



Original Article

Predicting Metaethics of Nurses based on Moral Reasoning, Moral Behavior, and Mental Health

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ABSTRACT

Background and Aim: Metaethics reflects knowledge of persons from moral nature, principles, and processes. Metaethics is effect by many variables such as moral reasoning, moral behavior, and mental health. The aimed to investigate the predicting metaethics of nurses based on moral reasoning, moral behavior, and mental health.

Materials and Methods: This is a cross-sectional study of correlational type. The statistical population included all nurses of Varamin hospitals in 2016 years. Totally 90 nurses were selected through simple random sampling. All of them completed the questionnaires include metaethics, moral reasoning, moral behavior, and mental health. Data were analyzed using Pearson correlation and multivariate regression with stepwise model methods and with using SPSS-19 software.

Ethical Considerations: In this study, verbal informed consent of participants was obtained followed by an explanation about the purpose of the study, anonymity, and confidentiality of patients' information.

Findings: The results showed a positive and significant relationship between moral reasoning, moral behavior, and mental health with metaethics of nurses. In a one-predicted model, moral behavior, mental health, and moral reasoning predicted 37/2 percent of the variance of metaethics among nurses ($p \leq 0/01$).

Conclusion: According to findings, moral behavior, mental health, and moral reasoning were the most important predictors of metaethics of nurses. Therefore, it is suggested that planners and counselors consider the symptoms of these variables and design and Implement appropriate programs to improve the metaethics of nursing.

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Introduction

Moral values and the manner of their formation is one of the major and basic issues in psychology and metaethics or moral metacognition is one of the topics that less attention has been paid to it in the moral discussion (1). Metacognition is the knowledge about cognitive processes and moral metacognition is predicated to a knowledge of people about their morality. Especially metaethics is a demonstration of knowledge or awareness of the nature, principles, and moral processes that have been represented at

the time of moral reasoning or moral behavior from long-term memory (2). Metaethics, as well as metacognition knowledge, is being divided into three parts including moral knowledge in the personal field, moral knowledge in the obligation field, and moral knowledge in the strategy field. The first part means that people need to know the effects of personal features on their lives programs, the second part means that monitor and control of the behaviors are related to their perception about obligation features and the third part means

awareness of the person about series of activities that plan to achieve the goal (3).

Moral reasoning is one of the related factors with metaethics. Moral reasoning is an informed judgment process about good and evil actions (4). Piaget stated four stages of moral reasoning based on his observations. In the first stage, children have personal perceptions and based on individual thoughts from the rules. The second stage begins at age five and the child considers himself obliged to the rules. Rules that are sacred and perpetual which imposed by god or their parents. At this stage, the child's verdict is based on the result of the act, not by intention. In the third stage of moral development (moral realism), the child gradually understands that some rules, are social conventions and if everyone agrees, it is possible to change them. In the fourth stage of moral development (moral relativism), the intention of the person in moral reasoning will be considered. In this stage, teens tend to enact rules that be applicable even in situations that never were faced (5). In summary, researches show that moral reasoning has a positive and significant relation with metaethics (2,3,6-8). For example, Crumpei and et al concluded in a study conducted on students in Romania, that students who had higher moral reasoning, have had a greater extent of metaethics (7). Also Talebzadehsani and Kadivar concluded by research that moral reasoning has a positive and significant relation with metaethics (8).

Moral behavior is another factor related to metaethics. Moral behavior is a series of socially accepted specific actions and behaviors that are learned through reward and punishment (9). The main defect of Piaget's theory is considering moral argument equivalent to moral behavior but studies showed that the relation between moral argument and moral behavior is very weak. Knowing moral behavior is not possible by knowing the characteristics of the person, but behavior must be analyzed in social space and environment (10). Moral behavior can be against the person's logic. Bandura considered cognitive processes and attention as the inductor of moral behavior. In analyzing Bandura's theory, the action will be impacted according to an equal weight of tripartite elements of the environment, behavior, and person. Though moral logic is effective on moral action, the moral action element is more expressive than moral logic. Social learning theory emphasizes both the social aspects and cognitive aspects of behavior which are an expression of thought processes on motivation, emotions, and human action (11).

