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SOCIAL MISCARRIAGE: EXPERIENCING PREGNANCY LOSS ON SOCIAL MEDIA

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ABSTRACT

It is unclear how fetal images posted to the #IHadAMiscarriage on Instagram impacts our understanding of fetal personhood and whether understandings of fetal personhood have implications for abortion attitudes, and ideas about reproductive healthcare. The objective of this study is to explore whether social media posts about miscarriage stimulate anti-abortion attitudes when posts are accompanied by fetal images. Specifically, I predict that the use of fetal imagery paired with social media posts about coping with miscarriages and stillbirths (e.g., #IHadAMiscarriage) will increase perceptions of fetal personhood and, in turn, anti-abortion attitudes. In this study I examine two hypotheses. Firstly, I predict that social media posts about miscarriage that are associated with pictures of a fetus (versus a picture of a mother or no picture) cause increases in perceived fetal personhood. Secondly, I predict that because images of fetuses lead to increased perceptions of fetal personhood, and because fetal personhood is related to negative attitudes toward abortion (Keane, 2009; Petchesky, 1987; Hartouni, 1992), then the use of fetal images with miscarriage posts should lead to more negative attitudes toward abortion.

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Chapter 1

Introduction

After years of working as a clinical psychologist specializing in women's reproductive and mental health, in 2014, Dr. Jessica Zucker founded the international social media movement #IHadAMiscarriage to address the lack of discourse surrounding pregnancy loss. The campaign became an instant phenomenon and is now a "mixed media, multi-platform effort" (Zucker, 2019). A quick Google search reveals the hashtag featured on Instagram, Twitter, Pinterest, Facebook, blogs, and news outlets. Since 2014, the campaign has tackled various objectives, from "pregnancy after pregnancy loss" in 2016, to challenging "normative cultural standards that advised women to wait to share pregnancy news" in 2017 and encouraging women to create "rites, rituals, and representations" to memorialize and honor loss in 2018 (Zucker, 2019). Today the campaign hashtag (#IHadAMiscarriage) is used by thousands of women to share their experience with pregnancy and loss.

On Instagram, 31,000 people have joined the movement by using #IHadAMiscarriage. The visual multimedia platform allows "free photo and video sharing" with followers and/or users (Instagram, 2019). Instagram users can create public and private profiles; those who create public profiles and use the #IHadAMiscarriage share images that appear within a simple search of the hashtag and is open to all Instagram users to like and comment on. In 2018 Dr. Zucker's goal was to ritualize, represent, and honor loss. This goal was presented through the many pictures' women posted to the campaign. Pictures showed pregnant female bodies, the results of pregnancy tests, and memorials accompanied by written captions. Interestingly, pregnancy loss

was often memorialized images of fetuses deceased or photographed by ultrasound technology. The goal of this paper is to examine whether the memorialization of pregnancy loss with fetal images on social media has implications for attitudes toward abortion, and abortion rhetoric. To consider this possibility, I first considered the historical rhetoric and silencing of women's perspectives on pregnancy loss. I then talk about the influence of technology and social media on the historical silencing of pregnancy loss. Lastly, I talk about how although technology and social media help women build networks that resist silencing, technology and social media can perpetuate anti-abortion attitudes through the presentation of fetal imagery.

History and Silencing of Miscarriage and Pregnancy Loss

Although historically taboo topics of conversation, pregnancy loss and miscarriage occur frequently. In fact, 15 to 20% of pregnancies result in miscarriage, and 31% of in vitro fertilizations result in pregnancy loss. Despite the frequency of pregnancy loss and miscarriage, Western society and norms in the United States neither accepted, nor provided, a route to have conversations regarding the emotional and physical consequences (Cosgrove, 2004). In fact, women's experiences have been disregarded by the medical establishment; there are no protocols for dealing with pregnancy loss and miscarriage. Beyond the scope of the medical institution, women often feel ashamed to share their experiences due to the highly policed and scrutinized way in which we view and control the female body. While navigating loss and societal expectations of the female body, women are often forced into silence, and subsequently, pregnancy loss and miscarriage are associated with mental health problems (e.g., clinical levels of depression and anxiety; see Rowlands & Lee, 2010).

Developing social networks is crucial to women coping with pregnancy loss. Historically, research regarding therapeutic measures to ease the experience of loss has focused primarily on identifying “personality characteristics or demographic variables” which ignore “dominant discourses, rhetoric, and practices sustain[ing] feelings of guilt, anxiety, or self-recrimination” (Cosgrove, 2004, p. 113). Therefore, spaces in which women who have a similar experience to openly discuss pregnancy loss and miscarriage are transformative. Specifically, feminist scholar Lisa Cosgrove notes that “the conspiracy of silence can be overcome, and speech can heal broken community,” once women speak about their loss and pain (Cosgrove, 2004). As we live through the age of technology social media may provide a way to conspire against silence and forming social networks and communities is exceptionally easy.

