

# Reexploring the Subconcepts of the Wittmann-Price Theory of Emancipated Decision Making in Women's Healthcare

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This study explored the 5 subconcepts (empowerment, flexible environment, personal knowledge, reflection, and social norms) of the Wittmann-Price Theory of Emancipated Decision Making (EDM) in women's healthcare, a theoretical model. Pain management for labor was the clinical exemplar. The correlation of EDM and satisfaction with the decision (SWD) was measured, and flexible environment was the subscale with the highest mean score. There was a significant relationship between EDM and SWD ( $r = 0.70, P < .001$ ). Personal knowledge and flexible environment were the best predictors of satisfaction. This study advances the theory of EDM for the nursing care of women. **Key words:** *decision making, emancipated, flexible environment, personal knowledge, social norms*

**O**PPRESSION in decision making is a phenomenon identified in women's healthcare when a woman feels obligated to choose the most socially accepted option rather than the option that best suits her personally. The exploitation of one option by society and/or healthcare professionals is done for any number of reasons including, but not restricted to, provider convenience, tradition, empirical data, or popular trends. One such issue, which has a long history of medical and social opinion, is pain management for labor.<sup>1</sup> Nursing care is an important aspect of a woman's environment when she is in labor,

and it is within the role of the nurse to facilitate an emancipated decision-making (EDM) process to increase the woman's satisfaction with her decision about pain management options.<sup>1,2</sup>

Decision making about healthcare issues, in general, is an important concept for nurses to embrace because it has evolved from a physician-based privilege to a patient-centered construct.<sup>3</sup> The Wittmann-Price Theory of Emancipated Decision Making is a nursing model that affirms the patient-centered paradigm and considers gender differences.<sup>4</sup> The theory differs from other decision-making models because it encourages the critique of social norms and the effect they may have on women who are in the process of decision making about healthcare issues. Awareness of social norms refers to a woman's knowing the opinion held by the larger environment about the healthcare options that are presented to her. The larger environment includes healthcare professionals, government healthcare initiatives, and public opinion as well as family, friends, and community. The theory of EDM recognizes

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that knowledge development always occurs in a social context and that context is capable of exerting unequal power, thereby influencing the woman during the decision-making process.<sup>4</sup> The healthcare issue that presents options, such as pain medication for labor, is the operational variable under investigation to represent the decision-making process in this study.

The Wittmann-Price Theory of EDM proposes that 5 subconcepts need to be present in order for a woman to reach an emancipated decision that will ultimately lead to satisfaction with the decision. Besides *awareness of social norms*, the other subconcepts needed are a *flexible environment* for decision making, *empowerment*, *personal knowledge*, and *reflection*.<sup>5</sup>

#### AIM OF STUDY

The aim of this study is to further develop the theory by reexploring the 5 subconcepts in the Wittmann-Price theory of EDM to verify them and move from exploration and description toward application for the nursing care of women. The Wittmann-Price Theory of EDM has been tested previously using infant feeding method as the healthcare issue that presents options to women.<sup>5</sup> The study was repeated using a different clinical exemplar to validate the significance of the 5 identified subconcepts identified as necessary in making an emancipated decision and retests their influence on producing satisfaction with the decision.

#### PREVIOUS STUDY

The first investigation of the theory of EDM revealed that Pearson correlations of the 5 subscales as measured by the Emancipated Decision-Making Scale (EDMS) were significantly related to EDM and there was a strong correlation between an emancipated decision and satisfaction with the decision as measured by the Satisfaction With Decision (SWD) scale<sup>6</sup> ( $r = 0.74$ ,  $P < .001$ ). In addition,

the combination of personal knowledge and flexible environment explained 62.2% of the variance in satisfaction with the decision when a stepwise multiple regression analysis was carried out.<sup>5</sup>

#### THEORY DEVELOPMENT

Freedom of choice may be hindered if social norms are negatively affecting the woman's decision-making process. The social norm may advocate a healthcare option that is incongruent with the woman's personal knowledge, and the woman feels pressured to choose that option. When there is incongruence between social norms and personal knowledge, a flexible environment is necessary to facilitate an EDM process. The theory further speculates that if a woman chooses an option solely because of pressure produced by social norms and it is incongruent with what she knows is best for her, it will produce dissatisfaction with the decision. An assumption, for future exploration, is that dissatisfaction may result in poor follow-through with the chosen option.