Eisenberg believes that moral behavior is at the altruistic level and originates from dreams that are just not only for our benefit but also for others' interests (12). In summary, researches show that moral behavior has a positive and significant relation with metaethics (2-3,8-9,13-14). For example, Talebzadeh sani besides the relation between moral metacognitive knowledge (metaethics) concludes by moral behavior and logic that there was a significant and positive relationship between the metaethics and moral behavior (2). De Backer & Hudders also have concluded in research about metaethics that people who get a high score in moral behavior, their metaethics score is more too (14).

Mental health is another factor related to metaethics. Mental health means the ability to harmonious correlation with others, changing and improving personal and social environment and resolving conflicts and personal desires in a reasonable manner, and having meaning and purpose in life (15). A person has mental health who gets away from anxiety and inability symptoms and be able to establish constructive communication with others and able to confront the pressures of life (15). In summary, researches showed a significant and positive relationship between mental health and metaethics (14,17-19). For example, Giasizadeh concluded by research that students with higher mental health, have higher metaethics (18).

De Backer & Hudders also concluded in research about metaethics that there is a significant and positive relation between metaethics and mental health (14).

However, some studies have pointed to investigate the prediction of metaethics based on moral reasoning, moral behavior, and mental health, but lack of attention to the contemporary role of these variables in predicting metaethics is one of the main inadequacies of this studies. When all of these variables are considered in a contemporary prediction model, which one will give more information on metaethics? Nurses also from one side cannot deny accountability to patients and therefore they should be able to take action of healthy, proper, legal, and moral care from all patients in all caring environments (20). and the other side, few studies have been done to check nurses metaethics and since the nurse's duties are associated with moral issues, so this study aims to investigate it. As a result, the overall purpose of this study was to predict nurses' metaethics based on moral reasoning, moral behavior, and mental health.

Ethical Considerations

In this study, verbal informed consent of participants was obtained followed by an explanation about the purpose of the study, anonymity, and confidentiality of patients' information.

Materials and Methods

This study was cross-sectional with correlational type. The research population was all hospital nurses of Varamin city (ie 15 Khordad and Shahid Mofatteh hospitals) in 2016 who their numbers were 155 persons. The proposed formula of Tabachnick & Fidell was used to estimate the sample size. According to their proposed formula, the minimum required sample size in the correlation study is calculated from the formula $N \geq 50 + 8M$. In this formula, N is a sample size and M is the number of predictor variables (21). Since there is 3 variable predictor in this study, so 90 nurses selected by simple random sampling method without replacement. For this purpose, after taking the list of hospitals nurses, one code has given to each of them, and then 90 percent among them was selected by using a table of random numbers. Required information has been gathered by four questionnaires with no inserting name and family name, in compliance with the principle of confidentiality and receiving written consent.

Moral reasoning test

Issues explanation test of Rest and et al was used to measure moral reasoning. These tools include moral puzzles which have two long-form (six stories) and short (three stories) that the short form was used in this study. The short form of the tools includes three hypothetical stories which are scored by following each 12 items story using a 5-point Likert scale. The test score is obtained through the total item's score. They reported 0.77 for the reliability of the questionnaire by Cronbach's alpha (22). Kadivar also translated and normalized the test in Iran and reported 0.83 for its reliability by the Test-retest method (11). In this study, the reliability coefficient was calculated at 0.81 by using Cronbach's alpha.

Moral Behavior Checklist: This tool was built by Swanson & Hill. This tool has 15 items which are

scored by using a 5-point Likert scale. A score of the test is obtained through total items score. They reported reliability of the tools 0.96 by using Cronbach's alpha (3). Talebzadeh sani also translated and normalized the questionnaire in Iran and reported its reliability 0.78 by using Cronbach's alpha.² In this study, the reliability coefficient was calculated at 0.76 by using Cronbach's alpha.

Mental health questionnaire: this tool was built by Goldberg & Hillier. This tool has 28 items which are scored by using a 4-point Likert scale. The test score is obtained through the average score of items. They reported the total reliability of the tool as 0.84 by using Cronbach's alpha (23). Khalatbari and et al also normalized the questionnaire and reported its reliability 0.87 by using Cronbach's alpha in Iran (24). In this study the reliability coefficient was calculated 0.79 by using Cronbach's alpha method.

Metaethics questionnaire:

This questionnaire was built by Swanson & Hill and includes subscales of the person, obligation, and strategy. This tool has 15 items which are scored by using a 5-point Likert scale. The test score is obtained through a total score of items. They reported the total reliability of tool 0.81 by using Cronbach's alpha method.³ Talebzadeh sani also translated and normalized the questionnaire in Iran and reported its reliability of 0.80 by using Cronbach's alpha method (2). In this study, the reliability coefficient was calculated at 0.75 by using Cronbach's alpha method.

