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Preparation of Childbirth as a Behavior Modifier in Relation to the Viewing of a Film of Natural Childbirth

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PREPARATION FOR CHILDBIRTH AS A BEHAVIOR MODIFIER IN RELATION
TO THE VIEWING OF A FILM OF NATURAL CHILDBIRTH

By

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INTRODUCTION

The psychological state of a pregnant woman has been related to her labor and delivery. Pregnancy is a time of increased anxiety in many women. The level of anxiety tends to increase in the last trimester of pregnancy when the time for labor and delivery is drawing near.

Emphasis has been given to this psychotherapeutic element in the various methods of preparation for childbirth. To decrease anxieties due to misconceptions about childbirth, information is given to expectant parents. Parents are trained in techniques which allow them to actively participate in labor and delivery.

The method of instruction used in preparation for childbirth programs must be evaluated. Various methods of teaching may be more effective than others with parents of a particular educational background.

Many preparation for childbirth programs use films of natural childbirth to help present information to expectant parents. Often a film will show preparation for childbirth classes and repeat techniques and concepts taught in the class series. The process of labor and delivery is shown with the woman and her husband actively participating

in the birth of their child.

Important in shaping this project were several factors. In the first place, the psychological state of a woman is recognized as important to her labor and delivery. Consequently, methods of preparation for childbirth deal with the level of anxiety of expectant parents by supplying them with accurate information and teaching them techniques to use during childbirth. A final contributing factor is the frequent use of films of natural childbirth in series of classes of preparation for childbirth.

The purpose of this study was to compare parents prepared in the psychoprophylactic method of childbirth to unprepared parents, using their written responses to a film of natural childbirth.

In order to limit the scope of this study, subjects were limited to primigravidas and their husbands, individuals who were not in a health profession, and persons who had not previously viewed a film of childbirth. These factors would limit exposure to the process of childbirth. Because of that, written responses to the childbirth film would better reflect any differences due to preparation for childbirth classes.

The problem of this study for which an answer will be sought can be stated as a question. Is preparation for childbirth an effective behavior modifier in relation to the viewing of a film of natural childbirth?

REVIEW OF THE LITERATURE

A review of the literature is necessary to determine what research has been done on preparation for childbirth programs. Much literature is available on the subject of natural childbirth, but there has been less systematic research conducted.

Pregnancy is a time of increased anxiety in many women. The psychological state of the pregnant woman is of importance in preparation for childbirth programs.

Freedman and others conducted research to see if amnesia or other variations in recall exist among labor patients.¹ Patients were screened as to economic, sociological, and educational backgrounds and were representative of the patients in the prenatal clinic of Grace-New Haven Community Hospital. Twenty-one patients were studied; most were from the upwardly mobile middle class. Patients were interviewed prenatally in an informal non-directive manner and later in a directive psychiatric manner. A battery of three psychological tests was given prenatally. During labor and delivery, the obstetrician, the nurse, and the psychiatrist

¹Lawrence Z. Freedman, Fredrick C. Redlich, Leonard D. Eron, and Edith B. Jackson, "Training for Childbirth: Remembrance of Labor," Psychosomatic Medicine 14 (November-December 1952): 439-452.

made observations. Forty-eight hours after delivery, the mother gave a narrative account of the time from admission to delivery. This data was analyzed qualitatively. The results showed no gross generalized amnesic process peculiar to childbirth. Objective facts were best remembered.

Grimm administered a brief battery of psychological tests to 235 "normal" pregnant patients seen in a prenatal clinic. The study did not clearly define a "normal" pregnant patient. The socio-economic composition of the sample was representative of the total clinic population at the time they were tested. The general level of psychological tension remained fairly constant throughout the pregnancy until the last half of the third trimester when there was a significant rise.²

Rosengren studied the woman's perception of pregnancy and her role expectations as a pregnant woman. Ninety-four pregnant women were interviewed by a sociologist.³

Socio-economic data, past obstetrical history, the extent to which the woman viewed pregnancy as an "illness", and the attending obstetrician's definition of the condition

²Elaine R. Grimm, "Psychological Tension in Pregnancy," Psychomatic Medicine 23 (November-December 1961): 520-527.

³William R. Rosengren, "Some Social Psychological Aspects of Delivery Room Difficulties," Journal of Nervous and Mental Disease 132 (June 1961): 515-521.

of pregnancy were areas of importance in the interview. The results showed that the more a woman regarded herself as "ill" during the pregnancy, the greater the chance of a longer period of active labor.

Dauids did research in the problem of the relationship of maternal anxiety during pregnancy to childbirth abnormalities.⁴ Fifty pregnant clinic patients were given a battery of tests, including intelligence, self-rating personality, and projective tests. A clinical psychologist also interviewed each patient. All the anxiety ratings except the self-ratings were found to be significantly higher for the groups of women with abnormalities or complications in delivery. The relationship of maternal anxiety during pregnancy to childbirth abnormalities needs further confirmation in more refined studies with larger samples of women.

Kelley made two studies of the relationship of fear and anxiety and uterine motility. He theorized that fear does influence the uterus.⁵ Eight healthy women were studied within forty-eight hours of delivering their first child. It was determined that all of these women were "needle-shy." Activity of the uterine muscle was measured using tokometric methods. Each patient was approached with an intravenous

⁴Anthony Davids and Spenser DeVault, "Maternal Anxiety During Pregnancy and Childbirth Abnormalities," Psychosomatic Medicine 24 (September-October) 1962): 464-470.

