

PHILLIPS GRADUATE INSTITUTE

Marriage and Family Therapy / Art Therapy  
Department

Promoting Positive Feelings In Pregnant Women  
Experiencing Stress and/or Anxiety due to  
Environmental and Internal Stressors by Art Therapy  
and Media

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MASTER THESIS

LOS ANGELES, CA

2009

## CHAPTER I

### INTRODUCTION

Pregnancy is a unique experience in a woman's life on the road to motherhood.

Women from different cultures, ethnicities, religions and ages, may have different perceptions of pregnancy but the biological and psychological aspects of it are similar worldwide. It is a time when the woman is responsible not only for her well being but also of the fetus. This term of forty weeks can be an exciting and fun time as well as a challenging and a difficult one.

Pregnancy is so idealized as a happy, positive time in a woman's life, in many of the social cultures that, many women fear voicing their fears and anxieties while they are going through many physical and psychological changes. Stress, anxiety and depression are common during pregnancy Heron, O'Connor, Evans, Golding, & Glover study (as cite in Teixeira, & Martin, 2005). Stress and anxiety during pregnancy can be connected to problems such as fearing an adverse fetal outcome as behavioral problems in the child (Austin, 2000, O'Conner, 2003). Therefore it is important to detect stress and anxiety before late in the pregnancy so that preventive measures can be taken.

#### Background

##### *Factors of Stress and Anxiety during Pregnancy*

In a study examining the expectations and experience of birth with pregnant women, Ayers and Pickering (2005) found that anxiety during pregnancy was linked to expecting less

positive and more negative emotions during labor. The results also showed that experiencing anxiety during pregnancy was related to feeling less support and less control during labor.

Attitude toward pregnancy is also a determinant of stress. Whether the pregnancy was planned or not is an important factor in how the expecting woman feels about the pregnancy. According to the results of a study by Gurung, Dunkel-Schetter, Collins, Rini and Hobel (2005), wanting the baby and feeling positive about the pregnancy are strongly related to lower levels of anxiety. Therefore art therapy and media can be a useful tool for aiming lower levels of anxiety and stress during pregnancy.

Biological changes such as hormone concentrations that the expecting woman's body goes through also contribute to stress and other affective disorders (Harris, Johns, and Fung, 1989 as cited in Ross, Evans, and Romach, 2004). Lack of social support, relationship difficulties and stressful life events such as a death of a close relative are non-biological factors that induce stress in pregnant women, Brugha, Sharp, & Cooper's study (as cited in Ross, Evans, & Romach, 2004). A study carried out by Glazier, Elgar, Goel and Holzapfel (2004), also showed the correlation between emotional distress and lack of social support. This study also highlighted that conflict between the partners during pregnancy has a high correlation with increased stress level in the pregnant women.

### *Expressive Art Therapies for Reducing Stress and Anxiety*

There are different modalities of Expressive Arts Therapies used to reduce stress, anxiety and depression. Art, music, and Movement therapy are some of these therapy techniques. Curry and Kasser (2005) suggest that structured coloring of a reasonably complex geometric pattern may create a meditative state that helps individuals suffering from anxiety. In a related study by **cite and cite** (as cited by De Petrillo and Winner, 2005) found that "the

act of creating a work of art makes people feel more positive in their mood and elevates their measure of mood valence” (p. 211). Therefore, making art during pregnancy can be helpful in increasing positive mood as well. In 2005 Teixeira found both active and passive relaxation techniques considerably reduced state anxiety and maternal heart rate. The findings showed that active relaxation guided imagery technique applied by a stress management expert brought out decreased states in anxiety and maternal heart rate. An art therapy session can be followed or began with a relaxation-guided imagery to be more effective on reducing and/or managing the stress that the pregnant woman is experiencing.

Swan-Foster’s (1989) study states that women may feel challenged when they try to maintain some aspects of their pre-motherhood life and integrate them with their maternal role. Trying to find a way to help women in monitoring daily emotional changes during their pregnancy, Swan-Foster (1989) conducted a study with pregnant women and instructed them to draw their self-portraits in order to understand their psychological adaptation to pregnancy and their perceptions of their bodies. Women reported their satisfaction about the relief of some of their inner tensions after doing the drawings.

The education of psychological and physical aspects of pregnancy could be integrated to help pregnant women better understand their symptoms. The use of psycho-education and art therapy can be useful in helping pregnant women actively identify their fears and/or problems regarding their pregnancy that are triggering anxiety/stress and/or depression. This would also lead to figuring out unique tools, to deal and/or reduce the anxious and/or the depressive symptoms of the pregnant women.

#### Rationale

*Proposed Implications for the Field of Relationship Therapies*

Helping pregnant women to reduce their level of stress and anxiety can be beneficial to the field of relationship therapies. The primary relationship between the fetus and the mother during pregnancy is one of the most significant bonding experiences a human being can have. Having positive bonding during pregnancy is more likely to increase the positive bonding and attuning to the infant after the birth. Understanding how early bonding experiences shape relationships later in life can be very beneficial for the therapist in providing better services for their clients.

While forming relationships with others, human beings tend to attribute emotions to the experiences of these relationships with significant others. The same thing happens when a woman gets pregnant. As she starts building a relationship with her unborn child, she also starts attributing emotions to this significant relationship. This way she attributes emotions is the way she makes sense of her inner and outside world. Therefore it is important for a marriage and family therapist to understand how the pregnant client makes sense of her inner and outside world. As the relationship patterns between partners is significantly important in the pregnant woman's life, it is crucial for a relationship therapist to be informed about the dynamics (negative, positive effects, challenges, as well as psychical and psychological changes) of pregnancy in their therapy work.