#### THEORETICAL BACKGROUND

In the Wittmann-Price Theory of EDM, the person and environment are in constant interaction. The person attempts to maintain emancipation by equalizing power against persons, groups, or systems that attempt to impose oppression. Environments, which include external and internal, are intertwined with sources of power, obvious and obscure, that can be used for positive or emancipating outcomes or negative or oppressive outcomes depending on the intent. A person can never be completely separated from the environment and its social and cultural context, and the environment cannot be separated from the person. In this middle-range theory, an environment is on a continuum between flexible and nonflexible. A flexible environment is one that can be emancipating because it recognizes that sources of power or social

norms are inevitable and allows the person to appraise those norms appropriately in relation to personal knowledge through reflection.

Social norms have the potential of being oppressive even if they are considered the “best practice” based on empirical data if they disregard the individual woman’s personal knowledge. Evidence-based practice (EBP) models include the consideration of individualization in decision making about healthcare issues.<sup>7</sup> Individualization should include personal knowledge as a way of knowing because it has components of self-awareness.<sup>8</sup> This is evident in the example provided by Melnyk and Fineout-Overholt.<sup>7</sup>

Even if the evidence found from a rigorous search and critical appraisal strongly supports that a certain treatment is beneficial (e.g., hormone replacement therapy [HRT] to prevent osteoporosis in a very high-risk women), a discussion with the patient may reveal her intense fear of developing breast cancer while taking HRT or other reasons that the treatment is not acceptable.<sup>7(p12)</sup>

In this example, the norm is to take the hormone-replacement therapy (HRT), but the woman’s personal knowledge is in opposition to the norm and the Wittmann-Price Theory of EDM would predict that there would be dissatisfaction with the decision if the woman indeed took the HRT. Conversely, if HRT were chosen because the woman has a strong desire not to develop osteoporosis then she would still be using her personal knowledge and would be making a satisfying decision. Personal knowledge is not always in opposition to social norms, and social norms and personal knowledge are both subject to change over time related to new evidence or different life perspectives of the woman. An example of this is that currently the evidence of increased risks of stroke and cardiovascular disease<sup>9</sup> to women taking HRT may preclude it as a social norm, yet some women may prefer to use it instead of dealing with severe menopausal symptoms.

In all case scenarios, a flexible environment is needed for women to arrive at a de-

cision that is comfortable for her. The health-care environment must be resilient and responsive and respect the patient’s authority of self. Nursing is the professional role that is in a prime position to foster a flexible environment.<sup>10</sup>

## THEORETICAL UNDERPINNINGS

The Wittmann-Price Theory of EDM is a synthesization from Critical Social Theory,<sup>11</sup> Feminist Theory<sup>12</sup> and Freire’s Emancipatory Education Theory.<sup>13</sup> This theory considers the decisional environment as an extension of the social system, which is one with the individual.

### Critical social theory

Critical Social Theory started in Germany in the 1920s from the foundational works of Marx<sup>14</sup> and Hegel.<sup>15</sup> Originally, Critical Social Theory explained the division of labor and unequal profits in society but was further developed as a theory of knowledge by Habermas<sup>16</sup> using the concepts of self-reflection and emancipation. The main concept of Critical Social Theory is that society needs appraisal because it applies unequal power to different individuals or groups causing oppression. There are discrepancies between what the larger environment deems as important and reality and the environment is synergistic with the individual,<sup>11</sup> which is consistent with the theory of EDM in which people and environmental are inseparable.

