

## Selected Factors Associated with Formal and Informal Learning During the First Pregnancy

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### Introduction

Pregnancy is one of the most important events in a woman's life and is a time of numerous changes in a woman's physical, psychological, and social disposition. These changes, coupled with their desires to have healthy pregnancy outcomes, are powerful, motivational forces for women to engage in learning about selected health issues during pregnancy. Issues may include nutrition for proper weight gain, parenting skills, infant feeding, physical changes, safety and family relationship, exercise, and the labor and delivery process. Pregnancy is a "teachable moment"(Havighurst, 1972; Eiser & Eiser, 1985) in the life of a woman. For instance, if she is convinced, through learning, that what she eats can make her child bigger, stronger, and healthier, she may respond well to information about nutrition. The better a woman takes care of herself through various learning activities during pregnancy, the more successful

her pregnancy is likely to be(Institute of Medicine, 1991); however, little is known about the effects of individual learning factors and health behavior changes on a pregnant woman's chance to have positive outcomes.

The purpose of this study was to investigate formal and informal learning activities engaged in by women during their first pregnancy. This study had three questions: 1) To what extent can the observed variance in formal and informal learning activities during the first pregnancy be explained by three independent variables: propensity toward learning, social support for learning, and expectancies?, 2) To what extent do selected background variables explain the observed variance in formal and informal learning activities during the first pregnancy?, and 3) To what extent can the three independent variables(propensity toward learning, social support for learning, and expectancies) and the selected background variables be used to construct an explanatory model of formal and informal learning activities

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during first pregnancies?

## Research Questions

In order to document the learning activities utilized by women during the first pregnancy and to identify formal and informal learning and social support that enhanced learning activities during pregnancy, the following research questions were developed. These research questions were designed to identify the most promising explanatory variables for women's learning during their first pregnancy. In order to accomplish the purposes of this study, four research questions were posed: 1) What is the relative importance of learning activities for the pregnant women during their first pregnancy? 2) To what extent can the observed variance in formal and informal learning activities during the first pregnancy be explained by the three independent variables: propensity toward learning, social support for learning, and expectancies? 3) To what extent do selected background variables explain the observed variance in formal and informal learning activities during the first pregnancy? 4) To what extent can the three independent variables (propensity toward learning, social support for learning, and expectancies) and the selected background variables be used to construct an explanatory model of formal and informal learning activities during first pregnancies?

## Reviewed of Related Literature

Pregnancy has been identified as an appropriate time for promotion improved health behaviors. These behaviors occur spontaneously during pregnancy, because pregnant women are "thirsty for health information" and they are responsive to advice(Eiser & Eiser, 1985).

Research findings suggest that health

promotion activities and a healthy lifestyle are directly related to positive health outcomes, and information from health care professionals regarding the health of the pregnancy could influence how the woman perceived her health status(Walker, Volken, Sechrist & Pender, 1988).

Improved knowledge about health issues during pregnancy can result from self directed learning, social learning, and learning press as reported by several theories(Bandura, 1977; Cross, 1986; Brookfield, 1986; Darkenwald & Merriam, 1982; Gross, 1982; Knowles, 1980; Tough, 1979, 1982) and studies in the field of adult education(Bandura, 1977; Guglielmino, 1977; Hiemstra, 1982; Mezirow, 1985, 1990; Spear & Mocker, 1984). This information gives the health professional an opportunity to reach a wide audience of adult learners to promote well-being for women and infants.

A search of the literature indicates that self-directed learning, social learning, and learning press can have significant learning impacts. It is confirmed that self-directed learning, social learning, and learning press are frequent and complex in respect to planning (Tough, 1979; Spear & Mocker, 1984; Cross, 1981; Bandura, 1977).

Knowles(1975) defines self-directed learning as "...a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resource for learning, choosing and implementing appropriate learning strategies, and evaluate learning outcomes. While learning about self-directed learning, Cross' views(1986) on three characteristics of adult learners as person who 1) want to set their own learning pace and use their own learning style, 2) have a pragmatic approach to learning, wishing to solve immediate and practical problems, and 3) have

a reservoir of life experience(p.4).

As Candy(1991) indicated, self-directed learning is one of the most common ways in which adults pursue learning throughout their life span, as well as being a way in which people supplement learning received in formal settings. He asserts that self-directed learning is viewed simultaneously as a means and an end of learning. This means that a person who is autonomous would be both willing and able to exert a degree of control over aspects of her learning situation to conduct her own learning to achieve immediate goals that she is facing. Therefore, self-directed learning can be undertaken in a variety of situation, such as in the library, in schoolrooms, in kitchen, churches, and meeting houses by parents, tutors, clergymen, lay readers, physicians, nurses, health educators, and co-workers.