⁵John V. Kelley, "Effect of Fear Upon Uterine Motility," American Journal of Obstetrics and Gynecology 83 (March 1962): 576-581.

needle and her uterine activity, pulse rate, and blood pressure were recorded. Blood pressure and pulse rate were seen to rise significantly as a result of the inducement of alarm. The intensity of the uterine contractions could not be measured with the method used.

The later study by Kelley investigated the effect of hypnotically induced anxiety on the uterine muscle.⁶ Hypnosis was used to re-create the emotional atmosphere of the previously experienced labor and delivery. Five women were able to reach the deep hypnotic states necessary for the project. All five women had an increased intrauterine pressure when they recalled more intense contractions. The conclusion of the study was that the mental stress of labor may exert ^{an} excitatory effect on the uterine muscle. Both studies conducted by Kelley studied women on the first or second postpartum day. At this time, the uterine muscle may be affected by a balance of hormones different from the balance of hormones during labor.

Brown et al. studied sixty women who were married, pregnant for the first time, of the middle class, and in good health.⁷ A social worker interviewed each early in pregnancy.

⁶ John V. Kelley, "Effect of Hypnotically Induced Anxiety on Uterine Muscle," American Journal of Obstetrics and Gynecology 83 (March 1962): 582-587.

⁷ Walter A. Brown, Jay Grodin, and Tracey Manning, "Prenatal Psychological State and the Use of Drugs in Labor," American Journal of Obstetrics and Gynecology 113 (July 1972): 598-601.

A battery of psychological tests was given to the subjects at three and seven months prenatally. A level of high anxiety at seven months was associated with the administration of relatively high dosages of analgesic medications during labor and delivery. The amount of meperidine, however, did not correlate with anxiety or reaction to pain during labor, durations of labor, or hours in the hospital. The study concluded that the psychological state of a woman can influence her physiological and psychological responses during labor and delivery.

The studies just reviewed recognized the elements of the psychological state and the level of anxiety of the pregnant woman as important to her labor and delivery. With these elements in mind, methods of preparing women and their husbands for childbirth have been developed.

A review of the various methods of preparation for childbirth and the spread of the methods, theory, and research has been written by Chertok.⁸ The Hypnosuggestive Method has been in use since the late nineteen hundreds. Read's Natural Childbirth started in 1933. The Psychoprophylactic Method was first used in 1950. The theoretical basis for all methods is to improve mental hygiene and relieve pain. The mechanism of pain relief varies from hypnotic suggestion to breaking the fear-tension-pain cycle through information and

⁸L. Chertok, "Psychomatic Methods of Preparation for Childbirth: Spread of the Methods, Theory, and Research," American Journal of Obstetrics and Gynecology 98 (July 1967): 698-707.

relaxation to using Pavlovian psychology to alter cortical stimulation. All methods recognize the psychotherapeutic element as important.

Mandy et al. discussed the problem of the principal benefits of natural childbirth being psychological.⁹ Within this article, Mandy reported on a study conducted by Nixon. Nixon compared 381 women who had participated in a program in "natural childbirth" with 389 patients who had not. Included in each group were both multiparous patients and primiparous patients. The control group had three times as many multiparous patients as compared to the experimental group. No differences in length of labor or occurrence of complications were found between the two groups.

Portnuff made a study of 222 trained obstetrical patients.¹⁰ The sample was fairly evenly divided as to multiparous women and primiparous women. No control group was studied. Of interest was the finding that the trained obstetrical patient was in the hospital before delivering only a short period of time. Of the 222 women studied, 43.3 percent of the primiparous women and 83.5 percent of the multiparous women were admitted less than 6 hours before their delivery.

9

Arthur J. Mandy, Theodore E. Mandy, Robert Parkas, and Ernest Scher, "Is Natural Childbirth Natural?" Psychosomatic Medicine 14 (November-December 1952): 431-438.

10 J. C. Portnuff, "The Trained Obstetrical Patient," American Journal of Obstetrics and Gynecology 67 (February 1954):

That the trained patient stays home longer because she is more comfortable and less anxious is suggested by Portnuff.

Thoms and Karlovsky reported on 2000 deliveries under a training for childbirth program.¹¹ All women had a regime of educational preparation for childbirth and increased personal attention during labor. Of the 2000 deliveries, 88.1 percent were spontaneous deliveries, 34.2 percent were without analgesia, 62.0 percent required a single dose of meperidine, and 4.5 percent required general anesthesia. The length of labor in 52.7 percent of the women was not more than 6 hours. The researchers stated that their regime had lessened the number of depressed newborns, shortened the length of labors, decreased the number of operative deliveries, reduced the blood loss of the mothers, and contributed to smoother convalescences and "happier mothers."

Laird and Hogan studied an elective program of preparation for childbirth at Sloane Hospital for Women.¹² The study was based on "attitudes, feelings, and reactions of doctors and nurses and others who worked with parents and helped develop the preparation for childbirth program." In this study

¹¹ Herbert Thoms and E. D. Karlovsky, "Two Thousand Deliveries Under a Training for Childbirth Program." American Journal of Obstetrics and Gynecology 68 (July 1954): 279-284.