#### *Proposed Implications for the Field of Art Therapy*

Hass-Cohen (2007) talks about the increasing number of research studies, linking neuroscience and art therapy. She also discusses, the relationship between how the brain forms neurons, which hormones to secrete and the psychological well being of a human being. With the increase in the research of art therapy, it is significantly that art can be beneficial in therapy by activating specific part of the brain. Stress causing physical and/or psychological symptoms on humans' well being is significantly high as Sapolsky (2004)

discusses. Sapolsky adds stress can be harmful to the human health, if experienced at high and/or chronic levels. Understanding the effects of stress, anxiety and intense fears, these can be transformed into a personal journey of introspection, maturity and self-empowerment through art therapy for pregnant women. The art therapy methods developed for this objective can also be applied to other sample groups for relief of stress and anxiety, which would enrich the field of art therapy.

The use of art in reducing stress and/or anxiety in pregnant women who are experiencing these during pregnancy can provide valuable information to the field of art therapy. Some of the benefits of this study might be the better understanding of the use of art therapy and directives with pregnant women and how art making can be useful to reduce the stress and/or anxiety. Using art therapy to help pregnant women externalize stress can provide art therapists with an effective stress reduction tool with this population.

### *Personal Values Exploration*

The author's personal interest in pregnancy started when her sister was pregnant with her first child. Their relationship changed with the onset of her sister's pregnancy and when her sister started sharing her problems and feelings with the author. Although she was well informed about her pregnancy and financially secure in a happy marriage, she was experiencing stress and anxiety during this passage into motherhood that she had always anticipated to be the happiest time of her life. The author's sister reported trying to reduce her stress about the unknown facts of the pregnancy by reading educational books about what to expect from the nine months that was awaiting her. Despite the fact that she was being proactive in her adventure as a mother-to-be, she definitely faced challenging feelings of stress and anxiety that were out of her control. Although the pregnancy was a planned and long-awaited one, the author's sister and her husband both felt anxious and fearful at times of

unexpected events. While the author witnessed their process, she also realized that an expecting woman do face challenges, feel stress and/or anxious during pregnancy despite being well informed, financially secure or in a stable relationship. This led the author to begin to wonder about stress factors that affected pregnancy and how they could be dealt with for a more positive pregnancy experience. With the author's knowledge of art therapy and prenatal psychology, she encouraged her sister to express her feelings when she felt stressed and/or anxious. The author's understanding gained from the neuroscience lectures and readings is that stress increases the amount of cortisol, which affects functioning of the immune system in a negative way if discharged for a long time. As another side effect, when the mother releases cortisol into her bloodstream, the fetus gets the cortisol from the umbilical cord, which activates the stress response that causes an overactive amygdala in the fetus. Maternal cortisol increases at 15, 19, and 25 weeks and placental corticotropin-releasing hormone (CRH) increases at 31 weeks have a significant relation with decreases in infant maturation. Pregnant women experiencing high levels of stress, depression and anxiety give birth to babies who have a tendency to have lower birth weight and smaller head. Literature also suggests that maternal stress hormones effecting the behaviors of the fetus after birth as excess levels can affect and change the programming of the fetus's neurons. This may lead to problems like behavior disorders, attention, learning deficits, conduct disorder, language delays and feelings of anxiety and depression in the children therefore for the well being of the infant's neurological development, the mother should decrease her stress levels during pregnancy.

Given the author's theoretical orientation in narrative therapy and continuing education in art therapy, she provided her sister with art materials (markers, crayons, collage images) as she was sharing her problems. As they both drew as they discussed about her

pregnancy and the changes she was going through. According to the author, making art during sharing her stress seemed to provide her with a sense of relief and control over her feelings regarding the pregnancy. The sister started being more expressive and more relaxed after interacting with the art materials. The feedback of the sister about doing art was that she felt like she externalized her stress and that it was not in her body anymore. This experience induced more interest for the author to explore the field of art therapy in order to understand how stress and/or anxiety can affect the pregnant women as well as the fetus and also discovers ways to aid pregnant women in order to reduce their stress and anxiety during their pregnancy.

#### MAIN RESEARCH QUESTION

How can the use of Art Therapy modalities promote positive feelings in pregnant women experiencing stress and/or anxiety due to environmental and internal stressors?

#### OBJECTIVES/HYPOTHESES

*Objective 1:* To identify some of the contributing factors to maternal pre-natal anxiety and stress.

*Objective 2:* To identify the consequences of maternal pre-natal anxiety and stress.

*Objective 3:* To illustrate how Art Therapy can be effective in reducing anxiety and stress.

*Objective 4:* To identify and suggest art interventions which provide therapeutic benefit for pregnant women experiencing anxiety and/or stress and to promote positive feelings.

#### *Limitations*

This literature review attempts to analyze the factors causing stress and anxiety in pregnant women and the use of art therapy modalities to reduce the effects of these undesired factors. A wide source of literature about pregnancy stress, anxiety and other emotional

distresses was available. On the other hand a lot of the studies were about the social aspect of pregnancy, the problems fetus might have in later life, attachment, and a necessary social support system for the pregnant women. It was a challenge to sort through to find the most relevant and significant studies applicable to this literature review. Literature about the effectiveness of art therapy as well as neuroscience during pregnancy was abundant.

The methodology of this literature review is not defined. A qualitative manner was not used in order for the data to be analyzed. The author reviewed the literature regarding the topic and explored the facts and information in order to achieve the objectives of this study. This analysis of the literature findings was not done in a structured way, which is also a limitation for this study.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

This literature review will focus on defining the factors of stress and/or anxiety in pregnancy while searching for modalities of Art Therapies to help reduce the stress and/or anxiety caused by these factors. As pregnancy is a natural part of the life cycle it involves many joys and hopes as well as negative prospects like stress and/or anxiety causing factors and mood changes also await women for this duration.

