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Examining the Causes of Attrition from Schools of Nursing in Canada

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Background

Attrition is a fact of life in educational programs: not all students accepted for admission to a program graduate. Determining true attrition rates and their causes is methodologically complex, involving imprecise definitions, low response rates to surveys and poorly defined categories of reasons for leaving (Glossop 2001). Attrition in nursing programs has received considerable research attention over the last 20 years (see the literature review in Appendix A) and has been the subject of numerous doctoral dissertations. Rates of attrition ranging from 3% to 44% have been reported for various types of programs in numerous countries including Britain, the United States, Israel, and Canada. Over this time, interest has varied: when applications to nursing programs exceed the positions available and sufficient nurses are working in the healthcare system, interest wanes, but during nursing shortages and low application rates to nursing schools, interest returns.

As Canada is currently undergoing a nursing shortage, retaining the highest possible proportion of nursing students is a priority. A complementary study will determine actual retention rates (the obverse of attrition) of programs to prepare registered nurses (RNs), registered psychiatric nurses (RPNs) and licensed/registered practical nurses (LPNs). This study will explore the reasons given by students studying in the three types of nursing preparation programs for leaving before graduation.

Objectives of the Study

1. To identify the reasons students leave RN, RPN and LPN programs prior to graduation.
2. To identify similarities and differences in reasons across the three types of programs.
3. To examine whether low academic averages in pre-nursing education contribute to students' attrition from nursing programs.

4. To identify potential interventions to reduce attrition from all three types of programs.

State of Knowledge of Attrition in Nursing Education

The findings of attrition research have an important role in shaping and responding to policy and practice in nursing education. To date, almost all the research on attrition in nursing programs has focused on programs to prepare registered nurses. Almost no research has explored the reasons students leave practical nursing programs or programs to prepare registered psychiatric nurses. A small body of literature has emerged related to each of these two program areas, but studies have not reached the scale of the larger investigations of attrition that are more typical of research investigating baccalaureate registered nursing programs. This review of literature examines the findings of available research, which is largely based on registered nursing programs.

Attrition research focuses on two main issues: (a) the factors that predict attrition and (b) the effectiveness of interventions to help nursing schools retain more students. Most attrition studies have used quantitative methodologies. In a large proportion of studies, student outcomes data have been extracted from school records and compared with the information obtained from students surveyed in their first or second, and sometimes final, year of program study. Surveys have been administered either to classes of nursing students or by mailouts to students. In several larger-scale studies, data about nursing programs have been gathered by surveying the directors of nursing programs (Jalili-Grenier 1993; Memmer and Worth 1991). Some attrition studies have combined both quantitative and qualitative methods of data collection (e.g., Tinto 1997; Jalili-Grenier 1993). The studies that have used qualitative methods have mostly used individual interviews of students (e.g., Spouse 2000; Hagey and MacKay 2000; Tinto 1997).

Studies of nursing school attrition and retention in the 1990s can be grouped in a number of ways. Studies of attrition vary a great deal based on their scale. Most attrition research has been conducted in a single school of nursing, based on convenience sampling. Sample sizes have varied widely. Large sample sizes have been possible in some studies conducted in a single nursing school (e.g., Jeffreys 2001; Lockie and Burke 1999) because of the size of some American schools and the fact that a single school may support a number of nursing programs on different campuses. In a number of large-scale studies, data were collected from five to nine schools (e.g., Shelton 2003; Liegler 1997) and in two cases, as many as 21 schools of nursing (Jalili-Grenier 1993; Memmer and Worth 1991).

There are several major axes of difference that permit the comparison of studies of attrition. A large proportion of attrition studies have focused on evaluating the attributes of students rather than the attributes of academic environments (Glossop 2001). An exception to this is the growing area of research focused on student perceptions of faculty support and interactions (Shelton 2003; Hanson 1996). The focus in research on the

perspectives of students (Glossop 2001) rather than on the perspectives of researchers is another way of grouping attrition studies. An apparently increasing trend in attrition research is an emphasis on students' perceptions related to the factors that support or restrict academic success, and students' evaluations of interventions that increase retention in nursing programs (Shelton 2003; Magnussen and Amundson 2003; Jeffreys 2002; Harvey and McMurray 1997; Hanson 1996). This trend reflects a movement away from theory and towards more empirically based research. What is not found in the attrition literature are any studies in which students' recommendations are sought about how programs might be altered to help students stay in nursing.

Reasons students leave nursing school
Factors related to attrition and retention can be grouped into several categories, including background, environmental and academic factors (Jeffreys 2001). However, not all studies of attrition and retention fit these categories. Attrition has also been researched in relation to individual attributes such as coping ability, hardiness and self-efficacy (e.g., Deary et al. 2003; Hegge et al. 1999; Aber and Arathuzik 1996).

Studies converge on a number of reasons most often reported by students leaving nursing programs: academic difficulty, family responsibilities, financial difficulty, wrong choice of career and illness (Glossop 2001; Jalili-Grenier 1993; Smith 1990). Yet, this list is far from exhaustive and does not account for all students' circumstances. Other frequently given reasons for leaving are poor attendance and change of circumstances, such as the transfer of a spouse for work (Glossop 2001), work responsibilities, childcare needs (Aber and Arathuzik 1996), study skills, study habits, hours studied per week, previous grade point average (GPA), perceptions of faculty, friends in the program (Jeffreys 2002; Tinto 1997; Liegler 1997) and dissatisfaction with program requirements (Smith 1990). Students who left nursing programs were less likely to have academic prerequisites or previous certification than those who stayed (Liegler 1997; Saucier 1995).

Academic difficulty and failure are major reasons for student withdrawal from nursing programs, both involuntary and voluntary. Some studies have investigated the factors associated with academic success. Success has been measured by GPAs in nursing school (Aber and Arathuzik 1996). Lower nursing school GPAs were predicted by entrance to a nursing program based on General Educational Development (GED) Test scores (American Council on Education 2004), financial difficulties, lack of confidence and low motivation. It is not known whether these factors interact to produce student outcomes such as failure and withdrawal. Of the factors examined in one study, students who planned to attend graduate school, and those who rated their confidence in academic and clinical skills higher, achieved higher GPAs (Aber and Arathuzik 1996). Supportive factors that students perceive as helpful to their success in nursing school include faculty advisement, friends in class, enrichment programs and tutoring (Jeffreys 2002).

Some of the factors identified by students as important, such as perception of faculty, faculty advisement and involvement with other students, have been interpreted by researchers as indicators of the level of integration into the academic and social life of nursing programs. Integration into nursing programs has been found to be closely related to student satisfaction (Liegler 1997). Academic and social integration have been found to be unaffected by external environmental factors. Social integration is a factor that a number of researchers see as contributing to the helpfulness and success of interventions such as peer-led study groups. Although a number of researchers (Jeffreys 2002; Tinto 1997; Liegler 1997) emphasize the importance of the social integration of students, such discussion has not produced clear interventions that help students stay in nursing programs. It does serve, however, to keep attention focused on other aspects of student support beyond academic skill levels.

A substantial amount of research has focused on students who have been identified as at increased risk of failing or leaving nursing programs (Lockie and Burke 1999; Jeffreys 1998; Memmer and Worth 1991). Jeffreys (1998) defines nontraditional students as those who have one or more of the following attributes: they are 25 years or older, have dependent children, speak English as their second language (ESL), are members of an ethnic minority or male, or have entered nursing based on GED scores. The reasons most often given by nontraditional students for leaving nursing programs include environmental factors (such as family problems) and financial difficulties. Academic factors that have been identified by students as restricting their success included study skills, study hours and factors related to integration in nursing programs, such as faculty advisement and involvement with other students in the program.

One study has focused on the perceptions of ESL students in nursing programs in Canada (Jalili-Grenier and Chase 1997). Further work is needed to formulate and evaluate retention strategies for ESL students that are specific to the Canadian context. In one study of 21 nursing programs in the United States, programs were compared based on the retention strategies being employed in each school (Memmer and Worth 1991). Schools that kept no ESL data were those that used the fewest retention strategies. The five schools with retention rates between 93% and 100% were using more of the 30 retention strategies the researchers identified; the four schools with the lowest retention rates were using the fewest. Beyond research that has focused on interventions to retain ESL students, a single Canadian study has been made of racism in nursing education (Hagey and MacKay 2000). Beyond research with ESL students, there have not been any qualitative investigations of students' perceptions of how ethnicity, culture or sexual orientation may affect attrition in nursing education.

In one study of students' ability to cope with stress, researchers found that general stress and students' coping ability were not predictors of students leaving nursing (Deary et al. 2003). In fact, they concluded that the stress levels and coping behaviours they observed reflected the nursing school more than the students who participated in the research. Hardiness has been found to predict academic success strongly (Hegge et al.

1999). However, this finding does not translate readily into recommendations about how nursing schools can help more students stay in nursing programs. Some of the research that has applied self-efficacy theory has been more promising. In one study, students' self-ratings of confidence in their academic and clinical abilities, on two measures developed by the researchers, were found to predict academic performance (Aber and Arathuzik 1996). Since self-efficacy, or confidence in academic and clinical ability, derives from learning in prior experiences (Aber and Arathuzik 1996), the researchers recommended the implementation of appropriate skills training, enrichment and supports, together with active assessment and close monitoring of students. These recommendations will be referred to again in the summary of recommendations, below.

Several studies have investigated the quality of students' interactions with faculty and the impact of functional and psychological support on students' confidence and motivation (Shelton 2003; Hanson 1996). Student–faculty interactions described by students as caring reportedly increased students' self-efficacy, motivation and sense of being in the right profession (Hanson 1996). A study of student perceptions of faculty support found that students who stayed in nursing experienced more faculty support than those who left (Shelton 2003). Another study of students' social support showed that students with more social support stayed in nursing programs more often than those with less support; faculty and nursing program peers were infrequently named as sources of supports in this study (Marshall 1989).

Students' help-seeking behaviour has received some attention in attrition research. In one study, the researcher found a relationship between seeking help and student attrition: more students who left nursing programs did not seek help (Harvey and McMurray 1997). Possibly related is the finding that a number of students overestimate their own academic skills and chances of success (Shelton 2003).

Students who left nursing programs reported more often than students who stayed that the content of nursing courses was different from what they had expected and that the information they received prior to entry was insufficient (Harvey and McMurray 1997). Although some efforts have been made to investigate the conflict between false media-influenced expectations of nursing, students' ideals and the realities of nursing (Spouse 2000), more research is needed that might illuminate how such conflicts get resolved and what factors might be helpful to students in this regard. Preadmission interviews are not an automatic solution to the problem of student expectations that don't fit the realities of nursing. In a study of 21 Canadian nursing programs (Jalili-Grenier 1993), nine schools interviewed applicants prior to admission, but there was no significant difference in attrition rates between these schools and those without admission interview procedures.

Methodological limitations
Some of the noted limitations of attrition research in nursing education are small sample size and limited generalizability of research findings, vague operationalization of

students' reasons for leaving, lack of information about students' perceptions and an overemphasis on student characteristics rather than academic environments (Glossop 2001). Lower return rates of surveys from withdrawn students compared to students surveyed who stayed (in studies comparing the two groups) likely produce a bias in findings (Jeffreys 2002). Frequently, researchers have noted that the students surveyed may have been enrolled in a number of different programs. In some cases, withdrawn students include those who may have withdrawn and re-enrolled several times. Studies have attempted to reflect students' diversity, but frequently samples of individuals surveyed have not been very ethnically diverse.

In most studies using surveys to collect data, the survey is administered at one time only. A number of researchers have suggested that longitudinal studies are needed in the research of attrition and retention. However, longitudinal research, particularly at multiple sites, depends on the availability of consistent data across nursing programs.

