

## **Canadian Nurses' Views on Assignment of Publication Credit for Scholarly and Scientific Work**

**Lorna Butler and Diana Ginn**

On a demandé à 184 infirmières canadiennes, dont on s'attend à ce qu'elles publient les résultats de travaux scientifiques, ou qui jouent un rôle de socialisation auprès d'infirmières au sein de projets de recherche et de publication, de réagir à 42 scénarios. L'étude reproduisait, après quelques modifications, des enquêtes menées respectivement en 1981, 1985 et 1987, qui visaient à sonder les opinions des infirmières américaines sur la façon dont la contribution des différents collaborateurs et collaboratrices était signalée dans les publications. Les scénarios présentés dans cette nouvelle enquête exigeaient des répondantes qu'elles évaluent la façon dont les références ayant trait aux auteurs et aux notes en bas de page devraient être réparties entre les groupes participant à la rédaction de publications scientifiques. Certains scénarios ne mettaient en scène que des infirmières (tant en milieu clinique qu'en milieu universitaire) tandis que d'autres proposaient différents types de collaboration entre des infirmières et d'autres professionnels de la santé, ou entre des professeures en sciences infirmières et leurs étudiantes. Bien que le consensus atteint n'ait été supérieur à 80 % que dans 7 scénarios sur 42 (réponses types), deux thèmes reviennent fréquemment dans les commentaires écrits : d'abord, l'apport reconnu devrait être entièrement fondé sur la contribution plutôt que sur le statut; ensuite, les questions ayant trait à la mention des auteurs et des notes de bas de page devraient, dans la mesure du possible, être débattues et résolues au préalable, afin de prévenir des problèmes éventuels à ce sujet. On a constaté qu'une très grande majorité de répondantes s'accordaient sur ces deux principes. Les opinions diffèrent cependant en ce qui concerne la participation à la recherche en milieu universitaire, quant aux modalités de collaboration pour lesquelles les participantes et participants à la recherche devraient être nommés en tant qu'auteurs, et celles pour lesquelles une référence au bas de la page pourrait suffire. Les réponses types et les points de désaccord sur ces questions font tous deux l'objet d'une discussion dans cet article.

A total of 184 Canadian nurses who were expected to publish scholarly and/or scientific work or whose roles provide for socialization of nurses in academic endeavours, research, and publication were asked to respond to 42 scenarios. This study replicated, with some modifications, surveys conducted in 1981, 1985, and 1987 to determine the views of American nurses on assignment of publication credit. The scenarios in the present survey required judgements about how authorship and footnote credit should be allocated among groups involved in research and academic writing; in some scenarios all the individuals were nurses (in both clinical and academic settings), while other scenarios featured collaboration between nurses and other health-care professionals or focused on

---

*Lorna Butler, Ph.D., is Clinical Scientist, Nursing Research, Queen Elizabeth II Health Sciences Centre, Halifax, Nova Scotia. Diana Ginn, B.A., L.L.B., L.L.M., is Assistant Professor, Faculty of Law, Dalhousie University, Halifax.*

interactions between nursing professors and students. While consensus of greater than 80% was achieved for only 7 of the 42 scenarios (modal responses), the respondents' written comments revealed 2 recurrent themes: that credit should be based entirely on contribution, rather than status; and that, as much as possible, authorship and footnote acknowledgement should be discussed and resolved before contentious issues arise. There was widespread agreement on these 2 principles. However, there was disagreement concerning collaborative academic work, particularly concerning the forms of collaboration that merit authorship credit and the forms that are sufficiently acknowledged through footnoting. Both the modal responses and the areas of disagreement are discussed.

## Introduction

As increasing numbers of nurses obtain graduate degrees, scholarly and scientific endeavours formerly confined to universities are being undertaken in hospitals and in the community. Many such research endeavours are collaborative. Canadian nurses who participate in scholarly and scientific projects were surveyed for their views on allocating credit among various contributors to a collaborative work. This article describes the responses to the survey, identifies areas of agreement and disagreement, and discusses factors that appear to have influenced nurses' opinions about assignment of credit.