#### Stress Anxiety in Pregnancy

##### *Biological Influences*

Pregnancy has always been a period of intense feelings and preparation for women into motherhood. Both the biological changes the body goes through to accommodate new life and the psychological and social factors surrounding the future mother might have great effect on the fetus development. To this effect, a study was conducted in Toronto, Canada to test the correlation of depression and anxiety with the biological and psychosocial variables, which affect the mood changes women, go through during pregnancy (Ross, Seller, Evans and Romach, 2004). One hundred and fifty pregnant women, all above eighteen years of age with no physical health problems and no history of psychotic illnesses, were gathered together to form the sample group either by using flyers or inviting women who were waiting for appointments in their doctors' offices. More than 86% of the sample were Caucasians, 93% of the sample were married or in a stable relationship, 61% were having their first child and 84% of the sample were working. The mean age of the participants was 33.4 years. The study consisted of assessing the sample prenatally when they were between 36 and 42 weeks pregnant and once postpartum at 6 weeks after delivery. The participants filled questionnaires about their personal and family psychiatric history at the prenatal assessment only. At both of the assessments, they filled out measures of marital adjustment, social support, life stress and mood. Blood samples were also drawn for hormone analysis at both meetings. Different assessment tools were used to evaluate the findings. Through this study, the authors found that genetic and hormonal factors define women's sensitivity to environmental stressors, which in turn determine their threshold during pregnancy to develop symptoms of depression and/or anxiety. This study is of importance to this literature review as it provides a source of possible factors affecting anxiety levels in pregnant women. The age distribution curve, which has the mean 33.4 years old, and the number of participants of the study are satisfactory in coming to a reliable conclusion.

### *Psychosocial Influence*

Several studies have found that anxiety and stress levels during pregnancy are correlated with attitudes toward pregnancy, mastery and social support. Gurung, Dunkel-Schetter, Collins, Rini and Hobel (2005), implemented such a study with a sample of 453 pregnant women, 43% of whom were African Americans, 35% Latinas and 22% Non-Hispanic Whites. The education level of these participants was generally between moderate and low and they also had low income. They were over 18 years old and less than 20 weeks pregnant with no medical problems. Participants were assessed a total of three times, Time 1 at 18-20 weeks, Time 2 at 28-30 weeks and Time 3 at 35-36 weeks. Different anxiety instruments used to assess the feeling of anxiety and the social support they received. They also measured whether the pregnancy was planned or not and if abortion had been considered. Mastery, which can be defined "as the control a person feels she possesses over her life", was applied to assess stressful life events experienced during pregnancy or a year before the pregnancy, like the death of a close person or change of living arrangements. As predicted, women with more positive attitudes toward pregnancy and a higher sense of mastery and who received more support from their partners experienced less anxiety whereas women who went through more stressful life events experienced higher levels of anxiety. Interestingly, the authors found some differences between the ethnic groups in the sample. Income was the only significant factor of anxiety for the Non-Hispanic American sample while the African American sample was more affected by attitude toward pregnancy and number of life events. For the Latina sample, however, attitude toward pregnancy was not a significant factor of anxiety but number of life events, mastery and especially social support by partner were all-important predictors. These differences in ethnic groups may be due to the small sample size therefore this study points out the necessity of examining different ethnic groups to understand the pregnancy process unique to their cultures.

According to Ayers and Pickering (2005) the level of anxiety pregnant women experiencing during pregnancy affects the pregnant women's expectations as well as the experience of upcoming labor. To examine these expectations of the pregnant women, a study was carried out with a sample of 289 women who spoke fluent English and were between 16 and 36 weeks pregnant. 240 of the women completed questionnaires during pregnancy and 245 of the women completed questionnaires one week after the birth. The Expectation and Experience of Birth Scale (EEBS; Slade et al., 1993) is used to measure both positive emotions and negative emotions. The questions answered were worded similarly like "do you expect your labor to be..." and "was your labor...". Different anxiety scales are used to assess the anxiety levels in the sample of pregnant women. This study by Ayers and Pickering is relevant to this literature review as it points out that anxiety during pregnancy is linked with expecting less positive events such as less control and support during pregnancy and more negative events such as more negative emotions and pain during labor.

#### *Effects of Anxiety on Fetus*

Many people experience anxiety at different stages of life and pregnancy is an important passage in the life of a woman into motherhood. During recent years, concern about the effects of anxiety on pregnancy has grown and more research is being done on this issue. The Manifest Anxiety Scale (MAS) was used in an early study by David's, Devault, and Talmadge (1961) with 48 pregnant women at the Clinic of the Providence Lying-In Hospital with the aim of determining the correlation between levels of anxiety experienced in pregnancy with complications in the delivery rooms and abnormal births. The 50-item MAS was administered to 48 women in an individual testing session approximately in the seventh month of pregnancy. 20 of the 48 of these women were retested 6 weeks after childbirth and they were named Group 1 while 28 of the women never returned for a retest and were named

Group 2. The mean age and IQ levels of the women in both groups were similar. In both Groups, the anxiety scores of the abnormal subgroups were significantly higher than those of the normal subgroups. Despite the fact that the cause of the complications in the delivery room and the birth of children with abnormalities cannot be associated directly with anxiety in pregnancy, this study suggests that women who had higher levels of anxiety during their pregnancies, tended to have complications in delivery or to give birth to children with abnormalities. Although the sample number of 48 is not sufficient to make a generalization, this study is useful for this literature review in providing possible diverse consequences of anxiety in pregnancy.

Stress and emotional distress accompany pregnancy and recent research approaches this topic from the social support angle. Glazier, Elgar, Goel and Holzapfel (2004) conducted a study with a sample of 2052 pregnant women from different hospitals in Toronto and Ontario. All women were in good health without prior pregnancy complications or genetic disorders and carrying single babies and all spoke good English. The Social Stress Indicators (SSI) and the Chronic Stress subscale of the SSI were filled by the participants to measure negative life events and partner conflict in their lives. The social support perceived by the sample from their surroundings, the emotional distress, and their anxiety levels were measured by using different inventories. All of these measures were applied to the sample at 24 weeks of their pregnancy. This study found that while the correlation between life events and depression and anxiety were significantly high for women with low support from their family and friends, the correlation between symptoms of anxiety and depression and high levels of social support were much lower. These results confirm the hypothesis of this study that pregnant women with low support are more prone to anxiety and depression during their pregnancy. Another important finding was that emotional distress was inversely relational

with the age, education level and family income of the pregnant women. The results of this study are critically important in that they can be used to identify women who are most vulnerable to anxiety and depression so that support in forms of therapy can be provided to them.