¹² Marion D. Laird and Margaret Hogan, "An Elective Program on Preparation for Childbirth at the Sloane Hospital for Women," American Journal of Obstetrics and Gynecology 68 (July 1954): 279-284.

742 women were included. Patients who attended preparation for childbirth classes were compared to patients who did not attend classes. No differences were noted in length of labor or blood loss. The patients who attended classes had less medication and more spontaneous deliveries. Also prepared patients "appeared to have a sense of well being not seen to as great an extent among unprepared mothers." The benefits of less anxiety and more intelligent co-operation are difficult to measure statistically.

Miller studied 4733 mothers who had participated in preparation for childbirth classes.¹³ Each class had a maximum of twelve in it. Fathers were included in the classes with lectures and films. Nurses gave support in labor and delivery. The results were a marked reduction in the average labor time and a high percentage of spontaneous deliveries. A majority of the subjects required 50 mg. or less of Demerol or its equivalent as an analgesic in labor.

~~Edgar~~ reported on the use of a mental concentration technique in childbirth.¹⁴ The mental concentration technique in childbirth used diversion through ocular fixation and fatigue to raise the threshold of pain. One hundred control

¹³H. Lloyd Miller, "Education for Childbirth," Obstetrics and Gynecology 17 (January 1961): 120-123.

¹⁴A. A. Earn, "Mental Concentration--a New and Effective Tool for the Abolition of Suffering in Childbirth, Preliminary Report," American Journal of Obstetrics and Gynecology 83 (January 1962): 29-36.

patients, forty experimental patients, and fifty patients participating in Read's method were compared. Read's method attempts to break the "fear-tension-pain" cycle through relaxation and information. The experimental patients were taught the technique of mental concentration to use in response to uterine contractions. No significant differences were noted in length of labor or complications. An interesting reduction in the use of analgesic drugs ~~was~~ seen in the experimental group.

Davis and Morrone conducted a study at Yale of over four hundred primiparous women.¹⁵ Women who had attended at least five classes of preparation for childbirth were defined as "prepared;" women who attended less than five classes were defined as "unprepared." Support was defined as continuous attendance of a nurse throughout labor and delivery who attempted to create a desirable environment for the patient.

The women were divided into four different groups. Group I was "prepared;" Group II was "unprepared," Group III was "prepared" and received "Support" during labor; and Group IV was "unprepared" and did not receive "support" during labor. No significant difference was found in the length of labor or the amount of medication used during labor. An element of self-selection was seen in the "prepared" group of mothers who were older, had more education, and were married

¹⁵ Clarence D. Davis and Frank A. Morrone, "An Objective Evaluation of a Prepared Childbirth Program," American Journal of Obstetrics and Gynecology 84 (October 1962): 1196-1206.

to men with a higher occupational status than "unprepared" women.

Yahia and Ulin reported on a preliminary study of a psychoprophylactic program which used 169 women who desired to participate consciously in childbirth.¹⁶ Most of the subjects were from upper levels of socio-economic status and educational status. No control group was used in the study. The Lamaze method of preparation for childbirth was taught to husbands and wives in groups of eight couples or less.

The observations of the nurse and the obstetrician, and statements of the patient at delivery and in the post-partum period were used to rate the success of the childbirth. In a "successful" childbirth, the suffering of the woman was eliminated as evidenced by her relaxation and co-operation most of the time. Medication was used as necessary to reduce painful sensations. In an "unsuccessful" childbirth, the woman was restless, lost control, or was unable to continue to participate consciously for obstetrical reasons. Of the 169 women in the study, 80.5^{percent}_A were rated as successful.

A later study by Huttel et al. was conducted to quantitatively justify the use of the psychoprophylactic method of preparation for childbirth.¹⁷ The effectiveness of the

¹⁶ Clement Yahia and Priscilla R. Ulin, "Preliminary Experience with a Psychophysical Program of Preparation for Childbirth Program," American Journal of Obstetrics and Gynecology 93 (December 1965): 942-949.

¹⁷ F. A. Huttel, I. Mitchell, W. M. Fischer, and E. E. Meyer, "A Quantitative Evaluation of Psychoprophylaxis in Childbirth," Journal of Psychosomatic Research 16 (April 1972): 81-92.

psychoprophylactic method of preparation for childbirth was tested in a cultural setting where the method was completely unknown to the hospital staff and patients.

Subjects were randomly selected from clinic patients who were pregnant for the first time. These women were randomly assigned to either the experimental group or the control group. Parents in the experimental group were asked to attend five lessons taught by a teacher accredited by the American Society for Psychoprophylaxis in Obstetrics, Incorporated. Only women who attended at least four lessons were defined as "prepared according to the psychoprophylactic method." Thirty-one women were included in the experimental group; forty-one women were included in the control group. "Trends of slightly greater age, longer marriages, and higher occupational status" were seen in the experimental group.

No significant personality changes were seen prenatally in either group. No major difference was found in length of labor or obstetrical complications. The Apgar scores of the newborns showed no significant difference.¹⁸ In behavioral reactions during labor and delivery, the experimental group offered fewer complaints than did the control group. The study stated that this could mean some observed benefits of the psychoprophylactic method of preparation for childbirth could stem from the husband's presence during labor and delivery.