Interestingly, recent nursing research suggests that nearly all people who were engaged in nursing care were self-directed learners, and were people who learned in a great variety of ways, including just talking to experts in the field and reading a book or journal to increase their depth of knowledge in order to enhance patient care(Cooper, 1980, p.1). These findings are consistent with what Tough(1978) found in his study. Tough concluded that probably 90% of adults conducted their own learning projects. This result can be used as an example to understand that the interest in self-directed learning is not confined to higher education and that self-directed learning permeates education at all levels.

Spear and Mocker(1984) stated that there are two major decisions that a learner must make about any learning episode. The first is to identify what should be learned, and the second decision is to identify how to learn or, as it is referred to by some, choosing the resources of learning. The authors concluded that there was

evidence of order, deliberateness, and logic in the process. This is in agreement with Brady's (1990) finding. He stated the need for adults to engage in adult learning in relation to their environment.

In order to understand how pregnant women learn about certain health issues, social learning theory can be an important theoretical base. Recent expositions of this social learning approach have been provided by Rotter, et al. (1972), Meichenbaum(1974), Staats(1975), and Bandura(1977).

Bandura(1977) takes the position that the best explanation of behavior is in terms of a continuous, reciprocal interaction between cognitive, behavioral, and environmental determinants. His theory explains that the person and the environment do not function as independent units; but instead, they determine each other in a reciprocal manner.

Social learning theory suggests that learning takes place as a result of directly experienced responses, and learning takes place through observing the effects of the social environment of other people's behavior, and learning also takes place through observing or modeling the reinforcing or punishing outcomes of other people's behavior.

Learning press may help explain social-environment forces in learning that influence the adult's participation in education. It is noted that there is a direct relationship between the intensity of one's learning press and the frequency and intensity of the participation stimuli of one's learning experience. Learning press can also be related to learning in the love arena. Some people who experienced personal joy such as the birth of a child can actually inspired them to engage in further learning. In this case, pregnancy can be considered as a triggering event for pregnant women to engage in learning. Pregnant women can feel the need

to learn about many health issues to have positive pregnancy outcomes by learning from their surrounding as a self-directed learner.

Aslanian and Brickell(1980) reported that the number of participants in learning increased with attained educational level. Okes(1976) reported that employment and marital status are important predictor of participation in learning.

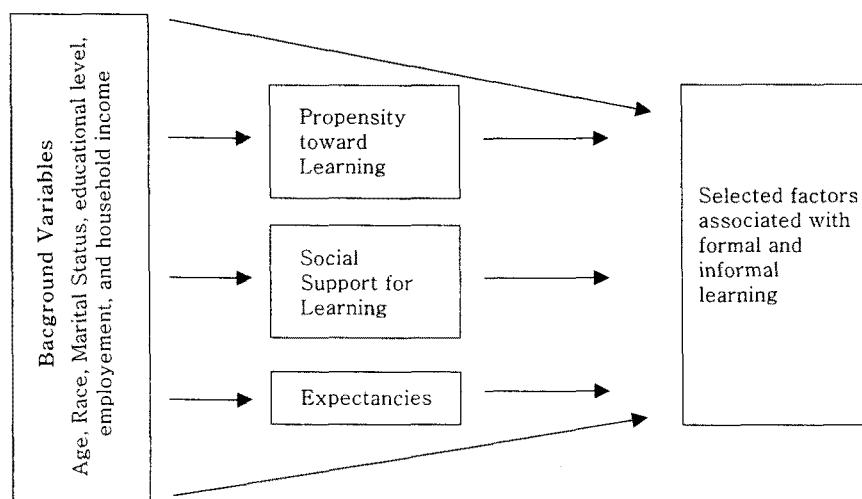
In summary, improved knowledge about health issues during pregnancy can result from self-directed learning, social learning, and learning press. This information gives the health professional an opportunity to reach a wide audience of pregnant women to promote well-being.

### Study Methods

The conceptual framework for this study includes four major constructs: propensity toward learning in general, social support for learning, and individual's expectancies, and formal and informal learning activities during the first pregnancy illustrated in (Figure 1).