To analyze the data, descriptive statistical methods, and the central tendency and dispersion parameters were used to describe the distribution of variables, and Pearson's correlation coefficient and multiple regression with step by step model were used to test the statistical assumptions. The data also were analyzed by SPSS-19 software.

Findings

Participants of the study were 90 nurses (57 women, 33men) with an average age of 31.5. among them, 76 nurses were married and 14 nurses were single. Pearson's coefficient solidarity test was used to investigate the relationship between variables which the results were provided in table 1.

Table 1. Mean, standard deviation, and correlation coefficients of variables (n=90)

Variable	M	SD	1	2	3	4
Moral reasoning	117.36	12.98	1			
Moral behavior	48.52	9.71	0.19*	1		
Mental health	2.86	0.57	0.31**	0.37**	1	

Metaethics	49.17	8.24	0.35**	0.42**	0.29**	1
*p<0.05	**p<0.01					

The findings of table 1 showed that moral reasoning, moral behavior, and mental health have a significant and positive relation with metaethics ($p \leq 0.01$). Moral reasoning had a significant and positive relation with moral behavior and mental health, and moral behavior had a significant and positive

relationship with mental health. Multiple regression test with step by step model was used to determine variables contribution of moral reasoning, moral behavior, and mental health in predicting metaethics which results were provided in table 2.

Table 2. Results of multivariate regression with stepwise model

Model	Predictive variable	R	R ²	R ² Change	F change	df1	df2	Sig
1	Moral behavior	0.42	0.176	0.176	57.34	1	88	0.001
2	Moral behavior and mental health	0.54	0.291	0.115	10.86	1	87	0.001
3	Moral behavior, mental health and moral reasoning	0.61	0.372	0.081	8.24	1	86	0.002

The findings of table 2 showed that in the first model, moral behavior has had the most power in metaethics prediction. This variable has been able to predict 17.6 percent of metaethics changes. In the second model, mental health has entered into the equation after moral behavior. These two variables could predict 29.1 percent of metaethics changes. In

the third model, moral reasoning is the third variable that has entered into the equation, these three variables could predict 37.2 percent of variable changes of nurses' metaethics. Regression coefficients were used to determine the most effective variables in predicting metaethics of nurses which the result was provided in table 3.

Table 3. Standard and non-standard coefficients in the equation of multivariate regression with stepwise model

Model	Predictive variable	Regression coefficients			T	Sig
		B	SE	Beta		
1	Moral behavior	1.26	0.75	0.39	1.680	0.001
2	Moral behavior	1.36	0.79	0.44	1.721	0.001
	Mental health	1.27	0.68	0.26	1.867	0.001
3	Moral behavior	1.19	0.71	0.37	1.676	0.002
	Mental health	1.13	0.64	0.23	1.765	0.002
	Moral reasoning	0.85	0.43	0.19	1.976	0.005

By accepting the order of variables entrance and according to their standard beta, findings of table 3 show that moral behavior variable with the standard beta of 0.37 has the most share in predicting metaethics changes, after that, mental health variable with the standard beta of 0.23 and moral reasoning variable with the standard beta of 0.19 had a positive and effective role in predicting the metaethics.

Discussion

This study was conducted to predict metaethics of nurses based on moral reasoning, moral behavior, and mental health. Findings show that moral reasoning, moral behavior, and mental health have a significant and positive relation with metaethics and

these three variable could predict 37.2 percent of the variance of metaethics.

There was a significant and positive relation between moral reasoning and metaethics which this finding was consistent with previous research findings (2,3,6-8). For example, Crumpie and et al concluded by research that moral reasoning had a direct connection with metaethics (7). Talebzadeh Sani and Kadivar also concluded by research that there is a significant and positive relation between moral reasoning and metaethics (8). In explaining this finding based on Beger's idea (25), it can be said that metaethics is a knowledge that person has from nature, principles, and moral processes. So people can present moral arguments according to the knowledge level of this principle and Moral processes. Since the person uses the information

stored in his memory for problem-solving in metaethics, when facing a moral problem, he uses his information to solve it. It seems that also people with high metaethics, according to having much information about moral people's characteristics and their cognitive features and various strategies to resolve their problems, there is more possibility to be aware of the inconsistent and arguments and try to fix them. Solving these inconsistencies causes the person to be more able to improve in the moral reasoning process. Another explanation is that people with strong moral reasoning have more ability to pay attention, close and comprehensive examination of issues strengths and weaknesses in comparison to people with weaker moral reasoning, therefore, they can argue and decide better which can cause to increase metaethics.