¹⁸ The Apgar score provides a valuable index for evaluating the newborn infant's condition at birth. Heart rate, respiratory effort, muscle tone, reflex irritability, and color are the signs that are evaluated.

The preceding studies researched the effectiveness of various methods of preparation for childbirth programs. The manner in which the method of preparation for childbirth is presented to the parents is also important. A particular way of presenting material may be more effective than other ways. Many series of classes for childbirth use movies of natural childbirth.

Klein et al. rated women early in their pregnancy on stability and favorableness of attitude toward conception and pregnancy.¹⁹ The subjects were selected from patients of the prenatal clinic at Long Island College Hospital. A separate clinic was held for women expecting their first child, and orientation lectures were directed by nurses. As an extra part of the main study, a survey was conducted on the patients' responses to an audiovisual presentation of fetal development and delivery. From questionnaires, 101 responses were obtained. Four women "doubted that the experience was desirable." One "didn't want to see such photographs or movies." One "detested the idea." The rest of the women stated they "liked seeing the movies and pictures."

¹⁹ Henriette R. Klein, Howard W. Potter, and Ruth B. Dyk, Anxiety in Pregnancy and Childbirth, a Psychosomatic Medicine Monograph, Paul B. Hoeber, Inc., Medical Book Department of Hauper and Brothers, 1950.

In a later study, Dalzell investigated teaching methods for a prenatal teaching program at the Los Angeles County Health Department.²⁰ Three hundred women with more than eight weeks left until their predicted delivery date were randomly assigned to one of four groups. Group I had formal classes; Group II had individual counseling; Group III had home visits; and Group IV had no experimental teaching. An examination was developed to cover concepts important in prenatal programs.

For women with less than twelve years of education, the method of teaching used made a significant difference in the mean scores of the content examination. The woman with less than a high school education benefited more from counseling and home visits than from classes. The results showed that for women with high school or college background, there was no significant difference between the mean scores of the groups of teaching methods. Dalzell suggested that the class method of teaching would be more appropriate for women with high school or college background than for women with less education,

Leppert studied the reactions of parents immediately after viewing a film depicting normal childbirth.²¹ This unpublished paper was discussed in an article in the

²⁰ Irene Dalzell, "Evaluation of a Prenatal Teaching Program," Nursing Research 14 (Spring 1965): 160-163.

²¹ Phyllis Leppert and Barbara Williams, "Birth Films May Miscarry," American Journal of Nursing 68 (October 1968): 2181-2183.

American Journal of Nursing. Fifty-seven parents responded to a questionnaire asking for reactions to a film of natural childbirth. In this study, three different movies were shown to expectant parents.²² Two staff members of the Maternity Center Association who had not participated in the project judged the answers. The results showed that 54.1 percent thought the film would not benefit the general public and that 34.1 percent thought the film would not benefit most expectant parents. Only 16.6 percent thought that the film did not benefit them personally.

Johnson studied the effects of structuring patients' expectations on their reactions to threatening events.²³ Forty-eight male college students were paid \$2.00 to participate in the project. Half were told of the procedure to expect, a blood pressure cuff would be placed on their arm and inflated to a pressure of 55 millimeters of mercury. The other half of the subjects were told to expect to feel and see sensations that most of the pretest subjects had reported experiencing. To test the factor of concentration, half of the "procedure" group were told to work multiplication problems and the other half were told to look and think about their arms. Those who had received a description of sensations reported that they had ~~expected~~ more than those who had been told of the procedure.

²² "Childbirth Without Fear," "Accouchement Sans Douleur," and "Childbirth: The Great Adventure," were the films used.
²³ Jean E. Johnson, "Effects of Structuring Patients' Expectations on Their Reactions to Threatening Events," Nursing Research 22 (November-December 1972): 499-504.

Johnson applied the same theory to a clinical situation. Ninety-nine patients scheduled for gastrointestinal endoscopy were randomly assigned to three groups. Group I received a message of sensations that patients frequently experience; Group II received a description of the procedure; Group III received no experimental information. Both messages appeared to decrease anticipatory distress. Patients who received the message of sensations displayed less tension in their hands and arms and were less restless during the passage of the endoscopic tube than patients in the other groups.

Muleahy and Janz made a study of the relationship between pain perception thresholds in males and females and the use of a psychoprophylactic childbirth technique during induced pain.²⁴ Forty healthy volunteers with a relatively high mean of education were studied. Initially, all subjects had a blood pressure cuff applied and inflated until discomfort was indicated. This determined the pain perception threshold of an individual. Then ten men and ten women were given a thirty minute instructional session on the Wright method.²⁵ The other ten men and ten women received a thirty minute ~~class on isometric~~ exercises. A second pain perception

²⁴Rae Ann Muleahy and Nancy Janz, "Effectiveness of Raising Pain perception Threshold in Males and Females Using a Psychoprophylactic Childbirth Technique During Induced Pain," Nursing Research 22 (September-October 1972): 423-426.

²⁵The reader is referred to this text for more information. Erna Wright, The New Childbirth (New York: Hart Publishing Co., Inc., 1966).

threshold was measured on all subjects. Males and females in the group taught the Wright method markedly raised their pain perception thresholds.