Propensity toward learning in general is one of the four major constructs for the model that guides the study. Propensity toward learning in general was identified by many adult learning theorists, such as Tough (1982); Knowles (1980); Brookfield(1986); and Cross (1986). Tough and Knowles' studies implied that adults engage in learning to achieve immediate goals lie ahead of them, such as pregnancy, by becoming self-directed learners. Brookfield and Cross also suggested in their works that adults motivate themselves in order to grow and develop through learning activities, like a pregnant woman engages in learning to learn about certain health issues. As Guglielmino (1977) pointed out, there are a variety of individual factor related to learning, including, age, educational level, strong desire, persistence, personal responsibility, curiosity, and the ability to organize time and place for learning.

Social support can be viewed as a resource from which to draw upon during pregnancy that impacts an individual's sense of well-being from the influence of social network members or



(Figure 1) Selected Factors Associated with Formal/Informal Learning During the First Pregnancy

perceived available. Social learning theorists suggested that the person and the environment do not function as independent units in the process of learning; but instead, they determine each other in a reciprocal manner. Also, they explained that social-environmental forces in learning influence adult's participation in learning. Therefore, if a pregnant woman has social support, she can be expected to engage in formal and informal learning more than a woman who has little or no social support.

Expectancies, another words for readiness in this study, was identified by many adult learning theorists. If a woman is ready to become a mother, and expects to have a healthy baby, she will be ready to learn and willing to take a part in both formal and informal learning while pregnancy is considered to be a teachable moment(Havighurst, 1972).

Formal and informal learning was identified and studied by many adult learning theorists. They asserted that learning could take place whether teacher or institutions-dominated or not. The learner utilizes a variety of human and non-human resources to achieve the learning objectives. A pregnant woman, as a self-directed learner, can engage in a variety of learning settings. For example, she can read a pamphlet to learn about medications in her doctor's office while waiting to be seen, and attend a 7 week long child-birth education class when an instructor is present to learn about labor and delivery processes.

Out of all of these studies, several background information factors were identified and have merged as being related to all of these four major constructs. These include age, race, marital status, educational level, employment status, and household income. The reason for six variables to be chosen is that many of the literature review identified them as being related to the major constructs of propensity

toward learning, social support for learning, expectancies, and formal and informal learning.

The arrow denotes in figure 1 a relationship between the independent variables of formal and informal learning activities during the first pregnancy and the dependent variable of propensity toward learning in general, social support for learning and expectancies. For examples, marital status and educational level will either positively or negatively influence social support and expectancies (second level), and social support and expectancies will either positively or negatively influence formal and informal learning activities during the first pregnancy.

In summary, the major four constructs and background information are being used to describe learning activities during the first pregnancy. When propensity toward learning, social support for learning, and expectancies are active, we would expect and literature suggests that there will be some form of formal and informal learning engaged in by pregnant women.

## Result

The sample for this study consisted of 152 women: Caucasian and African-American ranging in age from 18-40, who had their first child within 6-12 weeks in a hospital with a 52--bed capacity that is located in the Southeastern United States and that employs approximately 2,600 people. Women who participated in this study were obtained on the basis of availability and willingness to participate. Of the 152 responses, no items were left unanswered on the survey instrument.

The sample in this study consisted of women who had their first baby within 6-12 weeks prior to data collection. Ages ranged from 18-39; two out of three(66%) were 29 years old

or younger. With respect to race, four out of five(81.6%) were Caucasian, and the rest were African American. Three out of four(76%) were married. With respect to educational level, very few(7.2%) had less than a high school diploma; eight out of ten(84%) were employed full or part time. Almost six out of ten(58%) had a house hold income of \$40,000 or more.

There were four key measures in this study: three independent variables(propensity toward learning, social support for learning, and expectancies) and one dependent variable (extent of formal and informal learning activities). Coefficient alpha was used to determine the reliability of each scale. The reliability for the scales was above .75 without an exception, and all coefficients were well within acceptable ranges for research(Martuza, 1977). <Table 1> presents the number of items in each scale, the scale mean and standard deviation, the mean item mean and coefficient alpha for each scale.

For the group, the mean item mean for propensity toward learning indicates that participants indicated strong agreement for this scale. They tended to be in agreement for social support and learning activities and at the mid-point for expectancies.

In order to answer those research questions, it is necessary to describe in this section how statistical analysis was carried out and how the explanatory theory was built. This is how the researcher built the model step by step.

