

Development and testing of the ethical reasoning tool (ERT): an instrument to measure the ethical reasoning of nurses

Heather McAlpine RN BSN MSc

Lecturer and PhD Candidate, School of Nursing, Edith Cowan University, Perth, Australia

Linda Kristjanson RN BN MN PhD

Associate Professor, Faculty of Nursing, University of Manitoba, Winnipeg, Manitoba, Canada

and Davina Porocho RN BAppSc MSc

Lecturer and PhD Candidate, School of Nursing, Edith Cowan University, Perth, Australia

Accepted for publication 28 May 1996

MCALPINE H., KRISTJANSON L. & POROCH D. (1997) *Journal of Advanced Nursing* 25, 1151–1161

Development and testing of the ethical reasoning tool (ERT): an instrument to measure the ethical reasoning of nurses

Ascertaining the thinking of professionals as they are confronted with ethical practice issues is a prerequisite to understanding ethical decision making. Before researchers or educators can examine the effectiveness of various approaches to ethics teaching and learning, there is a need for reliable and valid tools to assess practitioners' cognition. A potential problem with the few measuring instruments currently available is the fact that they ask subjects to rank order existing lists of issues. This says little about an individuals' own thinking about ethical issues and may prompt thinking or responses which would not otherwise have occurred. This paper reports the results of a study to test the psychometric properties of a new instrument, the Ethical Reasoning Tool (ERT) that measures ethical reasoning of nurses. The ERT demonstrates a promising way to reveal unprompted ethical thinking about a practice dilemma, thereby clarifying 'real' versus 'assumed' professional reasoning. The tool allows nurse educators to identify areas of student learning/reasoning deficiency that can be addressed by educational interventions. The ERT also allows nurse educators to evaluate the effectiveness of nursing ethics study units in a trustworthy way.

INTRODUCTION

Bioethics, the study of the moral/ethical health care problems created by rapid technological advances, has emphas-

ized the crucial need for practitioners who are able to provide ethically sensitive, morally justifiable care. An acknowledged goal of nursing education is to develop such practitioners (Bevis 1993, Cohen 1992, Kessenich 1992). There has been consistent recommendation by theorists, educators and researchers that education programmes fostering reflective thinking about ethical issues be part of

Correspondence: Heather McAlpine, School of Nursing, Edith Cowan University, Perth, Western Australia 6018, Australia.

nursing curricula (McAlpine 1996, 1992, 1988, Thompson *et al.* 1994, Aroskar 1993, Cassidy 1991, Mustapha & Seybert 1989, Felton & Parsons 1987, Ketefian 1985, Swider *et al.* 1985, Munhall 1982, Crisham 1981). There is a paucity of empirically based findings to guide nurse educators in the selection of appropriate content and teaching methods to increase reflective ethical nursing practice.

Bioethics and other professional literature continue to reflect concern about persistent unethical health care practices. Nursing literature has tended to focus on external or contextual barriers to ethical nursing practice within health care systems. For example, institutional policies and procedures, 'the doctor-nurse game', paternalism, and hierarchical position have been identified as having, at least potentially, a powerful effect on decision making and action, and have long been acknowledged as barriers to ethical nursing practice (Adamson & Kenny 1993, May 1993, Millette 1993, Yarling & McElmurry 1990, Fenton 1988, Bishop & Scudder 1987, Gray 1987, Evans 1986, Swider *et al.* 1985, Jameton 1977, Stein 1967).

The presence of external or contextual influences may offer only a partial explanation for an apparent tolerance of persistent unethical professional practices, and a puzzling lack of ethical action. Ascertaining the thinking of professionals as they are confronted with ethical practice issues is prerequisite to understanding ethical decision making. Psychologists have hypothesized that internal influences, such as personal beliefs or convictions, are coupled with social or contextual influences to become cognitive determinants of behaviour (Eagly & Chaiken 1993, McGuire & McGuire 1991, Zanna & Rempel 1988). Little research has been undertaken to examine the impact of internal influences on cognitive determination of ethical nursing practice.

Dichotomy promoted by nursing education

Nursing concern about the existence of dichotomy in professional values and ideologies promoted by nursing education and those found in practice has been internationally documented. Indications are that many workplaces continue to promote and reward 'traditional' values and behaviours, with a bureaucratic, institutional or physician focus as opposed to a client/patient needs and goals focus. Such contexts may force new tertiary prepared graduates to alter their ideologies in order to 'fit in' (Hamilton 1995, Fitzpatrick *et al.* 1993, Jowett *et al.* 1992, Ives & Rowley 1990), while promoting the belief that nurses are powerless to challenge traditional practices. Researchers have found that nurses who believe they are powerless do not usually make any attempts to alter the *status quo* (Erlen & Frost 1991, Stein *et al.* 1990, Katzman & Roberts 1988, Bishop & Scudder 1987, Prescott & Dennis 1985).

There is growing concern that a 'scatter-gun' exposure

to reasoned professional values, within both educational and practice environments, is ineffective. Some authors maintain that values education with theory based rationale is required to foster and sustain professional role values development (Scott 1995, Aroskar 1993, MacIntyre 1993, Weis *et al.* 1993). However, before researchers or educators can examine the effectiveness of various approaches to ethical teaching and learning, there is a need for the development of reliable and valid tools to assess practitioners' ethical cognition.

Lack of appropriate instruments to measure the moral thinking of practitioners has encouraged what Bebeau saw as counterproductive and seemingly endless philosophical and methodological debate which

... fuels inertia and feelings of hopelessness that maintain the status quo

(Bebeau 1993 p. 314).

The major tools used to measure the moral reasoning of nurses (Crisham's 1981 Nursing Dilemmas Test, Ketefian's 1981 Judgments About Nursing Dilemmas Test, Rest's 1974 Defining Issues Test & Kohlberg's 1969 Moral Judgment Interview), have produced inconsistent results. In a review of research related to nurses' moral reasoning, Duckett *et al.* (1992) concluded that, due largely to study inaccuracies and instrument misuses, little may really be known about the moral reasoning of nurses. An important potential problem is that these measuring instruments ask subjects to rank order existing lists of issues. This says little about the subjects' *own* thinking about the issues, or indeed whether or not they would recognize the moral issues involved. Such lists may prompt thinking or responses which would not otherwise have occurred.

