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Assessing the Levels of Clinical Reasoning Skills Using Self-Assessment of Clinical Reflection and Reasoning in Undergraduate Nursing Students: A Descriptive Comparative Study

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Abstract

Background: Clinical reasoning is a critical cognitive skill that enables undergraduate nursing students to make clinically sound decisions. A lapse in clinical reasoning can result in unintended harm to patients. The aim of the study was to assess and compare the levels of clinical reasoning skills between third year and fourth year undergraduate nursing students. **Methods:** The study utilized a descriptive comparative research design, based on the positivism paradigm. 410 undergraduate nursing students were systematically sampled and recruited into the study. The researchers used the Self-Assessment of Clinical Reflection and Reasoning questionnaire to collect data on clinical reasoning skills from third- and fourth-year nursing students while adhering to ethical principles of human dignity. Descriptive statistics were done to analyse the level of clinical reasoning and an independent sample t-test was performed to compare the clinical reasoning skills of the student. A p value of 0.05 was accepted. **Results:** The results of the study revealed that the mean clinical reasoning scores of the undergraduate nursing students were knowledge/theory application (M = 3.84; SD = 1.04); decision-making based on experience and evidence (M = 4.09; SD = 1.01); dealing with uncertainty (M = 3.93; SD = 0.87); reflection and reasoning (M = 3.77; SD = 3.88). The mean difference in clinical reasoning skills between third- and fourth-year undergraduate nursing students was not significantly different from an independent sample t-test scores (t = −1.08; p = 0.28); (t = −0.29; p = 0.73); (t = 1.19; p = 0.24); (t = −0.57; p = 0.57). Since the p-value is >0.05, the null hypothesis (H_0) "there is no significant

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no significant difference in clinical reasoning between third year and fourth year undergraduate nursing students", was accepted. **Conclusion:** This study has shown that the level of clinical reasoning skills of the undergraduate nursing students was moderate to low. This meant that the teaching methods have not been effective to improve the students clinical reasoning skills. Therefore, the training institutions should revise their curriculum by incorporating new teaching methods like simulation to enhance students' clinical reasoning skills. In conclusion, evaluating clinical reasoning skills is crucial for addressing healthcare issues, validating teaching methods, and fostering continuous improvement in nursing education.

Keywords

Clinical Competences, Clinical Reasoning Skills, Undergraduate Nursing Student

1. Introduction

Clinical reasoning (CR) is an integrated cognitive process. It enables nursing students to effectively assess patients' problems and select the best course of action from the available options. The process is constant, dynamic, and flexible, and it helps nursing students gain awareness and put their learning in context [1]. CR is an essential competence for nurses' professional practice. It is considered crucial that its development begin during basic training [2]. Analysing clinical data, determining priorities, developing plans, and interpreting results are primary skills in clinical reasoning during clinical nursing practise [3]. To develop these skills, nursing students must participate in caring for patients and working in teams during clinical experiences.

The clinical reasoning cycle entails gathering and analysing cues in order to determine which clients need to be attended to [4] [5]. When the nurse sees these cues, she is then motivated to help these patients by initiating the right action at the appropriate time [5] [6]. This metacognitive approach depends on applying information, exposure, and critical thinking to make well-informed professional decisions and address problems [7] [8]. It is believed that critical thinking is necessary for efficient clinical reasoning [2]. It's an intellectual process that involves the following skills: analysis, reasoning, information seeking, discrimination, standard application, prediction, and knowledge transformation [9]. Intellectual integrity, open-mindedness, reflection, confidence, determination, curiosity, intuition, flexibility, and creativity are among the behavioural habits that influence critical thinking [9]. The eight primary stages of the clinical reasoning cycle are look, collect, process, decide, plan, act, evaluate, and reflect [9]. The nursing curriculum aims to educate tomorrow's nurses with strong clinical reasoning abilities in nursing programs [10]. Thus, safe and competent graduates should be the goal of nursing education. In addition, when providing

high-quality care and assessing the results of nursing education, patient safety must be considered a priority. To provide patients with high-quality nursing care in the complex health care system of the twenty-first century, nurses must possess strong clinical reasoning abilities and a solid educational background, [11]. Despite training facilities' dedication to provide undergraduate nursing students with clinical reasoning skills, the public frequently laments that graduates are not prepared for the workforce. Furthermore, even though nearly all of these institutions have enhanced skills laboratories and a competency-based curriculum, students who graduate from training nursing institutes in Malawi lack the clinical reasoning abilities required to offer high-quality nursing care [12].

