2007

Interpersonal messages, mass media messages, and body image during pregnancy

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DOI: <https://doi.org/10.31979/etd.uv26-a8rj>
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**INTERPERSONAL MESSAGES, MASS MEDIA MESSAGES, AND BODY
IMAGE DURING PREGNANCY**

A Thesis

Presented to

**The Faculty of the Department of Communication Studies
San Jose State University**

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Colleen Harrington Fleming

December 2007

UMI Number: 1452061

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ABSTRACT

INTERPERSONAL MESSAGES, MASS MEDIA MESSAGES, AND BODY IMAGE DURING PREGNANCY

by Colleen Harrington Fleming

The social construct of body image has been examined in a variety of contexts, from sociocultural models and mass media to family communication patterns and disordered eating behaviors. Much of this body image research centers on the formation of body image during female adolescence. In the span of a woman's lifetime, however, adolescence is one early stage and certainly not the only experience of change in a woman's lifetime. Pregnancy can be another major transformation for adult women. Pregnancy marks a unique shift in identity, of which body image is a large component. The purpose of this exploratory study is to expand upon existing research to learn more about the types of communication messages that may influence a woman's body image during pregnancy. Using quantitative survey method, including open-ended responses, this study explores the relationship among interpersonal communication messages, mass media messages and body image during pregnancy.

ACKNOWLEDGEMENTS

A graduate thesis is not only a culminating experience, but a cooperative one as well. I want to acknowledge those who have been integral parts of my graduate study experience.

First and foremost thanks to Dr. Ge Gao, my graduate thesis advisor, for lending her insight and guidance to me as I stepped outside my comfort zone to forge this quantitative research study; to Dr. Marquita Byrd for serving as part of my advising committee and offering her expert perspective; and many thanks to Dr. Elissa Foster, a thought-provoking teacher and talented scholar who has inspired me and reignited my intellectual curiosity.

To all of the women who participated in this research, thank you for sharing your stories and using your voices to elevate the conversation. And I want to say thank you to the remarkable women in my circle of friends and family -- a group of outstanding women, each making her own unique mark on this world.

Thank you, Mark, for your unwavering support in everything I do, for carrying the lion's share lately, for humoring me and for accepting all of me unconditionally -- including the nerdy part.

Finally I owe a very special thanks to my parents. All of my accomplishments, including this thesis, have been built upon the solid foundation you created. You have always welcomed my endless stream of questions, encouraged me to think for myself and cultivated my creativity, even when it bordered on craziness. Thank you for giving me the gift of education, and nurturing my lifelong love of learning.

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Introduction

In the past twenty years, there has emerged an entire discipline devoted to researching and understanding body image (Cash & Fleming, 2002; Grogan, 2006). By definition, body image is a construct related to thoughts and feelings about one's own body, but most often the term is used in relation to dissatisfaction with body size and weight (Grogan, 2006). Much of the existing research on body image focuses on young women during adolescence, particularly in the context of eating disorders (Grogan, 2006). Adolescence is commonly known for being the stage of human development in which hormones are at the height of fluctuation, and when physical and emotional changes are happening at an unparalleled rate. But body image, like hormone level, is not a static thing.

This is a revelation that struck me about a year ago and was the impetus for this thesis study. A series of conversations with pregnant friends and acquaintances planted seeds for questions about how pregnancy changes body image and what kinds of communication messages influence this change. Up until this stage of my life, I had heard only wonderful stories about pregnancy, and had gladly accepted them as truth. Pregnancy was beautiful and magical. Pregnant women blossomed, glowed, and were wrapped an aura of wonder. Then last year, a number of my close friends and neighbors started having babies. Suddenly, I started hearing different stories. And I started asking more questions.

The one phrase I heard repeated time and again was, "This is different from what

I expected.” And there was a lot of talk about the body. I wanted to know more about the types of messages that shaped a woman’s expectations for pregnancy and influenced her body image during those forty weeks of life. At some point these women absorbed communication messages about pregnancy, and now they were reconciling those messages and negotiating their image of a morphing body.

Body Image and Communication

A product of social, cultural and communicative influences, body image continues to shift throughout life. Messages about the body come at women from girlhood to the golden years. Pregnancy is an experience often somewhere in the middle, in which a woman experiences a shift in identity, in physical appearance and in body image. Existing research argues that the physical transformation that happens during pregnancy is the most dramatic shift in body identity that a woman will experience in her lifetime (Johnson, Burrows & Williamson, 2004). Yet there is certainly no one common experience of pregnancy nor of body image. In an excerpt from her book, *The Naked Truth about Women, Body Image and Re-imagining the “Perfect” Body*, Goldman (2006) describes her ideas about the spectrum of body image issues as observed in the locker room of her local gym.

I have seen women lovingly massage cocoa butter into their burgeoning bellies, dreamy smiles spread wide across their faces. I’ve also seen treadmill queens smear the thick lotion across their stomachs as they point out the most minute of markings to their friends, complaining about what “this baby” is already doing to their bodies...And in a society in which maternity mannequins cry out for a

pepperoni pizza, in which magazine ads scream, ‘Motherhood...It’s hot!’ and actresses pose for Playboy as their newborns snooze off-camera, can we blame them?

Goldman’s description of this locker room scene is an illustration of multiple factors potentially at play in the body image equation including interpersonal communication, popular mass media messages and a close cousin of the normalized thin ideal -- the emerging pregnancy ideal.

Rationale

Body image has been examined broadly and deeply within the context of adolescence, but research about body image for women moving through adulthood, and potentially into motherhood, is harder to find. The purpose of this study is to expand upon existing knowledge about body image to learn more about the relationship between communication and body image during pregnancy. In the field of communication studies, research on this topic has been largely qualitative in nature. Using quantitative survey method enhanced by open-ended responses, this study seeks to learn more about the relationship between interpersonal communication messages, mass media messages and body image during pregnancy.

Review of Literature

This review of literature covers existing research related to body image overall, mass media and body image, interpersonal communication and body image, and pregnancy body image.

There is a wealth of research about body image—one's perception of one's physical self—as it relates to self-esteem and media, primarily in the fields of psychology, health and mass media studies. There is not much research specific to the role of communicative messages and maternal body image. The existing literature focuses on pregnancy in women with a history of diagnosed eating disorders in adolescence (Rand, Willis, & Kulda, 1987). Much of the existing research on the roles of mass media and interpersonal communication in body image is again in the context of adolescence and eating disorders (Botta, 1999; Brown, Cash, & Mikulka, 1990; Thomsen, 2002), not within the stages and experiences of an adult woman's life, such as pregnancy.

Consistent throughout existing research on body image is support for the idea of body image as a complex social construction that plays a primary role in gender socialization (Ambwani & Strauss, 2007; Baxter, Goodwin, Mcleod, Dion, Devins, & Bombardier, 2006; Cash et al., 2004; Clark & Tiggemann, 2006; Dohnt & Tiggemann, 2006; Vartanian, Giant, & Passino, 2001). Body image is often discussed in terms of a "sociocultural model," meaning that a variety of factors and relationships, including

family, media and culture contribute to our ideas about the definition of body image and how it manifests (Clark & Tiggemann, 2006). This sociocultural model is also supported by Gergen's theory of self-narration, the idea that we continuously negotiate identity throughout our lives and that the validity of our identity is rooted in legitimation from others (Gergen, 1994).

Interpersonal Communication

Although messages from the mass media may be louder and more repetitive than day-to-day conversations, interpersonal communication is an equally important factor in the construction of body image. Interpersonal communication could take the shape of messages and interactions in family communication patterns, peer or friendship communication and communicative practices in romantic relationships. According to Cash et al., (2004) the theory of relational communication supports the idea that messages exchanged in interpersonal relationships influence attitudes toward health and health behaviors, including body image

Family. Communication within her primary family unit plays a major role in shaping a woman's sense of self. Specifically in relation to body perceptions and weight control, the quality of communication and messages exchanged can shape a young girl's body image positively or negatively (Nathanson & Botta, 2003). Family communication tends to be the primary source for interpersonal communication in the body image research, in part because the research focuses on adolescence.