Another important highlight of Habermas’ interpretation of Critical Social Theory is his classification of knowledge that includes empirical analysis, hermeneutic interpretation, and critique of domination. He concluded that all 3 ways of knowing are necessary and complement one another. Empirical analysis emphasizes the quantitative research component of issues; hermeneutic interpretations take into account the personal implications of an issue; and critique of domination recognizes the social norm of the issue.<sup>11,16</sup>

The theory of EDM recognizes all 3 types of knowledge as important and essential in decision making for women within the subconcepts of empowerment, personal knowledge, and social norms.<sup>5</sup>

### **Feminist theory**

Feminist theory's foundation is based on the premise that societal domination is imposed on women, causing oppression and denying equality. There are many forms of Feminist Theory, but the major conceptual premise is that societal power or domination over women causes oppression and denies equality.<sup>12</sup> Feminist theories also validate personal knowledge as true knowledge and recognize that the majority of science has been built on a patriarchal tradition that has established empirical knowledge as superior to other knowledge.<sup>8</sup> Feminist Theory also explains that one possibility of the unequal distribution of empirical knowledge over other knowledge is because early in history, women assumed the role of caregiver, allowing men more time for scientific study that empowered men with professional knowledge.<sup>17</sup> Regardless of the historical root of oppression, it is the premise of the theory of EDM that oppression is still recognizable today in women's healthcare when social norms overshadow individual consideration in decision making.

### **Emancipatory education**

Paulo Freire<sup>13</sup> proposed that institutions of education are the starting point of emancipated societies. He described oppression from an educational standpoint and believed that oppression serves the purpose of dehumanization by producing a culture of silence that can be exploited for political or economic gain. Oppression causes an intellectual, emotional, and psychological enslavement that develops into a "fear of freedom"<sup>13(p36)</sup> in exchange for perceived security. Women may feel secure accepting professional or social opinion because of the expectation that it is superior to their own personal knowledge. The outcome of

emancipated education is to equalize power between information giver and receiver to enable free choice and create an environment of true humanism.<sup>13,18,19</sup> Equalitarian nurse-patient relationships are important to establish in the clinical area in order for the woman to make an informed decision about her healthcare. Education and information is essential in all decision-making models.

### **Decisional science**

Clinical decisional science is based on 2 different perspectives. Utility theory statistically analyzes the outcomes for the best probability and is often the model used in algorithms in assisting providers to make choices.<sup>20</sup> It is not a method that lends itself to patient decision making because it is often complicated and neglects the humanistic side that is included in information-processing theories. Information-processing theories consider the cognitive processes patients go through to make a decision. They also include the effective variables such as values and preferences, and most current theories take these variables into consideration.<sup>3</sup>

Other issues in decisional science have been well described by Pierce and Hicks,<sup>3</sup> who wrote that all decisions are based on "decisional problems," which include not only the choice of a decision but the possible outcomes and the probability attached to those outcomes. "Decisional hazard"<sup>3(p270)</sup> is choosing an option because it is believed that the outcome may be more attractive without fully appraising the other option or reviewing all the information. The theory of EDM assumes that there are decisional hazards for women related to social norms and that these can be oppressive if they cause dissatisfaction with the decision.

Pierce and Hicks<sup>3</sup> delineate clear goals and objectives of patient decision-making research in clinical practice. These include (a) helping patients become more efficient, given their limited physical and cognitive resources; (b) reducing the psychological

stress of making the decision; (c) help patients avoid decision hazards; and (d) helping patients to arrive at decisions that accurately reflect their preferences and values. The Wittmann-Price Theory of EDM is consistent with these goals yet focuses on women because they are in the unique position of dealing with patriarchal social norms that may be oppressive. Other clinical examples of healthcare issues that may benefit from further investigation related to this theory are types of delivery preference, male circumcision, human papillomavirus vaccination, birth control methods, and rooming in. The Wittmann-Price theory is proposed as a method of understanding the components needed in the clinical realm for women to make decisions that are satisfying.