To summarize, Gurung, Dunkel-Schetter, Collins, Rini and Hobel's (2004) study showed that negative life events such as the death of a close person were highly correlational with higher levels of stress and anxiety during pregnancy and that it is necessary to examine different ethnic groups to understand the pregnancy process unique to their cultures. While the study conducted by Ayers and Pickering (2005) indicated that women's expectations of labor and their attitudes toward pregnancy determined the level of stress and anxiety experienced during pregnancy. Glazier, Elgar, Goel and Holzappel (2004) showed that social support usually helped expecting mothers to be more relaxed and in a better mood and also that family income, educational level and age were inversely relational to emotional distress. An early study by David's, Devault, and Talmadge (1961) presented the suggestion that women with higher levels of anxiety during their pregnancies, tended to have complications in delivery or to give birth to children with abnormalities. Finally, Ross, Seller, Evans, and Romach (date) found that genetic and hormonal factors were important in defining women's sensitivity and determining their threshold during pregnancy to develop symptoms of depression and/or anxiety.

## Art Therapy Literature

### *Effectiveness of Art Therapy Applications*

Lorenzetti (date) talks about different models of arts therapies being similar to the evolution of a human being in the biopsychosocial context. According to Lorenzetti, Music

Therapy is a good example of this similarity as it consists of the basic three models of movement, sound and rhythm, which also exist, in the development of human life within the uterus from the moment of conception until birth. This similarity may be important in explaining the therapeutic effects of arts therapies in this literature review.

Recent research has focused on the effectiveness of art therapy by analyzing its physical projections on the brain. Lusebrink's (2004) article probes into this issue and makes a literature review of theories and research that exemplify art therapy's physical effects on the brain using neuroimaging such as functional Positron Emission Tomography (fPET) and functional Magnetic Resonance Imaging (fMRI). Expression in art therapy uses first the tactile-haptic and visual channels and then the cognitive and verbal channels when they are processed in the brain. All these activities are made possible through the activation of different parts of the brain like motor, somatosensory, visual, emotional and cognitive. The main focus of art therapy is on how emotional experiences are reflected by images and their expression and how these experiences determine affect, thoughts and behavior. When internal images are formed via art therapy processes, sensory pathways are activated in the brain. Art therapy can activate and use these paths in the brain structures to access and process memories and visual and motor information.

In an attempt to examine the effectiveness of art therapy, Reynolds, Nabors and Quinlan (2000) analyzed seventeen existing studies utilizing art therapy under three categories: 1) Single Group – No Control Group Studies, 2) Controlled Studies, and 3) Randomized Control Trials. The Single Group studies suggested positive effects of art therapy. The studies with Control Groups showed improvement in the samples but the improvement was not significantly greater than the control groups. The Randomized Control Trials featured mixed results. Therefore, none of the studies provided certain scientific

affirmation that art therapy worked. The author acknowledged the limitation of this study and attributed this lack of affirmation to some basic common difficulties such as small sample sizes, the lack of the possibility to check the effects of setting, race, gender and other demographic variables due to the small sample sizes available and the indefinite recording of each art therapy session used in the studies.

Art therapies are regarded as therapeutic because of their capacity to induce mood change (Petrillo, Winner 2005). Two experiments were conducted to test whether art therapy improves the mood of the client. In the first experiment, 42 college students formed the sample, 20 were art majors and 22 were non-art majors and the mean age for the sample was 19. They were first shown photos of tragedies like illness, death and poverty in order to cause a negative mood. The photos were followed by a 5-minute video of tragic events like the Holocaust and the 9/11. They were asked how they felt and instructed to pay attention to physical senses, emotions and images or words with their eyes closed for 15 seconds. A self-filled one-item scale showing the two dimensions of affect states like stress and relaxation, excitement and depression, sleepiness and high arousal, was administered. After completing the Affect Grid, the sample was divided in two groups: 10 art majors and 12 non art majors were randomly selected to the Art Group and 10 art majors and 10 non art majors to the Copy Group which acted as a control group. Participants in the Art Group were instructed to create any picture they wanted depending on their current feelings using provided materials. Participants in the Copy Group were given white sheets, the same coloring materials and 10 geometric shapes to copy on separate sheets of paper in the same order. The time was not limited for either group. After the drawing sessions, the Affect Grid was applied again, followed by 4 open-ended questions about how they felt after the drawing, if and why their drawing or copying changed their mood and what materials they used. When the Affect Grid

and the pictures drawn by the Art Group were scored, they were consistent with the answers to the questions. According to the results, the moods of the Art Group sample were more elevated than the Copy Group sample. There was no significant difference in mood change between the art majors and the non-art majors, which suggests that having ability for art or not does not affect the power of art as a tool. One important finding of this experiment was that participants who had a positive mood change had drawn pictures of tragedies and of pleasant things both. As gathered from the answers, making drawings of tragedies provided the participants with the chance to release the disturbing images (catharsis) while making drawings of pleasant things provided an escape or distraction from the tragic images in their heads (redirection). The participants in the Copy Group commented that the copying was so easy that it was not enough to distract them from the horrible images in their head, hence no mood change. The copying could also be ineffective for mood change because it does not allow for expression of feelings. At this point, the authors decided to conduct a second experiment to test if a difficult task that does not allow expression of feelings could result in positive mood change. Twenty college students with a mean age of 19 were the sample for the Second Experiment and all were non-art majors as the First Experiment had found that knowledge of art was not effective on the results. They were given two verbal puzzles, a word-find and a crossword, and instructed to choose one to complete. The verbal puzzles were more challenging than the task of copying shapes but at the same time not allowing an outlet for feelings. The sample results were compared with the results of the Art Group of the First Experiment and this comparison affirmed the findings of the First Experiment. Through these two experiments, the authors found that art is successful in improving mood by providing an opportunity to express feelings and therefore brings about psychological healing. This finding is significant for this literature review as it highlights the healing quality of art therapy.