As was stated earlier, the way in which the content of preparation for childbirth programs is presented is important. Many class series do utilize audiovisual material. A movie of natural childbirth is often shown to the expectant parents. The effectiveness of audiovisual aids has been studied.

Wesley made a study of silent and sound films and the effects of their use on the observations of viewers.²⁶ The film used in the study was, "Baby's Day at Twelve Weeks," by A. Gesell of Yale University. A total of 120 psychology students were evenly divided into four groups. Group I saw the silent film; Group II saw the sound film; Group III saw the silent film, then saw the sound film; and Group IV saw the sound film, then the silent film. On the questionnaire completed by the subjects after the film (s) was a checklist of behaviors. Subjects were to indicate any behavior that they observed in the film. The power of verbal suggestion was illustrated by the results. Several behaviors were suggested verbally which were not presented visually. The groups that saw the sound films consistently checked those suggested behaviors as ones observed. The study^{op} concluded that the viewer when presented with "equivocal" material gives precedence to audition.

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Frank Wesley, "Silents Please," Audio Visual Communication Review 10 (March 1962): 102-105.

Merrill researched attitude films and attitude change.²⁷ Attitude films were defined as films devoted to sounds, speech, and pictures intended to evoke a mood, to give a sense of reality, or to create suspense. A total of 181 male Navy Reservists were divided into three groups. One group saw an attitude film; a second group saw an information type of film; and the third group saw a control film unrelated to the study. Subjects were tested for knowledge of good driving techniques and for the flexibility of their thinking one month prior to the viewing of the films. After ten weeks²⁸ the subjects were retested. The conclusion of the study was that attitude films do not directly change the emotional component of attitude. No conclusion was drawn on the effect of information type of films on attitude.

In a field experiment, Leventhal and Niles studied fear arousal films and the validity of questionnaire techniques.²⁸ At the New York City Health Exposition held in 1961, a theatre to show films relating smoking to lung cancer was set up. Located near the theatre was a mobile chest x-ray unit.

That information alone was not sufficient to change attitudes or influence behavior was assumed. Motivation or

²⁷ Irving R. Merrill, "Attitude Films and Attitude Change," Audio Visual Communication Review 10 (January 1962): 3-13.

²⁸ Howard Leventhal and Patricia Niles, "A Field Experiment on Fear Arousal with Data on the Validity of Questionnaire Measures," Journal of Personality 32 (September 1964): 459-479.

fear arousal was necessary. Two-thirds of the subjects viewed an emotion-provoking film linking cigarette smoking to lung cancer. One-third of the subjects did not see a film. Everyone received the recommendation to quit smoking and get a chest x-ray. At the x-ray unit, all names and addresses were recorded and compared to the questionnaires. A clear relationship between the intention and behavior of getting an x-ray was shown.

In past studies, an increased level of anxiety in women in the last trimester of pregnancy was shown. Two studies correlated abnormal psychological states during pregnancy to difficulties during labor and delivery. Several studies were made on psychological factors during labor and delivery. No No amnesic factor was found to operate during labor. Using a limited sample, a relationship between fear and anxiety and contractions of the uterus was found.

There has been an emphasis on objective physiological facts, such as length of labor, amount of analgesic medication used, and the amount of maternal blood loss, in studies of the effectiveness of preparation for childbirth programs. Emotional responses of the prepared mother are difficult to evaluate statistically. Many of the studies of preparation for childbirth used small samples, and data gathered from such research must be viewed as from preliminary research.

Studies of preparation for childbirth did note a self-selection factor among women participating in the classes. The women tended to be older, have a higher level of education, and

were married to men with a higher occupational status than women in the control groups.

The importance of the teaching method employed in preparation for childbirth programs was discussed. Two studies on the use of audiovisual aids in teaching prenatal classes found questionable benefits from their use. In another study, high school and college-educated parents were thought to benefit more from class teaching than parents with less education. A study on structuring a patient's expectations about a threatening event found that receiving information of sensations associated with the event helped decrease tension and restlessness. In a recent study, the psychoprophylactic childbirth technique was used to successfully lower pain perception thresholds in individuals undergoing a short painful procedure.

Related to teaching methods of preparation for childbirth classes is the use of films of natural childbirth. Studies of the use of audiovisual aids showed that the use of sound in films influences the viewer. Also two studies were made on films designed to affect changes in the viewers. Attitude films were found to cause no change in the affective components of attitude. Fear arousing films did motivate individuals to perform an action that was easy to do and could be done immediately.

PURPOSE OF THE STUDY

As was stated earlier, several factors helped the researcher determine the purpose and the problem of this study. ~~First,~~ there is an increased level of anxiety in pregnant women late in their pregnancies. The psychological state of a woman during her pregnancy has been related to her labor and delivery. Methods of preparation deal with the psychological aspect of pregnancy and childbirth. Lastly, movies of natural childbirth are often shown in a series of preparation for childbirth classes.

The purpose of this study was to compare parents prepared in the psychoprophylactic method of childbirth to unprepared parents, using their written responses to a film of natural childbirth.

The problem of this study can be posed as a question. Is preparation for childbirth an effective behavior modifier in relation to the viewing of a film of natural childbirth?