Many nursing studies about patient decision making relate them to behavioral change theories such as Bandura's Social Learning Theory Transtheoretical Model (TM)<sup>21</sup> and Ajzen and Fishbein's Theory of Planned Behavior or Theory of Reasoned Action<sup>22</sup> to explain specific aspects of decision making. Bandura's TM describes behavior in terms of change, and decisions about healthcare usually constitute a change in behavior for a person. The TM model includes 5 stages of change—precontemplation, contemplation, preparation, action, and maintenance—that all assist a person to get ready for change. The theory also includes the concept of "decisional balance" that is a weighing of the positives and negatives of an alternative as well as investigating self-efficacy. Self-efficacy is one of the better-known concepts of the theory and is a situational confidence that the person has about being able to perform a behavior.<sup>21</sup> In essence, the EDM model is assisting the women to achieve decisional balance through knowledge and awareness in a safe environment.

The Theory of Reasoned Action states that intention determines behavior and includes attitudes and control. The concept of perceived control is how a person views his or her ability to perform the behavior and includes subjective norms such as the expecta-

tions of important people in their lives. Important people in the patient's life, as influencing factors in the decision-making process,<sup>22-23</sup> are addressed in the EDMS within the subconcept of social norms.

Janis and Mann's Conflict Model of Decision Making<sup>24</sup> outlines 5 different reactions people take to decision making when faced with a stressor in a life situation. The responses range on a continuum from unconflicted adherence, in which a person chooses to ignore making the decision, to a person who makes the decision vigilantly after conscientiously reflecting on all the choices. One of the antecedents to decision making in this conflict theory model includes information gathering and recognizes the importance of communication with different sources of information. Evaluation of the risks of a choice is also important. The authors conclude that multiple variables are part of any decision-making process. No single decisional theory can include every variable that may influence a person's satisfaction with a decision, and no theory can guarantee that the option chosen will be "the best" for the patient. The EDM theory proposes that in the case of women making healthcare decisions, there will be increased satisfaction if she does not feel "forced" by social pressure to choose an option.

O'Connor et al<sup>25</sup> identified decisional conflict as an important component of change. Decisional conflict occurs when there is uncertainty about choices, and a decisional dilemma occurs when none of the choices is attractive. Clinical signs that indicate that the individual is experiencing decisional conflict include verbalization about the uncertainty, expression of concerns about the option, inability to choose clearly between 2 choices, delay in the decision, questioning of personal values, preoccupation while making the decision, and emotional stress over the process. The modifiable factors of a decision are lack of knowledge, unrealistic expectations, unclear values and perceptions of others, social pressures, lack of support, lack of self-confidence, and lack of resources. This

supports the theory of EDM that incongruence between social norms and personal knowledge may lead to oppression.

Decisional tools have been developed to assist the patients to analyze and evaluate their decision-making process.<sup>26</sup> The Ottawa Decision Support Framework provides decisional aids that can be used to guide clients and practitioners in making decisions in clinical practice. The tool is a framework for assisting patients with decisions by clarifying significance and meaning and developing cognitive processes to understand the choices and consequences of the decision.<sup>27</sup> The decisional aids are an adjunct to counseling and assist the patient and provider by a self-module format. Clarification of the alternatives and the options are provided. The Ottawa Framework does address women's healthcare issues such as breast-feeding, operative deliveries, and male infant circumcision, but not through a feministic lens. Perinatal decisions take on a broader social significance and are an intricate part of the social structures from a historical stance in women's history.