Step 1 (Correlation): The researcher ran all correlations with all of the three independent

variables(propensity toward learning in general, social support for learning, and expectancies) in

<Table 2> Description of the Sample: Background Information

| Background Variables                   | Frequency | Percent |
|--|-----------|---------|
| <b>Age</b>                             |           |         |
| 18-20                                  | 25        | 16.4    |
| 21-23                                  | 19        | 12.5    |
| 24-26                                  | 24        | 15.8    |
| 27-29                                  | 31        | 20.3    |
| 30-32                                  | 30        | 19.7    |
| 33-35                                  | 19        | 12.5    |
| 36-39                                  | 4         | 2.6     |
| <b>Race</b>                            |           |         |
| Caucasian                              | 124       | 81.6    |
| African American                       | 28        | 18.4    |
| <b>Marital Status</b>                  |           |         |
| Never Married                          | 32        | 21.1    |
| Married                                | 115       | 75.7    |
| Divorced                               | 5         | 3.3     |
| <b>Educational Background</b>          |           |         |
| Less than a high school diploma        | 11        | 7.2     |
| High school diploma                    | 50        | 32.9    |
| Associate degree                       | 39        | 25.7    |
| Bachelor's degree                      | 42        | 27.6    |
| Master's degree                        | 7         | 4.6     |
| Doctoral degree                        | 3         | 2.0     |
| <b>Employment</b>                      |           |         |
| Employed full-time outside of the home | 80        | 52.6    |
| Employed part-time outside of the home | 31        | 20.4    |
| Full-time homemaker                    | 17        | 11.2    |
| Not employed                           | 24        | 15.8    |
| <b>Household Income</b>                |           |         |
| less than \$10,000                     | 19        | 12.5    |
| \$10,000 \$19,999                      | 18        | 11.8    |
| \$20,000 \$29,999                      | 13        | 8.6     |
| \$30,000 \$39,999                      | 14        | 9.2     |
| \$40,000 \$59,999                      | 47        | 30.9    |
| \$60,000 \$79,999                      | 20        | 13.2    |
| \$80,000 or more                       | 21        | 13.8    |

Note: Mean Age = 26.83; Std Dev = 5.20

<Table 1> The two items deleted after the pilot study  
Pearson Correlation Coefficients

| Items # | Item Description   | r   | p     | Keep/Delete |
|---------|--|-----|-------|-------------|
| 47      | While I was pregnant, I felt ready to have become a mother.      | .93 | .0001 | Delete      |
| 48      | When I was pregnant, I felt ready to have a baby.                |     |       | Keep        |
| 55      | While I was pregnant, I felt the need to attend a newborn class. | .83 | .0001 | Delete      |
| 51      | While I was pregnant, I felt the need to attend a feeding class. |     |       | Keep        |

place, and tested the model delineated in conceptual framework(Figure 1). As a result, social support was the strongest variable to explain the dependent variable(Table 2).

Step 2 (Bi-variate Relationship/Simple Regression Process): The researcher tested every background variables(age, race, marital status, educational level, employment, and household income) to see how well each background variable would fit in to explain the dependent variable(formal and informal learning during the first pregnancy). As a result educational level was the only background variable to explain the dependent variable.

Step 3 (Multi-variate Relationship/Multiple Regression): Another test was done to study if any background variables would explain three of

the independent variables(propensity toward learning in general, social support, and expectancies) in order to explain the dependent variable. As a result, none of them explained social support and propensity toward learning in general. However, marital status was the only background variable to be significant to explain expectancies(Table 3).

In summary, the results indicated that if you are married, you are more likely to be ready to become a mother. If you are ready to become a mother, you are more likely to engage in formal and informal learning. If you receive social support during the first pregnancy, you are more likely to engage in formal and informal learning activities. (Table 4) has the Pearson Correlation Coefficient for the four constructs

<Table 3> Description of Key Variables

(N=152)

| Variable Name                           | Number of Items | Scale Mean<br>(n=152) | Scale SD Mean | Mean Item | Alpha |
|---|-----------------|-----------------------|---------------|-----------|-------|
| Propensity toward Learning              | 23              | 112.63                | 12.84         | 4.90      | .89   |
| Social Support                          | 20              | 79.16                 | 19.68         | 3.96      | .89   |
| Expectancies                            | 10              | 29.44                 | 5.30          | 2.94      | .77   |
| Formal and Informal Learning Activities | 19              | 64.66                 | 12.83         | 3.40      | .75   |