Taking a relational communication approach, research by Miller-Day and Marks (2006) shifts the focus of body image and disordered eating research away from

individual factors and puts the focus on the communication happening between parents and children and across the family unit (Miller-Day & Marks, 2006). This study argues that the messages exchanged in an interpersonal relationship are consequential, meaning they impact and even predict behaviors and attitudes. In Dutta-Bergman's study (2004) of health information, those who read print publications for health information ranked more health conscious than television viewers, but those who reported relying on their interpersonal network for primary health information were more health-conscious than their peers who relied upon any form of mass media. For adults, the communication happening within the immediate and extended family can continue to shape attitudes and behaviors.

Friendships. Researchers who have studied the role of friendship networks assert that peer influence is equally as important as family communication in the construction of body image, with messages about a "thin" ideal present in both types of relationships (Clark & Tiggemann, 2006; Dohnt & Tiggemann, 2006). Where communication amongst peers is concerned, messages about body image and ideals often are received in the context of stories – stories about personal experiences, shared experiences or the experiences of others (Arnold, 2003). The pregnancy literature contains relevant accounts of storytelling as a means of social support and health information (Arnold, 2003). If storytelling does in fact serve this purpose in circles of pregnant women, then in combination with the data on health information sources, we can posit that storytelling plays a role in body ideal expectations and construction of body image. Common themes heard in pregnancy storytelling might include tales of the coveted "glow" and mystical

“baby bump.” In a study of body image in pregnant women in Taiwan, Chang et al. (2003) found that the women pointed specifically to the swapping of stories with other pregnant women as a source of support and reassurance during pregnancy. In research of online networks of social support, it is apparent that this storytelling is now taking place in virtual conversations as well. Women who participate in online support networks report finding positive reinforcement and a reliable source of health information in online networks with other pregnant women (Arnold, 2003). From young girlhood to adulthood, communication within friendships contributes to a woman’s sense of self and body image.

Romantic relationships. Romantic relationships are interpersonal relationships that are made up of some elements of family and some elements of friendship. Communication within romantic relationships has been shown to influence body image in heterosexual women both as adolescents and during pregnancy (Ambwani & Strauss, 2007; Cash et al., 2004; Chang et al., 2003). The influence of a romantic partner’s expectations may take on either a positive or a negative tone, depending on the climate of the relationship and whether a partner is offering positive reinforcement or negative criticism (Ambwani & Strauss, 2007; Chang et al., 2003). In a study of married women, for example, research findings showed that women maintained relatively more positive body image when they believed that their husbands were satisfied with their bodies (Ambwani & Strauss, 2007). For pregnancy, positive correlations have been made between supportive romantic relationships and a more positive, healthy pregnancy for mother and baby (Arnold, 2003).

Mass Media Communication

Mass media influence is commonly linked to perpetuating body image expectations in Western culture, including the content delivered through television and print media such as magazines and popular press books (Rutt & Coleman, 2001). The glamorization of the pregnant form seems to be a prevalent source of body image messages in today's mass media in the United States. In general, the content of women's magazines is fueled by ideas of body shape and dieting, boasting ten times more diet-related content as compared to men's magazines (Rutt & Coleman, 2001). Pregnancy publications are not much different. Though a woman may anticipate pregnancy as a break from lifelong expectations of a "thin ideal" (Chang, Chao, & Kenney, 2006) or perhaps permission to "let herself go" (Abraham, 2004) a recent influx of pregnancy-specific magazine titles perpetuate the thin ideal with images of high-fashion actresses and models held up as representations of the pregnant body (Tropp, 2006). On the one hand, women are encouraged to nurture their bodies during pregnancy, but are also warned against gaining too much weight for fear that their "body after baby" will be outside the parameters of the beauty expectations (Tropp, 2006). Weight control is one issue that comes up in a number of journal articles (Harrison, Taylor, & Marske, 2006; Johnson et al., 2004; Tolor & Digrazia, 1977; Tropp, 2006), which span the course of nearly thirty years. Research conducted by Harrison et al. (2006) on media consumption and body image notes that the higher the rate of exposure to mass media messages, the more likely consumers are to restrict eating and practice dieting behaviors. In her *New York Times* interview of pregnant women in Manhattan, Abraham (2004) seconds this

idea with her assertion that the current generation of childbearing women is under more pressure than ever to maintain a socially acceptable physique during the forty weeks of gestating another human life.

Body Image and Identity during Pregnancy

Although the volume of research on maternal body image pales in comparison to the volume of literature on body image in adolescence, researchers have been studying the idea for several decades. Tolor and Digrazia's (1977) study of pregnant women's self-portraits was conducted in 1977, and the mean age of their sample was 27.65 years of age. Johnson et al. (2004) conducted their interviews with women almost 30 years later. Though a mean age is not provided, they interviewed women between the ages of 26 and 34, suggesting a median age of 30—slightly older than the Tolor and Digrazia research. From these two studies, we see results from pregnant women of two generations, and the issue of weight control is central to body image in both. The self-drawn body portraits reflected generally large forms and emphasized body parts different from those emphasized in a medical drawing, suggesting that a distorted idea of size and shape influences a generally more distorted body image during pregnancy (Johnson et al., 2004). In their interviews of pregnant women between 33 and 39 weeks of pregnancy, Johnson et al. observed that though most women were not actively dieting during pregnancy, the diet mindset continued to have a stronghold on the women's body image and weight satisfaction before pregnancy influenced feelings about weight and shape during pregnancy.

Considering the value placed upon physical appearance in Western culture, it is

nearly impossible to discuss body image without looking at it in terms of identity.

During this time of significant physical change, pregnant women also experience a shift in objectification and, thus, a shift in identity (Johnson et al., 2004). Most women can identify the presence of the “male gaze,” even if they are not familiar with the term. The concept of “male gaze” is the idea that women’s bodies and identities are viewed and constructed literally through the eyes of men and figuratively through the “male gaze” that predominates social and cultural expectations for women to value themselves primarily from an aesthetic perspective (Tropp, 2006). Chang et al. (2006) provide a poignant description of the tension for pregnant women straddling between their pre-pregnancy body image and their morphing pregnant body:

The woman’s sexual identity is both publicly manifested in her pregnant state and challenged by a body that clashes with the normal standards of thinness, beauty and sexual attractiveness...Results from various studies reveal the very real contradictory reactions pregnant women have to their bodies when the changes that indicate healthy infant development (good mothering) oppose the physical ideals of femininity and sexual attractiveness they have held for most of their lives.

This excerpt succinctly describes the contradictory messages a pregnant woman may receive about her body and her sexual identity during a phase when the physical changes may be outpacing the psychological and emotional identity shift into motherhood.

In their research on the relationship between body image and romantic involvement, Ambwani and Strauss (2007) provide an historical perspective on male gaze which seems apt for the discussion of the pregnant body, quoting Bordo’s assertion that,

“Male scientists and philosophers have created a nearly unbroken historical stream of tracts – philosophical, religious, scientific – on women’s bodies and their distinctive maladies and excesses, almost all linked to our reproductive systems and sexual organs” (p.13). Tropp (2006) elaborates on this idea, arguing that during pregnancy, a woman is the object not just of male gaze, but also of “female gaze” as other women, both pregnant and not, fixate on her physical form and comment on her body.

This behavior coincides with the identity shift a woman can experience as her pregnant body crosses over the lines of typical feminine beauty ideals (Johnson et al., 2004). That is, some women express a feeling of being in limbo in the early stages of pregnancy, still the object of “male gaze” but not fitting neatly into the sexual identity they previously embodied. The study also notes that these women were happy when their bodies moved from indiscernibly pregnant to visibly pregnant. In addition to the sexual identity being impacted by a changing form, women also experienced a shift in their self-perception and professional identities as their pregnant form necessitated changes to their daily routine and assumptions about their competence in a professional setting (Tropp, 2006).

This review of literature supports the idea that body image and attitudes toward the body are influenced by media messages and interpersonal communication (Botta, 1999; Carney & Louw, 2006; Harrison et al., 2006 Tropp, 2006;). I am interested in building upon this research to study body image specifically during pregnancy and to look at the relationship between interpersonal communication messages, mass media messages and body image during pregnancy.

Research Questions

RQ1: What is the relationship(s) among interpersonal communication, mass media messages and body image during pregnancy?

RQ2: What is the relationship between body image before pregnancy and body image during pregnancy?

RQ3: What is the relationship between interpersonal communication and body image during pregnancy?

RQ4: What is the relationship between mass media messages and body image during pregnancy?