Patient decision making about healthcare issues cannot be accomplished in isolation or reduced to probability of outcome success. Most models include aspects of personal preference, and healthcare professionals are intricately involved in the decision-making process. Healthcare professionals are ethically obligated by standards of practice to assist the patient and family through the decisional process without imposing their own views or preferences on them. A cognitive awareness and reflective practice model is needed to ensure that women are not overwhelmed by the influence of the social environment when making personal healthcare choices. The Wittmann-Price Theory of EDM is similar to other decision-making models in that it assumes that information about options is fundamental in the decision-making process. It differs in that it views decision making through a feminist perspective and assumes that social influences exist in many situations in women's healthcare.

## **THE CLINICAL EXEMPLAR: PAIN MANAGEMENT FOR LABOR**

Pain management in labor has been a well-studied issue for years and has evolved from the use of opiates in the beginning of the 20th century to the use of chloroform in the mid 20th century to the current practice of opiate use and epidural anesthesia for pain. Pain management of labor has always been a controversial issue for women and much of the information about it has been dictated by the patriarchal system of medicine.<sup>28</sup> Currently, the most popular form of pain management is epidural analgesia, and a meta-analysis of women's satisfaction with epidurals reveals that women report satisfaction.<sup>28</sup> Using interventional pain management for labor has become more acceptable to women, like many issues that require a healthcare decision; there has been a paradigm shift from the previous years when psychoprophylactic methods were more popular.<sup>29</sup> Regardless of whether women choose pharmacological or psychoprophylactic pain management for labor, the choice should be made with reflection based on appropriate information that integrates the women's personal knowledge and the environment. Nursing professionals are part of the environment and should support the woman's decision.<sup>28-29</sup> This investigation has strived to remain unbiased about the pain management choice made by participants.

## **RESEARCH QUESTIONS AND HYPOTHESES**

The research questions are as follows:

1. What are women's scores on emancipated decision making and the 5 subconcepts of emancipated decision making?
2. What were the relationships among the 5 subconcepts?
3. Is emancipated decision making directly related to satisfaction with the decision about pain management for labor in postpartum women?

**Table 1.** Reliability of EDMS and subscales scores

Subscale	Number of items	Pilot study ( $N = 18$ )	Pain management study	Initial study (infant feeding method)
Total	35	0.88	0.87	0.88
Empowerment	3	0.59	0.48	0.56
Flexible environment	4	0.81	0.68	0.59
Personal knowledge	12	0.81	0.81	0.88
Reflection	5	0.71	0.55	0.48
Social norms	11	0.75	0.77	0.72

4. Does the linear combination of the subconcepts of emancipated decision making predict satisfaction with decision making better than any one element alone?

## DESIGN AND METHOD

This study used a descriptive correlational design. Participants ( $N = 92$ ) were recruited using a convenient sample from a postpartum nursing care unit in a northeastern Pennsylvania level III hospital. Participants included in this study were at least 18 years or older and reported being comfortable reading and writing English. The researcher was granted permission by the hospital institutional review board to check the daily census report, identify participants who met the criteria and approach them in their hospital room. The study was explained, consent obtained, and the survey was left with instructions to return it in the provided envelop to a secured box on the nursing unit. The rate of return was high (54%), and the surveys were distributed and collected every other day for a 3-month period.

### Instrumentation

Three data collection tools were used for both studies and include a subject demographic questionnaire, the 35-item Wittmann-Price Theory of EDMS, and the 6-item SWD scale developed by Holmes-Rovner et al<sup>6</sup> with permission from the author.

The subject demographic questionnaire elicited demographic data such as age and primary language were asked to ensure that the participants were adults (older than 18 years) and were comfortable reading and writing English. It also asked the type of pain management and parity to determine whether the pain management used for this labor was chosen because the woman had used it previously and was satisfied.

The original EDMS was appraised by 5 experts, who included all doctorally prepared nurses with expertise in decisional science or women's healthcare, to establish content validity. The EDMS has 35 items with a Flesch-Kincaid Grade Level of an 8.6 grade reading level. A pilot study ( $N = 18$ ) was conducted in the summer of 2004 to gather estimated internal consistency reliability (alpha) data for the EDMS, and its 5 sub concepts (empowerment, flexible environment, personal knowledge, reflection, and social norms). Reliability values from the pilot study, the present study and the infant feeding method study (first full study that used the EDMS) are reported in Table 1.