Technology and Social Media

Technology has transformed the experience of pregnancy loss and miscarriage. Access to technological devices such as smartphones and computers have revolutionized the experience of pregnancy because women are now improving their health by learning from other women, and therefore owning their bodies (Johnson, 2014). During the advent of technology, online forums became one of the first mediums for women to share their stories. Technology has created “new tools” for women to share knowledge about pregnancy loss and miscarriage (Kuchinskaya & Parker, 2018). In fact, an extensive analysis of online forums indicates that the “collective articulation of shared experiences gives individual patients new information, new tactics, and new kinds of evidence to use when interacting with doctors and the medical system” (Kuchinskaya & Parker, 2018, p. 75). Online forums provide sites for women who face “social

invisibility” to challenge the medical institution and encourage broader conversations about pregnancy loss. Women talked about “tools for early diagnosis of pregnancy, and pregnancy loss,” infertility, emotional and physical consequences of loss, and how to improve the medical system (Kuchinskaya & Parker, 2018). Through conversations women share knowledge: “evidence-based activism” and women develop power through self-awareness of one’s body and experiences. Sharing knowledge about historically taboo topics undoubtedly empowers and liberates women, facilitating coping with pregnancy loss and miscarriage.

Developing knowledge through online forums is important for women who desire social and emotional support. However, while technology has provided easy access to communities, feminist scholar Sophia Johnson suggests that technology is also “performative devices” (Johnson, 2014). Johnson acknowledges that technology has transformed the scope of pregnancy and pregnancy loss with respect to coping strategies, knowledge, and grief, but instead explores the “subjectivity and technologies of the self” to understand how technology transforms not only the experience of pregnancy and loss, but the patient. In her article “‘Maternal Devices’, Social Media and the Self-Management of Pregnancy, Mothering and Child Health,” Johnson examines how smartphones and social media platforms are “important elements in the rapidly changing environment around pregnancy” (Johnson, 2014, p. 330). She analyzes contemporary culture to investigate how social media and smartphone applications (apps) create maternal subjects, expert patients, and the fetal and infant body, arguing that social media and apps have changed the way we understand pregnancy and pregnancy loss. According to Johnson, these social networks create “social capital” in which women navigate social and cultural expectations of pregnancy. Through this process, women “transfer the pregnant woman or mother’s virtual identity onto her baby” and creates a fetal identity

Fetal and Infant Body

The creation of the fetal identity and infant body through popular media has changed the discourse surrounding pregnancy, pregnancy loss, abortion, and reproductive justice. Women who use social media and technology-based platforms to share their experiences of pregnancy loss and miscarriage often post images of their fetus either in the form of ultrasound technology or actual photos. Dr. Zucker, who founded the #IHadAMiscarriage, encouraged followers of the movement to publicly share these types of images to break the stigma surrounding miscarriage. These images allow for the “memorialization” of the fetus, which in turn communicates the “anguish of the grieving parents,” according to feminist scholar Helen Keane (Keane, 2009). In fact, pregnancy loss support groups may encourage the “replace[ment] of silence and absence with words and images,” ultimately constructing fetal personhood (Keane, 2009, p. 154). While the manifestation of silence and grief into words and images is justified, Keane suggests that fetal personhood is created in particular social and political contexts.

The memorialization and sharing of public images on prominent social media platforms contribute to our social and political understanding of pregnancy and pregnancy loss. On Instagram, images are often unfiltered, raw and graphic. They reveal the complex and genuine process of what miscarriage, stillbirth, and pregnancy loss appears to be, and the presentation of fetal imagery might construct fetal personhood. According to Keane (2009), the construction of fetal personhood is defined by the ‘Western ethnobiological view’ which asserts that birth is morally defined by the distinction between persons and non-persons. Fetuses are therefore deemed ‘persons’ because they are seen as the result of “physiological nurturance” which includes the “exchange of food, and body substances such as blood, sweat, and breast milk” (Keane, 2009, p. 156). Scholar Lynn Morgan studied this perspective and suggested it creates the

‘relational body-person’ model in which personhood ‘should be seen as a negotiated, dynamic concept, culturally being contested through many overlapping public discourses of fetuses’ (Keane, 2009). Thus, abortion would be framed as destruction to the creation of a body/person whereas miscarriage would be framed as the distressing loss of the body/person (Keane, 2009). Fetal imagery, therefore, may have implications for people who experience miscarriage and abortion. On the one hand it could have positive implications if people; the personification of fetal images may provide additional social support. On the other hand, however, there may be negative potential implications for women who choose not to carry a pregnancy to term given that fetal imagery may be linked to anti-abortion attitudes, which I will explore. Access to and the popularity of social media platforms which feature fetal images (via Instagram, or #IHadAMiscarriage) may construct fetal personhood perpetually.

Fetal Imagery and Fetal Personhood

Fetal imagery commonly seen on Instagram presents compelling arguments surrounding fetal personhood and abortion. Fetal personhood is the attribution of humanlike qualities to a fetus. For example, attributing a “mind” or “emotions” to a fetus would be “personifying” the fetus (Waytz, Caccioppo, & Epley, 2014). Fetal personhood, therefore, creates a separation of the fetus from the pregnant body. In medical settings, it also determines what “rights” to care a fetus gets. Ultimately, it creates a dichotomy in which the fetus and pregnant body are separate and autonomous. Psychologists can quantitatively measure “personhood” or humanlike qualities through the study of anthropomorphism. Anthropomorphism being the “attribution of human characteristics or behavior to a god, animal or object” (Bartneck, Kulic, Croft, and Zoghbi,

2009). Researchers create scales to measure people's perception of humanlike qualities to objects like robots or machines (Bartneck et al., 2009; Waytz et al., 2014). In this paper, I have adapted and used scales used from anthropomorphic studies to better understand how humanlike qualities can be granted to fetuses and perpetuated by fetal images. In feminist literature, images of fetuses produce compelling conceptions of fetal personhood which can be relayed to anti-abortion ideas, such as limiting access to abortion care.