Recommendations

A number of nursing schools have implemented for-credit study skills programs. These programs have reduced withdrawals and have helped students succeed academically (Klisch 2000; Lockie and Burke 1999). Researchers emphasize that such groups not only support students academically, but also increase the social integration of students into nursing programs.

Retention strategies that are recommended by Memmer and Worth (1991), who surveyed 21 American schools about their use, include: a strong orientation program; a study skills workshop; an open house that includes family involvement; a strong financial aid program coordinated by the nursing program; a retention coordinator, especially if a minority person; an ESL/minority mentor program; hiring and retaining ESL/minority nurse faculty; a low student–faculty ratio in clinical labs, especially in the first year; a purposeful heterogeneous student mix in clinical labs; additional opportunity for skills learning; a strong peer tutorial program; systematic academic advising; workshops to sensitize faculty to the needs and problems of ESL/minority students; and the development of an early intervention system when student academic problems arise.

Other strategies that have been suggested to prevent attrition include providing all new students with advice about financial aid; a clear outline of all program expenses; employment opportunities to fit nursing program demands; examples of class and clinical scheduling; information about travel expected and time required for pre-clinical preparation; how to access tutorial services and enroll in courses to improve study skills or course mastery; how to approach and get help from faculty; and the name and telephone number of an adviser (Kelly 1997).

A number of researchers have recommended that beyond offering skills programs and other supports, nursing schools must actively assess, track and monitor students' progress so that students in difficulty are offered the individual attention and supports needed to

succeed (Lockie and Burke 1999; Aber and Arathuzik 1996). Aber and Arathuzik (1996) recommended setting up a database for each student that includes financial and family responsibilities, work requirements, childcare needs and other data that may affect success, as well as providing meticulous personal advising. In light of the finding that students who are having difficulties may not seek help, other researchers have also recommended that faculty approach such students and ensure that they receive attention and advice, as well as needed supports and enrichment programming (Shelton 2003). This recommendation is consistent with Hanson's (1996) findings that faculty-initiated interactions with students are perceived by students as caring, and that caring interactions with faculty increase students' confidence, motivation and sense of belonging in nursing (Hanson 1996).

Design

This study has been designed to overcome some of the methodological limitations of prior attrition research. Quantitative and qualitative methods have been combined. Mailed questionnaires were used to collect data about students' reasons for leaving nursing programs. Telephone interviews were used to collect data about students' recommendations for measures that nursing programs can take to help more students stay. As well, in order to examine the role of preadmission academic performance, grades of students who did and did not complete the programs involved in the study were compiled and compared. The results of the telephone interviews will be reported in a subsequent paper.

Sample of schools of nursing

Seventeen schools of nursing in Canada were invited to participate, including seven university schools that prepare registered nurses, seven that prepare registered/licensed practical nurses and three schools in western Canada that educate registered psychiatric nurses. The schools were located in Newfoundland, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. Six RN programs, five LPN programs and one RPN program agreed to participate. One RN school discovered late in the research period that they had to undergo ethical review at their university. Therefore, the results from this site are not included here. This report includes results from five RN schools, five LPN schools and one RPN school.

Data collection

The proposal was submitted to the Health Sciences 1 Research Ethics Board at the University of Toronto. When approval was received, the deans/directors of the 17 schools of nursing were sent a letter inviting them to participate. Included with the letter to the director and school information letter was a copy of the questionnaire and a consent form. Participation included identifying the students who had withdrawn, regardless of the reason, from classes entering in 1998, 1999, 2000 and 2001 and sending them a package of material prepared by the research team at the University of Toronto. Students' most recent known address was used. The package included a letter of informa-

tion inviting participation, the questionnaire, (Appendix B), a stamped and addressed envelope for returning the questionnaire, a consent form to participate in an interview and a separate envelope in which to return the consent to an interview and request a copy of the results. This approach meant that students who completed the questionnaire and returned it were completely anonymous, as were the names and locations of the schools from which they withdrew. Those who agreed to participate in an interview revealed their identity and a contact telephone number on the consent form, but this information could not be linked to the questionnaire in any way. Such anonymity also meant that some participants may have not completed the questionnaire but participated in an interview. This information was not sought in the interview.

Participation also included abstracting from the admission records of all students who entered in 1998, 1999, 2000 and 2001 the averages they received in the last year of high school and, where they were available, their grades in the prerequisite courses for admission. The only other information requested was identification of whether the student withdrew or completed the program and, if the student withdrew, whether withdrawal was due to academic failure or was voluntary.

…faculty-initiated interactions with students are perceived by students as caring…

Instruments

A self-completed questionnaire (Appendix B) was developed to elicit the reasons students leave nursing programs prior to completion. This questionnaire consisted of forced-choice questions seeking information about when the students had decided to pursue nursing, their reasons for choosing nursing, when they decided to leave the program and why, and their recommendations for measures schools might take to reduce withdrawal rates. Respondents were provided with space to write in explanations for their answers. The reasons for leaving that students gave in previous studies informed the types of questions asked. Demographic information was solicited, including the type of program students were enrolled in (RN, LPN, RPN), age group, area of the country where they had attended school and whether they had started nursing school immediately following high school.

Sample size

The number of withdrawals from any of the schools was not known when the study commenced. Table 1 shows the number of withdrawals from each type of program and, therefore, the number of packages of materials sent to former students. In total, questionnaires were sent to 390 students who withdrew from programs that prepare registered nurses, 261 students from programs preparing LPNs and 50 students from the one program that prepares psychiatric nurses. It is not known how many questionnaires

actually reached each person who withdrew. One hundred and ten questionnaires were returned to the University of Toronto because the student was no longer at the address listed. It is likely that this figure does not represent the actual number of questionnaires that were undeliverable. A total of 66 completed questionnaires were received.

Table 1. Number of student withdrawals

	Total	By individual program				
		#1	#2	#3	#4	#5
RN	390	24	151	130	85	
LPN	261	51	25	32	95	53
RPN	50	50				

Results

The sample was composed of 66 individuals who had withdrawn from schools of nursing. Of these, 39 had been in schools to prepare registered nurses, 20 in LPN schools and 7 in RPN schools. Because there are so few former RPN students, the results are not broken down for this group.

The majority of students, 68%, were in the 20- to 30-year age group, followed by 27% who were between 31 and 40. Five percent were over 40 (2% 41–50 and 3% over 50). Former RN students were younger than the former LPN students: 75% of RN students were in the 20- to 30-year age group compared to 65% of the LPN students. Table 2 reports the number of students who entered a nursing program directly from high school or pursued other education, worked or raised a family first. The percentages do not total 100% because some respondents did more than one activity first, e.g., worked and raised a family or pursued other education and worked.

Table 2. Background of students entering nursing schools

Entered a nursing school	Total sample	RN students	LPN students
Directly from high school	22%	23%	25%
After other education	46%	54%	25%
After working	46%	41%	35%
After raising a family	14%	5%	25%

Table 3. When students decided to become nurses

When decided to become a nurse	Total	RN	LPN
As a child	9%	5%	20%
Several years before applying	33%	28%	50%
Just before applying to nursing school	58%	67%	30%

Reasons students enter nursing

Students were asked when they decided to enter nursing. Table 3 displays the timing of these decisions. There is considerable difference between those who entered university programs to become registered nurses and those who pursued preparation as an LPN. More than two-thirds of RN students made the decision just before entering, while 70% of LPN students had aspirations to become nurses that extended back several years, some (20%) since childhood.

The reasons that former nursing students were attracted to nursing are displayed in Table 4 (Appendix C). While the desire to help people was the most popular (96%) reason for entering nursing identified by all respondents, both former RN and LPN students were also attracted to the field by their desire to express compassion and caring (82%), their sense that they would be able to contribute to society (79%), and the beliefs that starting salaries were reasonable (76%) and that nurses are critical to healthcare (74%).

There were some differences between RN and LPN students. A much higher percentage of former LPN students had a close relative who is a nurse and viewed nursing as good preparation for moving into other careers. More former RN students were attracted to nursing because of the perception that there is a shortage of nurses and that jobs would therefore always be available, and because the programs were easy to access. While neither group had a large proportion who saw nursing as a stepping stone into medicine, more former RN students than LPN students were motivated by this aim.

The respondents were asked about how confident they were in their choice of nursing as a career. While 74% of the total sample were confident, a higher proportion of respondents who withdrew from LPN programs (85%) were confident than respondents who withdrew from RN programs (69%). When the participants were not confident, the reasons most frequently identified by RN students were uncertainty about what they wanted, uncertainty about what nursing involved and their suitability to nursing, uneasiness about the status of nurses and uneasiness about shift work. LPN students identified that they were uneasy about the status of nurses and uncertain about what they wanted, about what nursing involved, about their suitability to nursing and about their ability to manage patient care. Most of the RN students indicated that they were

uncertain about what they wanted, and many RN and LPN students indicated that nursing was not their first choice.

Of the students who left RN programs, one re-entered a program in another province, 18 pursued other educational programs including medicine, teaching, business, biology, history and law, 14 went to work in fields different from nursing and 6 returned to the work they had done before entering nursing. Two LPN students returned to an LPN program, one pursued another career and 16 returned to the positions they occupied before entering the LPN program.

Reasons students withdrew from nursing

Two objectives of the study were to identify and compare the reasons students leave RN, LPN and RPN programs prior to graduation. The responses to all the possible reasons appear in Appendix D. The respondents were asked to respond in terms of how influential each of the possible reasons was in their decision to withdraw. The reasons selected most frequently as either very influential or a major reason for withdrawing by the total sample and the former RN and LPN students are found in Table 5 (Appendix C). There are four categories of reasons: nursing as a profession, the nursing program, students' personal life and negative experiences. No one reason was identified by a majority of either former RN or LPN students. The most frequently selected reasons fell under the categories of the nursing program and students' personal lives. Forty-five percent of all former students indicated that the faculty were not supportive, and 36% indicated that faculty did not instill confidence. The former was the reason selected most frequently as very influential or the major reason for leaving by 45% of former LPN students, and was one of the two most frequently selected highly influential reasons by former RN students.

The perception that the nursing profession is in chaos was highly influential in the decision of RN students to withdraw, but not LPN students. As well, 33% of the former RN students indicated that they did not enjoy the course work and almost as many did not enjoy clinical practice, while a much lower proportion of former LPN students indicated these were influential in their decision. More than a third of the former LPN students indicated that their grades were too low to allow them to continue, that specific courses were too difficult and that they did not have the study skills.

In the category of students' personal lives, approximately 25% of the total sample identified the following as strongly influential reasons for their withdrawal: they were too stressed, had to work too much, had too many outside responsibilities, could not afford the costs associated with the program and living expenses and had personal problems. Higher proportions of former LPN students than RN students identified outside responsibilities, insufficient support from families and living expenses as influencing their decision, whereas higher proportions of former RN students were influenced by stress and the cost of books.

Very few students indicated that they had been influenced to leave the program by racism, homophobia or experiences of abuse or maltreatment. Approximately 25% of former RN and LPN students indicated that they could not live up to their own expectations, and 23% of former RN students just did not like nursing. In contrast, very few former LPN students were influenced to leave because they did not like the program.

Respondents were asked to rank the three top reasons for leaving. The most frequently identified reasons are reported in Table 6 (Appendix C). The values in this table are reported as numbers, not percentages. Most respondents listed three top reasons for leaving, but a couple listed only one – for example, one student listed only "ready to leave" and another listed only "family." Consequently, the numbers do not add up to triple the number of students in either RN or LPN programs.

The most frequently listed reason for leaving fell under the category of problems with the program and faculty. These issues were listed much more frequently by RN than LPN students. Included were such complaints as wishy-washy courses; little faculty support; course expectations unreasonable, e.g., two to three papers plus presentations and labs; and abuse or disparagement by clinical instructors. Costs were the next most frequently listed reason for leaving; points included: could not receive a student loan; difficulty paying household expenses; three years of full-time school is too expensive; money!; and not enough money for child. Third was disillusionment with nursing. Statements included: discouraged by nurse's position in the hospital; didn't like the working hours; nursing is not what I expected – too stressful, too many patients, grumpy staff, shift work; and wanted more one-to-one contact with patients – became a healthcare aide.