Therefore, this study aimed at assessing the level of clinical reasoning skills in undergraduate nursing students. Specifically, the study was guided by the following research objectives: To analyse the levels of clinical reasoning skills of the undergraduate nursing students. To compare the levels of clinical reasoning skills between third- and fourth-year undergraduate nursing students. The study also tested the following null hypothesis. H_0 = there is no difference in clinical reasoning skills between third year and fourth year undergraduate nursing students.

2. Methods

Study design, paradigm and context.

This current study employed a descriptive comparative study design underpinned by the positivism paradigm. In a positivist's view, the assumption is that the researcher is independent of the participants being researched [13] findings are not influenced by the researcher. Application of the epistemological assumption to this study denoted that a student's level of clinical reasoning skill was quantifiable. The use of the Self-Assessment of Clinical Reflection and Reasoning (SACRR), a tool designed to quantify the ability to apply clinical reasoning, further validated the existence of the epistemological assumptions. It was also based on an ontological assumption, which ascertains that reality is fixed and measurable [13]. Application to this study indicated that the level of clinical reasoning skill is measurable.

Participants

The nursing students were pre-registration student nurses pursuing a qualification of a bachelor's degree in the third year and fourth year of study. The students in the third and fourth years were chosen because they had gone through the educational process for three to four years and were expected to have acquired the necessary knowledge and competencies. Nursing students in the first and second years of the study were not recruited into the study because they did not have enough clinical experience.

Sampling and sample size

Systematic random sampling was used to sample the undergraduate nursing students. The Cochrane formula was employed to calculate the sample size: no =

z^2pq/e^2. Where, n_o = is the sample size. Z^2 = 99% at 2.58. N is the population size. E^2 = margin of error at 0.01%. P is the estimated proportion of the population that has the attribute in question. Q is 1 − p. Then, n_o = 2.582 (0.5) (0.5)/0.012 = 666. Since there were 1081 nursing students, the sample size was adjusted by using the Cochrane correction formula: n = no/1 + (no − 1)/N; n = 666/1 + (666 − 1)/1081; n = 410. Therefore, 410 undergraduate nursing students were recruited into the study.

3. Instrumentation and Data Collection

Instrument

SACRR questionnaire was used to collect data. The self-assessment of clinical reflection and reasoning questionnaire is a validated tool, with Cronbach's alpha of 0.87 pre-test and 0.92 post-test, suggesting high internal consistency [14]. The instrument consists of 26 items statements that represent the behaviours or actions of Clinical Reasoning. The SACRR questionnaire has twenty-six (26) items that signify behaviours or actions of clinical reflection and reasoning. The total score of the items is 130 points, representing 100%, and each group contributes the following: Knowledge/Theory Application 25 points (19.23%), Decision Making Based on Experience and Evidence 50 points (38.46%), Dealing with Uncertainty 35 points (26.92%), and Self Reflection and Reasoning 20 points (15.39%). The quality of the scores reflects the participants' level of self-reflection and clinical reasoning ability (Table 1).

Table 1. Undergraduate nursing students' scores on Knowledge/Theory Application results.

Variable	Frequency	Percentage
Knowledge/Theory Application		
1 - 5	11	2.7%
6 - 10	50	12.2%
11 - 15	41	10%
16 - 20	196	47.8%
21 - 25	112	27.3%
Total	N = 410	100%

Application of knowledge or theory is a skill in the nursing profession since decision-making is based on knowledge. The rating of the scores in Knowledge/Theory Application is as follows:

- Very Low = 1 - 5
- Low = 6 - 10
- Moderate = 11 - 15
- High = 16 - 20
- Very High = 21 - 25

The items in Decision Making Based on Experience and Evidence reflect the

basis of an undergraduate nursing student's decision-making. High scores indicate that the students based their decision-making on past experience and also on evidence collected from other sources such as clinical protocols, patient care guidelines, and other health professionals. The score rating in this category is as follows:

- Very Low = 1 - 10
- Low = 11 - 20
- Moderate = 21 - 30
- High = 31 - 40
- Very High = 41 - 50