<Table 4> Rank Order Means for Question Items 54-72: Learning Activities during Pregnancy

| Rank Question  | Mean | SD   |
|--|------|------|
| 1. #61 While I was pregnant, I read a pamphlet to learn about pregnancy.                           | 5.46 | 1.13 |
| 2. #60 While I was pregnant, I read a magazine to learn about pregnancy.                           | 5.42 | 1.06 |
| 3. #59 While I was pregnant, I read a book to learn about pregnancy.                               | 5.41 | 1.19 |
| 4. #54 While I was pregnant, I talked with my doctor to learn about pregnancy                      | 5.34 | .94  |
| 5. #58 While I was pregnant, I talked with a family member or friend to learn about pregnancy.     | 5.23 | 1.18 |
| 6. #55 While I was pregnant, I talked with my nurse to learn about pregnancy.                      | 4.91 | 1.37 |
| 7. #56 While I was pregnant, I talked with my health educator or midwife to learn about pregnancy. | 4.22 | 1.91 |
| 8. #64 While I was pregnant, I took a class on child-birth education (i.e. Lamaze Class)           | 4.18 | 2.31 |
| 9. #67 While I was pregnant, I took a class on nutrition.  | 3.28 | 2.04 |
| 10. #63 While I was pregnant, I used video-tapes or audio-tapes to learn about pregnancy.          | 3.21 | 1.91 |
| 11. #70 While I was pregnant, I watched TV to learn about pregnancy.                               | 3.06 | 1.99 |
| 12. #65 While I was pregnant, I took a class on CPR.   | 2.49 | 2.13 |
| 13. #71 While I was pregnant, I went to the library to learn about pregnancy.                      | 2.30 | 1.86 |
| 14. #68 While I was pregnant, I took a class on how to raise a child.                              | 1.97 | 1.59 |
| 15. #66 While I was pregnant, I took a class on exercise.  | 1.93 | 1.60 |
| 16. #62 While I was pregnant, I used a computer to learn about pregnancy.                          | 1.78 | 1.42 |
| 17. #57 While I was pregnant, I talked with my social worker to learn about pregnancy.             | 1.55 | 1.27 |
| 18. #72 While I was pregnant, I called a local community agency to learn about pregnancy.          | 1.48 | 1.17 |
| 19. #69 While I was pregnant, I listened to the radio to learn about pregnancy.                    | 1.43 | 1.10 |

and background variables.

## Discussion of the Findings

Continuous efforts had been made to document the extent of formal and informal learning activities engaged in by women during their first pregnancy. To support those efforts, this study attempted to learn the extent of formal and informal learning activities of a particular group of pregnant women by studying their propensity toward learning, social support for learning, expectancies, and background variables.

The findings of research question #1(what is the relative importance of learning activities for the pregnant women during their first pregnancies?) revealed that reading pamphlets, magazines, and books are the most common learning activities that pregnant women engaged in during their first pregnancies. This finding may suggest that it is relatively cheap to obtain written materials, and they are readily available. Also, pregnant women can take their time to read and learn about pregnancy at their own pace. Family members or friends, doctors, and nurses are commonly utilized by pregnant women to learn about pregnancy. This finding may suggest that systemic prenatal care designed for pregnant women may prompt them to engage in learning activities through asking doctors and nurses about certain health issues during their weekly and monthly doctor's office visits; it would be most effective if a family member or a friend accompany them. These findings are consistent with the study conducted by Eiser and Eiser(1985) and Houts and Warland(1989). Very few reported that they utilized radio, computer, and social worker to learn about pregnancy. This finding may suggest that computers are not readily available for all pregnant women at this point, and social

workers are being perceived as resource people for financial needs, not information source like doctors and nurses.

The findings of research question #2(to what extent can the observed variance in formal and informal learning activities during the first pregnancy be explained by the three independent variables: propensity toward learning, social support for learning and expectancies?) revealed that social support is the most profound explanatory variable with respect to the extent of formal and informal learning during the first pregnancy. Expectancies and propensity toward learning are also substantial with regard to explaining the extent of formal and informal learning activities. These findings may suggest that women who are married are likely to receive more support from family members, and more ready to have a baby than women who are single. As Bandura(1977), Rotter, et al.(1972) and Staats(1975) indicated, social support for learning is important to this population. Women who like learning in general are likely to continue to engage in learning and even more during pregnancy. Not surprisingly, these findings were repeatedly suggested during the brainstorming sessions and were mentioned to the researcher during personal interviews conducted during the course of the present study.

The findings of research question #3(to what extent do selected background variables explain the observed variance in formal and informal learning activities during the first pregnancy?) revealed that of those background variables (age, race, marital status, educational level, employment, and household income), educational level is the most significant variable to explain the extent of formal and informal learning activities during the first pregnancy. This finding is consistent with the study conducted by Aslanian and Brickell(1980). This is perhaps



related to the fact that women who have attained more education are likely to participate in learning. Simple regression analysis for this question also revealed that the level of household income almost six out of ten(58%) had a household income of \$40,000 or more, and employment were significant but weak relationship with the extent of formal and informal learning activities, but this finding may suggest that household income and employment may not be important predictors but reflect differences in educational level.