The scope of the study was limited using a set of criteria to select the sample. All subjects were married and expecting a child for the first time. Also subjects were not in a health profession and had not previously viewed a film of childbirth. Using these criteria, any differences between parents prepared for childbirth and unprepared parents will best reflect a change due to preparation for childbirth classes.

DEFINITION OF THE TERMS

In this study, the sample included primigravidas and their husbands who viewed a film of natural childbirth. Those prepared for childbirth were compared to those who were not prepared, using written responses to a questionnaire.

A primigravida is a woman who is pregnant for the first time and expecting her first child.

A movie of natural childbirth in this study refers to a thirty-minute color motion picture with sound entitled, "Not Me Alone: Preparation for Childbirth," produced by Polymorph Films, Incorporated. In this movie, a husband and wife were shown attending Lamaze Classes and practicing breathing techniques and exercises at home. The labor and delivery of the woman with her husband supporting her emotionally was also shown.

The term prepared for childbirth means that the individual has attended at least five of the six class sessions of the Lamaze Method of Preparation for Childbirth. The material covered in the class series will be discussed in some detail in the methodology of this study.

The term unprepared for childbirth specifically means that the individual has attended less than two classes of Lamaze training. Using this definition, parents attending only the first class of a Lamaze training series are defined as being "unprepared for childbirth."

Response in this study is limited to the written answers to questions on the questionnaire.

STUDY DESIGN AND METHODOLOGY

The sample was taken from two series of Lamaze classes taught at Brokaw Hospital in Normal, Illinois. The parents attending the class series that began on October 2, 1973 were approached on the fifth weekly meeting night. All parents were invited to participate in the study by viewing the movie and completing the questionnaire afterwards. This was natural because on the fifth class the movie is usually shown.

The parents starting the Lamaze classes on November 13, 1973 were asked on the first weekly meeting to participate in the study by staying to see the movie and completing the questionnaire. Parents were told that the movie would again be shown on the fifth weekly meeting. Not all individuals stayed to see the movie. Since some of the instructional material to be used on the first class night was unavailable, the planned class was half as long as usual. This meant that staying to view the film let the parents finish by the expected time.

To limit the scope of the study, certain factors were considered. The sample was to include primigravidas and their husbands. This ruled out single or divorced individuals and parents not expecting a baby for the first time. Also individuals that had an occupation that would put them in contact with childbirth were eliminated. A final factor that was considered was whether or not the individual had seen a movie of childbirth

before the time of the study. Those who had seen such a film were not considered in the study.

A total of seventy-eight individuals were invited to participate in the study. Information obtained on the questionnaire was used to limit the sample. The frequent reason for an individual's exclusion from the sample was his having seen a film of childbirth before the time of the study. (See Table I and Table II.)

Table I. List of reasons for the exclusion of men and women from the sample.

Reason	Number of people in the prepared group	Number of people in the unprepared group
Movie of childbirth was seen previously.	15	9
Not expecting the first child.	9	4
In a health profession.	2	1
Incomplete data given.	2	0
Unmarried.	1	0

Table II. List of situations in which a childbirth film was viewed.

Situation	Total for men and women in both groups
In a college class.	7
In a high school class.	5
In a nursing class.	4
In a public movie theatre.	4
In a civil defense class.	3
In a prenatal class.	2
Incomplete data given.	2
In the armed services.	2
In the doctor's office.	1

The sample included thirty-five individuals. In the prepared group, there were seventeen parents or forty-seven percent of the parents participating in that class series. Twelve men and five women were included in the prepared group of parents. In the unprepared group, eighteen parents or thirty-six percent of the parents participating in that class series included ten men and eight women.

A brief outline of the Lamaze class content will be given to make clear the difference between the prepared group of parents and the unprepared group of parents. Both class series were taught by an experienced obstetrical nurse who is accredited by the American Society for Psychoprophylaxis in Obstetrics, Incorporated. Two or three other registered nurses who work in the maternity department assisted with teaching the exercises and breathing techniques. The series of classes which began in October had approximately thirty-six individuals enrolled in it. The November class series had nearly fifty individuals enrolled in it. The class was divided so that half had a lecture-discussion session while the other half had an exercise and breathing technique practice session. Then the parents switched and had the other type of teaching.

During the first class, the instructor gave some of the theory behind the Lamaze training method. Tenets of the Lamaze method of training are similar to those of other psychoprophylactic methods of preparation for childbirth.²⁹

²⁹Alan F. Guttmacher, Pregnancy, Birth, and Family Planning: A Guide for Expectant Parents in the 1970's. (New York: The Viking Press, 1973), pp. 77-86; pp. 185-188.

A thorough understanding of labor and childbirth will alleviate unnecessary tension and apprehension. Muscular relaxation helps the body's efficiency and increases comfort in labor and delivery. There is undeniable pain and discomfort during childbirth which can be displaced from a central to a peripheral location in one's consciousness through the substitution of another center of concentration. This aspect of conditioning used in the Lamaze psychoprophylactic method is based on Pavlovian theory. These basic tenets were mentioned briefly during the first session and discussed more fully throughout the five remaining classes.