Respondents were asked when they made the decision to withdraw from their program. Table 7 (Appendix C) reports these results. While approximately 60% of RN students began to realize at some point in their first year that nursing was not for them, another 30% of students did not begin to contemplate withdrawing until their second year. The LPN programs are of varying lengths, some 10–12 months in length and others two years, so it is difficult to interpret the data without knowing the lengths of students' programs. However, like the RN students, LPN students began to think about withdrawing at some time during their program. There was not one particular point in either program that saw a majority of students decide to withdraw. The majority of students found the decision to withdraw somewhat or very difficult (Table 8, Appendix C). However, half the former LPN students did not voluntarily make the decision; they failed and were required to leave.

Table 9 (Appendix C) reports the answers to the question about whether students regretted their decision to withdraw. More than half the total sample regretted the decision either quite a bit or very much, although considerably fewer former RN students than LPN students expressed regret.

Suggested interventions to reduce attrition
The participants endorsed a number of suggestions to reduce attrition. These are listed

in Table 10 (Appendix C). Former RN students strongly favoured more counselling for new students, having newly admitted students mentored by faculty and students and exposing them to positive role models. The two most frequently supported suggestions were to introduce students early in the program to clinical practice and to provide a very realistic picture of nursing to students prior to their admission to the program. The intervention supported by most former LPN students was to provide more financial support so that students would not have to work so many extracurricular hours. They also recommended making more counselling available to students and to present nursing very realistically to students prior to admission.

The respondents were also asked to recommend other actions that their school could take to reduce attrition. Recommendations for the most part generally mirrored the actions listed in Table 10, and included increased support to students before and during clinical practice, more interesting classes/more classes relevant to practice, and paying students for at least part of their clinical practicums. One student recommended increasing the enrollment of men; another suggested that men should be promoted in the profession as equal to women and treated as such. LPN students recommended more flexibility in workload and, especially, more support to students.

High school averages and student withdrawal
High school grades data from three RN and three LPN nursing programs for the admission years 1998, 1999, 2000 and 2001 were analyzed. Data were received from more than these six schools, but not all the data received could be analyzed. The form taken by grades data and student withdrawal information varied greatly among the schools that participated. One school did not record high school averages as a percentage of 100. In some schools, high school grades were not used or recorded when students were admitted on the basis of transfer (postsecondary) credits.

Because of differences between the schools in record-keeping and in admission requirements for students who enter or transfer into nursing based on postsecondary credits, comparison of the high school grades of all students admitted into all nursing programs between 1998 and 2001 was not possible. Owing to such differences, the high school grades data that were collected were mostly for students who were admitted to nursing programs on the basis of those grades. When students' high school grades were not the sole determinant of their admission to nursing school, this difference in students' admission status was noted. However, information about how students were admitted was not available from all schools, making comparisons based on admission status difficult.

The high school averages of students admitted to RN and LPN programs who either stayed, left voluntarily or failed were compared using t tests and analysis of variance. Averages are listed in Table 11 (Appendix C). The average high school grade of students admitted into RN programs from 1998 to 2001 was 78.8 (SD=7.5) and into LPN programs 67.3 (SD=8.5).

RN students (79.8, SD=8.78) and LPN students (67.7, SD=7.2) who stayed in nursing programs had higher high school averages than RN students (75.6, SD=7.5) and LPN students (65.8, SD=6.9) who withdrew. This comparison was significant for each type of program (RN, t(766)=–6.71, p<.001; LPN, t(905)=–2.49, p<.05). However, the significance of these differences is accounted for by the difference in high school grades in two of the three RN nursing programs and in only one of the three LPN nursing programs.

Analysis of variance showed that the high school averages of students who failed RN programs (73.4, SD=7.3) were significantly lower (F2, 765)=29.17, p< .001) than students who withdrew voluntarily (77.3, SD=7.3) and students who stayed (79.8, SD=7.3). In contrast, the high school grades of students who withdrew from LPN programs, regardless of the reason for their withdrawal, were not different.

Discussion

The study was undertaken to answer questions about why students withdraw from schools of nursing without completing their programs, whether RN students leave for different reasons than LPN and RPN students, what actions might be taken to reduce the number who withdraw and what role, if any, was played by low admission averages from high school. The results shed some light on these issues but, unfortunately, because the sample is small, definitive answers to the questions are not possible.

Because only one RPN program participated and only seven former students from that program responded, it was not possible to undertake an analysis of former RPN students' reasons for leaving and recommendations for change. This is unfortunate, because there is essentially nothing in the research literature about students in these programs – how they differ from, and are similar to, students in other types of nursing education – and nothing about why they withdraw. Other limitations include the fact that the majority of respondents were from one region of the country, thus making examination of regional differences infeasible; and, as only one student indicated that English was a second language, comparison with previous work on ESL students in nursing programs could not be undertaken.

The strength of the study lies in the fact that former students from several programs across the country participated and provided a great deal of information about their reasons for leaving and what might be done to reduce attrition.

Why people go into nursing and when they leave programs

The reasons that these students went into nursing mirror why people have always chosen to pursue nursing as a career: the desire to help people, to have a legitimate reason and vehicle for expressing caring and the benefit of a secure job future. Few chose it as a consolation prize when they could not get into medicine, although part of the rationale for choosing nursing for about a third of the RN students was the possibility that it could be a stepping stone to medicine. Nursing was not chosen as an alternative to a

career in rehabilitation therapy. Two-thirds of the RN students were confident in their choice; the third that were not were concerned about nursing as a profession and unsure of what they wanted. This finding is congruent with the timing of the decision to apply to a nursing program: more than two-thirds made the decision to enter nursing just before applying; it had not been a long-term aspiration. This late decision may explain the uncertainty about nursing as a profession. These students may not have investigated the nature of nursing or given serious consideration to the demands the profession makes on its members in terms of lifestyle and difficulty of the work. The majority of this group of former RN students did not enter a nursing program directly from high school, and half entered after some other educational experience, working or both.

The former LPN students differed from the RN students in several ways: more had wanted to enter nursing for a long time, and congruent with this desire, a higher proportion were confident that they had chosen the right career path. They did not differ from RN students in the circuitous route into nursing: most had other education, worked, raised a family or tried some combination of these before starting an LPN program.

Earlier research on attrition from degree programs in nursing has shown that most attrition occurs during the first two years (Jalili-Grenier 1993), and the results from this study corroborate these findings. By the end of first year, close to 60% of the former RN students had begun to think nursing was not for them; 85% were of this opinion by the end of second year. The majority of the LPN group also came to this decision by the time they were partway through first year. This finding suggests a need to do a better job of preparing potential students prior to admission for what they will encounter in nursing, and to monitor very closely how students are responding to the program through their first and second years. If students are in their third and fourth years of nursing studies when they decide it is not for them, different strategies are needed in helping them consider whether withdrawal is the best course of action.

These two groups of students differed also in the degree of difficulty they experienced in leaving their programs. While about half the RN students found it relatively easy to leave and more than half had few regrets about leaving, only 15% of the LPN students found it easy and only 20% had few regrets. A much higher percentage of the LPN students failed their programs than did RN students and, therefore, had no choice about leaving. The high level of regret may reflect the loss of a dream that many LPN students had held for a long time and which they were not permitted to pursue.

While a majority of RN students withdrew with ease and few regrets, 40% of the RN students found it very difficult to leave and subsequently had considerable regret about that decision.

Why students withdraw from nursing programs
The most compelling and interesting finding from this study is the range of reasons that contribute to nursing students' decision to withdraw. No one, two or even three

reasons dominate and hence, no one or two interventions will be effective in addressing the problem.

The state of nursing as a profession was an important contributing factor in the decision to leave nursing for a considerable number of students in RN programs (18–23%), but fewer (15%) LPN students. This finding has not surfaced in previous studies. In answer to the question about the three major reasons for withdrawing, former RN students commented about being disillusioned with nursing's position in the hospital; with the amount of responsibility, given nurses' salaries relative to physicians'; that people were in nursing for the money; that nursing was too task oriented or too controlled by unions; and that the profession was "up in the air." Only one LPN student listed dissatisfaction with the LPN's role ("realized that LPNs were just the cleanup crew") as one of his or her three major reasons for withdrawal.

Nursing as a profession has received considerable media attention over the last few years, including interviews with practising nurses who describe aspects of the profession and the work of nursing that they find difficult and unsatisfying. It seems that the students who were disillusioned with nursing and nurses – the majority of whom were in university nursing programs – were unaware of this situation and had not expected to find such dissatisfaction within their chosen profession. This finding suggests a need to prepare prospective applicants for the reality of work in the healthcare system and the dimensions of nursing work. The almost universal recommendation of former RN students and a majority of former LPN students – to provide a very realistic picture of nursing in information sessions for interested potential students – confirms this. One former RN student wrote, "Provide a brutally accurate picture of what nursing will entail before acceptance. This should include rates of injury, trouble with contract negotiations, workload, dealing with difficult doctors, dealing with abuse from patients." Once students are enrolled in programs, they are exposed to the state of the healthcare system, the effect this has had on nursing as a profession and the response of nursing and nurses. However, the early point in their programs at which the majority of RN students began to contemplate leaving suggests a need to introduce the reality of nursing prior to admission so that students are ready for any turmoil and negative experiences they may encounter. They need tools immediately upon admission for interpreting and coping with events that they see occurring and for dealing with disillusioned nurses in practice with whom they come into contact. It is troubling that 13% of RN students indicated discouragement from nurses in clinical agencies as an important motivator in their decision to withdraw from their program.

A major difference between the students who have entered nursing since the late 1990s compared to those in earlier cohorts may be the general unhappiness of many practising nurses and the state of the healthcare system. There has been more turmoil, reform, re-organization and disorganization in healthcare than in previous years, and this, at least for some students, has unsettled and coloured their experience in nursing programs. As well, current concerns among practising nurses regarding lack of respect and

increased workload (Harrison and Reid 2001) can spill over to nursing students and discourage them from pursuing their chosen career.

The role of faculty support to students has surfaced in previous studies (Shelton 2003; Jeffreys 1998; Hanson 1996; Marshall 1989). Shelton found that students who withdrew from nursing programs reported significantly less perceived support from faculty members than students who remained in the programs. Students in Hanson's study reported that faculty who listened to them, accepted them and acknowledged them as persons "made them feel confident, encouraged, and assured them that they were in the right profession" (1996: 107).

The importance of social support in the retention of students was suggested by a number of indicators in the current study. A perceived lack of support from faculty was the most frequently reported reason for leaving by LPN students and was one of the two most frequent reasons cited by RN students. One student wrote that "caring is being taught but not demonstrated." As well, a majority of former RN and LPN students recommended that both faculty and student mentors should be assigned to students right from first year and that much more personal counselling be available to students.

Jeffreys (2001, 2002) has reported on the importance of peer support and integration of students with their classmates; further, the value of peer mentors as effective tools in helping students remain in a nursing course is noted. In this study, difficulty with peers and not fitting in with classmates was not a significant problem for the vast majority of RN students, and no LPN student identified it as a reason for withdrawing. However, the fact that 13% of RN students reported it as very influential or a major reason for withdrawing and another 15% rated it as somewhat influential indicates a need to investigate it further. Tinto (1997) identifies the importance of creating networks of support for students in order to enhance the likelihood of their completing their program. The former students in this study appear to have felt generally integrated; however, a possible indicator of impending difficulty and increased potential for withdrawal arises when students are not close to their classmates and derive little emotional and social support from them.