Method

The purpose of this study is to understand the relationship among three variables: interpersonal communication messages, mass media communication messages and a woman's body image during pregnancy. Survey research method was used to collect quantitative data about these variables. Given that the nature of the subject matter includes perceptions, emotional responses and behaviors, open-ended responses were also collected throughout the survey and are reported in the results.

To protect human subject participants, this research proposal was submitted and approved by the Institutional Review Board at San Jose State University. All participation was done with informed, voluntary consent. Responses were collected anonymously, though participants were given the option to provide additional contact information if they would like to receive a copy of the final research report and findings

Sample and Procedure

The survey was administered using the online survey application "Survey Monkey." Respondents accessed the hosted survey online and participation was self-administered, allowing participants flexibility in when and where they completed the survey.

Participants were recruited using snowball sampling and recruitment via online community boards. For the snowball sampling, the survey link was sent directly to women known to be in the third trimester of their first pregnancy as well as to friends, family and colleagues, asking for participant referrals. More targeted recruitment was conducted via online community boards on web sites including BabyCenter.com,

TheNestBaby.com, Babyfit.com and iVillage.com. These sites offer general community boards for pregnant women, as well as special-interest community boards, like first-time mothers, or mothers-to-be with common due dates. Registration was required for each of these sites before a call for survey participants could be posted. Calls for participation were posted on boards for first-time mothers and those with due dates in August, September and October 2007, targeting participants in their second or third trimester.

Recruitment was initially planned for brick-and-mortar organizations for expectant mothers, such as centers for birthing classes and infant CPR. The intent of recruiting participants in these types of establishments was to broaden the sample beyond just those that participate in online communities. However, after observing a high rate of response from the first two recruitment channels within a matter of days, the third recruitment channel was eliminated from the study.

Participants

Given the complex interaction between culture and communication with an emphasis on current mass media, the participant cohort for this online survey was limited to women born between 1970 and 1989, who were primigravidas (pregnant for the first time) and in the third trimester of pregnancy. Previous research suggests that body image issues are more acute for women experiencing pregnancy for the first time (Johnson et al., 2004). The final criterion for participation was that the women have lived most of their lives in the United States. These participant parameters were set to ensure all participants fall into one generational category and have spent enough formative time in the U.S. culture to warrant findings being generalized to the population of U.S. women.

In total, 109 women participated in the online survey. Participants were required to review and accept the “Agreement to Participate in Research” statement in order to proceed with the survey. One hundred percent consent was received. Of the 109 respondents, one indicated she was not pregnant, while another indicated being eight weeks pregnant. Those two respondents were removed from further analyses. There were also three respondents who did not complete any questions beyond the consent agreement and thus were removed bringing the total number of valid respondents included in analyses to 104.

Participants ranged in age from 19 to 40, with an average age of 27.69. Pregnancies ranged from 20 to 40 weeks, with an average of 32 weeks and a median of 32 weeks. The majority of respondents reported living in the United States for the most of their life. The majority of participants were white, at 89.5%, followed by Asian (4.7%), Black or African American (3.5%) and American Indian or Alaska Native (2.3%). Two respondents identified themselves as both White and Asian. In response to highest level of education, 78.4% reported holding a bachelors degree or higher. Nearly all were married (96.6%) with one divorced and two indicating “Other” relationship status. The highest income range listed -- \$105,000 or more – was most frequent at 38.8%, followed by 25.9% for those who earned \$85,000 - \$104,999. Table 1 shows the descriptive statistics for the sample population.

Table 1

Participant Demographics for the Communication and Body Image during Pregnancy Survey

		Mean	Standard Deviation
Weeks Pregnant		32.08	3.931
Age		27.69	3.848
Years in U.S.		24.4	8.824

Race		Education Level		Relationship Status		Household Income	
White	90%	BA/BS/Undergrad	49%	Married	97%	\$105,000 or more	39%
Asian	5%	Masters Degree	20%	Other	2%	\$85,000 - \$104,999	26%
Black or African American	4%	High School	17%	Divorced	1%	\$65,000 - \$84,999	15%
American Indian or Alaskan Native	2%	AA Degree	5%			\$45,000 - \$64,999	11%
		Doctorate	5%			\$44,999 or less	9%
		Other	5%				

Measures

The survey was divided into four sections, entitled Expectations, Body, Interpersonal and Mass Media. At the conclusion of each section, an open-ended text field was provided to give respondents the opportunity to add any additional thoughts or comments they might want to share.

Variable 1. Interpersonal influence was measured by four items on a Likert-type scale (1= Not at all important & 5=Very important): conversations with healthcare provider, stories from family/friends 1, stories from family/friends 2 and conversations with family/friends. These four items were developed based upon themes of interpersonal communication influence that emerged from the review of literature. A reliability test was run on the four interpersonal items and returned with a Cronbach's Alpha of .59.

Given the low Alpha value, Using SPSS's Cronbach's alpha "if item deleted" function, the item "conversations with healthcare provider" was removed and a second reliability test was run, with a Cronbach's alpha of .86. So in subsequent analyses only these three items were used for "Interpersonal Influence."

Variable 2 (two dimensions). The variable of mass media messages was measured along the dimensions of mass media influence and mass media consumption. Mass media influence measured the importance of seven items in setting expectations (1=Not at all important, 5=Very important): healthcare pamphlets, women's magazines, TV, movies, pregnancy magazines, pregnancy books and celebrity magazines. These items were developed based on themes that emerged during the review of literature including the relationship between the reading of women's magazines and body shape expectations (Thomsen, 2002) exposure to "ideal-type" images in the media (Carney & Louw, 2006) and primary sources of health information (Dutta-Bergman, 2004). A reliability test was run on the mass media influence items and returned with a Cronbach's Alpha of .71.

Frequency of mass media consumption was measured by eight items using a Likert-type scale (1=Daily, 5=Never): watch TV, watch movie, read magazine, read online articles, reference books, read celebrity magazines, browse catalogs and read women's magazines. A reliability test was run on the mass media consumption items and returned with a Cronbach's Alpha of .67.

Variable 3 (two measures, self & sociocultural). For the variable of body image, two measures were used in this study in order to measure body image along the

dimensions of interpersonal communication and mass media communication. There was not an existing set of validated questions measuring the relationship between body image and both interpersonal and mass media, so two independent studies were used as models for these dimensions.

The first measure of body image is the one termed “Body Image Self.” This measure was modeled after Body Image after Breast Cancer Questionnaire (Baxter et al., 2006). Items were modified to be specific to pregnancy rather than breast cancer. For example, the breast cancer questionnaire item reads, “I feel less feminine since cancer,” Which was modified to, “I feel less feminine since becoming pregnant.” Items including “I am satisfied with the shape of my body” and “I avoid close physical contact such as hugging” remained the same. There are 14 items in this measure. Reliability of Body Image Self was tested and returned with a Cronbach’s Alpha of .90.

The second measure of body image is one termed “Body Image Sociocultural,” modeled after the Sociocultural Attitudes Towards Appearance Scale (Thompson et al., 2003). This scale measures body image attitudes in relation to sociocultural influences, primarily those from mass media channels such as television and magazines. Items were modified to be specific to pregnancy. For example, the sociocultural attitudes scale includes the item, “I compare my body to the bodies of people who appear in magazines,” which was modified to read “I compare my body to the bodies of pregnant women who appear in magazines.” There are 20 items in this measure. A reliability test was run on the 20 items from this scale and returned with a Cronbach’s alpha of .96. Body image prior to pregnancy measured respondents’ feelings about their body prior to

pregnancy, about knowing their body would change during pregnancy and about their body during pregnancy, using a Likert-type scale (1=Positive, 5=Negative). This measure was developed to address RQ2 about the relationship between body image before pregnancy and during pregnancy (see Table 2).

Table 2
Feelings about Body before and during Pregnancy %

	Before Pregnancy	Now During Pregnancy
Positive	27	19
Somewhat positive	41	28
Indifferent	5	6
Somewhat negative	14	19
Negative	0	16

Results

To address the four research questions outlined in this study, multiple regression and Pearson correlations analyses were utilized. In addition to the items directly designed to address the research questions, related questions of interest were included to gather additional data using both closed-ended and open-ended items. Regression results will be presented first, followed by Pearson correlation results. Additional descriptive statistics and responses to open-ended items will then be presented along the sections of the questionnaire labeled Expectations, Body, Interpersonal and Mass Media.