Therefore, this study was undertaken to pilot test the reliability, validity and sensitivity of a new instrument, the Ethical Reasoning Tool (ERT), developed to assess the cognitive reasoning of nurses in response to an ethical practice dilemma. A secondary objective of the study was to reveal the predominant level of ethical thinking of nursing students prior to and following an ethics study unit, and subject reflections about their own thinking.

LITERATURE REVIEW AND THEORETICAL BACKGROUND

Historically, psychologists, social psychologists and moral philosophers have demonstrated keen interest in individual differences in cognitive, affective and behavioural responses, and the processes preceding responses. A rich array of theory exists, and was reviewed as a basis for conceptualizing and structuring the ERT. Theory review indicated strong cross-discipline agreement that ethical thought lies along a continuum of cognitive progression from a narrow and self-serving perspective to a potential reflective and pluralistic perspective, and that cognitive

progression is dependent on a variety of internal/personal and external/contextual factors. For example, Aristotle viewed levels of ethical thought as evolving from a pre-moral focus on pleasure seeking and pain avoidance, through conformity to the beliefs of kinship and local community groups to commitment to universal law or the good of all (Crittenden 1993, Rorty 1980).

This notion that an initial self-focus is replaced by a socially learned and imposed focus on the welfare of kin or those in one's immediate environment is seen as a necessary prerequisite to life in an ordered society, and is echoed in the stages of moral growth postulated by psychologists such as Gilligan (1982), Rest (1982), and Kohlberg (1976), educational psychologists such as Perry (1978) and philosophers such as MacIntyre (1993) and Thomas & Waluchow (1987). The mid continuum level is viewed by various theorists as being pre-reflective, in that notions of 'right' or 'wrong' are largely an unthinking parroting of socially learned perceptions. None of the theorists view attainment of continuum reflective levels of ethical thought as a natural or inevitable occurrence. All view moral growth as resulting from personal experiences which have challenged taken for granted thinking and stimulated consideration of alternative perspectives.

Critical theorists such as philosopher/sociologist Habermas (1971) support the notion that, for adults, the development of critical reflection requires perspective transformation. This involves becoming aware of how and why learned social assumptions may have distorted personal views of the self and others, and induced dependency roles and relationships (Mezirow 1981).

Attitude theory

Attitude theory, and its examination of decision making, provides useful insights into possible internal and external constraints which may preclude the development of reflective levels of thought. Strong attitudes are more likely to elicit emotional responses, be reasonably stable and closed to change, have a pronounced effect on information processing, and a strong relationship to behaviour (Eagly & Chaiken 1993, McGuire & McGuire 1991, Zanna & Rempel 1988, Kahneman & Tversky 1984). Fazio (1986) argued that repetition of particular attitudinal responses which are supported by external factors strengthens attitudes.

Ajzen & Fishbein (1980) hypothesized two cognitive determinants of behaviour; personal influence, such as beliefs or convictions, and social influence involving internal perceptions of external factors. Ajzen (1991, 1985) augmented this earlier theoretical work on determinants of behaviour by introducing the concept of perceived behavioural control or one's perception of how easy or hard it is to perform a given behaviour.

Professional mind sets

There has been little nursing research investigating the role of personal influences on nurses' ethical decision making. Murphy (1979) suggested that obstacles to patient centred care rest in the kinds of advocacy models accepted by the workplace and health care professionals themselves. Aroskar (1982) postulated the existence of 'professional mind sets', suggesting that personal convictions might influence the moral distress experienced by nurses. For example, nurses with a traditional mind set might view decision-making as rightfully resting in the hands of the doctor and so experience little moral distress. Issues such as patient autonomy or a right not to be deceived would not be viewed as nursing concerns.

The literature review from philosophy, psychology and nursing, and the consistent conceptualization of ethical thinking as existing along a continuum with three postulated levels, was the conceptualization which guided the development of the ERT.

ETHICAL REASONING TOOL

The ERT was designed to categorize subject responses to an ethical case study into three professional response levels. The three response levels are:

Level 1; Traditional Response Thinking predominantly reflects use of personal moral values and beliefs (pre reflective) and/or conventional moral reasoning. Traditional nursing focus of obedience to others. Practical considerations dominate. Utilises 'gut level' responses. Non or low recognition of ethical issues involved. Tends to see problems as 'black or white', and decisions as 'right or wrong'. Conforms to traditional health care practices. Ethical egoism may be evident (primary concern is for self in decisions requiring actions).

Level 2; Traditional/Reflective Response Practical considerations remain important, but are joined with the use of some reflective reasoning which indicates recognition of at least some of the relevant ethical issues, and the need for consideration of more than own personal beliefs. Cognitive dissonance is evident as conflicting duties to patients/employers/superiors are considered. Unable to propose workable strategies to overcome such conflicts. Some awareness that decision making may not be simply black or white/right or wrong. May question, but actions generally remain within traditional boundaries.

Level 3; Reflective response Critical thinking about ethical issues. Use of an ethical framework within which to clarify, evaluate and justify the various viewpoints. Recognition of the merits of other viewpoints. Actions

patient/client centred. Willing to challenge unethical practises.

In table format, the ERT describes three levels of responses and outlines exemplar behaviours found within each level using eight components of ethical thinking. The eight components that index personal beliefs and perceptions of contextual factors influencing ethical behaviour are: 1. recognition of ethical issues, 2. use of an ethical framework, 3. use of personal values, 4. use of professional values, 5. perception of the role of the nurse, 6. perception of therapeutic nurse/patient relationship, 7. communication patterns, and 8. potential action.