Hanson's (1996) study indicates the important role that faculty support plays as students learn to be nurses. Some students, especially in their first year, may be particularly vulnerable to the pressures of course work and clinical practice and require significant support and counselling from faculty members to manage these pressures. This demand can be difficult for faculty, particularly when student numbers rise due to pressures to increase enrollment. It becomes particularly difficult if the only contact faculty members have with students is in large classes. Furthermore, students who need additional support may be reluctant to identify themselves or may not even recognize that they need additional support and opportunities to discuss their anxieties, conflicts and doubts. Harvey (1997) found that, indeed, more students who did not seek help left nursing. The assignment of faculty and peer mentors, and the expectation that students will meet with their mentors on a regular basis, may help offset this problem.

A third frequently cited reason for leaving nursing programs was dissatisfaction with the programs themselves. This was particularly true for RN students, almost a third of whom reported that they did not enjoy either the course work or clinical practice in their programs. These students complained of courses that were not meaningful for them, with too much emphasis on interpersonal relations, too many papers to write, too much theory, too much repetition across courses or classes or a requirement to do things in class that they did not value (e.g., finger-paint to illustrate a concept or draw a picture of the nurse they wanted to be). Harvey (1997) reported the discrepancy between what students expected in the way of course work and what they encountered, and Smith (1990) identified dissatisfaction with program requirements as a major reason that students in a university program gave for leaving. Because so many of these students did not enter programs directly from high school, they may have found some of the exercises expected of them childish and unsatisfying given their expectations of nursing as a science. This finding suggests a need to present a rationale for course content and exercises at the time of the class and in information sessions prior to admission. Nursing students need to know that the interpersonal side of nursing is crucial and that considerable time will be spent on learning how to relate to people, to understand what patients are experiencing and to work with patients' expectations for care. Schools of nursing should also take care that instructive material is not repetitive across courses. Mature students who have different life experiences than students coming directly from high school may require different types of exercises to understand concepts and illustrate principles.

In previous research on attrition, family responsibilities have been identified as an important contributing factor to withdrawal of nursing students (Glossop 2001; Jalili-Grenier 1993; Smith 1990); indeed, for about a third of LPN students and around 20% of RN students, this was selected as a significant reason. These figures are consistent with the fact that 25% of respondents entered nursing programs after having a family. However, among the three most important reasons given for leaving, family responsibilities were not listed frequently: four RN and two LPN students gave it as a reason, with one RN student indicating it was the only reason and the others citing a combination of family responsibilities plus school and having to work that drove their decision to withdraw. While family responsibilities were not the factor that tipped the scale towards withdrawal for a majority, for a small proportion of both RN and LPN students it was the significant factor.

Costs of programs, lack of financial resources to meet those costs and still have money for living expenses, and the need to work too much to cover costs were significant factors in withdrawal for 20–25% of RN students. Fewer LPN students found tuition problematic, but more than a third identified living expenses as a significant contributing reason in their decision to withdraw, and 25% also found that the amount of time they had to work interfered with their studies. These were the students who found the course loads too demanding. Financial difficulties have also been identified in previous studies (Glossop 2001; Jalili-Grenier 1993; Smith 1990). Several RN students com-

plained that they did not qualify for student loans, that the loans were insufficient to cover expenses or that they had to work full time and could not manage both work and school on a full-time basis. Only two LPN students specified costs and financial difficulties as reasons for withdrawal. Despite the fact that a majority of students did not identify finances as a problem, 77% of RN and 85% of LPN students recommended that more financial assistance be made available so that students would not have to work so many extracurricular hours.

Only one respondent in this study reported experiencing racism, but without information about the number of students from visible minorities, it is not possible to take comfort in this finding. As well, few reported being mistreated or abused by classmates or patients. However, about 15% of RN students reported mistreatment or abuse at the hands of hospital nursing staff, faculty members or both. Only one LPN student reported mistreatment, indicating that the top reason for leaving the program was the way "my clinical professor treated me." Four former RN students listed prejudice by faculty, being disparaged by faculty, faculty "unreasonableness" and unpredictability in grading, and "demotivation" by faculty as the major contributor to their decision to withdraw. While the numbers are low, the influence of perceived mistreatment/abuse by faculty members is compelling. It is worthy of further study to understand the nature and circumstances of such perceived mistreatment/abuse in order to eliminate it as a cause for student withdrawal. No student commented specifically on mistreatment by nursing staff.

One-quarter of the RN students who left their programs did so at least partly because they did not like nursing. This was not true of LPN students, only one of whom indicated this as a reason. Wrong choice of career has previously been identified as a major reason for student withdrawal (Glossop 2001; Jalili-Grenier 1993; Smith 1990). Students wrote that they were "ready to leave," "couldn't see myself doing this the rest of my life," "just did not want to be there anymore," "was not interested," "work not enjoyable" and "was not 'happy' studying nursing"; some reported switching into alternative programs, such as medicine, that they had wanted all along. Although it may not be possible to eliminate wrong choice of career entirely as a reason for attrition, it is one that lends itself to reduction. One student recommended that future students should do a clinical day before they enter so they have a better understanding of what they are getting into. Among the problems with this solution – aside from the issue of patients' privacy – would be these students' total lack of skills and context for the experience. Furthermore, students frequently do not find their niche until they are well into their program; that niche may be a community experience or work with a particular patient population, such as palliative care, which they would not encounter until they had more knowledge and skills. However, the suggestion underlines the need for greater consideration in preparing students for the day-to-day realities of nursing.

Student suggestions for reducing attrition
The respondents were offered a list of potential changes to admission processes and nursing programs designed to reduce attrition (Table 10, Appendix C). The only ones

that students did not support were to increase admitting averages and to delay starting clinical practice until later in the program. The former suggestion has the potential to reduce failures and the latter to increase time available to students to improve their knowledge and skills before being confronted with the stress of clinical practice. In contrast, 80% of RN and 65% of LPN students supported introducing clinical practice early in the program. Three RN students wrote that clinical practice should be introduced early but that students should receive more support while in practice to reduce the anxiety they experience; two students recommended increasing the amount of clinical practice in RN programs (and reducing the number of theory courses). LPN students did not support increasing admission averages, but they did indicate that more academic and personal support through the programs might help them succeed.

Preadmission interviews have been suggested as a strategy to ensure that students are applying to the programs that are right for them, that their ideas and expectations about nursing are realistic and that they are prepared for the nature of nursing education. As none of the RN students and only a small number (16%) of LPN students had been interviewed prior to admission, the effect of interviews on them could not be investigated. Half the RN students and 60% of the LPN students supported the idea of preadmission interviews. An LPN student further recommended that these interviews should include a "walk through a clinical experience" because many students do not know what they are getting into. One RN student recommended preadmission interviews, not because it would have affected her or his outcome, but because of the number of immature students encountered who needed "to grow up more before entering into this type of workload."

Preadmission interviews are not a straightforward solution to attrition. They are time-consuming and costly to undertake, and may compete for faculty resources with mentoring and counselling of students already enrolled. As a screen for admission, they are of dubious value. Confident students tend to do well in interviews; less confident ones may come across poorly, but have much potential once they acquire some interpersonal skills in a program. Apart from their expense, preadmission interviews may not be effective since faculty members who conduct them may feel the need to portray nursing in the best possible light.

Aside from the suggestion of more realistic preadmission information sessions, most students' recommendations related to increasing supports in the way of mentoring, personal counselling and financial assistance. These suggestions are congruent with those identified in earlier studies (Shelton 2003; Lockie and Burke 1999; Kelly 1997; Aber and Arathuzik 1996; Memmer and Worth 1991). Students emphasized changes to programs and courses that would accommodate their personal situations.

Two RN students wrote of the need to do a better job of smoothing the way for LPN students to succeed in RN programs by such means as prior learning assessments and greater flexibility in accepting credits earned in other provinces. Several RN students

recommended that schools reduce duplication of course content, ensure courses are intellectually stimulating and reconsider large classes that are taught by a different person each session. This student complained that it was difficult to know from whom to seek assistance and answers to questions.

LPN students emphasized the need for assistance in managing course loads, the pace of programs and difficult courses, and recommended making review classes available. These suggestions are similar to those raised by Aber and Arathuzik, who emphasize the need for programs to assess and track students' progress and to offer assistance to those in difficulty. At least one student in each group suggested assessment of faculty members' teaching skills and helping abilities.

The majority of both groups of students supported the idea of students practising only in student-friendly hospitals and having more positive nursing role models available to them. These suggestions are consistent with concern about the chaotic state of nursing, quality of working life and discouragement or abuse from discontent staff nurses. Practice environments are enormously influential in helping students become the nurses they want to be. It is difficult for student nurses and their clinical instructors when students have to be protected from staff. Staff nurses can be wonderful role models or the very opposite. When they are not, students are challenged to rethink their choice of career, and the clinical agency will have a smaller pool of potential recruits from which to hire staff.

Admission averages and attrition

Analysis showed that for both RN and LPN students, the high school averages of students who remained in the programs were statistically significantly higher than those of students who withdrew. For RN students, those who failed had significantly lower averages than those who withdrew voluntarily. In the case of the LPN students, the difference between the averages of those who withdrew and those who remained was not large; in fact, only one school showed a large difference. These results do not support the hypothesis that the admitting average into LPN programs could serve as a flag for students at higher risk for withdrawal. Furthermore, many LPN programs do not take high school averages into account when deciding admission, only the fact that students have completed and passed the prerequisite courses. More important is the high proportion of the LPN students who specified their need for academic assistance in order to succeed.

The case of the RN students is more definitive. The averages of students who failed were six points lower than those who remained in the program (73.4% vs. 79.8%) and four points lower than those who withdrew voluntarily (73.4% vs. 77.3%). It is important to note that only two schools of the three participating in this aspect of the study had significant differences in the relevant averages. Because few RN students who responded to the survey had failed their programs, we have no information about other factors that contributed to their lack of success. However, students who have less academic ability

may well be vulnerable to failure if they must work long hours to cover school costs; if there are family responsibilities; if they receive little support from family, friends and faculty members; if they encounter personal problems; or any combination of these factors. All students who face these challenges are vulnerable, but those with strong academic ability may be able to manage with fewer hours of study and preparation and more distractions than those who must bring all their resources to bear to succeed. These results should be seen as a flag for future investigation. Meanwhile, schools of nursing may wish to investigate their own results.

Conclusions and Recommendations

This study suffers from the same problems experienced in previous research on attrition (Glossop 2001). The low response rate to the questionnaires reduces the ability to draw definitive conclusions from this study. However, this does not mean there is not a great deal to be learned. Students leave schools of nursing for many different reasons, and those who leave start to think about withdrawing early in their programs. The major reasons for leaving relate to complaints about the programs, lack of support from faculty members, high tuition costs and living expenses, disillusionment with nursing as a career and academic failure.

There are differences between students in RN and LPN programs. Disillusionment is an RN student problem; failure and inability to manage the demands of programs, an LPN concern. More RN than LPN students complained about courses and programs, but both experienced less faculty support and encouragement than they needed, and both were led to withdraw by costs and lack of financial resources. Other reasons for withdrawal that have been identified as significant in previous studies – such as personal problems, stress, illness and family responsibilities – were identified by only a few students in this study. The fact that these issues were identified by only a very few respondents should not diminish their important role in students' decisions to withdraw. A sizeable percentage of students find withdrawal a difficult decision, particularly LPN students, and many of them (also particularly LPN students) regret having made it. High school averages that are considerably lower than the class average may serve as an indicator of a student at risk for withdrawal from RN programs but not LPN programs.