## Previous Studies

### *Assigning Authorship Credit*

In an early study of authorship credit, Spiegel and Keith-Spiegel (1970) randomly surveyed psychologists in the United States. Those surveyed agreed strongly with the American Psychological Association (1963) principle "Credit is assigned to those who have contributed to a publication in proportion to their contribution and only to these." Results indicated that when authorship credit is being determined neither power nor status should be a consideration; credit should be given only to those who were actively involved in the work; ordering of names should reflect the significance of the contribution; and minor contributions should be relegated to footnotes or acknowledgements that explicitly state the nature of the contribution.

The results of three U.S. national studies carried out within the nursing profession (Templeton-Gay, Griffith-Lavender, & McCord, 1987; Waltz, Nelson, & Chambers, 1985; Werley, Murphy, Gosch, Gottesmann, & Newcombe, 1981), replicating the Spiegel and Keith-Spiegel (1970) survey in varying contexts, suggested that authorship was an issue for

nurses employed in academic settings but had little relevance for community or hospital administrators, deans of hospital schools of nursing, or clinical nurse specialists. Unlike the Spiegel and Keith-Spiegel survey, these studies did not find unanimous consensus; however, they did identify certain modal responses.

It is evident from the literature that the question of assigning credit is not a straightforward one. Besides legal questions such as copyright, it involves issues of professional ethics: guidelines that have been developed for the assignment of credit represent a statement from the profession on the ethical way of valuing various contributions to a scholarly collaborative work (International Committee of Medical Journal Editors, 1988, 1991, 1992). The nursing profession as a whole has not developed such guidelines, although some nurses work in institutions that have relevant policies in place. The purpose of this study was to survey Canadian nurses involved in scholarly or scientific work, to elicit their views on assignment of publication credit and to determine whether there is consensus for developing guidelines. An in-depth discussion of the policy issues related to the development of such guidelines is beyond the scope of this paper but is addressed in Ginn and Butler (submitted).

## **Method**

### ***Sample***

Data were collected from a convenience sample of Canadian nurses expected to publish scholarly and/or scientific work and nurses whose roles provide for socialization to academic endeavours involving research and publication. Categories of such roles/publishing pursuits were developed (see Table 1). The sample was drawn from the published membership lists of the Canadian Association of Teaching Hospitals, the Academy of Chief Executive Nurses, deans of university schools of nursing, and the Canadian Nursing Research Group. The 375 survey questionnaires that were distributed were returned by 184 nurses (52% response).

### ***Procedure***

This study is a replication of the Werley et al. (1981) national survey of American nurses concerning assignment of publication credit. The study was approved by the Research Ethics Committee of the Victoria General Hospital, where the principal investigator was employed. Each

**Table 1** *Publication Experiences of Respondents by Range and Average Number of Manuscripts Published*

Group	Total Number of Publications		Co-author		First/Senior Author		Publication in Refereed Journals		Published Research	
	Range	M	Range	M	Range	M	Range	M	Range	M
Nurse Executive – Hospital	(0–69)	3.34	(0–22)	2.44	(0–12)	0.8	(0–33)	1.59	(0–32)	1.53
Nurse Manager	(1–22)	6.86	(0–15)	3.14	(0–9)	2.71	(0–19)	4.00	(0–14)	2.71
CNS/Clinician/Consultant	(1–14)	5.67	(0–14)	4.33	(0–9)	2.56	(0–11)	3.11	(0–11)	3.33
Staff Nurse	(0–2)	0.5	(0–1)	0.25	(1)	1.00	(0–2)	0.50	(0–2)	0.50
University Professor with M.N.	(0–30)	9.03	(0–23)	5.38	(0–18)	4.59	(0–23)	6.48	(0–15)	5.21
University Professor with Ph.D.	(0–100)	7	(0–50)	1	(0–39)	1	(0–30)	4	(0–50)	4
Director, School of Nursing, B.N. Program	(1–50)	21.63	(1–30)	10.75	(0–40)	12.13	(1–35)	12.88	(0–30)	14.63
Director, School of Nursing, Graduate Program	(0–53)	21.33	(0–20)	10.56	(0–20)	8.78	(0–17)	9.44	(0–25)	10.78
Ph.D. Candidate	(0–100)	18.38	(0–30)	5.88	(0–70)	10.75	(0–90)	14.88	(0–75)	11.88
Nurse Educator – Hospital	(0–30)	3.6	(0–10)	1.68	(0–9)	1.56	(0–25)	2.32	(0–10)	1.32
Nurse Researcher	47		20		9		13		11	
Nurse Instructor – Diploma Program	(1–6)	2.5	(0–6)	1.67	(0–2)	1.00	(0–5)	1.50	(0–5)	1.67

questionnaire was coded for the target group from which the name had been selected. No person or agency of employment was identifiable. The questionnaire was mailed to all potential participants. They were asked to return it, either completed or blank, in the self-addressed, stamped envelope provided. A reminder was mailed 1 month later.