A diagram specifying the links between the theoretical constructs guiding the development of the tool and the components of the ERT instrument is shown in Figure 1.

As examples, the exemplars for Component 3, use of personal values and Component 7, communication patterns are shown in Figure 2.

THE STUDY

Four specific research questions guided this pilot study.

- 1 To what extent does the ERT demonstrate clarity and content validity?
- 2 To what extent does the ERT demonstrate inter-rater reliability?
- 3 To what extent does the ERT demonstrate construct validity as measured by changes in scores from pre to post-tests?
- 4 To what extent does the pre-test post-test experience provide subjects with reflective understanding of their own ethical thinking?

Phase 1: Clarity and content validity

A panel of three nurse educators and one philosopher were recruited to review the ERT for clarity and content validity. Panel members were asked to consider the extent to which the levels, components and exemplars of the tool could be easily understood and applied. Panel members were also asked to evaluate the extent to which the levels and categories adequately represented the domain of cognitive ethical thought. Three of the four panel members recommended no changes to the tool. The fourth panel member suggested refinements to the exemplars of behaviours within the components. These suggestions were incorporated.

Phase II: Inter-rater reliability and construct validity

The second phase of the project used a quasi-experimental design to assess the inter-rater reliability and construct validity of the tool. A sample was drawn from practising nurses enrolled in a required ethics study unit in the con-

version of nursing diplomas from hospital based or Colleges of Advanced Education programmes to degree status. Post-registration rather than pre-registration students were chosen based on literature indicating that practising nurses may use traditional thinking in decision making (Harrison & Cameron-Traub 1994, Petersen 1994, Mustapha & Seyberg 1989, Katzman & Roberts 1988, Arosker 1982, Murphy 1979). Given the fact that this phase of the study aimed to assess the tool's ability to detect changes in the level of ethical thinking, it was deemed helpful to utilize this group of students.

Of a population of 100 students, 62 completed both pre and post-tests in the study unit. A random sample of 30 subjects were selected for analysis. Fifteen subjects were graduates of hospital diploma programmes and 15 subjects were graduates of tertiary (Advanced College) based programmes. This sample size was based on a recommendation that ≈ 30 subjects is appropriate for qualitative data analysis and pilot testing (Swanson 1986, Lofland 1976, Glaser & Strauss 1967). Demographic data are shown in Table 1. Most nursing practice areas were represented, with the majority of participants working in hospital settings.

Procedure

Following review and acceptance of the study by the University Ethics Committee, the pre-test was given to all students in the first class of the ethics study unit. The researcher/educator explained that the purpose of the exercise was to ascertain their present thinking regarding an ethical case study. The case study chosen was adapted from Howe (1982) and was reflective of realistic ethical practice issues not specifically discussed during the study unit. Students were asked to place their student numbers only on the pre-tests, were assured that the exercise would not be used in any way to determine unit grades, that confidentiality was guaranteed and that the reasons for requesting the feedback would be fully explained at the end of the semester.

Although unusual, the decision not to inform the students of the research until both tests were written was ethically defensible. Prior knowledge of the post-test might have distorted results. Students were asked to identify significant ethical/moral issues raised by the case study, state what they thought should be done and support their answers from an ethical/moral perspective. Students were given 40 minutes of class time to complete case study analyses.

Case study The case study detailed the dilemma of an anxious, upset patient asking nurses for diagnostic information in a ward setting where 'common practice' was for nurses to say nothing (since some doctors preferred that patients not know of a malignant diagnosis), and where the doctor could not be contacted for several hours.