The first session included, as stated, a brief lecture on the theory behind Lamaze training. Also the three stages of labor, uterine contractions, and the delivery of the baby and placenta were discussed. The first breathing pattern was taught.

The second class reviewed basic anatomy and physiology and the Lamaze theories. Muscle-relaxing techniques were taught and practiced. Breathing patterns were also checked by the instructors.

During the third and fourth sessions, the three phases of uterine contractions during labor were correlated to the tempo and depth of breathing to be used. The second stage of delivery was also discussed along with the husband's role in delivery, how the woman pushes, and how the woman stops pushing on command.

The fifth class session included the showing of the film, "Not Me Alone: Preparation for Childbirth." Also parents were checked on the breathing patterns taught previously. A tour of the obstetrical unit was conducted by the nurses.

The final class covered how to recognize real labor, a review of the breathing patterns, the use of medication in labor and delivery, and what will follow the moment of birth.

This summary of class content should serve as a guide to recognize what the parents who attended the five classes were taught as compared to the parents attending the first class of Lamaze training.

A description of the sample is necessary to relate the individuals studied to the results. The prepared group had persons with a range of ages from 20 to 38 years old. The 12 males considered ranged from 20 to 38 years old, with the modes being 21, 23, and 24 years, and the mean age being 21.6 years old. The 5 females considered ranged from 20 to 25 years old, with the mode being 20 years, and the mean age being 21.6 years.

The unprepared group had persons with a range of ages from 19 to 38 years old. The 10 men ranged in age from 21 to 38 years old; the modes were 22 and 25 years; and the mean age was 26.0 years old. The 8 women ranged from 19 to 27 years old; and the modes were 22 and 25; and the mean age was 23.1 years old.

To obtain an understanding of the educational level of the individuals in the sample, refer to Table III.

Table III. The Educational Level of Individuals
Included in the Sample.

Years of Education	Number of Prepared Parents	Number of Unprepared Parents
9-11 years	0	1
12 years	6	6
13-15 years	2	0
16 years	9	5
17+ years	1	4

The data-gathering instrument used in this study was a questionnaire. Parents were told that the information would be used in a research project. Questions included on the questionnaire will be written below:

Sample Questionnaire

These questions are being asked to collect a body of information to be used to research the Lamaze method of preparation for childbirth. Thank you for your time and effort.

1. Marital status:
2. Number of pregnancies: (for wife)
3. Occupation:
4. a. Prior to this time, have you viewed a film of childbirth?
- b. If so, in what situation?
5. How many sessions of Lamaze you have attended up to this date?
1. Before attending classes, did you desire to view a film of childbirth?
2. How did you feel after viewing the birth film?
3. Did viewing the film influence your expectations of childbirth?
4. After viewing the film, what was the level of your anxiety? For example, unchanged, increased, decreased
5. How would most people react to this film?

Limitations of the study design and methodology are related to the selection of the sample and the research tool.

The method used to select the sample may be biased. Parents from Lamaze classes taught at one hospital were invited to participate. The sample is not necessarily representative of all persons attending Lamaze classes.

The size of the sample is small. The limited amount of time available to the researcher restricted the number of series of classes of expectant parents that could be studied. The scope of the study also limited the number of individuals included in the sample.

The research tool of this study was not pretested for its validity. The difficulty of trying to evaluate the psychological benefits of preparation for childbirth programs was a felt limitation.

RESULTS

The first four questions of the questionnaire were used to limit the sample to primigravidas and their husbands who are not in a health profession and had not previously viewed a film of childbirth. The fifth question divided the sample into a prepared group and an unprepared group.

1. Before attending Lamaze classes did you desire to view a film of childbirth?

	<u>Yes</u>	<u>No</u>
<u>Prepared Group</u>		
Males	4	8
Females	2	3
<u>Unprepared Group</u>		
Males	8	2
Females	4	4

The sample was divided on the question of previous desire to view a film of childbirth. More men and women in the unprepared group expressed this desire than in the prepared group.

2. How did you feel after viewing the birth film?

<u>Prepared Group</u>	
<u>Males</u>	<u>Females</u>
5 - incomplete information	3 - incomplete information
2 - sick	1 - O.K.
1 - scared	1 - excited
1 - relaxed	
1 - O.K.	
1 - satisfied	

Unprepared GroupMales

3 - film helped

2 - fine

2 - apprehensive

2 - incomplete information

1 - good

Females

3 - film helped

2 - incomplete information

1 - excited

1 - great

1 - still frightened

The expectant parents' feelings after viewing the film of childbirth were varied. Twelve individuals out of the thirty-five included in the sample did not complete this question.

3. Did viewing the film of natural childbirth influence your expectations of childbirth?

Prepared GroupMales

Yes 6

No 3

Incom-
plete 3Informa-
tionFemales

3

1

1

Unprepared GroupYes Males

Yes 5

No 0

Incom-
plete 5Informa-
tionFemales

7

1

0

In both groups of parents, the majority felt that viewing the film had influenced their expectations of childbirth. Those who stated it had influenced their expectations gave a variety of answers. Examples of those answers are, "it showed

me what to expect," "it kind of scared me," and "it made me a little less afraid." Parents who stated that viewing the film had not influenced their expectations also gave several reasons. These included, "it's what I expected from books," "events were described by the instructor," and "same as I expected."