To obtain participants from among the groups identified, questionnaires were sent to nurse executives listed as members of the Academy of Chief Executive Nurses ( $N = 42$ ), the directors of nursing education in all hospitals listed by the Canadian Association of Teaching Hospitals who were not members of the Academy of Chief Executive Nurses ( $N = 42$ ), the deans/directors of university schools of nursing with a graduate program ( $N = 14$ ) and without a graduate program ( $N = 16$ ), and members of the Canadian Nursing Research Group ( $N = 259$ ). Membership in the above associations was not mutually exclusive, and names were cross-referenced to reflect employment status and doctoral candidacy as identified in Table 1.

### *Instrumentation*

The Spiegel and Keith-Spiegel (1970) questionnaire was adapted with permission from Keith-Spiegel, the American Psychological Association, and Werley et al. (1981). The original questionnaire consisted of 25 items; the revised version (1981) had 17 additional items. For this study, the questionnaire was again altered, to address current issues of scholarly and scientific work, the growing trend towards joint appointments involving university schools of nursing and institutional or community clinical settings, the evolving role of practising nurse researchers, and the Canadian health-care system. The survey consisted of 42 scenarios, each followed by multiple options and space for written comments. The scenarios depicted nurses collaborating with other nurses or with researchers in other disciplines. Respondents were required to weigh various contributions to a scholarly work in order to determine the ordering of authorship and footnote credit, to consider whether variations in status among collaborators should affect allocation of credit, and to identify issues of plagiarism and copyright. Demographic data included participants' academic degrees, publication history, and current employment. Content and face validity were reported by Werley et al. The version adapted for this study was pretested for content validity by three nurses prepared at the Master's level: two working in a clinical setting and one in a university school of nursing. Adjustments were made to ensure clarity of meaning based on the pretest responses.



The following sample reflects the nature of the questions:

Dr. Ball was engaged in a study of home health care. Dr. Pierce was a paid consultant for the project. Dr. Pierce assisted in designing this complicated research project, discussed the project on several consultation visits, and suggested the appropriate statistical analyses of the data. On any publication that arises from the project: A) Dr. Pierce deserves co-authorship because of substantial contribution to the project regardless of paid consultant status or B) Dr. Pierce deserves footnote acknowledgement of contributions regardless of paid consultant status or C) Dr. Pierce deserves no acknowledgement whatever because of paid consultant status.

### **Analysis**

Descriptive statistics were used to describe the sample. Each questionnaire item was analyzed to describe the percentage of agreement for each response by respondent category surveyed. Items that achieved 85% agreement were referred to as modal responses. Further analysis was conducted using logistic regression to test for association and level of significance between modal responses, and level of experience with publication and place of employment, whether university or other institution (see Table 1). The results of these calculations provide data to determine the level of consensus and the influence of particular variables on nurses' opinions concerning credit.

### **Results**

Only 2 case studies achieved 85% agreement; however, a total of 7 reached 80% agreement and were identified as modal responses (see Table 2). The association between variables related to publication experience and the modal responses was tested using logistic regression with backward elimination. Analyses were conducted by total group and by five groups based on total publication experience. The five groups were: nurse executives, nurse educators in a hospital, Ph.D.-prepared university professors, Master's-prepared university professors, and the deans/directors of all university schools of nursing. Results indicated that two modal responses were significantly influenced. Modal response 2, which refers to sharing authorship on the basis of status, was significantly associated with a combination of two variables indicating that nurse educators prepared at the Master's level, employed in a university setting, and designated first or senior author in a large number of publications were more willing to extend authorship to someone of a higher status who did not contribute substantially