The SWD instrument, developed by Holmes-Rovner et al,<sup>6</sup> was used to test the woman's satisfaction with her decision. Holmes-Rovner et al reported a Cronbach  $\alpha$  internal consistency reliability of 0.86. The reliability for this study of the SWD was 0.92.

### Scoring

The EDMS was scored as a unidimensional scale, and a summed total score was used for

all analyses. The data was analyzed using SPSS version 15.0 (SPSS Inc, Chicago, IL) on a personal computer. Data was entered on an ongoing basis as the research questionnaires are returned. The completed research questionnaires were stored in the researcher's office in a locked file cabinet.

For the EDMS and the SWD scale, missing data on the research questionnaires were evaluated for pattern and individual items left blank were replaced by group mean for up to 10% of the items. Items for which the data on the demographic research questionnaires were missing were left blank. If more than 10% of a participant's research data was missing, that participant was excluded from the study. Outliers in other items related to "written in" information that falls out of the parameters given were excluded.

### Population

The age of the sample ( $N = 92$ ) ranged from 19 to 47 ( $M = 30.96$ ,  $SD = 5.76$ ) years. Of the participants surveyed ( $n = 67$ ), parity ranged from 1 to 7. The sample was mostly white (80.6%) and the majority (84.7%) lived with the infant's father. The participants were well educated; 69.2% reported completing college.

### DATA ANALYSIS

Descriptive and inferential statistics including intercorrelation between EDMS total score, SWD (satisfaction) score, and EDM subscale score were calculated using an SPSS software package (Version 15). To assess the internal consistency of the items that were summed to obtain each EDM subscale score, a Cronbach's coefficient  $\alpha$  was computed.

A stepwise multiple regression analysis was conducted to determine the best linear combination of the 5 EDM subscales (personal knowledge, flexible environment, empowerment, reflection, and awareness of social norms) for predicting SWD (satisfaction) test scores. Multicollinearity between the predictors was tested by simultaneously examining

**Table 2.** Mean scores of EDMS total and subscales

	Mean (SD)	Range
Total EDMS	3.96 (0.43)	2.54-4.77
Flexible environment	4.25 (0.65)	1.50-5
Social norm	4.08 (0.55)	2.27-5
Personal knowledge	4.03 (0.54)	2.58-5
Empowerment	3.98 (0.77)	1.67-5
Reflection	3.32 (0.66)	1.60-4.6

Abbreviation: EDMS, Emancipated Decision-Making Scale.

the intercorrelations between the predictors and the regression coefficients for predictor tolerance levels. Significant levels for all tests were set at  $P \leq .05$ .

### FINDINGS

The mean (SD) and minimum and maximum values of the EDMS scores, SWD scores, and EDM subscale scores are presented in Table 2. Mean scores of the EDM subscales were all high and ranged from 3.5 to 4.3. Flexible environment had the highest mean (4.25) as it did in the first study. Social norms had the second highest mean (4.08) in this study but were third to flexible environment and personal knowledge (4.03) in the first study. Empowerment (3.98) and reflection (3.32) had the lowest means in both studies.