Moral behavior has a significant and positive relation with metaethics which this finding was consistent with previous research findings (2-3,8-9,13-14). For example, Talebzadeh sani concluded by research that metaethics had a significant and positive relation with moral behavior (2). De Backer & Hudders also concluded in research about metaethics that people who get a high score in moral behavior, their metaethics score is higher (14). In explanation of this finding, it can be said that people who benefited from cognitive knowledge can order their activities through inspection, design, directing, test, revise, assess cognitive activities, and thinking about their cognitive functions. So people can benefit from their failures and successes, continued to benefit from strategies, and abandon non-beneficial strategies as long as they can monitor and evaluate their cognitive activities intelligently. In this way, there is more possibility that people with high metaethics evaluate their behavior and they would abandon those behaviors if they recognize them as non-profitable and immoral and would have appropriate moral activities according to their knowledge and experience. Another explanation is that person is expected to use the information in his activities according to the person's knowledge of obligations, strategies, cognitive abilities, and of moral people. So if someone has sufficient knowledge of obligation and knows what kind of behavior and who are moral and immoral and finally to have a variety of appropriate strategies, he will be more moral behavior than someone less capable in this case.

There was a significant and positive relationship between mental health which this finding was consistent with previous research findings (14,17-

19). For example, Giasizadeh concluded by research that students with high mental health, get a high score in moral reasoning and metaethics (18). De Backer & Hudders also concluded by research about metaethics that there is a positive relation between metaethics and people's health (14) Some theorists associated the moral development process with mental health and declared that although moral development occurs through specific stages, metaethics of people with low mental health is at the lower level (26). The study result also showed that how much better people benefit mental health, the amount of their metaethics will be higher too. This finding is consistent with Kohlberg's theory which claimed that people may disrupt metaethics due to cognitive limitations, accepting common moral principles, or as a result of mental illness. Another explanation is that people with low mental health commit anti-social behaviors. Because following moral principles is impossible without understanding them and this recognizing of true from false ability is the one that affected essential concepts of moral, legal responsibility, and moral behavior. Therefore, people with more health have a greater extent of metaethics.

The achievement of this study is that moral behavior, moral reasoning, and mental health respectively, have more relation with metaethics in nurses. Also, when all three mentioned variables are entered into the equation at the same time, together can predict 37.2 percent of metaethics changes. According to the research results, counselors, therapists, and administrators can increase variables amount of moral behavior, moral reasoning, and mental health in nurses to increase their metaethics behaviors.

The first and the most important limitation of the study is using of self-report tools. In this tool, people may not have enough introspection when completing them and do not responsibly respond to items that causing the bias. Another limitation is that the sample group is limited to nurses of Varamin city, so we should be cautious in generalizing the result to other towns and hospital jobs. Due to limitations, it is suggested to use structured or semi-structured interviews in future researches. This research is also suggested to be done on other hospital careers such as midwifery, medic, etc., and be compared with this study. Comparative studies between nursing career and non-medical career also can be a useful research field for those interested in research. It is also necessary that moral reasoning and moral behavior being assessed separately in

each gender and compared together in future researches because of the importance of moral reasoning and moral behavior and the difference of this concept between men and women. It is also suggested to administrators and authorities to provide an opportunity for growth of metaethics and better performance of nurses by valuing the nursing profession, using appropriate strengthening methods, and holding training workshops.

Conclusions

In this study, it was found that in a model that moral reasoning, moral behavior, and mental health are competing to predict metaethics at the same time, moral behavior, mental health, and moral reasoning were respectively the most variables in predicting metaethics of nurses. In this model, moral behavior had the highest standard weight. So in the first place what is more effective on metaethics is that socially acceptable behaviors and actions through reward and punishment. So it is recommended to planners and advisors to increase their psychological knowledge in this field and in addition to that they should pay attention to mentioned variable symptoms and design and implement proper programs to improve the metaethics of nurses based on them.

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Conflict of Interest Statement

The authors declare that they have no conflicts of interest.

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