**Table 2** *Modal Responses Achieving 80% Agreement*

Modal Responses	Number of Respondents in Agreement, by Category								
	NE <i>n</i> = 32	NE-H <i>n</i> = 25	NM <i>n</i> = 7	CNS <i>n</i> = 9	SN <i>n</i> = 4	UP (M) <i>n</i> = 29	UP (PhD) <i>n</i> = 45	Dir (BN) <i>n</i> = 8	Dir (GP) <i>n</i> = 9
1. Team research: volunteer members below the doctoral level are entitled to the same authorship privileges as paid or doctoral-level participants if their contributions are similar.*	30	22	0	7	4	28	40	7	6
2. It is unethical for someone of higher status to share authorship unless that person makes a substantial contribution.†	30	23	0	7	1	20	38	5	7
3. Nursing staff who assist with data collection and clinical observations of care should be acknowledged in a footnote.	27	22	0	3	3	26	40	8	6
4. A professor is asked to read a paper for two nurse educators. No changes are made. It is unethical for the professor to be named as an author.*†	28	23	0	9	4	24	39	7	8
5. A member of an interdisciplinary research team who helps to plan a study but fails to follow through on the work allocated on the project should receive a footnote credit only.*†	29	21	0	6	4	26	37	6	7
6. Research team: paid members below the doctoral level are entitled to equal authorship with doctoral-level participants if their contributions are similar.†	26	22	0	8	4	24	35	7	6
7. The order of authorship should be based on the contribution of the team members, not their clinical status.†	29	20	0	8	3	26	36	6	8
Code: NE = Nurse Executive; NE-H = Nurse Educator-Hospital; NM = Nurse Manager; CNS = Clinical Nurse Specialist; SN = Staff Nurse; UP(M) = University Professor, Master's-prepared; UP(PhD) = University Professor, PhD-prepared; Dir(BN) = Director/Dean School of Nursing BN program only; Dir GP = Director/Dean School of Nursing with graduate program									
* Consistent with the findings of Werley et al. (1981) † Consistent with the findings of Spiegel & Keith-Spiegel (1970)									

to the project ( $\chi^2 = 16.58$ ,  $df = 2$ ,  $p < 0.001$ ). No interactive effects were detected in the model. Modal response 5, which refers to planning but not completing a study or a manuscript, and therefore not warranting authorship, was significantly associated with the total number of research publications; respondents who had published a larger number of studies were less likely to provide even a footnote acknowledgement if allocated work was not done ( $\chi^2 = 4.86$ ,  $df = 1$ ,  $p = 0.02$ ).

## Discussion

### *Modal Responses*

Two major themes emerged from the written comments: (1) credit should be assigned solely on the basis of contribution, and not on the basis of rank, and (2) wherever possible, authorship and footnote acknowledgement should be discussed beforehand. When asked explicitly if credit should be based on degree of contribution or on status/role, respondents overwhelmingly favoured contribution as the relevant factor. They generally considered it unethical to name as author a person in authority who made only minor contributions. Similarly, when asked how they would allocate authorship among multiple authors, the respondents most often selected responses that were closely related: the person who wrote the manuscript should be the first author (37%), or authorship should be assigned according to the size of the contribution or its importance to the study (33%). Furthermore, the need to negotiate allocation of credit as early as possible was emphasized both in answers selected and in comments. Despite this general agreement, however, there were differences of opinion as to how specific dilemmas should be resolved and what types of collaboration are most valuable to a research project.

Questions about authorship focused on general statements of principle, the relative weight of a particular contribution within a collaborative project, ways of allocating credit among contributions of equal value, the relationship between students and professors, and issues of copyright. These general principles were found to be consistent with those reported previously (see Table 2). Spiegel and Keith-Spiegel (1970) found 82% agreement on 11 modal responses that also described authorship as determined solely by contribution, with ordering of names reflecting the contribution. Werley et al. (1981) reported similar results, with 85% agreement on 10 modal responses, adding that multiple authorship is acceptable provided prior work is appropriately referenced.



### *General Statements of Principle*

Two persistent themes found to run throughout the survey were the need for credit to reflect the contribution and the need for those engaging in collaborative work to discuss allocation of credit at an early stage. Responses to various questions developed these themes. For instance, in their answers to the questions about assigning credit to paid team members below the doctorate level and to volunteers below the doctorate level, most respondents indicated they believed these contributors should have equal authorship with other members of the research team — credit should be based on contribution, not status. These hypotheticals explicitly introduced the concept of education as a component of status, an issue not discussed in previous studies. In a number of scenarios, a person in a position of authority attempted to use power or status to demand authorship; most respondents answered that such behaviour was inappropriate, reiterating that authorship should reflect a significant contribution to a project.