No significant differences, however, were found for background variables as a group using multiple regression(age, race, marital status, educational level, employment, and household income) to explain social support for learning and propensity toward learning while studying research question #3. However, there was a significant difference in expectancies with the variable of marital status. The researcher can speculate, from the findings, that married women may be more ready to have a baby, and to have more support from family members, than who are single. These findings can be supported by many studies done by Brandt (1984); Cobb(1978); Contento & Murphy (1990); Dodd(1984); Eiser & Eiser(1985), and Institute of Medicine(1991).

Some studies conducted in the field of adult education and health science indicated that learning takes place as a result of directly experienced responses and expectancies (Bandura, 1977; Gould, 1978; Lazarus & Folkman; 1984; Mercer & Ferketish; 1988, and Perlin et. al., 1981). In this case, it is pregnancy. According to the Institute of Medicine(1991), pregnancy is the strongest motivating factor for women to engage in learning to learn regarding certain health issues such as having a healthy baby. It is believed that the better a woman takes care of herself

through various learning activities during pregnancy, the more successful her pregnancy is likely to be. During the brainstorming sessions and personal interviews for this study, many women expressed how much reading about the labor and delivery process, nutrition, and other health issues related to pregnancy and infant care helped them prepare for their first pregnancies.

There are many influencing factors to enhance this type of learning, whether it is formal or informal, during pregnancy. Social support given by families and friends, and knowing what to expect are proven to be most statistically significant with the study sample. Several literature sources(Anderson and Darkenwald, 1979; Cross, 1979, 1981; Houle, 1961; Johnstone and Rivera, 1965; and Okes, 1976), indicated that many background variables could be the predicting factors, and frequently used for comparison. However, this study indicated that age, race, employment, and household income were statistically significant, but weak to explain the extent of formal and informal learning activities engaged by women during their first pregnancy.

Social support given to women and expectancies of their pregnancy had strong explanatory power in explaining the extent of formal and informal learning activities during the first pregnancy. A few selected background variable, such as educational level and marital status were proven to be statistically significant in explaining the extent of formal and informal learning activities during the first pregnancy.

The significant findings regarding background variables of the women, two variables: educational background and marital status, were proven to be statistically significant to explain the extent of formal and informal learning activities. Therefore, a conclusive statement can be made regarding educational background and

marital status of the pregnant women. From the data of this study, it can be concluded that married women and educated women are more likely to engage in formal and informal learning activities.

### Implication for Clinical Practice

The findings of this study have significant implications for practice in the field of adult education, and for health care providers working with a special group of women and their families during pregnancy. It is believed that pregnancy is one of the most important events in a woman's life and is a time of numerous changes in a woman's physical, psychological, and social disposition. These changes are powerful, motivational forces(Cross, 1979; Institute of Medicine, 1991 and Wlodkowski, 1985) for women to engage in learning about selected health issues to have a healthy baby.

The present study showed that pregnant women become self-directed learners to meet their learning needs. Also, it is noted that social support provided by their families and friends(Pehrson & Robinson, 1990; Pender et al., 1990; Perlin et al., 1981 and Tough, 1982) enhance their learning. It is assumed that most adult educators are interested in facilitating and motivating the learners to achieve their learning needs. Since pregnancy is considered to be a "teachable moment"(Havighurst, 1972; Eiser & Eiser, 1985), and to be a "trigger event" for learning(Aslanian and Brickell, 1980), adult educators need to be aware of when to help pregnant adult learners with activities that engage them in learning to have health babies.

Based upon knowledge gained by this study as well as literature review, some suggestions can be made in the practice of adult education: 1) health care providers and adult educators should be aware of the situation of the learners

to catch the window of opportunity to facilitate their learning; 2) health care providers and adult educators should be able to identify and incorporate social support by requesting the participation or involvement of family members and friends for learners to engage in self-directed learning; 3) health care providers and adult educators should be aware of the fact that the level of readiness for a critical life event, such as pregnancy, can be a strong strategy to engage the learners to become self-directed learners; and 4) health care providers and adults are able to become self-directed learners by creating an environment, such as having learning materials (pamphlets, books, video-tapes, and magazines) readily available to increase their learning to achieve their immediate goals, such as learning certain health issues during pregnancy.