The results of this study suggest that schools of nursing can take some actions to mitigate attrition. Today's nursing students need to have the state of the healthcare system carefully, honestly and clearly explained to them, including the effect that current issues – such as restructuring, funding and resource allocation – have had on nursing as a profession and on nurses' career satisfaction. Students must also appreciate that the state of the healthcare system and nursing as a profession will be the subject of discussion throughout their program, together with debate about policies and practices that can improve the system and the role of nurses as agents of change. While recruiting the best possible students is important, it is equally important that students' decision to enter a nursing program be an informed one.

An associated issue is making the clinical environments where students practise more student-friendly. Clinical practice is anxiety-provoking enough for students without their having to cope with unhelpful or even hostile staff who implicitly or actively discourage their career choice. Since most organizations that provide clinical practice opportunities for students undergo accreditation, the accrediting bodies should add quality of the learning environment for students to their list of areas for review and should develop standards for such assessment.

Schools must also consider faculty support to students and whether courses and individual classes meet the needs of their diverse student bodies, particularly in RN programs. Schools of nursing need strategies and programs that deliver the support students require, particularly early in their programs. Students cannot be relied upon to recognize their need for support or to seek it out; it will have to come to them.

Finally, many students in nursing programs need funding to succeed. Because the number of clinical hours that nursing students must work is significant, the hours they have available to earn money for living expenses is limited. This puts many under greater financial pressure than students in other university programs. Nursing must take on the problem of student funding and develop solutions that allow students to devote more time to their studies. Hopefully, such measures will allow more to succeed in completing their programs.

Completely eliminating attrition from schools of nursing may not be feasible, but every effort should be made to reduce it to the lowest possible level. Attrition is costly. It costs students who withdraw a year or two of subsequent earning power and can have a devastating effect on their sense of self-worth. It costs schools of nursing faculty effort and resources without producing a robust pool of graduates. For every student who does not complete a program, one fewer nurse is available to the healthcare system. It is a problem worth trying to eliminate.

Acknowledgments

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Appendix A: Attrition Research: Literature Review

Author, Year & Title

Shelton, E.N. 2003. Faculty support and student retention
US

Methods

Quantitative

Subjects/Recruitment

- Survey – mailed
- N = 458 final-semester students in 9 nursing programs in PA and NY
- Grp 1 n = 300 never withdrew
- Grp 2 n = 83 withdrew at some point
- Grp 3 n = 75 failed at some point
- Grp 2+3 might be currently enrolled or not if re-enrolled
- Mean age 30.3, range 18–54
- 50% had dependent children; 13% had another dependent family member
- 80% received some form of financial aid
- Roughly 50% had either high school or GED; the rest had some postsecondary but less than BA
- % by ethnicity not indicated

Measures Used

- Perceived Faculty Support Scale (developed by researcher)
- 24 items, Likert type – measured psychological support and functional support of students by faculty

Results

- Significant difference was found in total perceived support between group 1 and groups 2 and 3 in both kinds of support. The greatest differences were between groups 1 and 3 (students who never withdrew and those who failed)
- Findings of this study are argued to support the effectiveness of providing functional support, which is the kind most frequently identified in support and advisory programs in the literature
- Study advocates provision of psychological support as well, e.g., as in the mentoring role, but also in provision of patience, respect, interest in students, positive learning environment
- Limitations:
  - Grouping of withdrawn students who returned with those who didn't is

acknowledged as a limitation by the researcher, but was necessary to have an adequate sample of withdrawn students

- Researcher acknowledges that cross-sectional nature of the research is problematic since some withdrawn students had less time in the program to base their evaluations on
- The low return rate in formerly enrolled students compared to very high return rate for enrolled students is acknowledged as a limitation; researcher expects that those who didn't reply are likely to have evaluated faculty differently from those who did

- Strengths:
  - Very clear and well formulated theoretical foundation (Bandura, Tinto, Shelton)
  - Very specific, concrete operationalizations of faculty support are utilized, based on review of literature and relevant research
  - Very thorough and relevant reporting of demographic information about the sample (e.g., dependent children/family, employment status, transfer status)
- Recommendations:
  - That faculty approach students in need of help rather than leaving help-seeking to students (confirmed in my interviewing)
  - Suggestion that struggling students may not seek help

Author, Year & Title

Deary, I.J., R. Watson & R. Hogston. 2003. A longitudinal study of burnout and attrition in nursing students

Scotland

Questions

1. What creates stress and burnout?
2. What personal factors lead to attrition?

Methods

Quantitative

Subjects/Recruitment

- Longitudinal study of entry-level nursing students 1996–99 in one dept. of nursing in Scotland
- Surveys were distributed, completed and returned in presence of 2 researchers on first day of students' program (i.e., in school or classroom setting; not stated)
- Longitudinal design
- Survey data collected at 3 times – on entry, at 12 mos., at 24 mos.
- Institutional data at time of completion

Measures Used

Measure of personality, psychological morbidity, stress, intelligence, coping, burnout

- Alice Heim 4 – mental ability
- NEO Five-Factor Inventory (personality)
- Coping inventory for stressful situations
- General Health Questionnaire – 28 (psych. distress)
- Maslach Burnout Inventory
- Stress in nursing students (43 items, Likert-type, developed by researchers)

Results
- Researchers concluded there is likely no direct relationship between stress, burn-out and attrition
- Coping strategies were stable related to individual traits; across time, emotion-oriented, avoidance and distraction coping strategies increased and task-oriented coping did not change
- Coping ability was not correlated with any of the measures; researchers concluded that personality and coping styles were indicators of the impact of the program
- Students who discontinued scored lower on personality traits of agreeableness and conscientiousness
- Limitations:
  - Researchers identified that their measurement of attrition is a limitation of the study
  - Different programs make up the overall program studied
  - Blatantly sexist bias in the idea of agreeableness and selflessness being a predictor of program completion (p. 11); this also implies that success is entirely the responsibility of students, not of programs

Author, Year & Title
Spouse, J. 2000. An impossible dream? Images of nursing held by pre-registration students and their effect on sustaining motivation to become nurses

Methods
- Qualitative
- Interview data
- Artwork
- Observational data
- Documents

Subjects/Recruitment
- N = approx. 100
- Data:
  1. Individual interviews with students in the researcher's school
  2. Artwork – how it feels to be a nurse
  3. Observation of students in practice settings
  4. Documentary evidence from students' learning settings

Results

- Something interesting emerged in the data from several students related to the conflict with students' ideals for nurse–patient relationships
- Efforts at interpretation of study data focus on how change in belief systems occur; the assumptions employed in interpretation are those related to cognitive processes (e.g., cognitive dissonance, assimilation, accommodation)
- Conclusion was that theory could not be generated from the data gathered due to small sample size
- Limitations:
  - Findings are broad and unfocused
  - Researcher is so preoccupied with how beliefs change that she doesn't explore the data for what they might reveal about lack of fit and what students' early expectations about patient–nurse relationships might predict about their ability to accommodate to nursing environments and how conflicts of expectations resolve (when they are resolved)
  - Relevance of this study to attrition and retention is limited

Author, Year & Title

Hegge, M., P. Melcher & S. Williams. 1999. Hardiness, help-seeking behavior and social support of baccalaureate nursing students
US

Methods

- Quantitative
- Survey
- Correlational

Subjects/Recruitment

- 4 different sites of a baccalaureate nursing program
- Convenience sample
- N = 222
- 66 RN, 156 generic students
- Survey – administered after class
- Self-reported grades data (A, B, C, etc.)

Measures Used

Survey included:
- questions about help-seeking, academic performance, factors that affect academic performance
- items from Norbeck Social Support Questionnaire
- Personal Views Survey (measure of hardiness)

Results

- Significant relationship of hardiness and academic performance
- Negative factors: distance from school, finances, clinical experiences
- Students rated most significant factors as children at home, spousal expectations, family problems, distance from school
- Lack of personal social support was not a factor; students had lots of social support overall
- Limitations:
  - Data were gathered at 1 time only; only self-reported grades data available
  - This is not a study of attrition/retention, but since failure is a major reason students leave, studies of student achievement are related

Author, Year & Title

Harvey, V.C. & N.E. McMurray. 1997. Students' perceptions of nursing: their relationship to attrition
Australia

Methods

- Quantitative
- Survey

Subjects/Recruitment

- N = 73 college nursing students in a diploma of Applied Science – all had entered in the 2 years prior to the study so some were in 1st and some were in 2nd year of studies
- Withdrawn students (16) compared with continuing students (57)
- Surveys were mailed
- Age range 18–40 yrs.
- No age difference between the groups – 75% of leavers were 18–20 yrs.

Measures Used

18-item questionnaire – perception of problems in clinical placement, difficulty of academics, expectations of content, 6 possible factors in leaving (difficulty passing, dislike of clinical, course, financial pressure, unsatisfactory living accommodations, inability to adapt to student life)

Results

- Differences in expectations between groups (more leavers found course content, particularly degree of science, different from expected), p < .03; more leavers felt info. prior to entry insufficient (ns)
- Significant difference in academic help-seeking; more leavers did NOT seek help (93.7%) compared to those who did (64.9%), p < .02
- No significant differences between groups in the 6 factors expected to predict leaving

- Limitation: Small sample size
- Strength: Exploration of under-researched attrition factors, such as help-seeking by students

Author, Year & Title

Liegler, R.M. 1997. Predicting student satisfaction in baccalaureate nursing programs: testing a causal model

US

Methods

- Quantitative
- Survey
- Causal – path analysis

Subjects/Recruitment

- 5 baccalaureate schools, including both public and private
- N = 195

Measures Used

- Likert-type questionnaire, using:
- social integration with faculty
- Social Integration with Peers Scale
- items from scale measuring student development
- 5 factors are analyzed based on the literature (Tinto; Pascarella & Terenzini): student background/pre-enrollment characteristics, external influences, college facilities/services, academic integration, social integration

Results

- Background factors indirectly predictive of satisfaction – no previous certification, previous GPA, ethnicity
- External factors did not affect academic and social integration
- Access to and satisfaction with program facilities and services predicted academic integration only
- Social and academic integration explained 42% of variance in overall satisfaction
- Limitation: Is satisfaction synonymous with retention? Even if it is, how does it help us decide on concrete and specific interventions that will help those who are not satisfied? Very general
- Strengths:
    - Theoretical basis and analytical sophistication – hypotheses are very sophisticated and take interaction among variables into account
    - Data collected from several sites, therefore more generalizability is possible
    - Acknowledgment of interaction between variables

Author, Year & Title

Jalili-Grenier, F. & M.M. Chase. 1997. Retention of nursing students with English as a second language

Canada

Methods

- Quantitative
- Survey

Subjects/Recruitment

Convenience sampling – all 1st- and 2nd-year students UBC/Vancouver Hospital nursing program

- ESL students, non-ESL students and faculty
- N = 179 students
- N = 24 faculty
- Demographic info. included:
  - For students: No. of languages spoken, no. of first-generation students, no. of countries of origin, age of arrival in Canada, no. of students spoke English with families or where they live
  - For faculty: Languages spoken by faculty, birthplace of faculty, age mean 37.8 yrs.