Pro-life and anti-abortion activists have long assumed that a picture of a dead fetus is worth a thousand words. Images are used by anti-abortionists to publicly transform fetuses into propaganda to instill the ideology that abortion is immoral and heinous. Feminist scholar Rosalind Pollack Petchesky (1987) examined the implications of fetal imagery in relation to pro-life rhetoric and strategies. Petchesky discusses the production of fetal representations through mediums such as films and books that market photographic imagery, or life-like descriptions of fetuses, which can be compared to the way in which women utilize Instagram and social media. In particular, she analyzed the book *The First Nine Months of Life* and concluded that each photograph of a fetus implied that the fetus was “primary and autonomous” and portrayed the “woman as absent or peripheral” (Petchesky, 1987, p. 264). Building upon this notion, Petchesky explored why exactly photographic images suggest autonomy and personhood and influences attitudes towards abortion.

According to Petchesky (1987), photographic imagery derives power from two distinct meanings (1) empirical, and (2) mythical. The empirical meaning provides information to the viewer. What am I looking at? What does this image reveal to me? For some anti-abortionists, fetal images relay the message that fetuses are persons in need of protection. Under anti-abortion rhetoric, fetuses are socialized through images to be reminiscent of life. They represent future

children and citizens capable of prosperity. They are often regarded as “babies” who have needed consistent care, nourishment, and protection. In addition, the mythical meaning implies that visual images become a source of “fetishes” in which society constructs fantasies about future possibilities and ideal cultures. Petchesky considers the “family album” to be a mythical fantasized way in which photographic imagery is used. She suggests that mythical statuses of images inform the relationship between the maternal body and fetus (Petchesky, 1987). Ultimately through this mythical meaning, the fetus becomes the fetish by which women and anti-abortionists complicate the societal understanding of pregnancy and pregnancy loss (Petchesky, 1987).

Similarly, in “Fetal Exposures: Abortion Politics and the Optics of Allusion,” feminist scholar Valerie Hartouni (1992) explores the historical, cultural, and ideological implications of fetal images and representations. In the context of the film, *S’Aline’s Solution*, Hartouni discusses how both visuals and texts revolutionize the presentation of fetal imagery (Hartouni, 1992). Through both mediums, a sense of fear, curiosity, and trauma is produced as the film depicts the process of abortion. Even further, the film includes the sounds of children while presenting an image of a fetus; dramatically drawing a parallel between personhood and life, and fetuses. Hartouni states that “the rhetoric of the images...ultimately subvert the ostensibly pro-choice rhetoric,” and frames the “discourse of loss” around abortion (Hartouni, 1992). The visual imagery of fetuses accompanied by text not only personifies fetuses, but creates the anti-abortion proposition that “loss” indicates guilt, anxiety, and self-destructive behavior that would have been avoided if abortion were illegal. This, therefore, frames women that have abortions, as deviant and destructive to the life and prosperity of fetuses.

Due to the advent of reproductive technologies and photographic imaging, the policing and scrutinizing tactics of pro-life activists have created a culture in which abortion is stigmatized, difficult to access, and faces jurisdiction frequently. Hartouni (1992) states that “culture allows us to connect the dots, to organize and assemble a collection of slogans and a collage of otherwise unidentifiable bodily processes in a way that creates a coherent and compelling, if also deeply disturbing, tale” (p. 141). The cultural, historical, and political context in which fetal images are shown is important to our understanding of how we view abortion, because abortion is crucial to the freedom, autonomy, and prosperity of all people. While many women on social media may not be anti-abortion or pro-life, it is possible that the posting of fetal images may contribute to the idealization and memorialization of the fetus, reinforcing anti-abortion narratives, sentiments, and stances.

Instagram and #IHadAMiscarriage

Our cultural understanding of pregnancy loss and fetal imagery relates to fetal personhood and may have drastically shifted with the increased presence of social media. As mentioned previously, the advent of technology has allowed pro-life activists to use social media to perpetuate the perception of fetal personhood, and the stigmatization of abortion. In the present study, I examine whether social media influences how we view understand cultural, historical, and political realities. Today, our cultural understanding of pregnancy on social media reveals that abortion and miscarriage are on the opposite end of the pregnancy spectrum, however, the discourse and images surrounding both is strikingly similar.

