nonreflective action, and reflection and critical reflection scales correspond to Mezirow’s reflective action descriptions.</td>
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<td>Green (2002)</td>
<td>Examine value of reflective practice through narratives of experiences.</td>
<td>N = 25 undergraduate nursing students</td>
<td>There were statistically significant differences between undergraduate and postgraduate students for each of the four scales (t = 4.36, p = .00; t = -2.58, p = .01; t = -5.45, p = .00; t = -2.82, p = .01). Postgraduates were more likely to engage in higher levels of reflection, and critical reflection, compared to undergraduates.</td>
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<td>All students commented that the reflection “was either ‘useful’ or ‘helpful’ in preparing them” (p. 7) for clinical practice. Experiences in their clinical placements were often the trigger for the reflective process. Unease or discomfort in a situation prompted students to re-examine values and beliefs.</td>
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<tr>
<td>Study</td>
<td>Research Focus</td>
<td>Sample Size</td>
<td>Results</td>
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<tr>
<td>Leung &amp; Kember (2003)</td>
<td>Examine relationship between students’ surface and deep approaches to learning (Biggs, 1987), and stages of reflective thinking (Mezirow, 1990).</td>
<td>N = 402 undergraduate health science students</td>
<td>The surface approach to learning correlated positively with habitual action ($r = .65$, $p &lt; .05$); the deep approach with understanding ($r = .33$, $p = .05$), reflection ($r = .49$, $p &lt; .05$), and critical reflection ($r = .50$, $p &lt; .05$), but not habitual action. Higher levels of reflective thinking showed stronger correlations with the deep approach to learning. The model was tested for goodness-of-fit with confirmatory factor analysis. It was estimated to be a good fit as the comparative fit index (CFI) and standardized root mean squared residual (SRMR) were within the range of acceptable values ($CFI = .93$, $SRMR = 0.05$).</td>
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<td>Jensen &amp; Joy (2005)</td>
<td>Examine level of reflection apparent in undergraduate nursing students’ journals.</td>
<td>N = 20 undergraduate nursing students, data from 60 journals</td>
<td>Inter-rater reliability correlations between researchers ($r = .74$, $p = .01$), and total score item by level ($r = .63$, $p = .01$)</td>
</tr>
<tr>
<td>Smith &amp; Jack (2005)</td>
<td>Understand students’ perceptions of reflection, and to examine if reflection was found to be a meaningful activity and beneficial part of the learning process.</td>
<td>N = 8 undergraduate nursing students in a focus group</td>
<td>All students believed keeping a journal was difficult due to time constraints; most felt it was beneficial for them as reflection on practice was meaningful for learning and changing practice if necessary. One student commented that writing the reflective essay prompted more reading and research about the reflective process; this additional knowledge increased the value of reflection for learning. A few students were not convinced the process was meaningful and were skeptical of the value of reflection for learning.</td>
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### Table 2 (continued).

<table>
<thead>
<tr>
<th>Study</th>
<th>Methodology</th>
<th>Sample Size</th>
<th>Analysis/Results</th>
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<tr>
<td>Chirema (2007)</td>
<td>Examine use of journals to determine the level and extent of reflective thinking achieved by students.</td>
<td>( N = 42 ) post-RN students enrolled in part-time studies. ( N = 15 ) randomly selected for interviews (five from each of three categories)</td>
<td>Inter-rater reliability: 0.5 to 0.75 (finer levels) ( 0.95 ) (3 categories). From journal analyses, 9 students nonreflectors, 28 as reflectors, 5 as critical reflectors. Seven themes derived—promoting reflection on experiences and the associated feelings; assisting with the analysis of the experience; creating ideas which link theory and practice; enhancing an awareness of the learning achieved and its application; awareness of need for further learning as the result of journal writing; skills required for reflection and their enhancement through journal writing; and promoting journal writing as part of reflective practice. Most students valued writing reflective journals for learning, a few questioned the need to do so. Students’ also expressed concerns about self-disclosure, confidentiality, and the time involved in writing reflections.</td>
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<tr>
<td>Kember et al. (2008)</td>
<td>Develop and test protocol to determine the levels of reflective thinking present in students’ written work.</td>
<td>Radiography students, data from four papers.</td>
<td>Four assessors achieved a high level of agreement on the level of reflective thinking the students’ demonstrated through their writing. One paper, perfect agreement on the level of reflective thinking depicted; three papers, three assessors agreed and the other placed the paper between two levels.</td>
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