Table 3 shows the Pearson product moment correlations of the 5 EDM subscale scores with the total EDMS and SWD scores. Intercorrelation among the EDM subscales ranged from low (0.02) between reflection and awareness of social norms to moderate (0.57) between personal knowledge and flexible environment.<sup>30</sup> All subscales were significantly related to total EDMS and to each other except for the relationship between reflection and social norms ( $P = .36$ ). Among the subscales, only personal knowledge, flexible environment, and empowerment were significantly related ( $P \leq .05$ ) to satisfaction (Table 4). Among these, personal knowledge showed a

**Table 3.** Pearson correlations of 5 EDM subscales and total EDM scores ( $N = 92$ )

	Total EDMS	Flexible environment	Personal knowledge	Reflection	Social norms
Empowerment	$r = 0.61 P < .001$	$r = 0.52 P < .001$	$r = 0.37 P = .001$	$r = 0.44 P < .001$	$r = 0.27 P < .009$
Flexible environment	$r = 0.78 P < .001$		$r = 0.54 P < .001$	$r = 0.36 P < .001$	$r = 0.53 P < .001$
Personal knowledge	$r = 0.82 P < .001$			$r = 0.32 P = .002$	$r = 0.43 P < .001$
Reflection	$r = 0.53 P < .001$				$r = 0.10 P = .361$
Social norms	$r = 0.74 P < .001$				

Abbreviation: EDMS, Emancipated Decision-Making Scale.

**Table 4.** Pearson correlations of EDMS total and subscales scores with SWD ( $N = 92$ )

	<i>r</i>	<i>P</i>
Total EDMS	0.70	<.001
Empowerment	0.43	<.001
Flexible environment	0.63	<.001
Personal knowledge	0.70	<.001
Reflection	0.20	.062
Social norms	0.43	<.001

Abbreviation: EDMS, Emancipated Decision-Making Scale.

moderately large correlation (0.70), while flexible environment and empowerment were moderately correlated (0.67 and 0.43, respectively) with satisfaction. Reflection and awareness of social norms had small correlation with satisfaction.<sup>31</sup>

Internal consistency of the items that were summed to derive the subscales showed good-to-reasonable internal consistency for personal knowledge ( $\alpha = .86$ ) and flexible environment ( $\alpha = .69$ ); however, empowerment ( $\alpha = .46$ ), social norms ( $\alpha = .34$ ), and reflection ( $\alpha = .18$ ) showed minimally adequate internal consistency (Table 1).

The stepwise regression analysis revealed that personal knowledge when entered by itself in the regression model is the most significant predictor of satisfaction ( $F_{1,85} = 84.97, P < .001$ ); however, the combination of personal knowledge and flexible environment is a better model to significantly predict satisfaction ( $F_{2,84} = 63.84, P < .001$ ). This is evident from the increase of the  $R^2$  value from 0.49 to 0.59 indicating that when both variables are entered, 10% more variance in satisfaction is explained by the model. Empowerment, reflection, and awareness of social norms, when entered in the model, did not strengthen the prediction or contribute toward explaining the variance in satisfaction any further (Table 5).

Multicollinearity tests indicated that the assumption that there was no multicollinearity between the predictors was not violated.

**Table 5.** Stepwise multiple regressions of EDMS subscales with satisfaction in decision making

Predictors	R	R <sup>2</sup> change	F change	Tolerance
Personal knowledge	0.70	0.49	88.16 <sup>a</sup>	0.68
Flexible environment	0.76	0.10	17.60 <sup>a</sup>	0.68

<sup>a</sup> $P < .001$ .

This was supported by the correlation between the predictors being less than  $r = 0.70$  (Table 3) and the high tolerance (0.68) of the significant predictors in the regression analysis (Table 5). Tolerance values higher than  $1 - R^2$  (0.41) in the regression analysis indicate negative multicollinearity.<sup>31</sup>

## DISCUSSION

The results of this study suggest that personal knowledge, awareness of social norms, and flexible environment contribute maximally toward the process of EDM. Furthermore, an emancipated decision is likely to produce a satisfied decision. In addition, satisfaction may be best enhanced when personal knowledge in a flexible environment is used to arrive at the decision. Empowerment and reflection were not significant predictors of satisfaction in our study. However, these constructs might be critical to an EDM process and, therefore, require further refinement.