Abortion and miscarriage are rooted in culturally induced shame, secrecy, and silence. The recent history of the pro-life movements fetal rights ideology and cultural impact informs the way we understand pregnancy, fetal “life” and “loss”. When fetuses are conceptualized as autonomous persons, and pregnancies are all understood to be wanted, the cases of abortions and miscarriages are written in nearly the same language; they are both centered around the concept of loss. Historically, fetal imagery has been a tool used by anti-abortion activists. Its ability to shape how we understand all fetuses, both wanted and unwanted is naturalized so that the insidious effects are nearly impossible to detect. The pro-life fetal imagery and rhetoric uphold a stake in the cultural understanding of fetuses as helpless and full persons in need of preservation and grief. Therefore, the use of imagery by anti-abortionists inevitably informs the imagery shared by people who experience pregnancy loss and miscarriage. While social media movements like #IHadAMiscarriage are intended to break the silence of grief, taboo, and pain surrounding miscarriage, and pregnancy loss, the visual strategies used to memorialize and give words to one’s loss may unintendedly rely on, and reinforce the pro-life conception of fetal personhood. The possible ramifications of the movement #IHadAMiscarriage include the ability for pro-life and anti-abortion activists to utilize the movement to provide material evidence that fetuses are idealized, memorialized nurtured, and loved persons. Therefore, as Instagram and social media platforms become increasingly popular, conversations and critical analyses of the topic are necessary to ensure reproductive justice.

Chapter 2: The Empirical Study

Abstract

It is unclear how fetal images posted to the #IHadAMiscarriage on Instagram impacts our understanding of fetal personhood and whether understandings of fetal personhood have implications for abortion attitudes, and ideas about reproductive healthcare. The objective of this study is to explore whether social media posts about miscarriage stimulate anti-abortion attitudes when posts are accompanied by fetal images. Specifically, I predict that the use of fetal imagery paired with social media posts about coping with miscarriages and stillbirths (e.g., #IHadAMiscarriage) will increase perceptions of fetal personhood and, in turn, anti-abortion attitudes. In this study I examine two hypotheses. Firstly, I predict that social media posts about miscarriage that are associated with pictures of a fetus (versus a picture of a mother or no picture) cause increases in perceived fetal personhood. Secondly, I predict that because images of fetuses lead to increased perceptions of fetal personhood, and because fetal personhood is related to negative attitudes toward abortion (Keane, 2009; Petchesky, 1987; Hartouni, 1992), then the use of fetal images with miscarriage posts should lead to more negative attitudes toward abortion.

Methods

Participants

Participants were 150 undergraduates recruited by the psychology subject pool of a large northeastern university, who completed the study for course credit. Three participants withdrew their data after learning the true purpose of the study. Also, five participants consented but failed to respond to any questionnaires or dependent measures. This left a working data set of 142 participants, who ranged in age range from 18 to 24 ($M = 19.29$, $SD = 1.20$). The data set included 37 men (34 cis gender and three trans) and 104 women (cis = 104), as well as one

person who identified as “Queer and Does Not Identify with Any of the Above”. We analyzed the responses of the 34 cisgender men and 104 cisgender women, because we did not have equal numbers of men and women (cis gender and/or trans) in each condition. Participants self-identified as White (76.1%), Asian (14.1%), Black (5.6%), Native Hawaiian/Pacific Islander (.7%), or Multiracial/Other (3.5%).

Materials and Procedure

This research used a social media condition (no image, fetal image, mother image) by participant gender (female, male), between-participants design. Firstly, participants read the description of the study on the subject pool website and chose to participate. We described the study as about perceptions of social media posts on social issues. The description stated that participants will be asked to report their reactions to a social media post about a pregnancy related issue. The social media post “may include text with or without corresponding images of adults, children, infants, and/or fetuses.

After they signed up to participate in the study, participants were linked to the online survey that presented all experimental materials. After signing a consent form, participants read the following instructions:

“You will be first asked to read over a social media post about a pregnancy related issue. The social media post will include only text or text along with an image. Please carefully look over all parts of the social media post. After you have looked over all images and text, you will also be asked to report your impressions of different aspects of the social media post.”

Participants were then randomly assigned to one of the three conditions (fetus, mother, text). In all conditions, participants saw text related to pregnancy loss. However, the content of the text, and images associated with the social media posts were varied to create experimental conditions.

In the fetal image condition, participants saw an image of a fetus. In the mother image condition, participants saw an image of a grieving mother. In the no image condition participants read only text related to pregnancy loss.

The fetal and mother images were selected from a pool of public images shared to Instagram with the hashtag #IHadAMiscarriage. The full text and image of the fetal condition was taken directly from Instagram (see Figure 1). The experimental team used an image of a mother who experienced miscarriage, taken from the #IHadaMiscarriage, but manipulated the caption (see Figure 2). The experimental team created a caption for the mother condition that depicts the sentiment of grief and despair similar to other Instagram posts of the hashtag controlling for content and word count. For the no image condition, the experimental team manipulated the caption controlling for word count and content (see Figure 3). For the fetal image condition, the fetus was the subject of the caption, for the mother image condition the mother was the subject for the caption, and for the no image condition pregnancy loss/miscarriage was the subject of the caption.

After viewing the condition, the participants reported their perceptions of fetal personhood and their attitudes toward abortion. Participants then noted demographic information (gender, age, racial identity, sexual orientation, party and political affiliation, and level of education) before reading a debriefing, being thanked, and receiving credit.