Measures Used

- Surveys Likert-type, some open questions
- 2 surveys – 1 for students, 1 for faculty

Results

- ESL students rated the helpfulness of ESL classes lower than did faculty; ESL students rated other class, conversational and applied study contexts for English language acquisition more highly
- ESL students found asking questions in lab in 1st-year clinical course and in 1st-year English more difficult than non-ESL students
- Faculty indicated a need for help in the instruction of ESL students
- Significant differences between faculty and student perceptions of needs and difficulties; faculty rated students' writing and English fluency needs much higher than did students; faculty rated difficulty of learning activities higher than students and their contribution to learning lower
- Limitations:
  - Researcher acknowledged that faculty were not asked for their perceptions of non-ESL students; this would have provided valuable comparison data
  - Findings and recommendations lack concreteness (e.g., suggestion that faculty and student perceptions be brought together)
- Strengths:
  - Only published Canadian study in this area

- Researcher asks some under-researched questions about the difficulty of asking questions in several learning contexts; this may get at barriers to help-seeking behaviour for ESL students

Author, Year & Title

Tinto, V. 1997. Classrooms as communities: exploring the educational character of student persistence

US

Methods

- Quantitative
- Survey
- Qualitative data – interviews and observational data

Subjects/Recruitment

- Convenience sampling in Seattle Central Community College
- N = 166
- 1st-year students in 4 coordinated studies classes in liberal arts (N = 121) and 11 other comparison classes
- Surveys administered at beginning and end of 1st term
- Qualitative data: Observation based on repeated visits to sites (class, university, surrounding communities), informal interviews with staff, faculty, students, formal open-ended interviews with 45 students and staff, 20 informal telephone interviews with key informants, 36 semi-structured interviews with students

Measures Used

Quality of Effort Scale (Pace) measured engagement

Results

- 4 factors predicted persistence: grade point average (GPA), hours studied per week, perceptions of faculty, factor score on involvement with other students
- Scope of this study is much broader than nursing programming; Tinto makes a case for creating networks of support for student learning and to overcome what he calls "the academic social divide"
- Limitation: Research like this may reflect important values but is at several re-moves from defining practical interventions to offer students to help retention
- Strength: Multiple types of data, both quantitative and qualitative

Author, Year & Title

Aber, C. & D. Arathuzik. 1996. Factors associated with student success in a baccalaure-ate nursing program within an urban public university

Methods
- Quantitative
- Survey
- Descriptive correlational

Subjects/Recruitment
- Convenience sample
- 123 senior nursing students (44 RN; the remainder generic)
- Survey
- Mean age 29 yrs.; RN 38 yrs
- 63% single
- Educational background: 37% high school students, 32% transfer students
- 74% had previous nursing care experience
- 23% required childcare
- Mean 27.33 h/wk worked by students

Measures Used
- Clinical Self-Efficacy Scale – measures confidence in ability to perform clinical tasks
- Study Skills Self-Efficacy Scale – measures efficacy beliefs about students' study skills

Results
- Students' success measured by overall GPA in their nursing program correlated significantly with
  - entrance on basis of GED (neg. corr.)
  - financial difficulties (neg. corr.)
  - lack of confidence (neg. corr.)
  - low motivation (neg. corr.)
  - plans to attend grad. school
- All the items on the Study Skills Scale and all but one on the Clinical Self-Efficacy Scale correlated positively with program success
- Findings support self-efficacy theory; researchers theorized that their work in healthcare field and frequent previous postsecondary education likely accounted for the self-efficacy confidence students reported
- Researchers recommended that these measures of efficacy be used to monitor students and provide remedial supports and also individual attention; they also recommended setting up a database for students that includes their financial and family responsibilities, work requirements, childcare needs and other data that may affect their success, as well as providing meticulous personal advising
- Limitation: Small sample size/limited generalizability
- Strength: The measures developed by this researcher are a good example of combining subjective student evaluations of confidence (and, inversely, need) with an objective measurement approach. The implications of the study (i.e., that schools

initiate the monitoring of students so that they can proactively OFFER help) are consistent with the attributes of caring that students identified in Hanson's study

Author, Year & Title

Hanson, L. & M. Smith. 1996. Nursing students' perspectives: experiences of caring and not-so-caring interactions with faculty
US

Methods

- Qualitative
- Interview data
- Phenomenological inquiry

Subjects/Recruitment

- Recruitment in 2 American schools – a private college and a public university
- 32 students – open-ended interviews
- Age range 19–43 yrs.
- 28 unmarried; 30 without children
- 28 Caucasian

Measures Used

Open-ended interviews in which students were each asked to describe a caring and a not-so-caring interaction with faculty

Results

- Themes arrived at by the researchers based on interviewing students were recognition, connection and confirmation/affirmation
- (p. 108) Caring interactions were either initiated by faculty or were in the nature of faculty's responses to students; the initiation of interactions by faculty was noted; caring interactions with faculty were reported by students to elicit confidence, competence and the motivation to continue and to work harder
- (p. 107) "Students said that faculty who listened, accepted them and acknowledged them as persons made them feel confident, encouraged and assured them that they were in the right profession"

Author, Year & Title

Saucier, B.L. 1995. Professional nursing student retention program
US

Methods

- Qualitative, descriptive

Subjects/Recruitment
Description of a retention program

Results
- Attrition factors found to be failure, transfers to other majors, lack of prerequisites and withdrawals for personal reasons (or military transfer)

Author, Year & Title
Jalili-Grenier, F. 1993. Recruitment, selection and attrition in Canadian university schools of nursing
Canada

Methods
- Quantitative and qualitative
- Survey

Subjects/Recruitment
- N = 21 baccalaureate programs in Canada participated
- Surveys were mailed to nursing programs – very high rate of return (87.5%)

Measures Used
Survey – open and closed questions about recruitment, admission/selection, retention of students

Results
- Academic failure or difficulty is one of the main reasons for attrition; this points to the unreliability of high school and 1st-year nursing grades as a predictor of success in some cases, given that other factors (i.e., poor study habits, too much socializing) can contribute to developing support systems and difficulty adjusting to university
- Other attrition factors include personal problems, family obligations, financial difficulties and incorrect career choice
- Lack of evaluation of effectiveness of recruitment activities noted by author
- 9 nursing programs did admission interviewing but there was no significant difference in attrition rates between these schools and those without admission interview procedures
- Strengths:
  - Large-scale study (21 schools)
  - Scope of issues investigated is broad
  - Only Canadian study of this scale

Author, Year & Title

Smith, V.A. 1990. Nursing student attrition and implications for pre-admission advisement
US

Methods

- Quantitative
- Survey

Subjects/Recruitment

- Convenience sampling in a US women's university nursing program
- N = 227 nonreturning students
- N = 24 faculty
- Surveys were mailed to former students

Measures Used

27 survey items based on Lenning's work re: attrition factors, 1980 – same survey used for faculty and students to compare student input with faculty's perceptions

Results

- The top 5 factors identified by students for leaving were related to finances/work responsibilities and dissatisfaction with program requirements
- Faculty and student perceptions about the interference of finances/work agreed
- Faculty and students did not agree about the contribution of poor study skills (100% vs. 14.5%) to their leaving
- Recommendation: Focus on prevention strategies – list of 10 suggestions for guidance of new students (advice re: financial aid, clear outline of all program expenses, employment opportunities to fit nursing program demands, travel expected, time required for preclinical prep., examples of class and clinical scheduling, how to access tutorial services, enrollment in course to improve study skills or course mastery, how to approach and get help from faculty, name and telephone no. of adviser)

Author, Year & Title

Marshall, J.E. 1989. Student attrition: is lack of support a key?
US

Methods

- Quantitative
- Survey

Subjects/Recruitment

- N = 161 students asked to complete a survey in fall term at a US university

- At end of the term 21 of the 161 who had left were matched with a comparison group of students who stayed – matched on program level and marital status
- Students who stayed and those who left were different in age (stayed – mean age was 27.8 yrs.; in the group that left the mean age was 33.5 yrs.)

Measures Used
- Malone Social Network Inventory
- No. of individuals and groups, what level of impact, 6 dimensions of social support

Results
- Students who stayed had more personal social supports and more helpful supports; classmates and faculty did not appear to be frequently noted as supports
- Age difference may mean differences in level of family responsibility

Author, Year & Title
Harrison, S. & J. Reid. 2001. To stay or to go? Students' perspective on the recruitment and retention of nurses
Focus is retention of potential new nurses
Canada

Methods
- Qualitative
- Focus groups

Subjects/Recruitment
- 3 focus groups; N = not noted
- Students nearing completion of RN in a BC university
- Age 20–49 yrs.

Results
- Cost of education not reflected in wage
- Low valuation of nurses based on limited public understanding of scope of practice and responsibility
- Work environment unsafe, patient loads unmanageable
- Need for more autonomy
- Mentorship needed upon graduation
- Recommendations:
    - Closely reflect these findings
    - Focus is retention of potential new nurses

Author, Year & Title

Hagey, R. & R.W. MacKay. 2000. Qualitative research to identify racialist discourse: towards equity in nursing curricula

Canada

Methods

- Qualitative
- Interview and focus group data
- Discourse analysis

Subjects/Recruitment

- Interviews:
  N = 40 students, 1 staff, 1 faculty, 1 preceptor
- Focus groups:
  N = 40 students in focus groups
- Random stratified sampling – stratification by grades
- Subjects' ethnicity was not distinguished in analysis of data; researchers explained their decision not to make such distinctions

Results

- Evidence of racialist social cognitions and denial of systemic racism was found by the researchers

Author, Year & Title

Memmer, M.K. & C.C. Worth. 1991. Retention of English-as-a-second-language (ESL) students: approaches used by California's 21 generic baccalaureate nursing programs

US

Methods

- Qualitative
- Interviews

Subjects/Recruitment

- N = 21 baccalaureate programs in California
- Participants were 21 baccalaureate nursing program directors (or their designees)

Measures Used

Telephone interviews based on structured interview – 35 items, some stats, but most related to retention strategies aimed at ESL students

Results

- 5 schools had no data on retention of ESL students

- In 21 schools widely variable rates of retention were found
- 5 schools had retention rates of 93–100%
- These 5 schools were using more of the 30 retention strategies that were identified, and the 4 schools with the lowest retention rates were using the fewest
- It's possible that in schools with high retention rates the admission requirements were higher (my reading of the findings)
- The schools that kept no data on ESL students were using very few strategies
- Limitation: No evaluation of strategies that were most effective, so the authors revert to the literature to highlight key strategies (p. 395)
- Strengths:
  - Sample size 21 schools; findings are likely therefore to have broader relevance and transferability
  - This is the only study of its kind that takes a broad picture of retention strategies and evaluates schools based on the no. of strategies employed

Interventions Literature

Author, Year & Title

Jeffreys, M.R. 2002. Students' perceptions of variables influencing retention: a pretest and post test approach

US

Subjects/Recruitment

- N = 28 students registered in any required clinical course in a northeastern public US university nursing program
- Survey administered at 2 times – first and last meetings of study group
- Students attended a regular weekly study group (led by peer mentor) and answered survey at 2 times, at beginning and end of course
- (13 more students withdrew and 14 more didn't identify their social security no.; therefore questionnaires couldn't be matched for the 2 times)
- Ethnicity is noted in this study in a way that is better than in others, i.e., 61% "Euro-American" is acknowledged as a category
- 68% part-time students
- 58% worked part time
- 2/3 of study group female

Measures Used

- Student Perception Appraisal (22 items related to variables supportive of success; 6-pt Likert, based on Bean & Metzner model of nontraditional student attrition) of the supportive and restrictive effects of several factors

Results

- Environmental factors perceived by students as significant – finances and family particularly
- Academic factors (study skills, study hours) and social integration (faculty advisement, friends in class, enrichment program, tutoring) also perceived as significant
- Across time, more students evaluated employment and responsibilities as restrictive and evaluations of restrictiveness increased (i.e., more restrictiveness perceived)
- An overestimation of the study skills and study hours on retention was found in this study as in another by Jeffreys when students' evaluations were considered at T2
- Linkage of students with peer mentors in study group format found to be effective based on students' evaluations
- All members of the study group passed
- 2/3 of the study sample were the first members of their family ever to attend college
- A conclusion drawn was that social integration is supportive for retention – i.e., the enrichment program model was perceived as combining social integration with study supports and skills enhancement

Strengths:

- Longitudinal approach
- Student evaluations of interventions are valuable

Author, Year & Title

Jeffreys, M.R. 2001. Evaluating enrichment program study groups: academic outcomes, psychological outcomes and variables influencing retention