### References

- Anderson, R. E., & Darkenwald, G. G. (1979). *Participation and persistence in American adult education*. New York: College Board.
- Aslanian, C. B., & Brickell, H. M. (1980). *American in transition: Life changes as reasons for adult learning*. New York: College Entrance Examination Board.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs: Prentice Hall.
- Brady, M. E. (1990). Redeemed from time: Learning through autobiography. *Adult Education Quarterly*, 41, 43-52.
- Brandt, P. A. (1984). Stress-buffering effects of social support on maternal discipline. *Nursing Research*, 33, 229-234.
- Brookfield, S. D. (1986). *Understanding and facilitating adult learning*. Jossey-Bass Publishers.
- Candy, P. (1991). *Self-direction for lifelong learning*. Jossey-Bass Publishers.

- Contento, I. R., & Murphy, B. M. (1990). Psycho-social factors differentiating people who report making desirable changes in their diets from those who did not. *Journal of Nutrition Education, 22*, 6-14.
- Cobb, J. E., (1978). Self-directed learning for prospective parents. *Dissertation Abstracts International, 39*, 2684A.
- Cooper, S. (1980). *Self-directed learning in nursing*. Nursing Resources, Inc. Wakefield: Massachusetts.
- Cross, K. P. (1981). *Adults as learners*. Jossey-Bass Publishers.
- Cross, K. P. (1986). *Adults as learners*. Jossey-Bass Publishers.
- Daelhousen, B. & Guthrie, H. (1982). A self-instruction nutrition program for pregnant women. *Journal of the American Dietetic Association, 81*, 407-412.
- Darkenwald, G. C., & Merriam, S. B. (1982). *Adult education: Foundations of practice*. Harper & Row Publisher: New York.
- Dodd, M. J. (1984). Measuring information: Intervention for chemotherapy knowledge and self-care behavior. *Research in Nursing and Health, 7*, 43-50.
- Eiser, C., & Eiser, J. R. (1985). Health education of primigravidae. *Childcare, Health, and Diet, 11*, 53-60.
- Gould, R. L. (1978). *Transformation: Growth and change in adult life*. New York: Simon & Schuster.
- Gross, R. (1982). *The independent scholar's handbook*. Reading, MA: Addison-Wesley Publishers.
- Guglielmino, L. M. (1977). Development of the self-directed learning readiness scale. Doctoral dissertation, University of Georgia. *Dissertation Abstracts International, 38*, 6467A.
- Havighurst, R. (1972). *Developmental tasks and education* (3<sup>rd</sup> ed.). New York: David McKay Co.
- Hiemstra, R. (1982). *Self-directed adult learning: Some implications for practice*. Occasional paper #2. Syracuse: Syracuse University.
- Houle, C. (1984). *Patterns of learning*. San Francisco: Jossey-Bass.
- Houts, S. S., & Warland, R. H. (1989). Rotter's social learning theory of personality and dietary behavior. *Journal of Nutrition Education, 21*, 172-179.
- Institute of Medicine (1991). *Nutrition during pregnancy*. Washington D.C.: National Academy Press.
- Johnstone, J. W., & Rivera, R. J. (1965). *Volunteers for learning: A study of the educational pursuits of American adults*. Chicago: Aldine.
- Kanigsberg, J. S., & Levant, R. F. (1988). Parental attitudes and children's self-concept and behavior following parents' participation in parent training groups. *Journal of Community Psychology, 16*, 152-160.
- Knowles, M. S. (1980). *The modern practice of adult education* (rev. ed.). Chicago : Association Press.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.
- Lewis, C. J., Sims, L. S., & Shannon, B. (1989). Examination of specific nutrition/health behaviors using social cognitive model. *Journal of the American Dietetic Association, 89*, 194-202.
- Martuza, V. R. (1977). *Applying norm-referenced and criterion-referenced measurement in education*. Boston: Ally & Bacon.
- Meichenbaum, D. (1974). *Cognitive behavior modification*. Morristown: General Learning Press.
- Mercer, R. T., & Ferketish, S. L. (1988). Stress and social support as predictors of