Measures

Fetal Personhood. To measure fetal personhood participants responded to nine items. The first five items were modified from the Individual Differences in Anthropomorphism Questionnaire (IDAQ; Waytz, Cacioppo & Epley, et al., 2014, see Appendix A). Using 5-point scales (1 = Not At All; 5 = Extremely), participants indicated the extent to which they perceived the fetus has having a mind, consciousness, emotions, intentions, and free will. I also adapted

four number items from the modified scale from Measurement Instruments for the Anthropomorphism, Animacy, Likeability, Perceived Intelligence, and Perceived Safety of Robots scale (Bartnck, Kulic, Croft, & Zoghbi, et al., 2009, see Appendix B). Using 5-point semantic differential 5-point scales, participants indicated the degree to which they perceived the fetus to be human or not human, pained or peaceful, feeling or unresponsive, and inert or lifelike. Participant's responses to the nine fetal personhood items were submitted to a principal component factor analysis using a varimax rotation. The scree plot indicated a single factor solution. Each of the nine items loaded on the first with factor loadings of greater than .499 and the first factor accounting for 52.57% of the variance. After reverse scoring appropriate items, I averaged across responses to create a fetal personhood variable ($\alpha = .88$); higher numbers on the variable indicate greater perceived fetal personhood.

Attitudes Abortion. Participants completed three subscales of the Attitude Profile for Studies of Population Psychology scale (Gough, 1975). The subscales tapped attitudes toward (a) abortion, (b) family planning, and (c) the use of birth control (see Appendix C). I was interested in attitudes toward abortion but included the other two subscales to mask the true purpose of the experiment. Some of these items are dated such that the pro- (vs. anti) abortion stance response is unclear. For instance, one item is as follows: "With the newer and safer methods of inducing abortion, there is no reason why a woman should not use abortion routinely as a birth control method." At the time of the scale construction this was a pro-abortion attitude, however, in the current data this item is negatively correlated with the other pro-abortion items (for example, "abortion should be permitted if there is substantial risk that the baby will be born defective"). Because of the dated nature of some items all original (not reverse scored) items were submitted to a principal component factor analysis using a varimax rotation. The scree plot indicated the

appropriateness of either a one factor solution or a three- factor solution depending on the definition of the elbow. However, only the first factor accounted for more than 10% of the variance (i.e., 16.95%); therefore, I reran the factor analysis forcing a single factor solution. The findings indicated that all 11 items loaded on the first factor with a factor loading of greater than .40, whereas; ten other 10 other items failed to load (see Table 1). I reverse scored each item that negatively loaded on the first factor (i.e., 1, 13, 11, and 5), averaged across participant's responses to each item that loaded on the factor to create an attitude toward abortion variable; higher numbers reflect more negative attitudes toward abortion.

Table 1

Results of Factor Analysis of Abortion Attitudes with Factor Loading Above .40

Item	Factor Loading
4. Abortion should be prohibited by the law	.68
1. Abortion should be permitted if there is substantial risk that the baby will be born defective	-.64
10. The use of birth control devices involves a sort of risky tampering with nature	.60
8. The disadvantages of birth control outweigh the advantages	.59
20. I would be unhappy if I were to have less than three children	.56
13. Birth control information and services (pills, etc.) should be available without cost to all married women	-.47

6. A married woman should be permitted to have an abortion only if both husband and wife request it	.46
11. A birth control operation (vasectomy) should be given without charge to any man who requests one	-.45
5. Abortion should be free of any and all legal restrictions	-.44
19. Childless couples should be encouraged to adopt a child	.42
16. People should not “plan” on whether to have a child; such things are best left to fate or luck	.41

Note. Main effect of gender, $F(135) = 14.81$, $p < .00$, $\eta^2_p = .10$ ($M_s = 2.69, 2.32$ for men and women, respectively).

Results

Firstly, I computed descriptive information and estimated correlations among variables. Table 2 presents descriptive statistics for the dependent variables of fetal personhood and anti-abortion attitudes by participant condition. Overall participants tended to be around the mid-point for both fetal personhood and abortion attitudes regardless of condition.

Table 2

Mean and Standard Deviation of Fetal Personhood and Abortion Attitudes by Condition

Participant Condition		Fetal Personhood	Abortion Attitudes
Fetus Image	Mean (SD)	2.45 (1.03)	2.25 (.59)

Mother Image	Mean (SD)	2.40 (1.03)	2.23 (.47)
No Image Control	Mean (SD)	2.62 (.99)	2.3984 (.70)

Table 3 displays correlations among key dependent variables. The correlations show that, as expected, fetal personhood is positively related to abortion attitudes, such that the more an individual sees the fetus as having a personhood the stronger their negative attitudes are towards abortion. Fetal personhood and abortion attitudes were also positively related to participants being more likely to identify as a republican or hold a more conservative political affiliation.

Table 3

Correlations Among Key Dependent Variables

	Fetal Personhood	Abortion Attitudes	Party Affiliation	Political Affiliation
Fetal Personhood	1	.46**	-.38**	.38**
Abortion Attitudes		1	-.41**	.48**
Party Affiliation			1	-.70**
Political Affiliation				1

Note. ** indicates that correlations are significant at $p \leq .01$

Secondly, to test the hypothesis, regarding predicted mean differences, fetal personhood and abortion attitude variables were submitted to separate image condition (fetal, mother, no image) X gender (male, female) between-participants Analyses of Variance (ANOVAs).