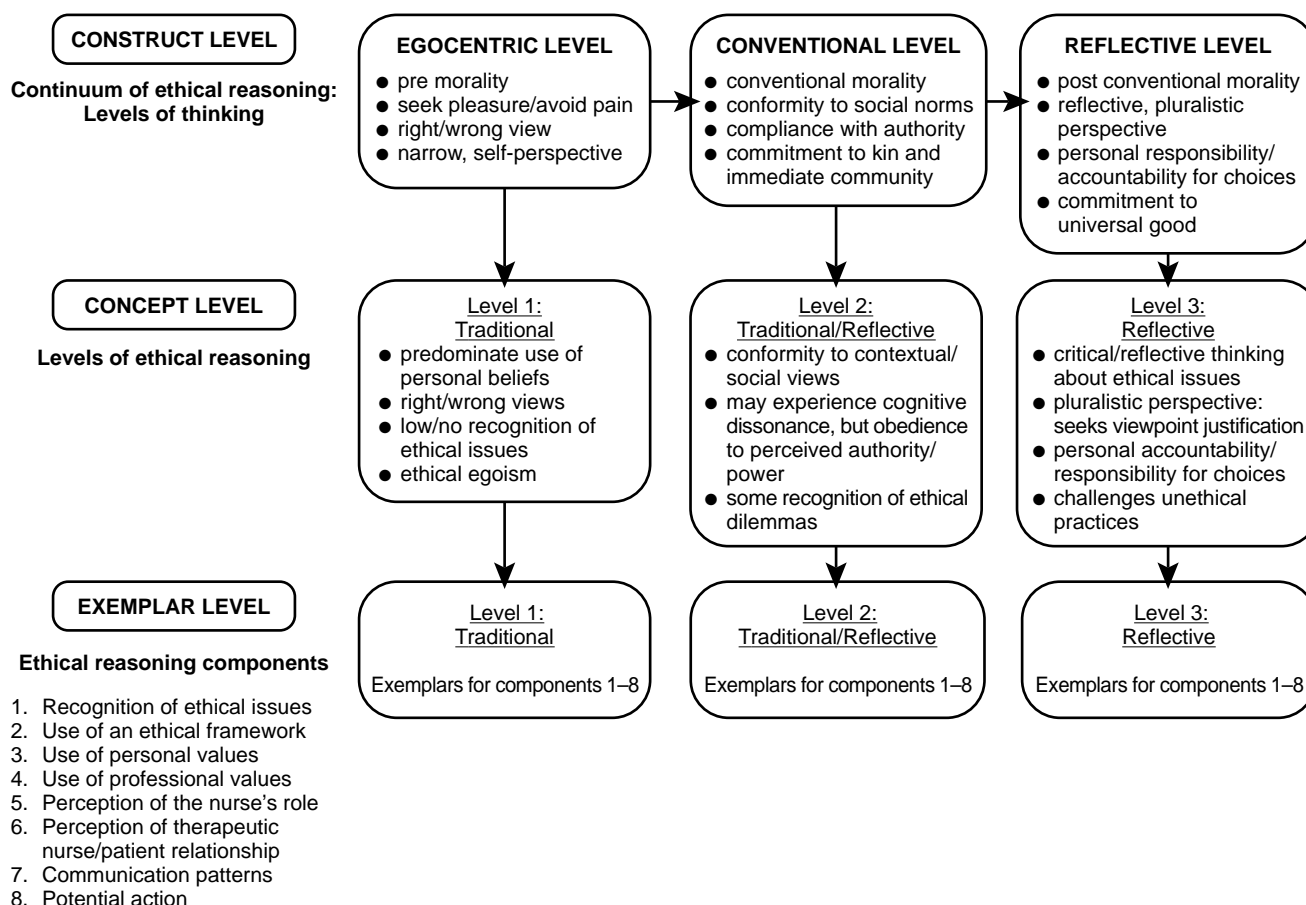


Figure 1 Theoretical framework underlying development of the ERT.

Content of the unit The independent variable was the content of the study unit, which utilized a framework within which ethical issues could be identified, clarified and evaluated. This involved the consideration of three interdependent component parts; contextual elements, ethical elements and decision making components. A majority of time was spent on the ethical elements component, as most students were unfamiliar with this knowledge base. This component included identification of ethical issues, application of relevant ethical theories and principles to justify viewpoints, discussion of relevant professional values, codes of ethics and practice and legal parameters.

Analyses of case studies, videos and actual practice situations ('Nurses' Stories') brought to class by students were used to foster critical reflective thinking. Methods included mini lectures and small and large group discussions, despite the disadvantage of a large number of students (100) in a tiered lecture theatre. All students attending the unit's last class were again given the pre-test study with the same directions. Upon completion of the post-test the research study was fully explained.

Confidentiality, anonymity and freedom to withdraw from the study were assured, and students were further assured that the researcher/teacher would not look at any data until unit grades were given. Students wishing to participate completed demographic and consent forms. They then retrieved their own pre-tests, were asked to re-read both their efforts and to write their reflections concerning their own responses.

RESULTS

An independent colleague not affiliated with the study unit randomly selected the 30 subjects, coded the pre- and post-tests and then combined the tests so that they would not be identifiable as pre- or post-test. Responses to the case study were then analysed by the first author using the ERT.

Inter-rater reliability

To assess inter-rater reliability, a philosopher not connected with the study unit utilized the tool to score a random

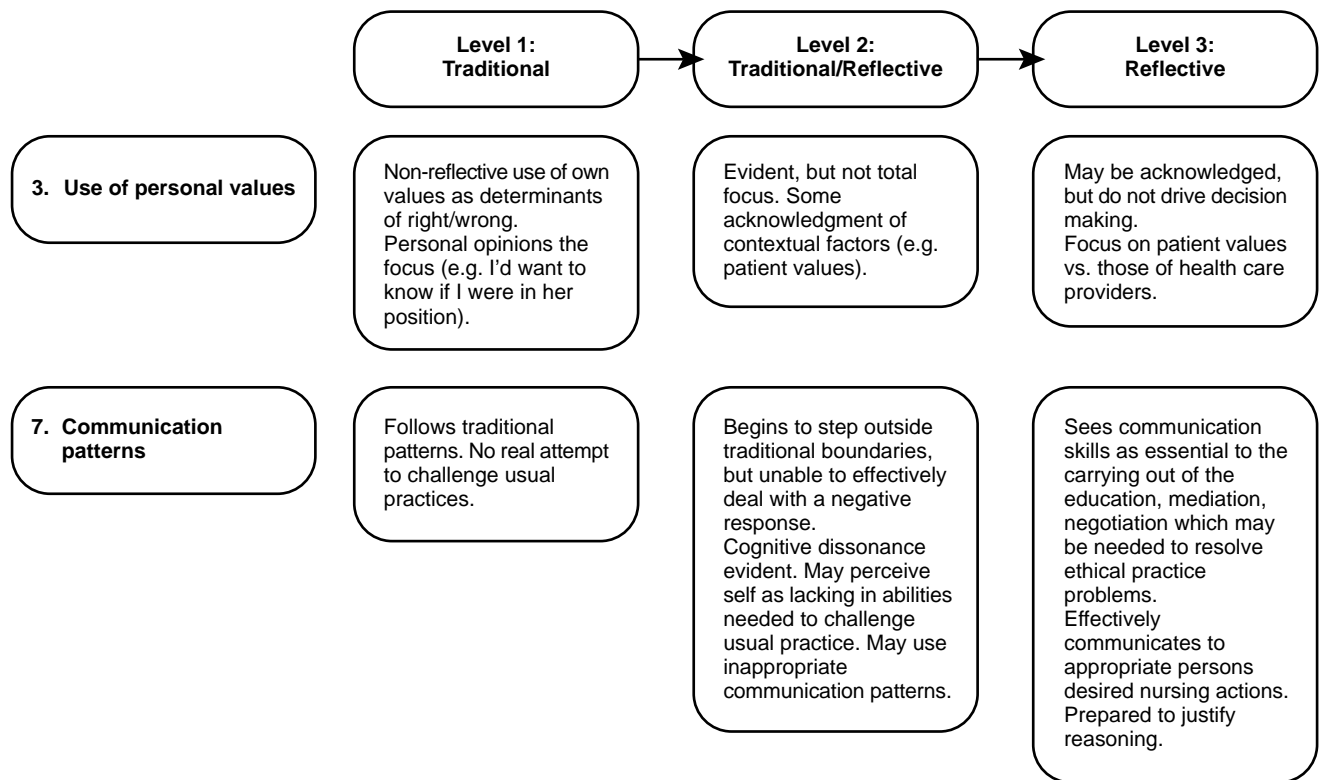


Figure 2 Exemplar behaviours for two ethical reasoning components.