US

Evaluation of
1. academic outcomes
2. satisfaction
3. retention factors

Methods

- Quantitative
- Survey
- Comparison of control group and intervention group

Subjects/Recruitment

- Convenience sampling
- Public university in northeastern US
- Surveys administered in first and last meetings of study groups over 4 semesters (mailed to those absent in last meeting)

- N = 1008 (257 of these were in the intervention group)
- Mean age 32, 6% male; 851 (control group, mean age 30, 16% male)
- Breakdown by ethnicity – more nonwhite in intervention group, some information missing for both groups

Measures Used
- Student Perception Appraisal (21 items related to variables supportive of success; 6-pt Likert, based on Bean & Metzner model of nontraditional student attrition)
- Satisfaction Questionnaire (8 items)

Results
- Excellent table of findings re: factors that restrict and enhance retention (p. 147); persistence is negatively influenced by family and work responsibilities and positively influenced by faculty and peer mentoring and interactions, social integration and satisfaction
- Most of the factors found to restrict retention were environmental; more of the factors that supported retention were academic
- Benefit was found from the academic support group intervention but the moderate size of the benefit could be due to the fact that it doesn't touch the restrictive environmental factors (my interpretation)
- Strengths:
  - Theoretically very sophisticated
  - Longitudinal approach

Author, Year & Title
Klisch, M.L. 2000. Retention strategies for ESL nursing students
US

Methods
- Quantitative
- Survey data and school outcomes information

Subjects/Recruitment
- N = 31 ESL students in a private nursing school enrolled between 1991–99
- Age 22–44 yrs.
- Students' ethnicities were listed individually (only study like this)

Measures Used
Satisfaction survey (21 statements, Likert 1–7)

Results
- Evaluation of retention services offered in a private nursing school to support ESL
- ESL adviser, English language supports and accommodation of students in exam

policies were evaluated positively by students' %s
- Limitations:
  - Small sample size
  - Satisfaction survey available only for years 1997–99

Author, Year & Title

Lockie, N.M. & L.J. Burke. 1999. Partnership in learning for utmost success (PLUS): evaluation of a retention program for at-risk nursing students
US

Methods

Quantitative
- School outcomes data
- Good summary of Bean & Metzner's 1985 study of attrition factors in nontraditional students

Subjects/Recruitment

- N = 210 at-risk students
- Students enrolled in a 3-year program, 1989–93
- Comparison of 121 at-risk students who took 1–4 PLUS courses and 89 at-risk students who did not participate in PLUS program
- Difference between at-risk students and non-at-risk students – a higher % of at-risk group were on probation at the time of admission; otherwise, their achievement levels were equivalent at the outset of program
- White is not an ethnicity – 40–50% in both groups were white

Measures Used

Intervention was the PLUS program, a series of 6 (1-credit) courses offered concurrently with nursing courses

Results

- Averages and rates of probation status lower in PLUS program students
- Persistence rates and graduation rates of at-risk students were significantly higher and attrition was significantly lower in the group of at-risk students that took the PLUS program (all $p < .00001$)
- Limitation: Importantly, students were not asked to evaluate the helpfulness of the learning strategies intervention for its fit to their learning and school challenges

Author, Year & Title

Jeffreys, M.R. 1998. Predicting nontraditional student retention and academic achievement
US

Methods
- Quantitative
- Correlational
- Survey
- Course grades and retention data

Subjects/Recruitment
- Purposive sample – 1st-semester students enrolled in their first clinical nursing course in a northeastern US university
- N = 97 nontraditional students
- Survey administered in class
- Definition of nontraditional students – at least one of 6 criteria (25+, male, ESL, GED, dependent children, ethnic or racial minority)

Measures Used
- Self-efficacy measure designed by researcher – 2 subscales – nursing skills (NSS) and educ. requirements (ERS) – 60/10 items, Likert, measured perceived confidence in skills and ability to learn
- Student Perception Appraisal was the 2nd survey – 42 items based on Bean & Metzner (2 sets of 21 items evaluating factors students thought their grades and retention would depend on) measured the supportiveness or restrictiveness of environmental and academic factors. Two scores were generated – academic factors strength AVST and environmental variable strength
- (Academic variables according to Bean & Metzner included study hours, good academic advising, class attendance, study skills, etc.)

Results
- Retention in this course was 91%
- AVST was negatively correlated with academic grades (p = .001) and also negatively with retention (ns)
- Combined effect of self-efficacy, academic and environmental variables accounted for moderate amount of variance in academic achievement
- Students rated study skills and faculty advisement and helpfulness as supportive and family responsibilities and crises as restricting; family support, social support, childcare arrangements all rated influential
- Some students were found inaccurate in their evaluation of their abilities; the conclusion drawn is that early assessment, guidance and advisement are needed
- Limitations:
  - Elimination of participants whose data were incomplete meant limited diversity of the sample
  - Researchers thought the definition of nontraditional might be narrowed and longitudinal data might be more helpful

Author, Year & Title

Kelly, E. 1997. Development of strategies to identify the learning needs of baccalaureate nursing students

US

Methods

- Quantitative
- Case control study

Subjects/Recruitment

- Case control study of 1st year, junior-level baccalaureate students
- N = 57 baccalaureate students matched with 57 students from previous year
- Age range 19–40+
- 88% Caucasian
- By learning style – 19% divergers, 19% convergers, 37% assimilators, 25% accommodators
- Purpose: To measure effect of offering students learning strategies applicable to nursing education based on those students' learning styles

Measures Used

- Kolb Learning Style Inventory
- 4 study group meetings with students – the last 2 were based on students' identified needs
- In the first meeting of the study group, students tested their learning styles

Results

- Very limited reporting of results
- In 2 of 3 courses compared, there was no difference in outcomes (grades) between the study group and control; students in the control group had better grades in one of the nursing courses than the study group
- The 6 study group members who failed were younger, had lower admitting GPAs and were also members of ethnic minority groups
- Limitations:
  - This intervention depends on students' compliance with strict rules for how they read, study and learn, both academically and in clinical settings; compliance with the study regimes offered to students as learning strategies is likely to be limited
  - The problem with evaluating learning styles is that the evaluation assumes pure types
  - Importantly, students were not asked to evaluate the helpfulness of the learning strategies intervention for its fit to their learning and school challenges

Author, Year & Title

Symes, L., K. Tart, L. Travis & M.S. Toombs. 2002. Developing and retaining expert
learners: the Student Success Program (SSP)
US

Methods

Program evaluation

Subjects/Recruitment

- Nursing students admitted over 2 terms to Texas Woman's University nursing
program
- 1st-term SSP group – 14 students
- 2nd-term group – 21 students
- Ethnicities noted but 51% noted as "white," as if white were an ethnicity; this is
a common problem of ethnocentrism that is reflected throughout much of the
available research literature

Measures Used

Student Success Program evaluated

Results

- Failure, graduation and on-time completion rates were noted (compared for stu-
dents)
- Time to completion was longer for more "minority" students than "white" students
- SSP is a for-credit program; students were required to enter it depending on read-
ing skills evaluation for ESL students; course included mandatory 15 h of accent
modification!
- Limitations:
  - This evaluation gives an informal and somewhat sketchy outline only of out-
comes; it is not a formal or a structured evaluation
  - The only outcomes reported are school outcomes

Appendix B

Questionnaire: Why Students Leave Nursing Programs in Canada

Please do NOT write your name, or the name of the school from which you withdrew, on this questionnaire.

In the first section of the questionnaire, the reasons why you chose to enter a nursing program are explored. This is followed by questions about your experiences in the program. In the final section, your reasons for leaving the program are sought, as are your recommendations to increase the retention of nursing students in programs.

1. Students enter nursing for a variety of reasons. The following is a list of such reasons. If the reasons why you chose nursing are not listed, please add them. Please circle yes or no beside each to reflect whether or not they influenced your decision to study nursing.

	Yes	No
Like the idea of helping people	1	2
Attracted by the whole medical field	1	2
Had earlier positive experience with nurse(s)	1	2
Close family member is a nurse	1	2
Starting salary is reasonable	1	2
Opportunity to work internationally	1	2
Opportunity to contribute to society	1	2
Realize there is a shortage, so there will be jobs	1	2
Good preparation for moving into other careers	1	2
Learn things that will be useful in life	1	2
Could not get into medicine	1	2
Could use nursing to get into medicine	1	2
Could not get into physical or occupational therapy	1	2
Believe nurses are critical to healthcare	1	2
Wanted opportunity to express compassion & caring	1	2
Program was easy to access	1	2
_____	1	2
_____	1	2
_____	1	2

2. When did you decide that you wanted to be a nurse?

When I was a child	1
Several years before applying	2
Just before I applied to nursing school	3

3. Were you interviewed as part of the admission program?
    Yes   1   go to 3a
    No   2   go to 4

3a. Did the admission interview help you get a feel for what the nursing program involved?
    Yes   1
    No   2

4. Were you confident about your choice of nursing as a career when you entered the nursing program?
    Yes   1   go to question 5
    No   2   go to question 4a

4a. Which of the following reasons reflect why you were not confident in your choice of nursing as a career? Please circle yes or no for each.

	Yes	No
Uneasy about status of nurses in health system	1	2
Unsure about suitability for role	1	2
Unhappy with salary of nurses	1	2
Uneasy about life of shifts & weekend work	1	2
Not clear about what nursing involved	1	2
Worried about ability to manage patient care	1	2
Nursing was my second/third choice	1	2
Concerned about ability to manage course work	1	2
Not sure about what I wanted	1	2
None of these	1	2

    If there are other reasons not captured by this list, please list them here:

    _____

    _____

5. When you left the nursing program, what did you move into? Please describe:

In the next section of the questionnaire, you are asked to identify the reasons why you left the nursing program and some aspects of your decision-making process.

6. The following are a list of reasons that students have given for withdrawing from nursing programs. Some students leave for a combination of reasons. In other cases they may leave for one or maybe two major reasons. These questions are designed to allow you to indicate how much, if any, of the following reasons influenced your decision to leave. Circle the most appropriate answer beside each reason.

The first set of reasons relate to how nursing may be viewed as a profession
How influential was this reason in your decision to withdraw

	Not at all	Somewhat influential	Very influential	Major reason
Nursing was not what I expected	1	2	3	4
Nursing work is too mundane, repetitive	1	2	3	4
Nurses have to deal with too many upsetting situations	1	2	3	4
Nursing is not as exciting as I expected it would be	1	2	3	4
Nurses have to work too hard	1	2	3	4
Nursing as a profession is disappointing	1	2	3	4
Nursing is in chaos today	1	2	3	4
Working life as a nurse is not appealing	1	2	3	4
Level of abuse nurses experience is disconcerting	1	2	3	4
Difficult working with patients with infectious diseases	1	2	3	4

The next set of possible reasons relate to the nursing program

Did not enjoy the course work	1	2	3	4
Found the course work too difficult	1	2	3	4
Did not fit in with my classmates	1	2	3	4
My classmates were not close or supportive	1	2	3	4
Did not enjoy the clinical work	1	2	3	4
My grades were too low to continue	1	2	3	4
Found the clinical work upsetting	1	2	3	4
I was bored	1	2	3	4
Course loads were too high	1	2	3	4
Did not find the faculty supportive enough to me as an individual	1	2	3	4
Faculty did not make me feel confident I could succeed	1	2	3	4
Found specific courses too difficult	1	2	3	4
Did not have the study skills necessary to be successful	1	2	3	4
Found the rules for clinical practice frustrating and excessive	1	2	3	4
Lack of support for ESL students	1	2	3	4

The following possible reasons are about the pressures some students experience in their personal lives

	Not at all	Somewhat influential	Very influential	Major reason
Had to work too much to support myself and it interfered with my studies	1	2	3	4
Too many outside responsibilities interfered with my studies	1	2	3	4
Could not handle the cost of tuition	1	2	3	4
Cost of books was too high	1	2	3	4
Didn't have enough money for living expenses	1	2	3	4
Received insufficient support from family and friends	1	2	3	4
English is my second language	1	2	3	4
Personal problems interfered with schoolwork	1	2	3	4
Too stressed by my personal life to continue	1	2	3	4
Became ill and could not continue	1	2	3	4
Had too long a commute to school & clinical placements	1	2	3	4

This final set of possible reasons include negative experiences students may have had

	Not at all	Somewhat influential	Very influential	Major reason
Badly treated/abused by nursing staff in hospitals	1	2	3	4
Nurses in clinical agencies discouraged me about nursing	1	2	3	4
Was personally mistreated/abused by patient(s)	1	2	3	4
Was personally mistreated/abused by facultymember(s)	1	2	3	4
Was personally mistreated/abused by classmate(s)	1	2	3	4
Was subjected to racism in the program	1	2	3	4
Was subjected to homophobia in the program	1	2	3	4
It was difficult to be in a small minority in a largely white, heterosexual environment	1	2	3	4
I could not live up to my own expectations	1	2	3	4
Just didn't like it	1	2	3	4

There may be reasons that influenced your decision that are not reflected in this list. Please list them below.