A main effect of gender emerged on fetal personhood, $F(1,132) = 12.06, p = .001, \eta_p^2 = .08$, and on abortion attitudes, $F(1,132) = 14.19, p < .001, \eta_p^2 = .10$. Perceptions of fetal personhood were greater among men ($M = 3.21$) than women ($M = 2.56$) and attitudes toward abortion were more negative among men ($M = 2.64$) than women ($M = 2.19$). The only other effect to approach significance was a marginally significant interaction between image condition and gender on fetal personhood, $F(1,132) = 2.15, p = .120, \eta_p^2 = .03$. The means corresponding to this marginally significant interaction are shown in Table 4. Among women, as predicted, fetal personhood was greater in the fetal image condition ($M = 2.71$) than in the mother image condition ($M = 2.42$) or than in the no image condition ($M = 2.56$). By contrast, among men, fetal personhood was less in the fetal image condition ($M = 2.79$) than in the mother image condition ($M = 3.36$) or than in the no image condition ($M = 3.14$).

Table 4

Mean of Fetal Personhood by Participant Condition and Gender

	Fetal Image	Mother Image	No Image
Women	2.71	2.42	2.56
Men	2.84	3.44	3.35

No additional analyses were performed for two reasons. First, the predicted main effect of condition emerged on neither fetal personhood nor abortion attitudes. Second, simple effects performed to interpret the marginally significant condition X gender interaction revealed no significant condition effects within gender. Therefore, there was no need to perform mediation analyses.

Discussion

In summary, I hypothesized that social media posts about miscarriage that are associated with pictures of a fetus (versus pictures of a mother or no picture) would cause increases in perceived fetal personhood (Hartouni, 1992; Keane, 2009; Petchesky, 1987). I also predicted that the use of fetal images with miscarriage posts should leave to more negative attitudes towards abortion. Findings were consistent with hypotheses for women but not for men. Women indicated more fetal personhood and thus anti-abortion attitudes in the fetal condition versus the mother and control condition. Considering this gender difference, I also found a main effect of gender in that perceptions of fetal personhood and negative attitudes toward abortion were greater among men. Additionally, contrary to hypotheses, participants viewed the fetus having the most personhood, and therefore having the highest anti-abortion attitudes in the control condition. Overall and as expected I found that fetal personhood is positively related to abortion attitudes and they are both positively related to political and party affiliation.

One alternative possible explanation for the findings is that because abortion is highly politicized and often related to religious beliefs, attitudes are fixed or unchanging. Presenting people with images or text related to pregnancy loss and abortion, therefore, may not have the power or influence to change their attitudes; rather such exposure would reinforce endorsement of shared cultural beliefs. Alternatively, another explanation for the main effect of gender that I found can be that related to the fact that because men do not experience pregnancy loss and abortion, therefore, their attitudes are independent of embodiment and stronger. Another interesting point to consider is that because women can experience both processes (pregnancy loss and abortion) they could have stronger perceptions of fetal personhood and thus anti-abortion attitudes. Importantly, fetal personhood and abortion is highly politicized potentially restricting responding. In the future, researchers can explore different ways to prompt and target

perceptions of both on social media. Another study limitation is related to the scale I used to measure abortion attitudes which was fairly outdated. For example, one abortion measure in the scale asked: “With the newer and safer methods of inducing abortion, there is no reason why a woman should not use abortion routinely as a birth control method” (Gough, 1975). Today, there are various methods of birth control that can be used. In the future researches should seek for stronger measures of abortion attitudes. The study also analyzed data for 142 participants and for future research having a larger subject pool would account for stronger reliability and validity. Additionally, I did not hypothesize that there would be gender differences which poses another study limitation because the initial power analysis only accounted for the three conditions. This limitation may have lowered the power of our study and the ability to detect effects that are significant. Lastly, there fewer men in the study than women, and the age of the sample I used was averaged to be about 19 years old. In the future researchers can think about targeting older adults as there may be a stronger effect considering older adults may have children or experienced pregnancy loss, and abortion.

Despite the limitations the findings are important because they indicate that further research is needed to understand gender differences in perceptions of fetal personhood and anti-abortion attitudes. Considering the status of reproductive justice in the United States and the availability of essential health care (abortion services), critically thinking about how people perceive fetal personhood and abortion can contribute to understanding political, social, and economic realities for women and men. The popularity of #IHadAMiscariage has undoubtedly provided women and families with the community they deserve to grieve and understand pregnancy loss, however, the implications of this public process on social media has on reproductive laws and policies remains fairly unknown. We know from previous research that

fetal personhood is commonly discussed in anti-abortion and pro-choice communities and in the study, I found that fetal personhood was positively related to participants party and political affiliation; attitudes were positively related to participants identifying as republican or of conservative political affiliation. This is crucial because in the United States abortion access, policies and reproductive health care are the most restricted in conservative and republican states. Understanding how fetal personhood and anti-abortion attitudes on social media can radically challenge and change reproductive healthcare.