Table 1 Frequency distribution of sample by demographic variables

Characteristics:	<i>n</i>
Gender	
Female	28
Female	2
Prior nursing education	
Hospital based diploma	15
College diploma	15
Student status	
Full time	24
Part time	6
Age (yr)	
20–25	7
26–30	11
31–35	4
36–40	5
>40	3
Years of nursing experience	
1–5	12
6–10	10
11–19	7
>19	1
<i>n</i> = 30	

sample of 25% (15) of the papers. At least 75% agreement on level of response for 11 of 15 students was reached. One hundred and twenty exemplar behaviours were coded by each of the two raters. Thirty-one (26%) of the exemplar behaviours were coded inconsistently by the raters. No pattern related to these scoring discrepancies was observed. When a discrepancy occurred it was discussed until consensus was reached and the behaviour finally coded.

Construct validity

The Wilcoxon matched pairs signed ranks test was used to test changes in scores from pre-test to post-test using the eight components and the three levels of ethical reasoning. The results are diagrammatically represented in Figure 3.

Statistically significant changes occurred in three categories: category 1, recognition of ethical issues; category 2, use of an ethical framework; and category 3, use of personal values to direct decision making. In these three areas there was an identifiable shift from Level 1 responses in the pre-tests to Level 2 responses in the post-tests.

These findings were confirmed by a content analysis of the reflective responses made by students upon completion of the post-test. Many pre-test statements reflected strong traditional beliefs. Such statements conveyed firm

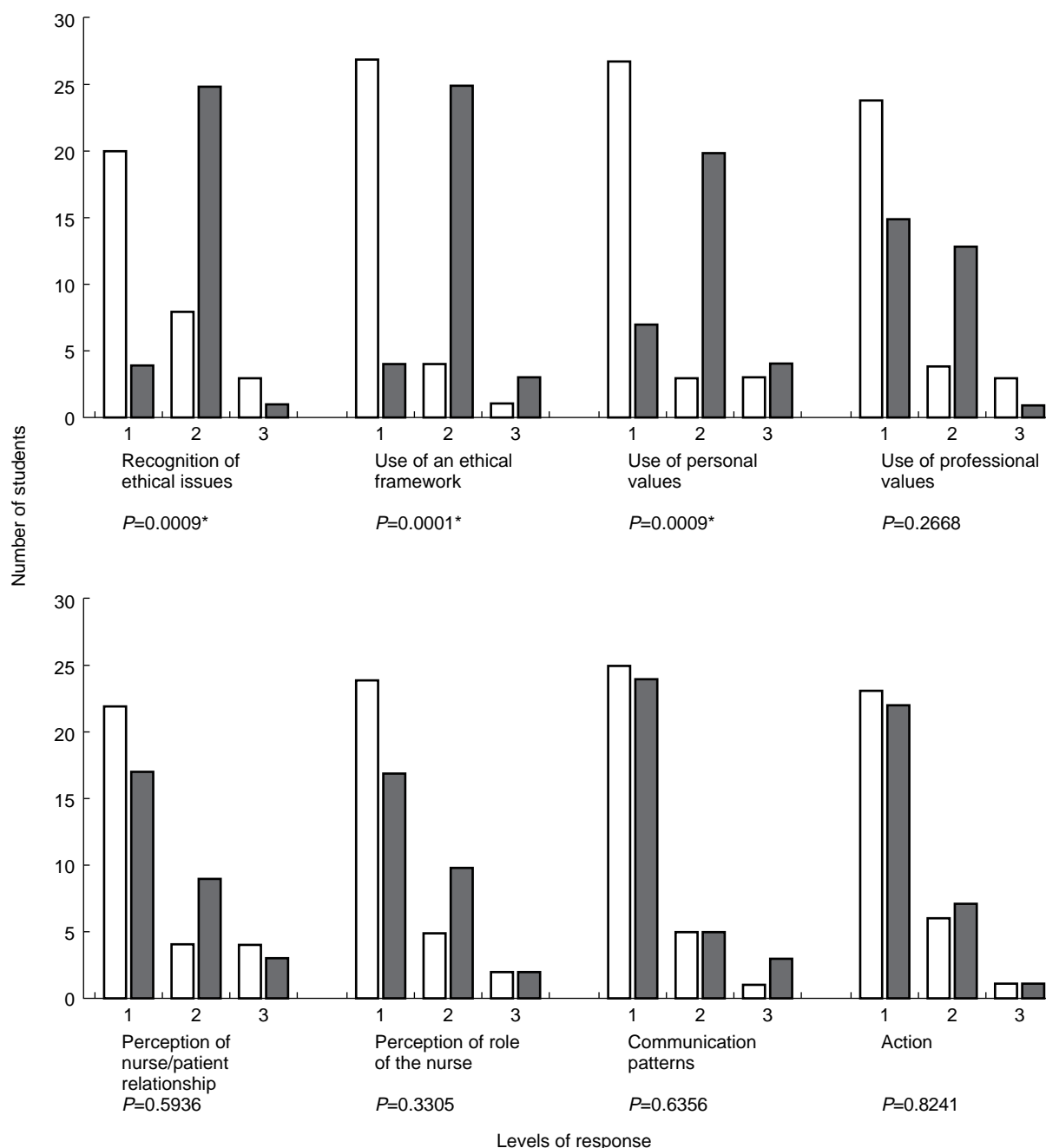


Figure 3 Changes in scores for ethical reasoning components, from pre-test to post-test using the ERT. □ = pre-test response; ■ = post-test response; * significant when $P=0.05$.

conviction that only the doctor should speak to the patient, and that the nurse was powerless to say anything. The nurse could only inform the patient of 'hospital policy', express sympathy for the hours of waiting ahead and offer relaxation or distraction techniques. Some respondents indicated that the student nurse (who in the scenario was adamant that the patient be told) needed to 'learn her place', saying that this was a common dilemma which the student would certainly have to face again.