Regression and Correlation

RQ1 asks, “What is the relationship(s) among interpersonal communication, mass media messages and body image during pregnancy?” To address this question, multiple regression analysis was conducted for both the Body Image Self and Body Image Sociocultural. In the first regression analysis using the enter method, a significant relationship emerged ($F(3, 79) = 4.57, p < .005, R^2 = .15$, and adjusted $R^2 = .12$). Interpersonal communication messages made a strong contribution to the relationship (Beta=.22, $t=2.09, p<.04$), while mass media messages (Beta=.22, $t=1.90, p=.06$) and media consumption (Beta=.18, $t=1.56, p=1.22$) did not. (see Table 3).

Table 3 *Summary of Multiple Regression - Body Image Self*

	B	SE of B	Beta	t	Sig.
Interpersonal Influence	0.23	0.11	0.22	2.09	0.04
Mass Media Influence	-0.26	0.14	-0.22	-1.90	0.06
Mass Media Consumption	-0.26	0.17	-0.18	-1.56	1.22
Dependent Variable: Body Image Self					

A second regression analysis was conducted with Body Image Sociocultural as the dependent variable. Using the enter method, a significant relationship emerged ($F(3, 74) = 11.52, p < .000, R^2 = .32$, and adjusted $R^2 = .29$). In this analysis, mass media messages made a strong contribution to the relationship (Beta=.24 $t=2.28, p<.026$), while interpersonal messages (Beta=.14, $t=1.2, p=.23$) and media consumption (Beta=.61, $t=1.56, p=.06$) did not (see Table 4).

Table 4
Summary of Multiple Regression - Body Image Sociocultural

	B	SE of B	Beta	t	Sig.
Interpersonal Influence	0.1	0.1	0.1	1.2	0.2
Mass Media Influence	-0.3	0.1	-0.2	-2.3	0.0
Mass Media Consumption	-0.6	-0.2	-0.4	-3.8	0.0
Dependent Variable: Body Image Sociocultural					

RQ2 addresses the relationship between body image before pregnancy and body image during pregnancy. Using data from the measure of respondents' feelings about their body prior to pregnancy and during pregnancy, a Pearson correlation was conducted. Results do not indicate a correlation between body image prior to pregnancy and body image during pregnancy ($r=.09, p=ns$; see Table 5).

RQ3 and RQ4 each ask about a one-to-one relationship between the variable of

body image and the independent variables of interpersonal communication and mass media messages, respectively. For RQ3, specific to interpersonal communication and body image during pregnancy, a Pearson correlation was conducted and results indicate that interpersonal communication messages were not related to body image during pregnancy ($r=.039$, $p=ns$; see Table 5).

A Pearson correlation was then conducted to address RQ4 – the relationship between mass media and body image during pregnancy -- and results indicate that mass media influence was significantly related to body image ($r=-.38$, $R^2=.15$, $p<.01$) and also significant at the .01 level with mass media consumption ($r=.45$, $R^2=.20$, $p<.01$) (see Table 5).

Table 5 – Pearson Correlations

Body image, Interpersonal influence and Mass media influence variables

	Body Image Sociocultural	Interpersonal Influence	Mass Media Influence	Body Image Self	Body Image Prior	Body Image Now	Media Consumption
BodyImage Sociocultural	1.00	0.093	-.409(**)	.356(**)	0.096	.393(**)	-.514(**)
		0.404	0	0.001	0.389	0	0
Interpersonal Influence	0.09	1	0.125	0.178	0.011	0.039	0.049
	0.40		0.237	0.092	0.913	0.71	0.649
Mass Media Influence	-.409(**)	0.125	1	-.291(**)	0.038	-.381(**)	.445(**)
	0.00	0.237		0.006	0.722	0	0
BodyImageSelf	.356(**)	0.178	-.291(**)	1	0.197	.822(**)	-.273(*)
	0.00	0.092	0.006		0.062	0	0.011
BodyImagePrior	0.10	0.011	0.038	0.197	1	0.089	-0.034
	0.39	0.913	0.722	0.062		0.396	0.753
BodyImageNow	.393(**)	0.039	-.381(**)	.822(**)	0.089	1	-.316(**)
	0.00	0.71	0	0	0.396		0.003
Media Consumption	-.514(**)	0.049	.445(**)	-.273(*)	-0.034	-.316(**)	1
	0.00	0.649	0	0.011	0.753	0.003	

** Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Descriptive Statistics and Open-ended Responses

In addition to the survey items that were directly related to the research questions, responses were also solicited about issues surrounding the relationship between interpersonal communication messages, mass media messages and body image during pregnancy. At the end of each section of the survey, an optional open-ended text box gave respondents the opportunity to contribute comments on any additional thoughts or

related experiences. Following are the relevant descriptive statistics and a sample of the comments represented by direct participant quotations (Chang, 2006).

Expectations. Participants were asked to list their expectations (up to five) for pregnancy. As a group, they listed a total of 303 expectations. After several readings of the expectations, four categories emerged – expectations for physical change, emotional expectations, expecting certain reactions from others and expecting no complications (see Table 6).

Table 6
Categories of Expectations for Pregnancy

Expectation Category	% of Total Responses	Example participant comment
Physical changes	75	<i>I knew I would gain weight in pregnancy, and there was definitely some fear. But I had no idea how difficult it would be to watch my body change.</i>
Emotional	15	<i>Feeling ready to be a mom.</i>
No complications	7	<i>Since I am healthy I expected to have no problems during pregnancy.</i>
Reactions from others	4	<i>Friends would be more understanding and supportive</i>

The category of physical changes included the most responses, such as expectations related to weight, breasts, belly and general discomfort. In reference to weight gain, participant responses varied. Some expected to be able to control their weight while others expected to lose control. This variation also came through in the open-ended comments shared.

I have embraced pregnancy and feel great about how I look. It helps that people have told me how good I look throughout. I haven't tried to look any different than the pregnant person I am.

Every mention of an expectation related to breasts was specific to an increase in

breast size. Expectations related to changes in the belly, however, conveyed varying sentiments. Some referenced terms specifically related to size, such as “bigger” while other expectations were qualified with adjectives like “cute belly,” “baby bump,” and “all belly.”

Prior to pregnancy I heard so many horror stories about how my body would change, but I am happy to report that none of them have been true for me. I am still teeny, tiny - I just have a big baby belly :)

Physical expectations categorized as general discomfort included nausea, back pain and fatigue. In addition to the four most frequently mentioned – weight, breasts, belly and general discomfort -- other physical expectations listed included stretch marks, healthier hair and stronger nails.

In the category of emotional expectations words like “excited” and “happy” topped the list of emotions listed. References to the “pregnancy glow,” and those related to identity were also included in this group. One respondent expected to “love my pregnant body,” while other looked forward to “the most wonderful time as a woman.”

The category titled “Reactions from Others,” could be considered a sub-set of emotional expectations, specific to interpersonal interactions. Eleven expectations comprised this group, and four of these comments specifically mentioned the husbands. One woman wrote of her expectations to be “enjoying this time to bond with husband and baby,” while another expected a “supportive husband,” and still another a “husband would be interested in preparing for the baby.” Respondents also expected changes such as “constant praise from others,” and “people giving up their seat on the Tube.”

When I found out I was pregnant, I had realistic expectations about what my body would go through. However, I often find that other people, particularly men, and

young women who haven't been through a pregnancy yet, have unrealistic expectations of what pregnant women are supposed to look like.

The fourth category, “No Complications,” included responses such as “I expected to have an easy pregnancy,” and similar sentiments that indicated respondents expected a healthy “normal” pregnancy.

*I really wish the pregnancy and baby related TV shows and magazines focused at least *somewhat* on the women who end up having complications during pregnancy. Pre-pregnancy I ran 7-10 miles a day, was a size 4, and very health conscious. Well, due to a uterine abnormality I could not exercise at all during my pregnancy because I am at risk for pre-term labor, yet the pressure to do so was in every magazine or baby book... Very frustrating when you feel like you're surrounded by “normal” pregnancies, it's a lonely place when you're one of the few with a complication.*

Participants were asked to indicate how they felt, knowing their body would change during pregnancy (1= Positive, 5=Negative). Forty-nine percent said somewhat positive (36%) or positive (13%); thirty-seven percent said somewhat negative (30%) or negative (7%).