Dealing with uncertainty focuses on the undergraduate nursing student's ability to identify issues and viewpoints while dealing with uncertainty. Items in this group also focus on an individual's open-mindedness to the views of colleagues in the profession while dealing with unexpected changes in their patients' situation or any uncertainty in the different clinical situations before planning any interventions. The scores in this group reflect how undergraduate nursing students deal with unexpected problems they encounter in clinical practice. The rating of the scores in this category is as follows:

- Very Low = 1 - 7
- Low = 8 - 14
- Moderate = 15 - 21
- High = 22 - 28
- Very High = 29 - 35

Items in Self-Reflection and Reasoning are mainly related to individuals' ability to reflect on different hypotheses about patients' clinical problems before planning any intervention and considering rationale for their planned interventions. The items also include reflecting on the hypotheses and interventions carried out to verify if they really worked. The scores in this category reflect students' ability to think, plan, decide and reflect on the care provided to patients. The rating of the scores in this category is as follows:

- Very low = 1 - 4
- Low = 5 - 8
- Moderate = 9 - 12
- High = 13 - 16
- Very High = 17 - 20

The total scores for each group of items are calculated based on the number of items in the group. The questionnaire has a 5-point Likert scale that is used to rate the items. The alternatives of the rating scale are 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree.

Data collection

The questionnaires were distributed to all undergraduate nursing students in their third and fourth years of study who were available in a classroom. The undergraduate nursing students were given ten minutes to respond to the questionnaire. In this case, the students were the captive audience in this study [15].

Data analysis

The Statistical Product for the Social Sciences (SPSS) version 26.0 for Microsoft Windows was used to analyse the quantitative data. Scores from the SACRR questionnaire were quantified using the Microsoft Excel program according to the proposed concepts of knowledge/theory application, decision-making based on experience and evidence, dealing with uncertainty and self-reflection and reasoning. The totals were entered in SPSS version 26.0, where descriptive statistics were conducted and means and standard deviations for each category were obtained. The independent sample t-test was run to compare the mean score on clinical reasoning skills between third- and fourth-year students. A p-value of <0.05 was considered statistically significant.

4. Results

Among 410 undergraduate nursing students who participated in the study n = 344, (84%) were females and n = 66, (16%) were males. All of them (100%) returned completed questionnaires, reflecting a response rate of 100%.

Undergraduate nursing students' knowledge and theory application results

Knowledge/Theory Application describes the ability of an undergraduate nursing student to use theory, past knowledge and deferent frames of reference for planning interventions, as well as understanding the clinical protocols and problems, in order to select an appropriate management option. The knowledge/theory application scores for the undergraduate nursing students varied, reflecting their use of theory and past knowledge and various frames of reference when assessing, identifying problems, making decisions and planning patient care. A high score in knowledge or theory application indicates that students apply the theory learned and their past knowledge, while low scores reflect students' minimal use of the theory and their past knowledge in identifying problems, making decisions and planning for patient care. There were variations in the scores of the participants, as illustrated in Table 1.

Only 27.3% (n = 112) scored very high in the ranges of 21 - 25, and 47.8% scored high in the ranges of 16 - 20 (n = 196), indicating that there were few participants who could ably apply theory and past knowledge in assessing patients, identifying problems, making decisions and planning interventions; 12.2% (n = 50) had low scores. Few of the participants (10%) (n = 41) had moderate scores in the ranges of 11 - 15, indicating that they had an average ability to use their knowledge in making decisions. Overall mean = 3.84 and SD = 1.04 (Table 5).

Undergraduate nursing students make decisions based on experience and evidence

Scores varied among the undergraduate nursing students in their decision-making based on experience and evidence, as illustrated in (Table 2). Of the (n = 410) undergraduate nursing students, 37.8% (n = 155) scored very high scores (41 - 50), indicating that evidence and experiences helped in their decision-making towards patient care; 4.4% (n = 18) had moderate scores; 5.1% (n =

21) scored low (11 - 20); and 4.6% (n = 19) scored very low (1 - 10). The overall mean was 4.09 and the SD was 1.01 (Table 5).

Table 2. Undergraduate nursing students' scores on Decision making based on experience and evidence.