Some nurses justified their answers based largely on

what they would want to happen to them if they were the patient. Most students who indicated feelings that the patient had a right to the information also felt powerless to act. Students' written reflections about their thinking in the pre-test revealed personal insights such as the following:

I was surprised to re-read my first answer and realise that I wasn't on the patient's side at all.

In the pre-test it is clear that I didn't look at ethical issues and

theories applicable to the scenario. I just took one view of the situation.

The first effort (pre-test) was totally from my point of view, no reasoning from ethical theories or principles.

The pre-test shows a typical and socially conditioned woman/nurse response.

The pre-test was a ramble of words without any theoretical knowledge.

I had no knowledge of ethical principles.

My pre-test answer, although the conclusion was the same as the post-test, was basically argued from a personal values and traditional point of view and would be very hard to justify concretely.

I thought I had no power over the doctor or hospital policy.

What the doctor said was 'law'.

In the pre-test it would appear that I was more concerned with hospital policy, following doctor's orders and doing the right thing by them rather than concern for the patient.

Students' reflective comments also revealed changes in personal thinking, and satisfaction with their own learning outcomes, as shown in statements such as the following:

Never really saw where I was supposed to be in the 'Doctor-Nurse game'. I concluded I shouldn't be in it at all and now have a new mind set!

In my post-test I felt that it was morally justifiable to tell the patient for reasons I outlined in my answer. This shows instead of being afraid of a situation and taking the easiest option this course has allowed me to support myself in making an ethically justifiable decision even though it may not be the easiest option.

Having only 3 years experience in nursing, I found it difficult to assert what I felt about ethical issues such as these, because my only answer was my feeling that 'it's just not right'. ... I kept quiet when problems which concerned more experienced nurses arose. I am more confident now that I can deal with problems which may arise and be more able to justify my 'reflective thoughts'.

I am able to argue my ideas better. My first response was try and wash your hands of the whole deal or pass it on to someone else. I am now more willing and likely to become involved. I feel that I can deal with it on a different level. To feel that I have tackled a problem systematically and from an informed perspective makes me feel that I have achieved something out of the ethics course.

From these two papers I haven't really changed my mind, but have become more aware of various factors which will influence decisions, and do not feel as intimidated in challenging 'systems' or protocols because I can justify my point of view.

A few students indicated no perceived changes in thinking, and continuing difficulty in being able to see other

than their own point of view. Cognitive dissonance is evident in their responses.

My thoughts on the subject (dilemma) have not modified much. It is a bit scary that I continue to view the dilemma the same way, and that I am stuck on doing the 'correct thing', not perhaps from the patient's viewpoint but from the Doctor/Nurse relationship viewpoint — a don't rock the boat attitude. My nursing socialisation must be more deeply ingrained than I imagined!

I really feel I haven't learned to change my thinking as clearly displayed by my answers being the same. I have rote learned the theories and principles and concepts and just fitted them into a case study. I still think of only one side and have to really think about the other side.

Relationships between demographics and levels of response

Although it was not the intent of the study to test relationships between demographic variables and levels of response, a post-hoc analysis was undertaken to identify potential predictors of ethical reasoning in order to generate hypotheses that could be tested in future research projects. Therefore, the Wilcoxon-Mann-Whitney test (two tailed) was used to test for differences among students' responses according to demographic variables. No significant differences were found ($P < 0.05$) at either pre or post-test times.

DISCUSSION

Testing of the ERT indicates that the tool meets pre-set criteria for content validity, inter-rater reliability and construct validity. The three levels of ethical reasoning were apparent in subject responses. The eight components were representative of cognitive influences, and were helpful in revealing personal influences as well as perceptions of external or contextual influences. The data revealed strong Level 1: Traditional Response thinking at the start of the study unit. Student pre-tests and comments about their own answers were descriptive of traditional workplace environments and practice norms where the 'doctor-nurse game' is operational, and where 'common practice' (in the case of the scenario) is seen as inviolable policy. Responses and personal comments indicated both a lack of recognition of and critical/reflective thought about the ethical issues involved. Many responses indicated a personal perception that traditional thinking was appropriate and desirable.

The theory base grounding of the study offers some explanation for pre-test findings. For example, student pre-test answers and later reflective comments indicated that the notion of nursing powerlessness was supported by both their own internal perceptions and the contextual environment. Such attitudes, particularly if strongly held,

are likely to be reasonably stable and closed to change, have a pronounced effect on information processing and a strong relationship to behaviour (Eagly & Chaiken, 1993, McGuire & McGuire 1991, Zanna & Rempel 1988). Preferences for Murphy's (1979) bureaucratic and physician advocacy stances, or Aroskar's (1982) 'traditional mind set' were also strongly evident. Pre-test responses may also be viewed as low level moral development according to Kohlbergian or Aristotlian theory.

Past and present graduates

Of interest was the finding of no significant difference in pre-test responses between those nurses graduating years ago and the more recent graduates of College programmes. Reasons for traditional responses in recent graduates require further investigation. One possibility is a strong and rapid socialization of new nursing graduates into traditional thinking modes in order to 'fit in'. Another is that newer nursing programmes did not equip students with the knowledge, skills and strong ego strength needed to effectively question traditional practices. A third may relate to nurses' previous educational and practice experiences, and a lack of focus on critical appraisal of moral reasoning and justifications as to the acceptance of one particular view of rightness or wrongness over another. Without such experiences, the perspective transformation which Habermas (1971) suggested is essential for the development of reflective thinking may not occur. Fourthly, a difference may have been detected by use of a larger sample size.