- anxiety and depression during pregnancy. *Advances in Nursing Science*, 10, 26-39.
- Mezirow, J. (1985). A critical theory of self-directed learning. *New Directions for Continuing Education*, Number 25. San Francisco: Jossey-Bass, 17-30.
- Mezirow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory education*. San Francisco: Jossey-Bass.
- Okes, I. E. (1976). *Participation in adult education: Final report, 1972*. Washington, D.C. National Center of Education Statistics.
- Olson, C. M., & Kelly, G. L. (1989). The challenge of implementing theory based research in nutrition education. *Journal of Nutrition Education*, 21, 280-284.
- Orr, R. D., & Simmons, J. J. (1979). Nutrition care in pregnancy: the patient view. II perception, satisfaction and response to advice and treatment. *Journal of American Dietetic Association*, 75(2): 131-136.
- Pedhazur, E. J. (1982). *Multiple regression in behavioral research* (2nd ed.). CBS College Publishing.
- Pender, N. J. (1987). *Health promotion in nursing practice*. Norwalk, CT: Appleton-Century-Crofts.
- Perlin, L. I., Lieberman, M. A., Menaghan, E. G., & Mullian, J. T. (1981). The stress process. *Journal of Health and Social Behavior*, 22, 337-352.
- Powell, D. R. (1986). Parent education and support programs. *Young Children*, 41 (3), 47-52.
- Rotter, J. B., Chance, J., & Phares, E. J. (eds.) (1972). *Applications of a social learning theory of personality*. New York: Holt, Rinehart, and Winston.
- Spear, G. E., & Mocker, D. W. (1984). The organizing circumstance: Environmental determinants in self-directed learning. *Adult Education Quarterly*, 35(1), 1-10.
- Staats, A. W. (1975). *Social behaviorism*. Homewood: Dorsey Press.
- Sullivan, A. D., & Schwartz, N. E. (1981). Assessment of attitudes and knowledge about diet and heart disease. *Journal of Nutrition Education*, 13, 106-108.
- Tough, A. (1978). Major learning efforts: Recent research and future directions. *Adult Education*, 28, 250-263.
- Tough, A. (1979). *The adult's learning projects: A fresh approach to theory and practice in adult education*. Toronto: The Ontario Institute for Studies in Education.
- Tough, A. (1982). *Intentional changes: A fresh approach to helping people change*. Dallas: Follett Publishing Company.
- Walker, S. N., Volkan, K., Sechrist, K. R., & Pender, N. J. (1988). Health-promoting lifestyles of older adults: Comparison with young and middle-aged adults, correlates, and patterns. *Advances in Nursing Science*, 11, 76-90.
- Wlodknowski, R. J. (1985). *Enhancing adult motivation to learn*. San Francisco:

- 국문초록 -

### 첫 임신 동안 정규와 비정규 학습과 관련되는 선택된 요소들

민원식\*

**목적:** 현 연구는 6-12주된 첫 아기를 둔 여성 152명을 대상으로 첫 임신기간 동안 참여했던 정규와 비정규 학습활동의 정도와 범위를 알아보기 위해 시행된 것이다.

**설계와 방법:** 연구를 위한 정보수집을 위해 다측면의 자가선택 연구도구를 사용하였고 4가지 구성개념을 측정하였다: 독립변수로 학습에 대한 성향, 학습을 위한 사

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회적 지지, 임신에 대한 기대, 그리고 종속변수로서 첫 임신 동안 정규와 비정규 학습활동의 참여정도. 또한 일반적 특성으로는 6가지 변수(연령, 인종, 결혼상태, 교육정도, 직업유무, 가족의 수입)를 측정하였다. 3개의 독립변수와 1개의 종속변수사이의 이변량관계를 측정하기 위해 단순회귀분석을 시행하였다. 일반적 특성과 종속변수와의 관계는 t-Test, Point Biserial, Spearman Correlation Coefficients를 이용해 조사하였고 임신 중 학습을 위한 설명적 모델을 유도하기 위해 다중회귀분석을 사용하였다.

**결과:** 연구결과 3가지 이변량관계가 모두 통계적으로 유의한 것으로 나타났다: 학습에 대한 성향( $r^2 = .17$ ,  $p = .001$ ), 사회적 지지( $r^2 = .27$ ,  $p = .0001$ ), 그리고 기대( $r^2 = .17$ ,  $p = .0001$ ).

교육정도와 결혼상태는 강한 설명력을 가졌고 연령, 인종, 직업유무와 가족의 수입은 통계적으로 유의하였으나 설명력이 약한 변수들이었다.

**임상과의 관계:** 이러한 결과는 임신 동안 여성의 학습 욕구를 만족시키기를 바라는 성인대상의 교육자들 만큼이나 건강관리제공자들을 위한 실제적인 관련성을 보여주고 있으며 또한 중요한 생활사인 임신 동안 자발적인 학습을 하려는 성인을 이해하기 위한 이론적으로 유용한 모델을 제공한다.