Variable	Frequency	Percentage
Decision making based on experience and evidence		
1 - 10	19	4. 6%
11 - 20	21	5.1 %
21 - 30	18	4.4 %
31 - 40	197	48%
41 - 50	155	37.8 %
Total	n = 410	100%

Undergraduate nursing students results on dealing with uncertainty

Participants had varying scores in their ability to deal with uncertainty (Table 3). From the group of 410 undergraduate nursing students (n = 410), only 24% (n = 92) of the participants scored very high, and 58% (n = 238) had high scores, an indication that few students could ably deal with unexpected problems they encountered in clinical practice. The high scores indicated students' ability to deal with unexpected changes and uncertainties in different clinical situations. It also indicated that slightly more than half of students had an open mind to the views of their colleagues before they planned for any intervention; 5.6% (n = 23) had low scores; 2.2% (n = 9) scored very low; and 58% (n = 238) had average ability to deal with uncertainty. The overall mean is 3.93 and the SD is 0.87 (Table 5).

Table 3. Undergraduate nursing students' scores on dealing with uncertainty.

Variable	Frequency	Percentage
Dealing with uncertainty		
1 - 7	9	2.2%
8 - 14	23	5.6%
15 - 21	48	1.7%
22 - 28	238	58%
29 - 35	92	24%
Total	n = 410	100%

Undergraduate nursing students results on self-reflection and reasoning

Participants had also scored differently in self-reflection and reasoning, as illustrated in Table 4. The participants' scores were as follows: 19.3% (n = 79) scored very high scores, and 52.9% (n = 217) had high scores. More than half of the students could ably reason and reflect on the client care provided; 17.1% (n =

70) had moderate scores, an indication that few students had moderate reasoning and reflection abilities; 7.3% (n = 30) had low scores; and 3.4% (n = 14) had very low scores. The overall mean is 3.77 and the SD is 0.96 (Table 5).

Table 4. Undergraduate nursing students' scores on Self-Reflection and Reasoning.

Variable	Frequency	Percentage
Self-Reflection and Reasoning		
1 - 4	1	1.1
5 - 8	26	28.9
9 - 12	70	17.1
13 - 16	217	52.9
17 - 20	79	19.3
Total	n = 410	100%

Table 5. SACRR mean scores and standard deviations.

Variables	Mean	SD
Knowledge/theory application	3.84	1.04
Decision making based on experience and evidence	4.09	1.01
Dealing with uncertainty	3.93	0.87
Self-reflection and reasoning	3.77	0.96

The levels of clinical reasoning skills were also compared by conducting an independent sample t-test inferential statistic. An independent sample t-test scores for each variable were: knowledge/theory application score ($t = -1.08$; $p = 0.28$); decision-making based on experience and evidence score ($t = -0.29$; $p = 0.73$); dealing with uncertainty score ($t = 1.19$; $p = 0.24$); and reflection and reasoning score ($t = -0.57$; $p = 0.57$). See Table 6. The null hypothesis (H_0) was accepted since a p value > 0.05.

Table 6. Comparison of mean scores on levels of clinical reasoning skills between 3rd year and 4th year undergraduate nursing students.

Variables	f	Sig	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Knowledge/Theory application	1.28	0.26	−1.08	0.28	−0.11	0.10	−0.23	0.17
Decision making based on experience and evidence	2.89	0.09	−0.29	0.73	−0.03	0.10	−0.07	0.27
Dealing with uncertainty	0.25	0.62	1.19	0.24	0.10	0.09	−0.24	0.13
Self-reflection and reasoning	0.20	0.65	−0.57	0.57	−0.05	0.10	−0.85	0.67

5. Discussion

In this study, the results revealed that only 27.3% scored very high in the ranges of 21 - 25, indicating that there were few undergraduate nursing students who were able to apply theory and past knowledge in assessing patients, identifying problems and planning interventions. 12.2% had low scores. Only 10% of the undergraduate nursing students had moderate scores, indicating that they had average ability to use their knowledge in making decisions. Overall mean = 3.84 and SD = 1.04. Our study findings are in support of [16]'s finding that participants with better problem-solving abilities and academic self-efficacy perceived themselves as having higher levels of clinical reasoning competence.