To get a sense for how participants formed their expectations for pregnancy, they were asked to rank (1= Not at all important, 5=Very important) the importance of certain sources of information in setting their expectations for how their body would change during pregnancy. The top three sources cited as very important included pregnancy books (36%), stories from friends or family (36%) and conversations with friends or family (36%). The least important sources of information for forming expectations included celebrity magazines (47%), health pamphlets (21%) and movies (19%) (see Table 7).

The experiences of my friends definitely gave me more of an impression of pregnancy than any outside media source.

I have learned more and gotten more information online than anywhere else. My doctor spends very little time with me (perhaps 5 minutes at each appointment), and always wants to either put off answering my question or does not give complete answers. Other pregnant women provide much more thorough information than my hospital does.

Table 7
Importance of Information Sources in the formation of Expectations %

	Very Important	Somewhat Important	Not Sure	Hardly Important	Not at all Important
Family/FriendStories	36	39	5	7	1
Family/FriendConversations	36	39	7	7	
Pregnancy Book	36	49	2	2	
Healthcare Provider	22	27	8	18	12
Pregnancy Mag	16	48	8	8	8
Womens Magazines	9	27	16	21	13
Movies	9	25	19	16	19
Health Pamphlets	6	30	8	24	21
Television	3	30	16	25	14
Celebrity Mag	2	7	7	26	47

Participants were asked to indicate how their actual experience of pregnancy compared with their expectations for pregnancy (1=Experience is nothing like my expectations, 5=Experience completely matches my expectations). The majority (66%) indicated some degree of similarity between their expectations and actual experience. Thirteen percent cited an experience completely different from their expectations, while 8% had an experience completely on par with their expectations.

Body. In addition to the survey items that measured “Body Image Self” and “Body Image Sociocultural,” respondents were also asked to independently assess their feelings about their body before pregnancy and during pregnancy (1=Positive, 5=Negative).

Results indicated that the majority of respondents (41%) felt somewhat positive or positive (27%) about their bodies before pregnancy, with 14% indicating a somewhat negative feeling about their body before pregnancy. When asked to indicate feelings about their now pregnant body, half of respondents answered on the positive end of the scale. Somewhat positive and positive remained the most frequent responses, but compared to “before pregnancy,” the percentages dropped to 28% somewhat positive and 19% positive. Conversely, responses at the other end of the scale increased, showing 19% somewhat negative and 16% negative (see Table 2).

It is hard to deal with putting weight back on in places I had worked so hard to keep trim before pregnancy - butt, thighs, especially. I am nervous about having to buy new clothes this fall if I can't get back into my old jeans within a few months.

I LOVE the way I look pregnant. It's just so Venus. I was always pretty comfortable with my size and shape, but it's such a badge of honor to have a belly. I love it!

It is hard to watch your body change, just as it's hard to watch the scale increase. It does not make me hate my body or pregnancy, it just makes it difficult to look in the mirror...although there are times pregnancy makes me feel pretty.

Interpersonal. Participants were presented with a table listing seven interpersonal scenarios and asked to indicate the frequency with which they experienced each before pregnancy and during pregnancy (1=Never, 5=All the time). Before pregnancy, only 3% of respondents indicated that family members made mention of their body size, shape or weight. During pregnancy, 43% of respondents say this is something that happens “all the time.” Other occurrences that showed a sharp increase during pregnancy were the frequency of friends or family sharing stories about pregnancy and the frequency of co-workers making remarks about the respondent’s body (see Table 8).

Before I was pregnant the majority of the comments I got about my body were about me being small. Now that I'm pregnant I get a lot of compliments on how cute my belly is and how you can't tell I'm pregnant from behind.

Everyone has an opinion on how big or small you "should be", and they try to predict what sex the baby is. Your body becomes public property when you are pregnant and open to many judgments.

I usually feel pressure about my appearance from other people in my neighborhood. If I did bum around in sweats one day, no makeup, etc., I would have someone say something rude to me, or within earshot. Some places are just shallow.

The only source of pressure to control my weight during pregnancy has been my OB. I asked her to no longer discuss my weight at my appointments. (I am, and have always been, within normal ranges.)

The idea that it is somehow ok to comment on a woman's pregnant body is astonishing to me. Just because I am pregnant does not give people the right to openly comment on my body. Actually it's all women that do this! Men are smarter in this regard.

Table 8

Frequency of Interpersonal Interactions Before Pregnancy & While Pregnant

	Before Pregnancy					During Pregnancy				
	Never	Rarely	Sometimes	Often	All the time	Never	Rarely	Sometimes	Often	All the time
Body size, shape or weight mentioned /commented by family	15	25	38	7	3	4	7	14	39	43
Spouse/partner remarks about my body shape.	11	26	29	16	6	8	13	28	27	11
Friends share stories about pregnancy	11	34	30	12	1	2	3	16	36	31
Discuss weight with people other than my physician or nurse.	21	35	20	9	4	7	16	32	24	9
Strangers strike up conversation with me in public places	17	43	22	6	0	4	19	26	25	14
Co-workers/peers remark about my body.	43	33	8	5	0	9	8	18	33	20
Strangers approach me and comment on my physical appearance.	53	25	8	2	0	12	19	25	24	8

Mass media. Information about the types of media consumed and frequency of consumption was also collected. Table 9 shows the frequencies of media consumption during the pregnancy, measured on a Likert-type scale (1= Daily, 5=Never). While nearly one-third (30%) of respondents indicated never having read women's fashion or fitness magazines, nearly 50% (48.3%) indicated reading online articles about pregnancy on a daily basis, and 58% referenced pregnancy books on a weekly basis. The high frequency of online readership could be an example of sample bias, given the recruitment of participants from online communities. In reference to mass media messages, respondents shared a variety of open-ended comments about their experiences.

I think it is hard to watch some of the women on TV and magazines because just like before pregnancy they have people around them making them look beautiful.

But because this time of life seems more sensitive I think it is harder to ignore the "ideal."

While I compare my body to images that are out there, I don't try to emulate their bodies as I know that mine is different. I look to the famous people for trends in dress and personal style that is really about "being attractive", so obviously I look more to pregnant famous people now that I'm one of them. Comparing myself to non-pregnant women isn't relevant to me and unfair to compare myself to.

I rarely feel direct pressure from magazines or television - perhaps being over 35 has some advantages.

Table 9
Frequency of Mass Media Consumption during Pregnancy %

Media Consumption Behavior	Daily	Weekly	Monthly	Once or Twice	Never
Watch TV programming about pregnancy	13	36	18	18	16
Watch movies about pregnancy	0	7	10	59	24
Read pregnancy magazines	2	21	40	28	9
Read pregnancy articles online from sources	48	43	7	1	1
Refer to pregnancy books	11	57	27	4	1
Read articles about celebrity pregnancies	4	17	22	37	20
Browse maternity clothing/fashion catalogs or websites	6	26	46	16	7
Read women's fashion or fitness magazines	2	14	32	21	30

A series of four related questions asked respondents to indicate which titles of pregnancy magazines, pregnancy books, women's magazines and television programs participants viewed during their pregnancy. Respondents were able to select all items that applied to them. While the magazine titles had varied readership, 70% of respondents read the book *What to Expect when You're Expecting* and 50% watched the television programs *A Baby Story* and *Bringing Home Baby*. Table 10 displays the percentage of respondents who had read or watched the included titles during pregnancy.

Table 10
Mass Media Consumption during Pregnancy - % by title

Media	% Read or watch	Media	% Read or
Pregnancy Mag		Fashion/Fitness Mag	
Fit Pregnancy	30	Other	87
Pregnancy	30	None	37
None	29	Cosmopolitan	17
Baby Talk	24	Glamour	16
Pregnancy & Newborn	15	Self	15
Other	10	Marie Claire	13
Books		Shape	12
What to Expect When You're Expecting	70		
		Fitness	8
Girlfriend's Guide to Pregnancy	32	Oprah	9
Your Pregnancy Week by Week	46	TV Show	
Other	28	A Baby Story	51
None	2	Bringing Home Baby	50
		None	26
		Birth Day	25
		Runway Moms	17
		Other	6

Discussion

Inspired by conversations with friends, interviews with new mothers and observations of inconsistencies, this exploratory study was designed to better understand the relationship between interpersonal communication messages, mass media communication messages and body image during pregnancy. Existing research includes studies of the relationship between communication and body image, most of this research centers on body image in adolescence. Though I did not uncover any research looking at the relationship among all three of these variables, some research has been done on the role of interpersonal communication or mass media during pregnancy. The majority of existing research, however, is qualitative research using interviews. This study builds upon existing research by considering these three variables in a new way – as interconnected pieces of a larger story – and collecting both quantitative data to support the research questions and open-ended responses to capture the respondents' individual stories, experiences and perceptions.