### *Allocation of Credit for Specific Tasks*

Several questions listed functions that might form a part of a scholarly collaboration and asked respondents to rank them or to assign the appropriate level of acknowledgement for each. Other questions presented a scenario and asked respondents to indicate the credit merited by the various contributors. While there were few major discrepancies, there was some difference of opinion concerning placement of a particular activity on the continuum from authorship, through footnote reference, to no acknowledgement at all. In a number of scenarios, respondents were fairly evenly divided on whether a specific contribution merited co-authorship or only a footnote, and whether a minor contribution required a footnote or no acknowledgement at all. Earlier studies found support for acknowledging minor contributions in a footnote (Spiegel and Keith-Spiegel, 1970; Werley et al., 1981). The present study found that payment for services would not preclude authorship if the contribution included a significant portion of the writing.

### *Authorship/Footnote*

A frequent response to questions about authorship was that it should be negotiated beforehand. Respondents also saw a number of particular tasks as meriting authorship: developing and testing data-collection instruments; drafting a manuscript or final report based on records of

work done by others; designing a research project; and assisting in the development of a project and critiquing the resulting paper. Respondents were fairly evenly divided between authorship and footnote acknowledgement for data analysis when the person is responsible for selecting and applying statistical methodology, testing and interpreting projective tests or other highly specialized testing to be used as data, assisting as paid consultant in the preparation of a study, or assisting in the development of a survey plan.

A majority of respondents saw footnote acknowledgement as sufficient for the following functions: contributing a research idea or assisting in early planning, with no further involvement in the project or with further involvement limited to critiquing a paper written by others; designing and building equipment to be used in the research project; interviewing subjects or collecting data by similar means; performing administrative tasks; running subjects through a research procedure under close supervision; conducting tests as a paid consultant or graduate student; assisting with statistical analysis; or conducting a literature search or providing an annotated bibliography. Respondents were ambivalent about whether a footnote, or no acknowledgement at all, would be warranted for contributions such as testing research subjects with simple paper-and-pencil tests or extracting data from files, under supervision. Most respondents indicated that typing a manuscript, making appointments for research subjects, or performing other clerical tasks would not merit a footnote.

A series of questions asked respondents to determine how credit should be allocated among two or more equal contributors. When only one project was involved, the most frequently chosen response was that the first author should be the person whose discipline is the focus of the journal in which the work is being published. A significant number of respondents chose listing the contributors alphabetically or even tossing a coin to determine the order of authorship. Perhaps most significant was the option not chosen: allocating authorship on the basis of status. In the case of a multidisciplinary team participating in a lengthy study resulting in a series of publications, similar numbers of respondents indicated they would assign first authorship of a given article according to contribution to writing the article, scientific contribution to the project, or the discipline to which the article was addressed.

### *Students and Professors*

A number of questions explored the professor-student relationship. A professor writing a paper based on data collected by undergraduate

students, as part of their course work for that professor, was seen as acceptable by the respondents only if the data collection was relevant to the course and the students were informed beforehand of the intended use of the data. In determining what level of contribution to a student's work would merit co-authorship by a professor, the respondents generally agreed that if a professor spent approximately 80 hours supervising a graduate student's dissertation, it would be appropriate for the student to invite the professor to co-author a paper based on the dissertation. A professor's assistance with designing a study, checking the student's data analysis, and revising a paper based on the study was seen as rating second authorship. Again, the literature consistently indicates that contribution, not credentials, should determine authorship. The results of the present study support this view. Another scenario was a variation on that one: a student collected data and wrote a paper; a professor who had provided the student with extensive advice on research methodology revised the paper and submitted it for publication. The responses to this question diverged significantly. Most respondents ( $n = 95$ ) indicated that the student should be first author and the professor second, while some ( $n = 24$ ) suggested that the professor should be reported for plagiarism. The comments, however, make it clear that answers were based on very different assumptions: those who would have listed the professor as an author assumed that the professor had revised the paper and submitted it for publication with the student's permission; those who referred to plagiarism assumed that the professor had acted without the student's knowledge.