The results further indicated that a few (37.8%) of the undergraduate nursing students scored very high scores, indicating that evidence and experience helped in their decision-making towards patient care. 4.4% had moderate scores, 5.1% had low scores, and 4.6% had very low scores. The overall mean was 4.09, and the SD was 1.01. Based on this result, it is important to point out that undergraduate nursing students were not imparted with adequate clinical reasoning skills by the nurse educators to allow them to make decisions. These results point out that nurses who possess self-awareness are more likely to see the need to think more broadly and deeply. They can prioritize interventions and ask relevant questions to increase their experiential knowledge [17]. This allows for better decision-making when evidence is present.

Worth noting in this study, was that slightly more than half (58%) had an open mind to the views of their colleagues before they planned for any intervention. This result is similar to [18] results, who also found that there were only improvements on the items that centred on decision-making based on experience and evidence. This, therefore, could mean that dealing with uncertainty is a challenging task for both nurse educators and undergraduate nursing students. This emphasizes the significance of increasing the explicit use of theoretical frameworks and teaching techniques for coping with uncertainty in the provision of patient care. Tracking the impact of curriculum design on CR may improve educators' capacity to enhance cognitive and psychomotor skills too.

Notwithstanding, the results indicated that 19.3% (n = 79) had very high scores, 52.9% (n = 217) had high scores, more than half of the students could ably reason and reflect on the client care provided, 17.1% (n = 70) had moderate scores, indicating that few students had moderate reasoning and reflection skills, 7.3% (n = 30) had low scores, and 3.4% (n = 14) had very low scores. Despite the results reflecting that 27.3% of the undergraduate nursing students had high scores in knowledge and theory application, the teaching methods did not promote thinking and reasoning in learning, as most undergraduate nursing students had moderate to low scores. The inadequacy of clinical reasoning skills would probably affect the undergraduate nursing student's readiness for professional duties. This also points to the problem with their reasoning and decision-making process, which did not make them confident. Lack of confidence in undergraduate nursing students could be attributed to their inability to reason and make appropriate decisions about pa-

tient care. Our results are in contrast with [19] who suggested that nurse educators need to improve the classroom teaching of the content and other supporting courses to ensure that all new graduates are safe and competent to practice. To this end, nurse educators should use innovative teaching methods to produce confident, competent and high-quality nurses.

Further our study results have shown that the clinical reasoning skill was moderate to low by both levels of study. This is similar to study results by [16] who found that the students were low skilled in critical thinking and their critical thinking skills did not significantly change during their nursing degree. Thus, it might be concluded that the nursing education program did not affect the critical thinking skills of its students.

The researchers also compared the levels of clinical reasoning skills between third- and fourth-year undergraduate nursing students. The results indicated that there was no significant difference in the levels of clinical reasoning skills, ($t = -1.08$; $p = 0.28$); ($t = -0.29$; $p = 0.73$); ($t = 1.19$; $p = 0.24$); ($t = -0.57$; $p = 0.57$). Our study result is slightly similar to [20]-[22], who found that there was a decline in clinical reasoning skills as the students progressed with their training. This could be the case because undergraduate nursing students do not master the content but learn to pass. On the contrary, [21] found that fourth-year nursing students scored on a significantly higher level of clinical reasoning compared to second- and third-year students. This is expected when the student starts the training program as a novice, but as the student progresses with the training, they must demonstrate proficiency and expertise [22]. However, it's crucial to remember that no student ever achieves a level of expertise because of lack experience [19].

6. Research Limitations

However, this study had some limitations. The assessment of clinical reasoning is a difficult task due to its complexity. Since internal mental processes cannot be immediately witnessed, measuring them is intrinsically challenging [23]. The study was conducted at only two institutions; therefore, the generalization of the results was limited.

7. Conclusions

The results of this study have shown the undergraduate nursing students had moderate to low level of clinical reasoning skills and there was no significant difference between third and fourth year. This might mean that the teaching and learning process is questionable. Based on the results of this study, it is recommended that the training institutions should revise the curriculum and include innovative teaching methods such as simulation which might improve the clinical reasoning skills of the undergraduate nursing students. The authors also suggest that future research, including replicating it with different population groups and comparing students in different nursing schools, be conducted by nurse educators.

Literature has also shown that nurses with poor reasoning skills are a danger

to the nursing profession because they often fail to detect cues that require immediate attention for the patient [19], hence compromising patient safety. All taken together, evaluating clinical reasoning skills is crucial for addressing healthcare issues, validating teaching methods, and fostering continuous improvement in nursing education.