Personal knowledge or the woman's ability to know what is innately best for her appears critical toward achieving a satisfied and emancipated decision. Personal knowledge may be a type of knowing that women use more readily and is a true and important knowledge because it comes from the experience of the individual.<sup>32</sup> Our findings are consistent with previous studies that report personal knowledge to be a valid and important knowledge source for women.<sup>17,33,34</sup> Personal knowledge may need to be assessed in more depth in women's healthcare to facilitate satisfaction in the decision-making process.<sup>35</sup>

Awareness of social norms was important in an emancipated decision but did not factor in to the SWD. This may be because it is thought about to make an emancipated deci-

sion but no longer needs consideration once the decision is made on the basis of personal knowledge in a flexible environment.

The empowerment subscale had a repeated low reliability and internal consistency. One of the primary deficits was low item number (3). The items used to elicit empowerment dealt solely with education and are listed below:

I have discussed the . . . with my doctor.

I decided on . . . after talking it over in depth with a health professional.

The information I was given about . . . was adequate.

Empowerment, on a conceptual basis, may not be achieved with education alone; it may include innate feelings of self-efficacy and responsibility.<sup>36</sup> Future studies of EDM may re-examine and rename patient education as a separate element within the decision-making process.

Reflection scored the lowest of the subconcepts for reasons that may be different from the first study. In choosing an infant-feeding method, reflection may need to be measured earlier in the decision-making process because the thought process may have occurred long before the study was conducted<sup>37</sup> and, if the decision was taken to another cognitive level, may have become part of a different concept, the woman's personal knowledge base.<sup>6</sup> In relation to this exemplar, pain management for labor, there may not have been sufficient time to reflect related to rapid physiological changes. Reflection may need to be measured at different times in the decision-making process depending on the healthcare issue and the urgency of the decision making.

Reflection also had low reliability and a small number of items (5), which included:

I put a lot of thought into how I was going to. . . . I decided on . . . this way after talking it over in depth with someone who cares about me. I thought, for a long time, about the way I would. . . . I have discussed the way I . . . with my friends. I have discussed the way I . . . with the baby's father.

Reconceptualization of this concept in the theoretical framework may be appropriate for future studies.

## LIMITATIONS

This study supports the findings of the original research results and is again limited in generalizability by virtue of the population studied. The sample consisted of white, upper middle class, well-educated women and the results may not be generalizable to other populations of women. Other limitations inherent in this study may arise from the low reliability of the subscales of reflection and empowerment.

Given that personal knowledge and flexible environment were the only subscales highly correlated with satisfaction, the stepwise regression analysis ensured that the smallest number of predictors needed to predict satisfaction was used. We decided to refrain from eliminating any of the subscales, as the overall correlation of the total EDMS with satisfaction was high.

## IMPLICATIONS FOR NURSING

Nursing care may be the key to producing a flexible environment in which a woman can make a healthcare decision. Im-

portant components of a flexible environment such as communication techniques and reflective professional practice warrant further investigation. The importance of flexible environment, as evident in our findings, is interesting because a nonjudgmental communication process is taught in nursing education. However, this is rarely reinforced or updated through practice environments. Also, a flexible environment is one that respects and honors different types of knowledge including personal knowledge and the knowledge gained from reflective practices.

The findings of this study of the Wittmann-Price EDM model have verified the strength and weakness of the subconcepts. The information that can be extracted from the results at this developmental theoretical stage is that women facing healthcare decision making should be considered in a vulnerable position and can be affected by oppression. Nursing care should include the understanding that social norms can affect the process of decision making. Options must be openly discussed in a flexible environment, which encourages empowerment through education. Nursing care should include acknowledgement of the woman's personal knowledge. Decisional aids and decisional counseling should include dialogue about social opinion to assist the woman to be aware of any possible incongruence between her personal knowledge and social norms. By promoting an emancipated decision, nursing can assist women with decisional satisfaction, which may eventually prove to increase follow-through with the chosen option.

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