Adler and Fisher (1984) integrated three arts to focus on body image for work with children between the ages of 6 and 8. The aim of their study was to make the children more aware of their bodies and their feelings and thus give them an opportunity for expression. The study was carried out in 2 separate sessions of 45 minutes each. After the first session started with the children in a circle and the movement song, they were instructed to warm their bodies part by part. Then they were asked to close their eyes, to think of the part of their body that they like best and to make a drawing of that part. When the drawing was finished, they were asked to choose a musical instrument that sounds like the body part that they chose. They were instructed to stand in front of their drawings and move their whole bodies showing their feelings about their best part of their bodies. After each child did a sharing, the session was ended with the movement song. The second session was a repetition of the first session for their body part that they liked the least. The authors found this study successful because the children were more aware of their bodies and their feelings about their bodies, which were obvious from their more detailed drawings as the sessions went on. They also used more of their bodies to move more freely. This study is of importance for this literature review as it is a good example for working with the body and can be adapted for work with any sample group. Body image is a sensitive issue for pregnancy and this group work could be of use when working with a group of pregnant women.

Until recently, little research has been done regarding the relation of art therapy and pain relief. A study that looked into the effect of art making on relief of migraine pains was organized by Vick and Sexton-Radek (2005). Migraine is a neurovascular disease that causes intense, usually one-sided headaches along with other physical and physiological effects such as nausea, vertigo, high sensitivity to sound and light and visual disturbances like blurred vision or seeing flashes of light. The National Headache Foundation (NHF) conducted this

study with migraine sufferers who had participated in an art contest “Migraine Masterpieces” organized in 1998 and 2001. The participants were mailed a questionnaire that was about migraine history, headache frequency, pain triggers, and coping and art practices. The participants were also asked if their art making increased, lessened or triggered their migraines. The results of the survey suggested for most participants that making art triggered or increased headaches rather than lessened the pain. On the other hand, there are limitations to this study as the sample group was not in art therapy treatment but filling survey forms about their past life experiences with art. Art therapy, however, tends to have a format that a therapist follows in order to be of help to a client. Landgarten’s (1981) case study of a man with “severe chronic head pains located in the frontal lobe” is such an example of art therapy work where descriptions of the headache were used together with a relaxation exercise and guided imagery in Langarten’s study (as cited in Vick, & Sexton-Radek, 2005, p.349). Similarly, in Long’s study (as cited in Vick and Sexton-Radek, 2005) drawings describing the headaches and using guided imagery as a self-hypnotic method to reduce pain on a graphic pain scale.

To summarize, the literature from Petrillo and Winner (2005) and Adler and Fisher (1984) support the effectiveness of art therapy by providing test results and observations. Lusebrink (2004) presented physical information about the brain structures affected by art therapy applications. However, the analysis of seventeen studies on art therapy by Reynolds, Nabors and Quinlan (2000) showed that no scientific proof of the effectiveness of art therapy could be derived despite certain positive outcomes in many studies. This problem of scientific proof could be due to small sample sizes and the lack of the possibility to check the effects of setting, race, gender and other demographic variables, which play role in Nabors and Quilan (2000) study.

*Expressive and Art Therapy Tools and Applications for Reduction of Stress and Anxiety*

Music Therapy is an efficient method to provide relaxation and to relieve anxiety according to Robert E. Krout (2007) whose article studied music's effects on the human being from the neurophysiological aspect. Music can be used as a sound medium for relaxation and stress management as the human body is both physically and biologically affected by it. Music is carried via the hearing system to the brain and affects the limbic system, which is located in the temporal lobes of the brain close to the auditory cortex. The limbic system is in control of emotional behavior and produces biochemical substances in the brain so that negative emotional reactions can be suppressed. Imagery, muscle relaxation and breathing instructions by an art therapist can help to stimulate the limbic system positively too. Stress causes the hypothalamus to produce corticotrophin releasing factor (CRF) and can suppress immune system to function properly, which causes more health issues for the stressed person. Music can stimulate the production of endorphins and enkephalin in the body, which in turn bring the feelings of pleasure and calmness while reducing pain and stress. The article remarks that music can provide homeostasis in the body by stimulating the neurological, endocrine and immune systems. There are suggestions about certain features that relaxing music must have such as a slow and stable tempo, low volume, gentle sound and connected melodies. An ideal relaxation music recording is about 20-30 minutes long and the passages between two short recordings and too many lyrics can disturb the process. This article is noteworthy for this literature review as it examines the neurophysiologic effects of music therapy (which falls under the umbrella of expressive art therapies) on the body's systems in order to bring about relaxation.

In one article as a case report, Bush (1988) discusses the use of Dreams, Mandalas and Guided Imagery and Music (GIM) as three separate methods in the therapeutic process of a

35-year-old newly married woman. Developed by Helen Bonny, GIM uses specially designed music tapes to awaken imagery, to surface hidden emotions and to develop insights. Mandalas are circular art forms that symbolize wholeness and they are interpreted using color, movement and symbols. Designed by Joan Kellogg, the Mandala Card Test consists of 13 pairs of cards that are chosen by the client and interpreted by the therapist according to color and design of the cards chosen by the client. The therapy spread over a period of 18 months with weekly sessions of 1.5-2 hours. The Mandala Card Test was used to assess the progress of therapy every 4-5 weeks. This article is significant for this literature review as an example of a case report as it shows the usage of art therapy methods to enable the therapist to work between the conscious and the unconscious to help healing (Bush, 1988).