RQ1: Relationship among the Three Variables

With regard to RQ1, this study found that interpersonal and mass media messages influenced both body image both for the measure of Body Image Self and Body Image Sociocultural. The regression results showed two different patterns of influence with regard to body image. That is, when body image self is concerned, interpersonal messages were a significant contributor to the relationship; while mass media messages made a significant contribution when body image sociocultural was concerned. This finding is consistent with previous research on the effect of mass media messages and

interpersonal communication messages on body image and disordered eating (Carney & Louw, 2006; Chang & Kenney, 2006; Miller-Day & Marks, 2006; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2003). One plausible explanation for this finding can be found in the respective measures of body image.

The Body Image Self measure is made up of items modeled after the Body Images after Breast Cancer Questionnaire (Baxter et al., 2006). These items measure body image along dimensions that relate to feelings about one's own body, feelings about interactions with others such as hugging or changing in a public place. By comparison, the Body Image Sociocultural variable is comprised of items modeled after the Sociocultural Attitudes Towards Appearance Scale (Thompson et al., 2003). These items measure body image in relation to external media sources, such as magazine and television images.

RQ2: Body Image Before and Body Image during Pregnancy

Along the dimension of RQ2, the relationship between body image prior to pregnancy and during pregnancy produced interesting results. A Pearson correlation for these two variables – “Body Image Prior” and “Body Image Now” did not indicate a correlation between the two (see Table 5). This is consistent with an article by Johnson et al. (2004) that argues there is no clear evidence that body image before pregnancy is a valid predictor of body satisfaction during pregnancy. However, descriptive statistics for this same data set reveal an overall negative trend in respondents' feelings about their body from before pregnancy to during pregnancy (Table 2). This result is also consistent with the same study by Johnson et al. (2004), which suggests that women become

increasingly more negative about their body as their pregnancy progresses. Results indicate that although there is no statistically significant relationship between body image before and during pregnancy, there is a tendency for a woman's feelings about her body to become more negative as she moves through pregnancy.

RQ3: Interpersonal Communication & Body Image during Pregnancy

Results imply that when all three variables are in play during pregnancy, and the concept of body is part of a more interpersonal context – such as hugging a friend or changing in a public place – interpersonal communication messages hold more weight in the relationship. Here is an example of how this might take shape in a real-life situation. A woman in her third trimester is shopping at Target with a friend, searching for something to wear to Thanksgiving dinner, but nothing fits quite right. As she tries on empire-waist dresses and stretchy pants, advertisements of ideal pregnant bodies grace the dressing room walls. She catches a glimpse of the latest copy of People magazine, strewn across the dressing room floor, a glamorous pregnant celebrity glowing on the cover. She emerges from behind the curtain to check her reflection in the mirror and the friend says, “Wow, pregnancy looks great on you. That purple is really your color.” This is one tangible example of the intersection of the three variables of interpersonal communication, mass media messages and body image during pregnancy.

RQ4: Mass Media messages and Body Image during Pregnancy

In a different scenario, the body may be in the broader context of the world and surrounded by the hum of sociocultural expectations. Mass media messages make a stronger contribution to the relationship in this context. It may be less obvious to the

pregnant woman that the intersection of these variables is even there. For example, perhaps a pregnant woman is reading her fourth pregnancy magazine while waiting to see her doctor. She's perusing an article about the latest trend of maternity lingerie. In a fleeting thought she wonders, "Do other women really buy this stuff? Lingerie hasn't been part of my wardrobe in eight months...should it be?" These moments are instantaneous – but the pull of the mass media messages is there and accumulates one instant at a time. The Body Image Sociocultural variable is likely to be less tangible, the interaction of the three variables less overt.

Taking a look at the results of two related survey items builds further support for this. When asked which sources of information were most important in forming expectations for pregnancy (see Table 7), respondents ranked television and women's magazines as either hardly important or not important at all in setting their expectations. According to reports of media consumption (see Table 9) however, they were browsing clothing maternity catalogs, pregnancy magazines and women's fashion magazines at least once a month, some more often. Almost every respondent (91%) indicated reading pregnancy-related articles online on a daily or weekly basis. In summary, respondents are consuming mass media messages, but being a receptor of such messages may not necessarily be a conscious act compared to being on the receiving end of a remark from another human being.

Results of the Pearson correlations on RQ3 and RQ4 also support this idea. The first correlation test looked at the relationship between interpersonal influence and body image during pregnancy (Body Image Now), with results indicating the two are not

related (see Table 5). Analyzing the relationship between mass media influence and body image during pregnancy, the second correlation test indicated mass media messages were significantly related to body image as well as with mass media consumption. Not only were mass media influence and consumption both significantly related with body image during pregnancy, but both displayed a negative relationship, indicating that as mass media influence or consumption increases, body image during pregnancy moves in the negative direction.

Expectations

In the expectations listed by respondents for the open-ended item, two-thirds of the expectations fell to the category of expectations for physical change, with weight-related expectations topping the list. Though the survey did not include items specific to weight control or eating behavior, the expectations listed echo themes of dieting, fat and control consistent with pregnancy studies (Harrison et al., 2006, Johnson et al., 2004; Tolor & Digrazia, 1977; Tropp, 2006) and popular press coverage of pregnancy (Abraham, 2004).

The category of “Reaction from Others” also emerged from these write-in expectations. This group was the most intriguing to me, because it was a theme that I could not have anticipated. Expectations in this category included the likes of “I expected my husband to treat me differently,” “constant praise from others,” and the expectation that “people would give up their seat on the Tube” for a pregnant woman. Expectations for these types of reactions and relational changes tell us something, at least about these particular respondents, about the weight that interpersonal communication

carries for these women in their expectation of pregnancy. These few comments in particular also strike me as being linked to the motivation for becoming pregnant or becoming a mother.

Interpersonal Influence

The first reliability test run on the interpersonal survey items revealed that by removing the item “healthcare provider,” the reliability of this measure returned an increased Cronbach’s Alpha, from .59 to .86. This indicates that although a conversation with a doctor or nurse is a face-to-face interaction, respondents do not perceive these types of conversations within the same realm of interpersonal communication as the other items, such as conversations with friends or family. Conversations with a healthcare provider also scored low in importance as a contributing factor to expectations (Table 7) as compared with interactions with friends and family, even books about pregnancy. Some of the qualitative feedback supports these results, including one comment from a respondent who noted,

My doctor spends very little time with me (perhaps 5 minutes at each appointment), and always wants to either put off answering my question or does not give complete answers. Other pregnant women provide much more thorough information than my hospital does.

Sharing of stories and conversations with friends and family were among the top items ranked as “very important” to the formation of expectations for pregnancy. This is consistent with the impetus for this study – wanting to understand more about the messages we send and receive about pregnancy and the relationship with body image. Also consistent with my initial conversations with new mothers, the majority (66%) of

these pregnant women reported some variance between their expectations for pregnancy and their actual experiences.

This piece of information leads to additional questions for future research. If our interpersonal networks are key to setting expectations, yet experiences are consistently different than expectations, perhaps it warrants looking more closely at the content of the stories shared and messages exchanged. Getting more specific about message content and expectations could lead to more direct mapping between expectations and actual experiences. For example, it may be that the content of pregnancy stories is generally positive because women with complication-free, pleasant pregnancies more likely to report an experience that matched their expectations versus women who experienced complications or severe discomfort during pregnancy.

One of the items included in the interpersonal section of the survey asked respondents to indicate the frequency of certain behaviors/interactions before pregnancy and during pregnancy (see Table 7). Every dimension showed an increased frequency during pregnancy. Qualitative responses mentioning belly touching and remarks about the body are consistent with the literature related to shifting identity during pregnancy and the notion of the pregnant form as a public body (Johnson et al, 2004; Chang et al., 2006). Interesting to note, when looking at the frequency change on this group of items, the item with the smallest percentage of frequency increase is the item related to the spouse, “My spouse or partner makes remarks about the shape of my body.” This study did not collect information about the content of these remarks, so conclusions cannot be drawn about the specific relationship between spousal communication and body image,

however, previous research tells us that supportive romantic relationships are positively correlated with healthy pregnancies (Arnold, 2003). Considering the stability of spousal communication compared to friends, co-workers and strangers, there is an opportunity here for future research specific to the content of spousal communication and body image during pregnancy.