Chapter 3: Conclusion

In conclusion, the present study indicates that there needs to be further exploration of how social media influences attitudes towards controversial and highly politicized topics like miscarriage and abortion. For decades feminist theorists and activists have identified the need to discuss pregnancy loss and abortion to raise consciousness about women's experiences that are culturally silenced. Feminists have identified the need for online forums and hashtags to help women and families develop communities and networks of support to fully understand and acknowledge their experiences. Feminists have also suggested that we take nuanced approaches to understanding how communities and networks grieve because pro-life and anti-abortionists have "long applied the principle that a picture of a dead fetus is worth a thousand words" (Petchesky, 1987). In the future of psychology and psychological research, looking to feminist analyses of fetal personhood can help shape the outlook of research regarding abortion attitudes.

Appendix A

Modified Measure from the Individual Differences in Anthropomorphism Questionnaire (IDAQ)

To what extent does the preterm fetus discussed in the social media post that you saw have:

	Not at All				Extremely
A Mind	1	2	3	4	5
Consciousness	1	2	3	4	5
Emotions	1	2	3	4	5
Intentions	1	2	3	4	5
Free will	1	2	3	4	5

Appendix B

Modified Measure from the Measurement Instruments for the Anthropomorphism, Animacy, Likeability, Perceived Intelligence, and Safety of Robots

To what degree was the preterm fetus discussed in the social media post that you saw:

Human	1	2	3	4	5	Not human
<hr/>						
Pained	1	2	3	4	5	Peaceful
<hr/>						
Feeling	1	2	3	4	5	Unresponsive
<hr/>						
Inert	1	2	3	4	5	Lifelike

Appendix C

Modified Measure from the Attitude Profile for Studies of Population Psychology

Birth Control

1. Birth control methods should be made available to anyone who wants them. (BC-R)
2. The disadvantages of birth control outweigh the advantages.
3. Birth control increases the happiness of married life (R)
4. The use of birth control devices involves a sort of risky tampering with nature.
5. A birth control operation (vasectomy) should be given without charge to any man who requests one. (R)
6. It is difficult to think of any rational reason for opposing the free release of birth control information. (R)
7. Birth control information and services (pill, etc.) should be available without cost to all married women. (R)
8. The decision to use birth control methods is in part a moral decision.

Abortion

9. Abortion should be permitted if there is substantial risk that the baby will be born defective. (R)
10. The decision to ask for an abortion must be in part a moral decision.
11. With the newer and safer methods of inducing abortion, there is no reason why a woman should not use abortion routinely as a birth control method. (R)
12. Abortion should be prohibited by law.
13. Abortion should be free of any and all legal restrictions. (R)
14. A married woman should be permitted to have an abortion only if both husband and wife request it.

Family Planning

15. Having a baby every year is bad for the mother's health. (R)
16. People should not "plan" on whether to have a child; such things are best left to fate or luck.
17. If a couple is in poor economic circumstances, having a child should be postponed until its financial situation improves. (R)
18. Limiting the number of children in a family is something that works in favor of those already financially well-to-do and against those in poorer circumstances.
19. Childless couples should be encouraged to adopt a child. (R)
20. I would be unhappy if I were to have less than three children.
21. Couples should wait to have children until they are financially able to take care of the child. (R)
22. The economic advantages of having small families are not as great as family planning advocates claim.

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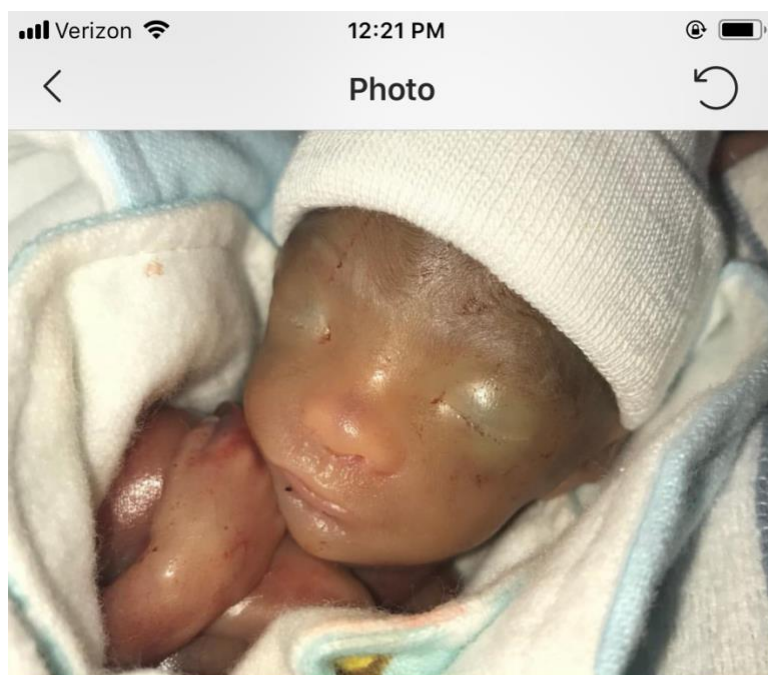
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Figures