Research question 2 Inter-rater reliability was established between the researcher and philosopher. Few discrepancies in ratings of individual subjects in the eight components occurred and consensus was easily reached through discussion. It is important that raters have comparable knowledge of ethical theory, and its use in ethical reflective thought.

Research question 3 The ERT evidenced construct validity as measured by changes in scores from pre to post-tests. Post-test results indicated increased abilities to recognize ethical issues and to utilize a framework within which to consider, clarify and evaluate these issues. Advancement away from decisions based almost exclusively on personal values, opinions or unreflective 'right-wrong' judgements was apparent.

Research question 4 Subjects' reflective responses demonstrated insight into their own ethical thinking. As shown in the examples given earlier, comments about their own initial efforts appeared candid. Many responses acknowledged a lack of previous thought about their own or others' practice ethics, and their own willingness to 'take the easy

option' and maintain the status quo when faced with ethical uncertainties. Also, subjects were able to comment on their own attitude change, or continuing cognitive dissonance.

CONCLUSION

The ERT demonstrates a promising way to measure professional responses to ethical issues. A particular strength of this tool is that responses are generated by respondents themselves, without external prompts. Further testing will allow estimation of the stability of the tool over time and replication of psychometric testing. Given the need for tools to assess the cognitive ethical reasoning of nursing students, dissemination of these findings to others who can replicate and extend the research will help to expedite knowledge in this area.

The establishment of the ERT as a valid and reliable instrument for measuring levels of cognitive thinking of nurses facing an ethical practice dilemma is important for three reasons. Firstly, the tool will reveal unprompted ethical thinking about a practice dilemma, thereby clarifying 'real' vs. 'assumed' professional cognitions. Secondly, if nurse educators have a means of evaluating the ethical reasoning of students prior to an ethics unit, they are able to shape educational strategies to mitigate apparent areas of cognitive insufficiency. And finally, use of such a tool will allow nurse educators to obtain evidence upon which to evaluate the effectiveness of nursing ethics study units.

Acknowledgements

The authors acknowledge the generous financial support for the study from the Faculty of Health and Human Sciences Research Committee, Edith Cowan University to the first author, and a Manitoba Health Research Council Scholar Award to the second author.

References

- Adamson B. & Kenny D. (1993) Structural and perceived medical dominance: a study of barriers to nurses' workplace satisfaction. *The Australian Journal of Advanced Nursing* **10**(4), 10–19.
- Ajzen I. & Fishbein M. (1980) *Understanding Attitudes and Predicting Social Behavior*. Prentice-Hall, Englewood Cliffs, New Jersey.
- Ajzen I. (1985) From intentions to actions: a theory of planned behavior. In *Action Control: From Cognition to Behaviour* (Kuhl J. & Beckmann J. eds), Springer Verlag, New York, pp. 11–39.
- Ajzen I. (1991) The theory of planned behavior. *Organizational Behavior and Human Decision Process* **50**, 179–211.
- Aroskar M. (1993) Whither ethics in nursing curricula? *Journal of Professional Nursing* **9**(1), 6.
- Aroskar M. (1982) Are nurses' mind sets compatible with ethical practice? *Topics in Clinical Nursing* **4**(1), 22–32.