Method & Participants

Identifying 100 women in the third trimester of their first pregnancy to participate in a survey is not an easy task. The method of online participant recruitment and survey delivery enabled me to sample a broader population and allowed flexibility for self-administration of the survey. Additionally, using a hosted survey gave me the capability to collect results and directly import them to SPSS, minimizing the chance of data input error.

The snowball sampling method sparked a lot of interest among friends, family and colleagues, but it gained a small number of participants relative to online recruitment efforts. After posting a call for participation on just a few community boards dedicated to “all things pregnancy,” the survey received more than 100 responses in a matter of days. Beyond the completed surveys, a number of participants opted to send me their email address, expressing interest in receiving a final copy of the study, and some offering ideas for future research.

I would love to see the results of your study – particularly any racial divide in image during pregnancy. I work in the ER and it always seems like Caucasian women are really self-conscious about their body while pregnant, where as the larger Hispanic population we service seems very content with their rounded figures =) I wonder how much of that is my perception.

The high volume of responses and levels of interest in the topic were consistent with research findings related to the motivations for women who participate in health-related community boards online (Rodgers & Chen, 2005; Arnold, 2003). For pregnant women specifically, online discussion groups provide social support and an outlet for them to discuss experiences they feel other non-pregnant friends or spouses may not be interested in discussing (Arnold, 2003). The opportunity to participate in a survey on the topic of communication and body image during pregnancy may have served as not only an outlet for sharing experiences but also validation of the value of their pregnancy experience.

Demographics of this sample group are a recognized limitation. The majority of respondents were white, college-educated married women, which is consistent with profiles of online health community groups, but is clearly not a representative sample to produce generalizable results. Taking this study to a more representative sample would present an opportunity to examine additional variables and conduct a comparison of results, which may in turn generate a robust set of additional research questions.

One area for future research is the role of online health information in pregnancy. After seeing the results of the mass media consumption item on this survey, it is clear that for this sample population, online content is a major source of information and messages about pregnancy. However, online media was not an option included in the survey question measuring the importance of certain information sources in shaping expectations. Given the fact that respondents did not rank media such as magazines or television as major contributors to shaping their expectations about pregnancy, it would

be interesting to see how they rated online articles and media. Along these same lines, future research could explore both a content analysis of pregnancy print media versus online media.

Conclusion

The results of this study reveal that both interpersonal communication messages and mass media messages influence body image during pregnancy, each in its own context. Considering the nature of body image as a multifaceted construct, it makes sense that there is not one dominant source of influence on a woman's body image during pregnancy. Interpersonal and mass media messages are interwoven in the everyday human experience.

Both discrete and open-ended results open the doors to future areas of research, including the relationship between the pregnancy experience and the content of pregnancy stories, spousal communication and pregnancy media online. This study and future research along these lines can be shared with healthcare and mental health providers, educational organizations and popular media channels to move the conversation toward narrowing the gap between expectations and experiences. Some might ask, "Isn't there already that book for this – *What to Expect When You're Expecting?*?" My response would be, have you looked at the cover of this book lately? It depicts a blank-faced woman dressed in a muumuu, alone and sitting in a rocking chair. Nothing like I picture the 104 participants in this survey, who are harnessing the power of community and upping the ante for dynamic, authentic communication.

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Appendix

Informed Consent form & Communication and Body Image during Pregnancy Survey

Communication & Body Image during Pregnancy

Welcome!

Thank you for your interest in participating in this questionnaire.

I'm currently a graduate student in Communication Studies at San Jose State University and this questionnaire is the core component of my graduate thesis, which is an exploratory study of interpersonal communication messages, mass media messages and body image during pregnancy.

For this study, I am interested in collecting responses from women CURRENTLY IN THEIR THIRD TRIMESTER OF THEIR FIRST PREGNANCY.

The questionnaire should take about 15 minutes or less to complete. Your answers are anonymous, which means your responses will not be linked to any personally identifying information.

Before you start the questionnaire, please review the research participation statement on the next page.

Thanks in advance for your time and interest in this project.

Colleen

Agreement to Participate in Research

PLEASE REVIEW BEFORE STARTING THE QUESTIONNAIRE

Responsible Investigator: Colleen Harrington Fleming
Department of Communication Studies, San Jose State University

Title of Protocol: Interpersonal messages, mass media messages and body image during pregnancy.

1. You have been asked to participate in a research study investigating interpersonal messages, mass media messages and body image during pregnancy.
2. You will be asked to respond to a series of statements and questions related to your thoughts, feelings and perceptions about experiences during your first pregnancy.
3. Please be aware that there may be a risk of emotional discomfort.
4. You have the right to not answer questions you do not wish to answer.
5. Your participation in this research will contribute to this exploratory research on the topic of body image during pregnancy, in an effort to better understand the experience of first time pregnancy. It is the intent of the researcher that these findings will add to what is currently a narrow body of research on this topic and offer valuable insights for other women experiencing pregnancy, their social support networks and health care providers.
6. Although the results of this study may be published, no information that could identify you will be included.
7. Questions about this research may be addressed to Colleen Harrington Fleming, (415) 350-5255. Complaints about the research may be presented to Dr. Dennis Jaehne, Department Chair, (408) 924-5373. Questions about a research subjects' rights, or research-related injury may be presented to Pamela Stacks, Ph.D., Associate Vice President, Graduate Studies and Research, at (408) 924-2480.
8. No service of any kind, to which you are otherwise entitled, will be lost or jeopardized if you choose to "not participate" in the study.

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9. Your consent is being given voluntarily. You may refuse to participate in the entire study or in any part of the study. You have the right to not answer questions you do not wish to answer. If you decide to participate in the study, you are free to withdraw at any time without any negative effect on your relations with San Jose State University.

10. Please keep this copy for your own records. By agreeing to participate in the study, it is implied that you have read and understand the above information.

1. Please indicate that you've read the Agreement to Participate in Research.

☐ Yes, I agree to participate.

☐ No, I do not wish to participate.

Instructions for Getting Started

The following questionnaire contains statements about experiences with interpersonal messages, mass media messages (television, print) and body image during pregnancy.

Please read the statements carefully and indicate the way in which response pertains to your experience.

There are no right or wrong answers, so mark the response that is most true for you. Your answers are anonymous, which means your responses will not be linked to any personally identifying information.

The questionnaire has 7 sections. Please read the instructions for each section carefully.

It should take approximately 15 minutes or less to complete.

For the purposes of this questionnaire, the term "body image" refers to your own perception of your physical self.

Section 1: Pregnancy

1. Are you currently pregnant?

☐ Yes, I'm currently pregnant.

☐ No, I'm not pregnant.

2. Please indicate how many weeks pregnant you are (for example, 28, 32, etc.)

Section 2: Expectations

This section is designed to find out if you had any expectations for how your body would change during pregnancy and, if so, what types of information played a role in forming those expectations.

1. In the spaces provided, please list up to five expectations you had for your pregnancy

1.	<input type="text"/>
2.	<input type="text"/>
3.	<input type="text"/>
4.	<input type="text"/>
5.	<input type="text"/>

2. Please read each of the following statements and indicate your feelings about each on a scale from Positive to Negative.

	1 = Positive	2 = Somewhat Positive	3 = Indifferent	4 = Somewhat Negative	5 = Negative
How did you feel about your body prior to pregnancy?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
How did you feel knowing that your body would change during pregnancy?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
How do you feel about your body currently?	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

3. How has the reality of your actual experience during pregnancy compared with your expectations?

☐	My experience is nothing like my expectations
☐	My experience is somewhat different from my expectations
☐	Not sure
☐	My experience somewhat matches my expectations
☐	My experience completely matches my expectations

4. Please indicate how important information from the following sources was in setting your expectations for how your body would change during pregnancy.

The scale ranges from "Not at all Important" to "Very Important."