Curry and Kasser (2005) wrote about the effect of mandalas on anxiety reduction based on a study they realized with a sample group of 84 (55 female, 29 male) undergraduate students who were Caucasians between the ages of 18 and 22. The participants attended the study in groups. First, they were asked to complete the State Anxiety Inventory and their levels of anxiety were recorded. Then an anxiety induction was applied to the group; they were asked to think about a time they felt intense fear and then write about it for 4 minutes. The State Anxiety Inventory was applied again and their levels of anxiety were recorded again. Then they were instructed to do coloring on a piece of paper. The mandala group was given a paper with a mandala drawn on it for them to color, the plaid group was given a paper with a Plaid Design drawn on it and the free-form group was given a blank page to do free-form coloring. After 20 minutes of coloring, the State Anxiety Inventory was applied for the third and last time. It was found that when compared with the free-form group, the anxiety levels of the groups who colored the mandalas and the plaid designs had dropped significantly after the coloring exercise and generally had similar values. Findings showed that this notable

reduction in the anxiety levels occurred because the mandala and plaid designs had a complex structure that enabled the participants to concentrate deeply while coloring and thus to be in a state like meditation (Curry, Kasser 2005). In line with this observation, it can be said that coloring structured designs like mandalas and plaid designs can help reduce anxiety by presenting an opportunity to distance one from the inner turmoil of anxiety that cannot be controlled.

In a research carried out by Swan-Foster, Foster and Dorsey, the *Prenatal Art Therapy Intervention and Inventory* (PATII) was used to document the psychological and emotional aspects of pregnancy. The PATII included four questions that pregnant women were asked to make a drawing for each: 1) 'Draw yourself pregnant', 2) 'Draw a fear or conflict', 3) 'Give the fear or conflict what it needs', and 4) 'Draw a pregnancy circle'. In this study, the data were collected from 60 pregnant women in three groups of 20. The participants, Caucasians with a middle class to upper-middle class socio-economic status, filled a questionnaire about personal and familial pregnancies and their current emotions about their pregnancies. One Nationally Board Certified Art Therapist conducted a single session of one hour with each participant and administered the PATII. The materials provided for the drawings were pencils, markers, oil crayons, pastels and watercolors and the paper size were 11x14 inches. After 10 minutes for each of the four drawings, the women answered the questions: 1) 'What do you see?' and 2) 'How do you feel?' to determine what they saw in their drawings as structure and content. The women were separated into three groups of 20 as High Risk Outpatients (HRO) with past prenatal losses, current pregnancy complications and bed rest at home, High Risk Inpatients (HRI) with hospitalization for serious medical reasons and using medication and Low Risk (LR) with no past or current complications in pregnancies. Out of the 240 drawings collected, 30 of the Human Figure Drawings (HFDs) to the question 'Draw yourself pregnant'

were chosen randomly, 10 from each group. They were scored for usage of color and space, energy, realism, details and drawing of the pregnant person by using FEATS (Formal Elements Art Therapy Scale) and Content Tally Sheet. The results indicated that both HR group drawings had lower scores of details, energy, person, use of space and color than the LR group. These results showed that the women in the HR groups had a tendency to be depressed whereas the women in the LR group did not. This study is crucial for this literature review as it suggests that art therapy and projective drawings such as the Human Figure Drawing (HFD) can be useful in detecting tendencies for prenatal depression and other emotional problems like anxiety and stress.

In a related article, Swan-Foster (1989) gives details of four women who completed an art therapy session during their pregnancies. The four women all made four drawings to the titles: (a) Self-Portrait, (b) Fear drawing, (c) Transformation of Fear drawing, and (d) Closing Mandala. In this article, the Self-Portrait drawings of three of the women are compared and analyzed together with the information at hand about their pregnancy situations. One 28-year-old woman was in her second pregnancy and knew the process very well and this ease showed in her drawing where she drew herself with her full belly in front of a green plant that symbolized the life growing and expanding in her. One 25-year-old single-parent-to-be woman was in the ninth month of her first pregnancy and would be returning home for family support. In her Self-Portrait, she drew herself sideways showing her full belly and facing a flowering plant too. She also drew blue water in the corner symbolizing uterine waters that protect her baby. The third woman was 30 years old and in the fourth month of her pregnancy. She was newly married and she was not sure of her husband's support in the process of her pregnancy. This manifested itself in the drawing as being the only drawing where a husband was included but not really in contact with the pregnant wife. Both drawings of the women

who were in their first pregnancies had white space without boundaries all around the central drawing and this suggested the presence and uncertainty of the unknown that is typical for first pregnancies. In both drawings made by the pregnant women in their ninth month of pregnancy, the center stage belonged to the women themselves with their showing bellies suggesting their inner bonding and involvement with their bodies and their babies. All three women drew themselves with the color 'pink' which is symbolic of femininity, good health and tranquility. After the session, all three women voiced their satisfaction of how the drawing process relieved the tension and anxiety that they had been holding inside. The fourth pregnant woman's 'Fear drawing' and 'Transformation of Fear drawing' were compared to show the effect of art therapy on her emotional and psychological state. She had had a problematic pregnancy before and she had to give birth with a Cesarean section. Thus she had feelings of grief, anger, fear and helplessness about her current pregnancy. All these feelings emerged in her 'Fear drawing' as zigzag lines, doctors with knives, angry faces and a red sun symbol with a yellow center that represented her husband. After finishing the drawing, she explained that she was having the second child from her second husband and she was afraid her second husband would not be able to support her just like her first husband could not. She was fearful of being helpless and passive in the decision-making process during birth like her previous experience. In her 'Transformation of Fear drawing', she drew a confident 'her' at the center of the page giving birth to her baby with her husband strong behind her and a midwife beside her. In this drawing she was the main character during birth and the feeling was strong. In order for her current pregnancy and birth to be a separate experience, she had to surface and let go of her emotional residue from her first pregnancy. While the baby was not seen in the 'Fear drawing', it existed very strongly in the 'Transformation of Fear drawing'. Making the two drawings enabled her to separate her two pregnancies and to feel strong and healthy for her second birth. After her successful birth, she

commented that the drawings had been helpful to surface her fears and conflicts and through this creative process she had become empowered again. This article is important to the topic at hand because it is a good example of how art therapy can affect and improve the life-quality of the pregnancy period of expecting mothers. In spite of the fact that the medical world regards pregnancy as a healthy condition, it may trigger many complications such as preeclampsia, irritable uterus and cesarean section, which are also medically handled. The additional stress that is caused by these complications or other life crisis are usually ignored and neglected. Swan-Foster was interested in the psychological aspects of pregnancy and using art therapy in this area. Despite the small number of sample group, this article is substantial in that it emphasizes the importance of the use of art therapy during pregnancy as part of the childbirth education classes in order to increase self-awareness to resolve anxiety that may cause problems in the mother/child relationship (Swan-Foster, 1989).