8. Ethics Approval and Consent to Participate

To conform to the ethical and legal standards of scientific research, ethical clearance was obtained from the University of Zambia Biomedical Research Committee (UNZABREC) and National Commission of Science and Technology (NCST) in Malawi, respectively. The undergraduate nursing students who participated in this study were explained the aim of the study. The researcher protected and treated the information, which was provided with high confidentiality, to the best of his knowledge. The researcher did not write participants' names on the questionnaire or in any reports or documents that might let someone identify the participants to ensure that anonymity was guaranteed. The participant's name was not linked to the research information in any way. The researcher took care of the data and information collected. However, the results after the analysis were to be shared with national stakeholders, and the researcher submitted the manuscript for publication in scientific journals. Participants were informed that participation was voluntary, anonymity was guaranteed as their names were not to appear in the report, and they were at liberty to withdraw or cancel their participation at any time, even after they had signed the consent form. Further, participants were made aware that they were not receiving any remuneration for participating in the study. All participants who agreed to take part in this study signed an informed consent. Special permission was obtained from participants for the use of an audio recorder.

Availability of Data and Materials

All the data supporting the results is contained within the manuscript.

Authors' Contributions

Omero G. Mwale conceived the idea, developed the protocol, and analysed and interpreted the results. Omero G. Mwale also drafted, reviewed and revised the manuscript for the study, while Patricia K. Mukwato and Marjorie K. Makukula supervised and reviewed the manuscript. All authors read and approved the final manuscript.

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Conflicts of Interest

The authors declare that they have no competing interests.

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Abbreviations

CR	Clinical Reasoning
NCST	National Commission for Science and Technology
NMCM	Nurses and Midwives Council of Malawi
UNZABREC	University of Zambia Biomedical Research Committee
SACRR	Self-Assessment of Clinical Reflection and Reasoning
SPSS	Statistical Product of Social Sciences
QECH	Queen Elizabeth Central Hospital

Appendix

Appendix (IV) Data Collection Tool (for Undergraduate Nursing Students) Self-Assessment of Clinical Reflection and Reasoning (SACRR) Adopted from Roth 1989

Title: Assessing the levels of clinical reasoning in the undergraduate nursing students

Identity Code_____Date of interview_____

Demographic Data

Instructions: tick what is applicable to you

Sex

M	F
Your age in years: tick the appropriate column.	
18 - 21 years	
22 - 25 years	
26 - 28 years	
29 - 31 years	
32 - 35 years	
36 and above	

Introduction

This questionnaire has questions on how you can assess your ability to reason after undergoing the teaching and learning processes. It is very important that you answer each question as honestly as you can.

Response key: The letters in the responses column stand for the following

1 = strongly disagree (SD)

2 = disagree (D)

3 = undecided (U)

4 = agree (A)

5 = strongly agree (SA)

No	Item	Responses				
		SD	D	U	A	SA
1	I question how, what and why I do things in practice.					
2	I ask myself and others questions as of learning.					
3	I don't make judgements until I have sufficient data.					
4	Prior to acting, I seek various solutions.					
5	Regarding the outcome of proposed interventions, I try to keep an open mind.					
6	I think in terms of comparing and contrasting Information About a client's problems and proposed solutions to them.					

Continued

7	I look to theory for understanding a client's problems and proposed solutions to them
8	I look to frames of reference for planning my intervention strategy
9	I use theory to understand treatment or management techniques.
10	I try to understand clinical problems by using a variety of frames of reference
11	When there is conflicting information about a clinical problem, I identify assumptions underlying the differing views.
12	When planning intervention strategies, I ask "What If" of a variety of options
13	I ask for colleagues' ideas and viewpoints.
14	I ask for the viewpoints of clients' family members.
15	I cope well with change.
16	I can function with uncertainty.
17	I regularly hypothesize about the reasons for my client's problems
18	I must validate clinical hypotheses through my own experience.
19	I clearly identify the clinical problems before planning intervention.
20	I anticipate the sequence of event likely to result from planned intervention.
21	Regarding a proposed intervention strategy, I think, "What makes it work?"
22	Regarding a proposed intervention, I ask, "In what context/situation would it work?"
23	Regarding a particular intervention with a particular client, I determine whether it worked.
24	I use clinical protocols for most of my treatment.
25	I make decisions about practice based on my experience
26	I use theory to understand intervention strategies.