Figure 1

Fetal Image Condition

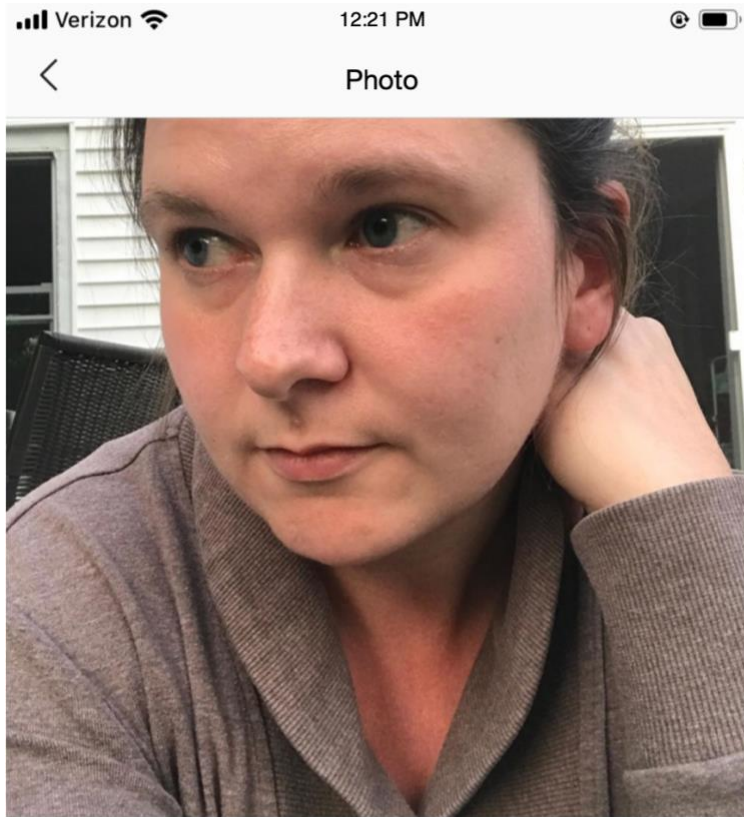
123 likes

arainbowfromonyx Today marks two months. Two months ago today we said both hello and goodbye to our baby.

- Making sure Onyx is remembered has been both healing and exhausting. I wish I didn't have to make a blog but it's my way of mothering him.

- Every day I make an effort to share something about him. And every day I wonder what I'd be doing if he was still here.

- He should still be here.

Figure 2*Mother Image Condition*

123 likes

ladywhalen Today marks two months.

Two months ago my pregnancy ended. Finding time to heal is exhausting. I feel alone and ashamed.

It's awkward when people ask me when I am due. When people ask what happened. The grief has taken a toll on my body.

Every day I make an effort to share something about myself. Every day I wonder what I should be doing differently. I am no longer going to be silent.

Figure 3*No Image Control Condition*

123 likes

ladywhalen The pregnancy ended.

Everything we were thinking would happen is gone. The loss of a future we were excited about — it is gone. It is so hard.

.

It is hard to explain how I feel the loss of someone who was never here. It is hard to explain how crushed I feel.

.

It is hard to talk about. How to say the pregnancy is over. How to say I feel stuck in silence — alone.

ACADEMIC VITA

EDUCATION

The Pennsylvania State University
Schreyer Honors College and College of The Liberal Arts
Bachelor of Science in Psychology
Bachelor of Science in Women's, Gender, and Sexuality Studies

The Institute of Education Sciences **Barcelona, ES**
Language and Area Studies **May 2019 – August 2019**

- Studied Catalan art and culture improving both written and spoken word Spanish

RESEARCH EXPERIENCE

The National Women's Studies Association Conference **San Francisco, CA**
Conference Presenter **November 2019**

- Presented pilot study research analyzing #IHadAMiscarriage

The Pennsylvania State University, Department of Psychology **University Park, PA**
Experimenter **August 2019 – Present**

- Examine #IHadAMiscarriage to understand the consequence on sexual and reproductive health care

Research Assistant **January 2018 – Present**

- Organize data, research articles, and study reports on Excel
- Complete extensive literature reviews to develop experimental research designs
- Debrief participants, clean data, update study protocols and organize participant demographics

The 2018 Re-Imagining Black Girls and Women's Health Symposium **Towson, MD**
Experimenter & Presenter **January 2018 – May 2018**

- Demonstrated the lack of culturally competent fitness programs for students of color
- Compared 626 Black women and white women's use of Penn State fitness facilities
- Collected quantitative data with two students and presented the research
- Developed the minority health initiative from results

LEADERSHIP

The National Women's, Gender, and Sexuality Studies Honor Society **University Park, PA**
President **May 2019 – Present**

- Provide safe spaces to discuss subjects like sexual violence and mental health
- Organize 5-7 women, POC, and LGBTQA+ centered events to educate and empower students
- Plan weekly meetings to foster scholarship, activism, and community building

HealthWorks **University Park, PA**
HIV Counselor **August 2019 – Present**

- Help 30+ students develop HIV care, treatment, and risk reduction plans
- Connect students to health care providers and community support

Peer Health Educator **August 2018 – Present**

- Educate 30+ students about STI symptoms, testing, and treatment options
- Facilitation 10+ sexual education workshops to encourage healthy and safe sexual practices
- Promote services and resources through community outreach and engagement