Teixera, Martin, Prendiville and Glover (2005) conducted a study to discover the effects of a relaxation exercise of guided imagery on anxiety levels in pregnant women. The sample consisted of 58 women between 28-32 weeks pregnant with no medical complications. They were asked to fill in the Spielberger State and Trait questionnaires and 20 minutes after the test, 10 ml of blood sample was taken from each of them to test the amounts of noradrenalin, adrenaline and cortisol. Then they were sent randomly either to an active or to a passive relaxation session. The active relaxation session was carried out by a stress management expert who used a narration of guided imagery to stimulate feelings of comfort in the sample whereas in the passive relaxation session the women sat reading a fashion magazine for 45 minutes in comfortable armchairs with a footrest. After the relaxation period, both groups completed the Spielberger State and Trait questionnaire and had blood samples taken again. Furthermore, a Doppler scan was applied to the groups to compare the uterine

blood flow rates. When the results of all the tests were compared, it was found that, the reductions in the number of maternal heartbeats and in the scores of anxiety in the Spielberger State and Trait questionnaire were much higher in the active relaxation group (Texeira, Martin, Prendiville, & Glover, 2005). Although, the sample size of 58 is not adequate to make a generalization and further research should be undertaken with larger sample groups, this study is significant for this literature review as it provides data about the effects of an art form, in this case guided imagery, on amounts of cortisol release and blood flow in pregnant women.

To summarize, the literature in this section supports the application of music therapy, mandalas, guided imagery and drawing as effective tools of expressive art therapy for reduction of stress and anxiety. Krout's (date) article showed the neurophysiological effects of music therapy on the body's hearing and limbic systems in order to bring about relaxation and relief. While Curry and Kasser (date) showed that coloring structured designs like mandalas can reduce anxiety by providing a distance from the uncontrollable inner anxiety, Bush (date) pointed out how art therapy methods enable the therapist to work between the conscious and the unconscious to help healing. The use of Human Figure Drawings and Self-Portraits in the studies by Swan-Foster, Foster and Dorsey (2003) showed that art therapy and projective drawings could be useful in detecting prenatal depression and other emotional problems like anxiety and stress. In addition, Teixeira, Martin, Prendiville, & Glover's (2005) study presented the fact that active relaxation exercises involving guided imagery were successful in reducing anxiety levels in pregnant women.

## CHAPTER V

### Discussion

Pregnancy is a period of stress and anxiety for many women as they are going through many physical and psychological changes. The stress and anxiety experienced during pregnancy can have serious consequences such as an adverse fetal outcome. Art therapy is widely known to be effective in reducing stress and anxiety with the use of art therapy interventions and media. In this literature review, it was one of the researcher's goal to study the field of art therapy about pregnancy in order to explore how art therapy interventions can be effective in reducing stress and/or anxiety in pregnant women.

The literature reviewed has supported the main objectives in this library research. The first objective of the research was to identify some of the contributing factors to maternal pre-natal anxiety and/or stress in pregnant women. According to literature, genetic and hormonal factors are important in defining the extent of women's sensitivity to environmental stressors, which in turn determine their threshold of depression and/or anxiety during pregnancy. Women who anticipate a negative experience during their upcoming delivery such as pain, less control over their body and support from partners, tend to have higher levels of anxiety. CITE Social support is a significant factor in determining the level of experienced stress and anxiety since pregnant women who receive more support from their partners and family, experience less anxiety CITE. Stressful life events such as a close relative's death, traffic accidents or natural disasters are important contributing factors to pre-natal anxiety and stress and studies show that women who go through more stressful life events experience higher levels of anxiety and stress. The age, education level and family income of the pregnant women are also of importance in defining their degree of stress and anxiety during pregnancy. As the age, education level and family income of the pregnant women increases,

the tendency for emotional distress becomes less. According to literature, some factors seem to be more effective on different ethnic groups than other cultural background seems to be a significant factor in determining stress and anxiety in pregnancy. However, more research studies should be conducted to make a definitive conclusion about culture's effects.

The second objective of this literature review was to identify the consequences of maternal pre-natal anxiety and stress. The studies CITE conducted in this subject show that stress hormones have significant effects on fetal neurodevelopment. Maternal cortisol increases at 15, 19, and 25 weeks and placental corticotropin-releasing hormone (CRH) increases at 31 weeks have a significant relation with decreases in infant maturation. Pregnant women experiencing high levels of stress, depression and anxiety give birth to babies who have a tendency to have lower birth weight and smaller head circumference. The timing, intensity and duration of the maternal stress are important factors causing structural changes in the hippocampus, frontal cortex, and amygdala and nucleus accumbens of the fetus. CITE Literature also suggests that maternal stress hormones may be effective in determining the behavior of the baby after birth as excess levels can affect and change the programming of the fetus's neurons. They may lead to insulin resistance and behavior disorders like attention and learning deficits, conduct disorder, language delay and feelings of anxiety and depression in the children.