- Bebeau M. (1993) Designing an outcome-based ethics curriculum for professional education: strategies and evidence of effectiveness. *Journal of Moral Education* **22**(3), 313–326.
- Bevis E. (1993) Teacher talk: all in all it was a pretty good funeral. *Journal of Nursing Education* **32**(3), 101–105.
- Bishop A. & Scudder J. (1987) Nursing ethics in an age of controversy. *Advances in Nursing Science* **9**(3), 34–43.
- Cassidy V. (1991) Ethical responsibilities in nursing: research findings and issues. *Journal of Professional Nursing* **7**(2), 112–118.
- Cohen L. (1992) Power and change in health care: challenge for nursing. *Journal of Nursing Education* **31**(3), 113–116.
- Crisham P. (1981) Measuring moral judgment in nursing dilemmas. *Nursing Research* **30**(2), 104–110.
- Crittenden P. (1993) *Learning to be Moral: Philosophical Thoughts about Moral Development*. Humanities Press International Inc, London.
- Duckett L., Rowan-Boyer M., Ryden M., Crisham P., Savik K. & Rest J. (1992) Challenging misperceptions about nurses moral reasoning. *Nursing Research* **41**(6), 324–331.
- Eagly A. & Chaiken S. (1993) *The Psychology of Attitudes*. Harcourt Brace Jovanovich, New York.
- Erlen J. & Frost B. (1991) Nurses perceptions of powerlessness in influencing ethical decisions. *Western Journal of Nursing Research* **13**(3), 397–407.
- Evans M. (1986) Not free to be moral. *The Australian Journal of Advanced Nursing* **3**(3), 35–48.
- Fazio R. (1986) How do attitudes guide behavior. In *Handbook of Motivation and Cognition: Foundations of Social Behavior* (Sorrentino R. & Hoggins E. eds), Guildford Press, New York, pp. 204–243.
- Felton G. & Parsons M. (1987) The impact of nursing education on ethical/moral decision making. *Journal of Nursing Education* **26**(1), 7–11.
- Fenton M. (1988) Moral distress in clinical practice: implications for the nursing administrator. *Canadian Journal of Nursing Administration* (October), 8–11.
- Fitzpatrick J., While A. & Roberts J. (1993) The relationship between nursing and higher education. *Journal of Advanced Nursing* **18**, 1488–1497.
- Gilligan C. (1982) *In a Different Voice*. Harvard University Press, Cambridge.
- Glaser B.G. & Strauss A.L. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Aldine Press, New York.
- Gray C. (1987) What do nurses want? *Canadian Medical Association Journal* **136**(5), 978–987.
- Habermas J. (1971) *Knowledge and Human Interests* (Shapiro J., Trans.). Beacon Press, Boston.
- Hamilton H. (1995) Editorial: The great divide. *Collegian: Journal of Royal College of Nursing Australia* **2**(3), 3.
- Harrison L. & Cameron-Traub E. (1994) Patients' perspectives on nursing in hospital. In *Just Health: Inequality in Illness, Care and Prevention* (Waddell C. & Petersen A. eds), Churchill Livingstone, Melbourne.
- Howe K. (1982) Evaluating philosophy teaching: assessing student mastery of philosophical objectives in nursing ethics. *Teaching Philosophy* **5**(1), 11–22.
- Ives G. & Rowley G. (1990) A clinical learning milieu: nurse clinicians: attitudes to tertiary education and teaching. *The Australian Journal of Advanced Nursing* **7**(4), 29–35.
- Jameton A. (1977) The nurse: when roles and rules conflict. *The Hastings Centre Report* **7**(4), 20–21.
- Jowett S., Walton I. & Ryan S. (1992) *Implementing Project 2000: An Interim Report*. National Foundation for Educational Research in England and Wales, Upton Park.
- Kahneman D. & Tversky A. (1984) Choices, values and frames. *American Psychologist* **39**(4), 341–350.
- Katzman E. & Roberts J. (1988) Nurse-physician conflicts as barriers to enactment of nursing roles. *Western Journal of Nursing Research* **10**(5), 576–590.
- Kessenich C. (1992) Curriculum counter revolution. *Journal of Nursing Education* **31**(8), 371–372.
- Ketefian S. (1985) Professional and bureaucratic role conceptions and moral behavior among nurses. *Nursing Research* **34**(4), 248–253.
- Kohlberg L. (1976) Moral stages and moralization: the cognitive-developmental approach. In *Moral Development and Behavior: Theory, Research and Social Issues* (Lickona T. ed.), Holt, Rinehart & Winston, New York, pp. 31–53.
- Lofland J. (1976) *Doing Social Life*. John Wiley and Sons, New York.
- MacIntyre A. (1993) *After Virtue: A Study in Moral Theory*. Duckworth, London.
- May T. (1993) The nurse under physician authority. *Journal of Medical Ethics* **19**, 223–227.
- McAlpine H. (1988) Ethics education programs in nursing curricula. Unpublished MA Dissertation, University of Edinburgh, Edinburgh.
- McAlpine H. (1992) *Nursing Ethics Education: Pandora's Box?* Vol. 1. Conference Proceedings: Australian Bioethics Association Annual Conference, Sydney University. Australian Bioethics Association, Sydney.
- McAlpine H. (1996) Critical reflections about professional ethical stances: have we lost sight of the major objectives? *Journal of Nursing Education* **35**(3), 119–126.
- McGuire W. & McGuire C. (1991) The content, structure, and operation of thought systems. In *Advances in Social Cognition* Vol. 4 (Wyler R. & Srull T. eds), Erlbaum, Hillsdale, New Jersey, pp. 1–78.
- Mezirow J. (1981) A critical theory of adult learning and education. *Adult Education* **32**(1), 3–24.
- Millette B. (1993) Client advocacy and the moral orientation of nurses. *Western Journal of Nursing Research* **15**(5), 607–618.
- Munhall P. (1982) Moral development: a prerequisite. *Journal of Nursing Education* **21**(6), 11–15.
- Murphy C. (1979) Models of the nurse-patient relationship. In *Ethical Problems in the Nurse Patient Relationship* (Murphy C. & Hunter H. eds), Allyn & Bacon, Boston, pp. 8–26.
- Mustapha S. & Seyberg J. (1989) Moral reasoning in college students: implications for nursing education. *Journal of Nursing Education* **28**(3), 107–111.
- Perry W. (1978) Growth in the making of meaning: youth into adulthood. In *The Future of American Colleges* (Chickering A. ed.), Jossey-Bass, San Francisco.
- Petersen A. (1994) *In a Critical Condition: Health and Power Relations in Australia*. Allen & Unwin, St. Leonards, NSW.
- Prescott P. & Dennis K. (1985) Power and powerlessness in hospital nursing departments. *Journal of Professional Nursing*, November-December, 348–355.
- Rest J. (1982) A psychologist looks at the teaching of ethics. *The Hastings Centre Report* **12**, 29–36.

- Rorty A. (1980) *Essays on Aristotle's Ethics*. University of California Press, Berkeley.
- Scott P. (1995) Role, role enactment and the health care practitioner. *Journal of Advanced Nursing* **22**, 323–328.
- Stein L. (1967) The doctor-nurse game. *Archives of General Psychiatry* **16**, 699–703.
- Stein L., Watts D. & Howell T. (1990) The doctor-nurse game revisited. *New England Journal of Medicine* **322**(8), 546–549.
- Swanson J. (1986) The formal qualitative interview for grounded theory. In *From Practice to Grounded Theory: Qualitative Research in Nursing* (Chenitz W.C. & Swanson J. eds), Addison-Wesley, Wokingham, pp. 66–78.
- Swider S., McElmurry B. & Yarling R. (1985) Ethical decision making in a bureaucratic context by senior nursing students. *Nursing Research* **34**(2), 108–112.
- Thomas J. & Waluchow W. (1987) *Well and Good: Case Studies in Biomedical Ethics*. Broadview Press, Peterborough.
- Thompson I., Melia K. & Boyd K. (1994) *Nursing Ethics*. Churchill Livingstone, Edinburgh.
- Weis D., Schank M., Eddy D. & Elfrink V. (1993) Professional values in baccalaureate nursing education. *Journal of Professional Nursing* **9**(6), 336–342.
- Yarling R. & McElmurry G. (1990) The moral foundation of nursing. In *Ethics in Nursing: An Anthology* (Pence T. & Cantrall J. eds), National League for Nursing, New York, pp. 335–341.
- Zanna M. & Rempel J. (1988) Attitudes: a new look at an old concept. In *The Social Psychology of Knowledge* (Bar-Tal D. & Kruglanski A. eds), Cambridge University Press, Cambridge, pp. 315–334.