### *Copyright*

Responses to a question focusing directly on copyright reflect the complexity of this issue. Some responses revealed confusion about the differences between copyright, which is the legal right to control reproduction of a work, and the right to publication credit. Generally, the author or authors of a work own the copyright (*Copyright Act*, 1985, s. 13[1]). Even if an author does not retain copyright, he or she has the right to be associated with the work as its author. A significant number of respondents did not answer a question concerning a publication by a director of nursing in a hospital based on material developed by subordinates. However, those who did respond were fairly evenly split about whether permission from subordinates should have been obtained. Those who believed that permission was not necessary justified their answer on the basis of either the hospital holding copyright or paid staff having no right to publication credit.

## **Conclusion**

The purpose of this survey was to determine the views of nurses on issues of publication credit. Previous studies found this subject to be of little interest outside academia. However, the responses gathered in this more broadly based survey suggest that as nurses are becoming more involved in academic research and writing they are beginning to see the relevance of these issues for them. While the present study found less agreement and elicited fewer consistent modal responses than previous studies, the fundamental principles for determining authorship have remained fairly constant for nearly four decades. In the present study, statistical analysis revealed that external factors, most significantly first authorship and publishing history of the respondent, did influence responses on 2 of the 7 questions. Besides the modal responses, answers revealed strong support for two fundamental principles: that contribution should be the determining factor in allocating credit; and that issues arising out of collaborative work should be resolved as early as possible, before problems develop. In specific scenarios, more than one answer often received significant support; however, written comments tended to reveal more common ground among respondents than was immediately apparent. Certain scenarios did elicit a significant range of responses, which seems to reflect the fact that the nursing profession has not collectively turned its mind to identifying appropriate responses to issues of scholarly collaboration.

The ethical principles and publication conventions developed by their profession may well have contributed to the agreement found among psychologists (Spiegel & Keith-Spiegel, 1970). The lack of consensus within other professional groups, as reported by Templeton-Gay et al. (1987), may be compounded in today's professional arena in which the concept of academia reaches beyond traditional settings. This may account for some of the diversity within the nursing profession reported by Werley et al. (1981). Given the awareness of issues relating to publication credit evidenced by responses to this survey, the nursing profession may well be ready to address these issues and develop guidelines for future collaborative work.

## References

- American Psychological Association. (1963). *Ethical standards of psychologists*. Washington: Author.
- Copyright Act, Revised Statutes of Canada, 1985, c. C-42.
- Ginn, D., & Butler, L. (Submitted). Moving towards policy development on assigning publication credit for oncology nurses' contributions to scholarly and scientific work. *Canadian Oncology Nurses' Journal*.
- International Committee of Medical Journal Editors. (1988). Uniform requirements for manuscripts submitted to biomedical journals. *Annals of Internal Medicine*, 108(2), 258-265.
- International Committee of Medical Journal Editors. (1991). Uniform requirements for manuscripts submitted to biomedical journals. *New England Journal of Medicine*, 324(6), 424-428.
- International Committee of Medical Journal Editors. (1992). Uniform requirements for manuscripts submitted to biomedical journals. *Canadian Medical Association*, 146(6), 861-868.
- Spiegel, D., & Keith-Spiegel, P. (1970). Assignment of publication credits: Ethics and practices of psychologists. *American Psychologist*, 25, 738-747.
- Templeton-Gay, J., Giffith-Lavender, M., & McCord, N. (1987). Nurse educator views of assignment of authorship credits. *Image: Journal of Nursing Scholarship*, 19(3), 134-137.
- Waltz, C.F., Nelson, B., & Bond-Chambers, S. (1985). Assigning publication credits. *Nursing Outlook*, 33(5), 233-238.
- Werley, H., Murphy, P.A., Gosch, S.M., Gottesmann, H., & Newcombe, B.J. (1981). Research publication credit assignment: Nurses' views. *Research in Nursing and Health*, 4, 261-279.

## Acknowledgements

The authors gratefully acknowledge the time and effort expended by the respondents of this study. They thank those who have telephoned to comment and who have thus contributed to the authors' learning experience. They are grateful for the assistance of Colleen Clattenburg in survey distribution, data entry, and manuscript preparation, and for the input and assistance of Wade Blanchard, Statistical Consultant. This study was funded by the Research and Development Fund of the Dalhousie University School of Nursing.

Requests for reprints should be addressed to Lorna Butler, Ph.D., Clinical Scientist, Nursing Research, Room 1007, Bethune Building, QEII Health Sciences Centre - VG Site, 1278 Tower Road, Halifax, NS B3H 2Y9.