	1 = Not at all Important	2 = Hardly Important	3 = Not Sure	4 = Somewhat Important	5 = Very Important
Conversations with my healthcare provider	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Pamphlets about pregnancy	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

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Women's magazines	1	2	3	4	5
Stories shared by friends or family members about their pregnancy experiences	1	2	3	4	5
Television programs	1	2	3	4	5
Instructional or educational movies	1	2	3	4	5
Conversations with friends or family	1	2	3	4	5
Pregnancy magazines	1	2	3	4	5
Stories from friends or family about pregnancy	1	2	3	4	5
Pregnancy books	1	2	3	4	5
Celebrity/entertainment magazines	1	2	3	4	5

5. Please add any additional thoughts or comments you have about this section (Optional).

Section 3: Body

1. Please indicate your level of agreement with the following statements using the following scale, from "Strongly Disagree" to "Strongly Agree".

	1= Strongly Disagree	2= Disagree	3= Neither Agree or Disagree	4= Agree	5= Strongly Agree
I try to hide my body	1	2	3	4	5
I am happy with my level of energy	1	2	3	4	5
I am satisfied with the shape of my body	1	2	3	4	5
I feel less feminine since becoming pregnant	1	2	3	4	5
I like my body	1	2	3	4	5
I feel comfortable about the way I look when I exercise	1	2	3	4	5
I would feel comfortable changing in a public change room	1	2	3	4	5
I feel my body has been invaded	1	2	3	4	5
I feel my body has let me down	1	2	3	4	5
I am satisfied with the appearance of my breasts	1	2	3	4	5
I am satisfied with the appearance of my belly	1	2	3	4	5

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I like my looks just the way they are	fn	fn	fn	fn	fn
I am satisfied with the appearance of my hips	fn	fn	fn	fn	fn
I avoid close physical contact such as hugging	fn	fn	fn	fn	fn

2. Please add any additional comments or thoughts you have about this section. (Optional)

Section 4: Interpersonal

1. This section asks about your experiences before pregnancy and during pregnancy using identical statements.

In the column labeled "Before I was Pregnant", please indicate the frequency with which you experienced these interactions BEFORE you were pregnant.

In column labeled "Now that I'm Pregnant" please indicate the frequency with which you experience these interactions now, WHILE PREGNANT.

	Before I was Pregnant	Now that I'm Pregnant
My body size, shape or weight is mentioned by or commented on by my family members.	<input type="text"/>	<input type="text"/>
My spouse or partner makes remarks about my body shape.	<input type="text"/>	<input type="text"/>
Close friends share stories with me about their pregnancy experiences.	<input type="text"/>	<input type="text"/>
I discuss my body weight with people other than my physician or nurse.	<input type="text"/>	<input type="text"/>
Strangers strike up conversation with me in public places, like the grocery store, movie theatre or park.	<input type="text"/>	<input type="text"/>
Co-workers / peers make remarks about my body.	<input type="text"/>	<input type="text"/>
If I'm out in public, strangers will approach me and comment on my physical appearance.	<input type="text"/>	<input type="text"/>

2. Please add any additional thoughts or comments you may have about this section (Optional).

Section 5: Mass Media

In this section, please provide some information about the types of media you read or watch during your pregnancy.

1. Which Pregnancy magazines do you read? (Select all that apply)

- ☐ Fit Pregnancy
- ☐ Pregnancy
- ☐ BabyTalk
- ☐ Pregnancy & Newborn
- ☐ None
- ☐ Other (please specify)

2. Which Pregnancy Books do you read? (Select all that apply)

- ☐ What to expect when you're expecting
- ☐ Girlfriend's Guide to Pregnancy
- ☐ Your Pregnancy Week by Week
- ☐ None
- ☐ Other (please specify)

3. Which women's fashion or fitness magazines do you read? (Select all that apply)

- ☐ Marie Claire
- ☐ Glamour
- ☐ Cosmopolitan
- ☐ Self
- ☐ Shape
- ☐ Fitness
- ☐ Oprah
- ☐ None
- ☐ Other (please specify)

4. Which Television programs about pregnancy do you watch? (Select all that apply)

- ☐ A Baby Story
☐ Bringing Home Baby
☐ Birth Day
☐ Runway Moms
☐ None
☐ Other (please specify)

5. Please indicate how often you have read or viewed the following types of media during your pregnancy, using a scale from "Daily" to "Never"

	1 = Daily	2 = Weekly	3 = Monthly	4 = Once or twice	5 = Never
Watch television programming about pregnancy	☐	☐	☐	☐	☐
Watch entertainment movies with plotlines related to pregnancy	☐	☐	☐	☐	☐
Read pregnancy magazines	☐	☐	☐	☐	☐
Read pregnancy articles online from sources such as BabyCenter, ePregnancy, or similar web sites	☐	☐	☐	☐	☐
Refer to pregnancy books such as What to Expect when You're Expecting, Girlfriends Guide to Pregnancy, or similar books	☐	☐	☐	☐	☐
Read articles about celebrity pregnancies	☐	☐	☐	☐	☐
Browse clothing/fashion catalogs or web sites for maternity clothing	☐	☐	☐	☐	☐
Read women's fashion or fitness magazines	☐	☐	☐	☐	☐

6. The next set of statements deals with your feelings about media including television and magazines.

Using the following scale, please indicate your level of agreement each statement. The scale ranges from "Strongly Disagree" to "Strongly Agree."

	1 = Strongly Agree	2 = Agree	3 = Neither agree or disagree	4 = Disagree	5 = Strongly disagree
TV programs are an important source of information about fashion and "being attractive."	☐	☐	☐	☐	☐
I've felt pressure from TV or magazines to lose weight	☐	☐	☐	☐	☐

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I would like my pregnant body to look like the people who are on TV.	1	2	3	4	5
I compare my body to the bodies of pregnant TV and movie stars.	1	2	3	4	5
I've felt pressure from TV or magazines to look pretty while pregnant.	1	2	3	4	5
I would like my body to look like the pregnant models that appear in magazines.	1	2	3	4	5
I compare my appearance to the appearance of pregnant TV and movie stars.	1	2	3	4	5
I've felt pressure from TV and magazines to control my weight during pregnancy.	1	2	3	4	5
I compare my body to the bodies of pregnant women who appear in magazines.	1	2	3	4	5
Magazine articles are an important source of information about fashion and "being attractive" while pregnant.	1	2	3	4	5
I've felt pressure from TV or magazines to have a perfect body.	1	2	3	4	5
I compare my appearance to the appearance of pregnant women in magazines.	1	2	3	4	5
I've felt pressure from TV or magazines to diet during pregnancy.	1	2	3	4	5
I compare my body to that of pregnant women in "good shape".	1	2	3	4	5
Pictures of pregnant women in magazines are an important source of information about fashion and "being attractive."	1	2	3	4	5
I've felt pressure from TV or magazines to exercise during pregnancy.	1	2	3	4	5
I've felt pressure from TV or magazines to change my appearance during pregnancy.	1	2	3	4	5
I try to look like the pregnant people on TV.	1	2	3	4	5
Movie stars that are pregnant or are mothers are an important source of information about fashion and "being attractive."	1	2	3	4	5
Famous people who are pregnant or are mothers are an important source of information about fashion and "being attractive."	1	2	3	4	5

7. Please enter any additional comments or thoughts you have about this section (Optional).

Section 6: Additional Comments or Thoughts

1. Please feel free to enter any additional thoughts or comments you want to share about your experiences.

Final Section

Before submitting your responses, please provide some information about yourself.

Remember, your responses to this questionnaire are anonymous, so your responses will not be linked to any personally identifying information.

1. Age

2. For how many years have you lived in the United States?

3. Race and Ethnicity

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Latino/Hispanic
- ☐ Other (please specify)

4. Highest Level of Education

- ☐ High School
- ☐ AA Degree
- ☐ BA/BS or other Undergraduate Degree

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- ☐ Masters Degree
- ☐ Doctorate
- ☐ Other (please specify)

5. Current Relationship Status

- ☐ Single
- ☐ Married
- ☐ Divorced
- ☐ Separated
- ☐ Other (please specify)

6. Annual household income (Combined income of all adults in your household)

- ☐ \$44,999 or less
- ☐ \$45,000 - \$64,999
- ☐ \$65,000 - \$84,999
- ☐ \$85,000 - \$104,999
- ☐ \$105,000 or more

Thank You

Thank you for your interest in this project.

If you are interested in receiving a copy of the findings from this study, please send an email to primigravimage@gmail.com.

Results should be available by January, 2008.