The third objective of the research was to illustrate how art therapy can be effective in reducing anxiety and/or stress. CITE Literature provides studies, which scientifically show the effects of art forms like guided imagery on amounts of cortisol release and blood flow in pregnant women. CITE The main focus of art therapy is on the reflection of emotions using images and their expression, which in turn determine affect, thoughts and behavior. When internal images are formed using art therapy, sensory pathways are created in the brain. Art

therapy can activate and use these paths to work on stress and anxiety causing factors. Art Therapy and projective drawings like the Human Figure Drawing (HFD) can be useful in the diagnosis of prenatal depression, anxiety and stress. It can improve the life quality of pregnant women and empower them by helping to surface their fears and conflicts. Studies also show that art is healing because it improves mood by providing an outlet to express feelings. Mandalas, Guided Imagery and Music work as effective methods of Art Therapy by awakening imagery, surfacing hidden emotions and developing insights. Using these tools, the therapist is enabled to work between the conscious and the unconscious, which brings healing. Coloring structured designs like mandalas can reduce anxiety by helping to distance oneself from the uncontrollable inner anxiety. Music Therapy is an effective method in reducing stress and anxiety as it affects the human body both physically and biologically. When music goes to the brain via the hearing system, the limbic system, which is in control of emotional behavior, is stimulated positively. Music can stimulate the neurological, endocrine and immune systems to produce endorphins and enkephalin in the body, which bring the feelings of pleasure and calmness while reducing pain and stress.

The fourth and last objective of this study was to identify and suggest art interventions that provide therapeutic benefit for pregnant women experiencing anxiety and/or stress and to promote positive feelings. Art interventions will be discussed in detail in the Conclusion section of this study.

## Conclusion

### Recommendations/Implications for Research in the Field

This study focused on factors and consequences of stress and anxiety during pregnancy and the use of art therapy modalities to promote positive feelings in pregnant women experiencing stress and/or anxiety. For further research in this field, there is need for more investigation and follow-up work on physical, behavioral and psychological effects on the children of mothers experiencing of prenatal stress and anxiety during pregnancy. Although there are many studies conducted with the aim of determining the long-term effects, they are not sufficient in number to make a definite finding.

In the literature pregnancy is considered mainly as a medical condition and the psychological aspects are generally overlooked. Pregnant women are expected to attend Lamaze classes to help them learn the physical operation of the delivery process but there is no current psycho-educational program. For further research in the field, an art therapy workshop can be designed to educate pregnant women about the psychological factors of pregnancy and to help them deal with the various stressors and/or anxiety they might experience. The use of psycho-education and art therapy can be useful in helping pregnant women actively identify their fears and/or problems regarding their pregnancy that are triggering stress, anxiety and depression. This would also lead to figuring out unique tools in order to cope with and to reduce the anxious and depressive symptoms of the pregnant women. A research about the benefits and effects of an art therapy workshop designed for this aim should be beneficial for the field. This workshop could be further used to form a combined program with the physical education classes to form an integrative approach to pregnancy.

During this literature review, implications of some differences in the factors of stress and anxiety in pregnant women due to ethnic backgrounds were present. For further research in the field, it is necessary to examine different ethnic groups to understand the pregnancy process unique to their cultures. The data collection from such a study would be beneficial in understanding different approaches to pregnancy in different cultures and therefore provide an opportunity to customize art therapy interventions and workshops to cultures particular needs of support.

### Summary

Being a unique experience on the road to motherhood, pregnancy has always been a period of intense feelings and preparation. As an expecting woman's body goes through biological changes to accommodate her new life, she is surrounded by psychological and social factors that could affect hers and the fetus's well-being. Although it is mostly regarded as a medical condition in the modern world, research about the other aspects of the pregnancy period have increased in recent years. Pregnancy is a time when the future mother is responsible for both her well-being and the fetus's. However, many women experience stress, anxiety and depression during pregnancy, which has effects on their bodies. It is important to detect stress and/or anxiety early in the pregnancy in order to decrease the negative effects of stress on the fetus and the pregnant women. It is also important in order take preventive measures in early stages of pregnancy.

Art therapy improves mood by providing an outlet to express feelings such as anxiety and stress. Art therapy can determine affect, feelings and thoughts by focusing on the usage of images, their reflection and their expression. Hidden emotions, fears and conflicts can find an opportunity to come up so that insights can be formed. Art therapy can work on stress and anxiety causing factors by enabling the therapist to work between the conscious and the

unconscious to bring healing. The goal of this research was to identify the contributing factors of pre-natal anxiety and/or stress, to analyze the effects of stress and/or anxiety on pregnant women and to explore how art therapy interventions can be useful in reducing stress and/or anxiety to improve the life quality of women and her fetus as well as to prevent adverse outcomes.

The author explored the main factors causing stress and/or anxiety in pregnant women. Findings supported that pregnant women do suffer from anxiety and/or stress due to biological and social variables. Lack of social support, fear about the upcoming delivery, insufficient income, unstable relationships with partners and stressful life events are the main factors that induce stress and anxiety in pregnant women (Glazier, Elgar, Goel & Holzapfel (2004), Ayers and Pickering (2005)).

The author also searched through the literature for effects of stress and/or anxiety on the pregnant women and fetus. Literature confirmed that stress affects the fetus through its effects on the mother's body. When the mother's level of stress rises, cortisol level in her blood rises and this affects the baby directly by way of low uterine blood flow and decreased infant maturation (Ellman, Schetter, Dunkel, Hobel, Chicz-DeMet, Glynn & Sandman). The future behaviors, characteristics of the fetus can also be altered as the levels of hormones in excess can affect the programming of the fetus's neurons which may lead to insulin resistance, behavior disorders like attention and learning deficits, conduct disorder and feelings of anxiety and depression in the children (Marta Weinstock), (Vivette Glover & Thomas O'Connor).

To support the hypothesis that art therapy interventions can reduce stress and anxiety in pregnancy, the author explored the effects of art therapy interventions in the literature. Korut's (2007) findings confirmed that types of expressive art therapies such as music

therapy, Curry and Kasser (2005) coloring mandalas, and Swan-Foster, Foster, and Dorsey's (2003) studies on drawing as well as guided imagery study by Bush (1988) are effective in reducing stress and anxiety. The literature supported that art therapy can help people reduce stress and anxiety through creative process and therefore improve their mood. Engaging in art making facilitates sharing and communication of stress and anxiety and thus helps people in reducing their levels of stress by feeling externalizing it. Therefore, developing art therapy interventions specifically for use of reducing stress and/or anxiety in pregnant women will be useful in the field of art therapy and relational therapy in order to provide a healthier pregnancy periods and infants in to the world.

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