_____

_____

_____

7. Please list the three main reasons why you left the program.
   1. _____
   2. _____
   3. _____

8. When did you begin to realize that you would not pursue the nursing program? Circle one.

Within weeks of beginning the program	1
Part-way through my first year	2
Towards end of my first year	3
Between first and second year	4
Part-way through second year	5
At the end of second year	6
During third year	7
During fourth year	8

9. How difficult was it to make the decision to withdraw? Circle one.

Not difficult/Easy	1
Somewhat difficult	2
Very difficult	3
Was not my decision/Failed	4

10. If there were things you liked about your experience in the program or about becoming a nurse, please list them here:

_____

_____

_____

11. Have you ever regretted leaving the nursing program?

Not at all	1
A little	2
Quite a bit	3
Very much	4

12. Have you discussed your decision and your feelings about it with anyone in a career/personal counselling role since leaving the program?

Yes	1
No	2

In this next section we are interested in your views of what nursing programs could do to improve the chances of students finishing and graduating as a nurse.

13. Please circle yes or no, to indicate whether you recommend that nursing programs institute the following:

	Yes	No
Interview all applicants before admitting them	1	2
Increase the average required for admission	1	2
Provide much more personal counselling to students	1	2
Assign faculty mentors to students right from first year	1	2
Assign student mentors to students right from first year	1	2
Provide more financial assistance to reduce the amount students must work	1	2
Introduce more positive role models to students	1	2
Introduce students to clinical practice early in the program	1	2
Delay exposing students to clinical practice till later in the program	1	2
Place students only in "student-friendly" hospitals where they will be encouraged	1	2
Make the programs more intellectually challenging	1	2
Deal effectively with the needs of diverse students	1	2
Provide a very realistic picture of nursing in information sessions for interested potential students	1	2
Reduce the course workload expected of students	1	2

Are there other things that you would suggest that nursing schools initiate to reduce the number of students who withdraw?

_____

_____

_____

We are interested in anything you would like to tell us about withdrawing from or remaining in nursing programs, either from your own experience or that of others with whom you are acquainted.

_____

_____

_____

You are almost finished, but we would like to know something about you, although not enough to identify you. It is important that you know that in each region of the country, several schools of nursing that prepare individuals to become registered nurses and licensed/registered practical nurses are participating.

14. In what region of Canada was your school of nursing located?

Atlantic region	1
Ontario/Quebec	2
Western region	3

15. Were you a student in a program to prepare:

Registered nurses	1
Registered psychiatric nurses	2
Licensed/registered practical nurses	3

16. Did you enter the nursing program directly from high school or after other experiences?

Directly from high school	1
After another educational program	2
After working	3
After raising a family	4

17. In what age range are you?

20–30 years	1
31–40 years	2
41–50 years	3
Over 50	4

Thank you very much for taking the time to answer these questions.

Appendix C

Additional Tables from Study

Table 4. Reasons students entered nursing programs

Reason	Total Sample N=66	RN N=39	LPN N=20
Like the idea of helping people	96%	95%	95%
Attracted by the whole medical field	82%	85%	90%
Had earlier positive experience with nurse(s)	50%	51%	50%
Close family member is a nurse	44%	36%	65%
Starting salary is reasonable	76%	74%	75%
Opportunity to work internationally	55%	59%	50%
Opportunity to contribute to society	79%	77%	80%
Realize there is a shortage, so there will be jobs	74%	82%	65%
Good preparation for moving into other careers	49%	41%	65%
Learn things that will be useful in life	77%	77%	75%
Could not get into medicine	9%	10%	10%
Could use nursing to get into medicine	23%	31%	15%
Could not get into physical or occupational therapy	6%	5%	10%
Believe nurses are critical to health care	74%	74%	80%
Wanted opportunity to express compassion & caring	82%	82%	75%
Program was easy to access	39%	46%	30%

Table 5. Reasons students withdrew from nursing programs

Reason	Total Sample N=66	RN N=39	LPN N=20
Re: Nursing as a Profession			
1. Nursing in chaos	21%	23%	15%
2. Working life not appealing	26%	36%	5%
Re: Nursing Program			
1. Did not enjoy course work	26%	33%	10%
2. Did not enjoy clinical	21%	28%	15%
3. Grades too low	20%	10%	40%
4. Specific courses too difficult	22%	15%	45%
5. Course loads too heavy	23%	23%	25%
6. Did not have study skills	27%	8%	35%
7. Faculty not supportive	45%	36%	45%
8. Faculty did not instill confidence	36%	33%	35%

Re: Personal Lives

1. Too stressed	25%	28%	16%
2. Work too much	23%	21%	25%
3. Outside responsibilities	23%	18%	30%
4. Tuition too much	24%	26%	20%
5. Books too much	30%	33%	25%
6. Living expenses	29%	26%	35%
7. Insufficient support	15%	10%	25%
8. Personal problems	23%	26%	20%

Re: Negative Experiences

1. Could not live up to own expectations	24%	26%	25%
2. Didn't like it	18%	23%	5%

Table 6. Three main reasons for leaving program

Reasons for leaving	Total (69)	RN (39)	LPN (20)
Alternative career	13	12	1
Disillusionment with nursing	20	18	1
Costs involved/funds available	30	15	12
Family responsibilities	7	4	2
Program/faculty difficulties	53	34	13
Nature of nursing	6	4	1
Stress/personal problems	11	5	4
Health problems	6	2	2
Academic failure	19	1	15
Other	21	11	9

Table 7. When students began to realize nursing was not for them

When realization began

	Within weeks of start	Partway thru 1st year	Toward end 1st year	Between 1st & 2nd year	Partway thru 2nd year	End 2nd year	In 3rd year	In 4th year
RN students	5%	23%	30%	13%	10%	8%	8%	3%
LPN students	5%	55%	25%		11%		NA	NA

Table 8. Degree of difficulty deciding to leave

Difficulty deciding to withdraw	Total Sample N=66	RN N=39	LPN N=20
Not difficult/Easy	8%	10%	5%
Somewhat difficult	24%	36%	10%
Very difficult	41%	41%	30%
Not my decision/Failed	27%	13%	55%

Table 9. Degree of regret about leaving nursing program

Regret about leaving the nursing program	Total Sample N=66	RN N=39	LPN N=20
Not at all	12%	15%	5%
A little	31%	41%	15%
Quite a bit	21%	23%	15%
Very much	35%	21%	65%

Table 10. Suggestions for reducing attrition from programs

Recommendations	RN N=39	LPN N=20
Re: Admission Program		
Interview all applicants before admitting them	49%	60%
Provide a very realistic picture of nursing in information sessions for interested potential students	90%	80%
Re: Nursing Program		
Increase the average required for admission	15%	25%
Make the programs more intellectually challenging	49%	25%
Reduce the course workload expected of students	46%	45%
Introduce students to clinical practice early in the program	80%	65%
Delay exposing students to clinical practice till later in the program	15%	5%
Place students only in "student-friendly" hospitals where they will be encouraged	69%	60%
Re: Supports and Assistance		
Assign faculty mentors to students right from first year	80%	70%
Assign student mentors to students right from first year	80%	55%
Introduce more positive role models to students	69%	70%
Provide much more personal counselling to students	69%	80%
Provide more financial assistance to reduce the amount students must work	77%	85%
Deal effectively with the needs of diverse students	74%	70%

Table 11. High school averages and withdrawal

Type of program	Total	Remained	All withdrawn students	Voluntary withdrawal	Failure
RN	78.8	79.8	75.6	77.3	73.4
	N=768	N=590	N=178	N=100	N=78
LPN	67.3	67.7	65.8	65.8	65.9
	N=907	N=754	N=153	N=65	N=88

Appendix D

Reasons students left (rated major and influential)

Reason	Total Sample N=66	RN N=39	LPN N=20
Re: Nursing as a Profession			
Nursing was not what I expected	9%	15%	0%
Nursing work is too mundane, repetitive	11%	18%	0%
Nurses have to deal with too many upsetting situations	9%	8%	10%
Nursing is not as exciting as I expected it would be	9%	13%	5%
Nurses have to work too hard	12%	18%	5%
Nursing as a profession is disappointing	12%	18%	0%
Nursing is in chaos today	21%	23%	15%
Working life as a nurse is not appealing	26%	36%	5%
Level of abuse nurses experience is disconcerting	18%	21%	15%
Difficult working with patients with infectious diseases	5%	0%	10%
Re: Nursing Program			
Did not enjoy the course work	26%	33%	10%
Found the course work too difficult	17%	15%	20%
Did not fit in with my classmates	9%	13%	0%
My classmates were not close or supportive	12%	15%	5%
Did not enjoy the clinical work	21%	28%	15%
My grades were too low to continue	20%	10%	40%
Found the clinical work upsetting	14%	21%	5%
I was bored	11%	15%	0%
Course loads were too high	23%	23%	25%
Did not find faculty supportive enough to me as an individual	45%	36%	45%
Faculty did not make me feel confident I could succeed	36%	33%	35%
Found specific courses too difficult	22%	15%	45%
Did not have the study skills necessary to be successful	27%	8%	35%
Found the rules for clinical practice frustrating and excessive	18%	21%	20%
Lack of support for ESL students	2%	0%	5%
Re: Personal Lives			
Had to work too much to support myself and it interfered with my studies	23%	21%	25%
Too many outside responsibilities interfered with my studies	23%	18%	30%
Could not handle the cost of tuition	24%	26%	20%
Cost of books was too high	30%	33%	25%
Didn't have enough money for living expenses	29%	26%	35%

Reason	Total Sample N=66	RN N=39	LPN N=20
Received insufficient support from family and friends	15%	10%	25%
English is my second language	0%	0%	0%
Personal problems interfered with schoolwork	23%	26%	20%
Too stressed by my personal life to continue	25%	28%	16%
Became ill and could not continue	12%	13%	5%
Had too long a commute to school & clinical placements	3%	0%	5%

Re: Negative Experiences

	Total Sample	RN	LPN
Badly treated/abused by nursing staff in hospitals	12%	15%	5%
Nurses in clinical agencies discouraged me about nursing	11%	13%	5%
Was personally mistreated/abused by patient(s)	3%	3%	0%
Was personally mistreated/abused by faculty member(s)	15%	15%	5%
Was personally mistreated/abused by classmate(s)	2%	0%	5%
Was subjected to racism in the program	3%	3%	0%
Was subjected to homophobia in the program	0%	0%	0%
It was difficult to be in a small minority in a largely white, heterosexual environment	0%	0%	0%
I could not live up to my own expectations	24%	26%	25%
Just didn't like it	18%	23%	5%