4. After viewing the film, what was the level of your anxiety? For example, unchanged, increased, decreased.

	Prepared Group		Unprepared group	
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>
Increased	6	2	4	5
Decreased	2	2	4	1
Unchanged	0	1	0	1
Incomplete Information	2	0	2	1

A majority of parents in both groups stated that they felt more anxious after viewing the film of childbirth. Parents who felt an increased level of anxiety stated, "the film builds enthusiasm," "more anxious to put everything into practice," and "it was frightening." Parents who stated that they felt less anxious said, "I know a little more about the process," and "less frightened." One woman wrote that anyone who has been pregnant for seven months or more is anxious.

5. How would most people react to this film?

Prepared Group

<u>Males</u>	<u>Females</u>
4 Incomplete information	3 Incomplete information
3 Unknown	1 learning experience
1 scared	1 scared at first
1 excellent	
1 more relaxed	
1 any mature adult would think it's an excellent film	
1 imperative in any health course	

Unprepared Group

<u>Males</u>	<u>Females</u>
2 if expecting they would enjoy seeing it	2 positively
1 joy and reservation about doing it	1 think it's a good film
1 don't know	1 could be frightening
1 awe and wonder	1 like it
1 interested	1 incomplete information
1 learning experience	1 those in Lamaze classes would appreciate it
1 helpful, but later in the course	1 big help
1 reality	

Most of the individuals in the sample responded to the question of how most people would react to the film. The responses were similar between parents who were prepared and unprepared parents.

DISCUSSION

The prepared group and unprepared group of parents were divided in their desire to see a film of childbirth prior to attending Lamaze classes. The majority of the prepared parents did not desire to see a film, while most of the unprepared group of parents did want to see a childbirth film. This difference might reflect the instruction on childbirth given in the Lamaze classes or the length of time until the expected date of birth.

The question about the person's feeling after viewing the childbirth film gave a variety of answers, but about a third of all individuals did not answer the question. There was no significant difference between the feelings reported by the prepared group and the unprepared group of parents.

Answers to the question of the influence of the movie on the parents' expectations of the birth experience were not significantly different between the prepared and unprepared group. In both groups, most people either answered in the affirmative or failed to complete the question.

The level of anxiety after the film was more often stated as being higher in both the prepared and the unprepared group of parents. The variety of answers saying in what ways the parents were more anxious shows the ambiguity of the meaning of the word "anxious." One woman made a good point in saying that she was neither more or less anxious after seeing a movie

because she was pregnant for more than seven months and was already anxious. The group of parents closer to the estimated date of birth might be naturally more anxious. The data-gathering instrument might have included a question on the amount of time left until the estimated date of birth.

The final question of how most people would react to the film was answered by all but four persons. Little difference was noted between responses by prepared parents and responses by unprepared parents.

These results do not clearly show a difference between the responses of parents who have attended five classes of Lamaze instruction and the parents who are just starting a course of instruction.

SUMMARY AND RECOMMENDATIONS

This project investigated the use of a movie of natural childbirth in a series of preparation for childbirth classes. The film was shown to parents with Lamaze preparation and to parents without Lamaze preparation. Responses to the movie were recorded on a questionnaire following the movie. Only primiparous women and their husbands who had not previously seen a childbirth film and were not in the health field were included in the sample.

The small size of the sample and the method of selection must be considered when evaluating this research project. A major limitation of the study is the data-gathering instrument which was a questionnaire. The results of the questionnaire revealed inadequacies of the data-gathering tool. The many unanswered questions can not be overlooked. Also the wide variety of responses to the questions are difficult to analyze.

The sample of thirty-five parents was of similar composition as previously reported studies of preparation for childbirth classes. The individuals tended to be fairly well educated and fairly old to be expecting their first child.

There were no major differences in the type of responses to the movie of natural childbirth between prepared parents and unprepared parents. Parents attending the first class session did state more often that they had desired to see a movie of childbirth than did parents attending the fifth class session. Responses to questions dealing with the movie and the parents' reactions were not significantly different between the two groups.

of parents. The small sample size makes it impossible to treat the data statistically. Even the use of percentages would be misleading.

This research project may be of value to others even with its limitations. It may be considered a preliminary or pilot study on the problem of the use of movies of childbirth in a series of preparation for childbirth classes. The responses obtained from the parents may be of interest and value to the specific Lamaze instructor who conducted the class series, to others interested in methods of conducting preparation for childbirth programs, and to anyone interested in Lamaze training for childbirth or similar preparation for childbirth programs.

Conducting this research project was a learning experience. Merely reading and discussing the techniques of research did not give me a true idea of the thought and work involved in conducting a simple research study. The necessary step of defining the problem was very difficult. The limit of time that I as a student could spend conducting the research was frustrating. The process of developing a data-gathering instrument is very important in a research project. This is something that I had obvious difficulty in doing. In the future, I would know that there is more to writing a questionnaire than reading books on research and looking at past studies. The element of creativity must come into the development as well as the element of practicality.

An important learning experience for me was reviewing the literature. The process of locating related research studies is important in the development of a research project.

The process of starting a research project like this and working through the difficulties that were encountered was a learning experience. Having done this review of the literature, future research will be possible with less difficulty.

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