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Postpartum Depression: The Effects of a Video Intervention on Knowledge and Stigma

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POSTPARTUM DEPRESSION: THE EFFECTS OF A VIDEO INTERVENTION ON KNOWLEDGE AND STIGMA

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THESIS

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A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in
Family Sciences in the College of Agriculture, Food,
and Environment at the University of Kentucky

By

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ABSTRACT OF THESIS

POSTPARTUM DEPRESSION: THE EFFECTS OF A VIDEO INTERVENTION ON
KNOWLEDGE AND STIGMA

Postpartum Depression (PPD) has gained well-deserved traction in healthcare policy discourse as a public health concern. Although one in seven American women are believed to experience PPD, mental illness stigma induces feelings of shame and guilt, reduces treatment-seeking behaviors, and ultimately contributes to a low PPD diagnosis rate. Risk of experiencing PPD is associated with various contextual factors, yet little is known about the association between stigma and PPD risk factors. A multiple-segment factorial vignette was used with 1,871 respondents to examine the impact of maternal age, depression history, infant temperament, and diagnosis on attitudes toward PPD. In addition, the impact of an educational video on PPD symptom recognition and stigmatizing attitudes was examined with a subsample of 1,178 respondents. Results demonstrated that a mother's age, history of depression, and her infant's temperament impacted respondents' attribution of her symptoms to baby blues or PPD, and also influenced stigmatizing attitudes toward her PPD experience. Results also revealed that the educational video had a positive effect on symptom recognition and reduced stigmatizing views. Implications of these findings are discussed.

KEYWORDS: Depression, Postpartum Depression, Mental Health Stigma, Video
Intervention, Vignette

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April 29, 2016

POSTPARTUM DEPRESSION: THE EFFECTS OF A VIDEO INTERVENTION ON
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Chapter One

Introduction

Postpartum depression (PPD) is defined as the occurrence of depressive

symptoms within four weeks after childbirth (Mayo Clinic Staff, 2012), regardless of

whether the onset of depressive symptomology was during or after pregnancy. PPD, also

known as postnatal depression, is experienced by roughly one in seven American women

(APA, 2015; O'Hara & McCabe, 2013), can occur regardless of gravida or parity, and

can persist for months or longer if not treated, potentially developing into a chronic

depressive disorder (Mayo Clinic Staff). PPD is not exclusive to women—approximately

10% of American men experience the mood disorder each year (Paulson & Bazemore,

2010)—but the present study is focused on maternal PPD. Specifically, the effects of a

woman's age, number of children, history of depression, temperament of her infant, and

diagnosis on stigma toward her experience of PPD will be examined.

Stigma associated with mental illness discourages treatment-seeking behaviors

and contributes to under-diagnosis of the mood disorder (Thurgood, Avery, &

Williamson, 2009). Mental illness stigma is compounded in the context of pregnancy

and parenting because society idealizes motherhood, which contributes to personal

blame and feelings of weakness experienced by mothers with PPD (Edhborg, Friberg,

Lundh, & Widstrom, 2005; Thurgood et al.). Stigma often stems from ignorance

(Thornicraft, Rose, Kassam, & Sartorious, 2007). Thus, another aim of this study is to

assess the effects of a video-based intervention on increasing knowledge and recognition

of PPD symptoms, and reducing stigma toward those who experience the illness. In this

study, knowledge refers to awareness of the prevalence, symptoms, risk factors, and

common triggers of PPD.

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Literature Review

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Three Distinct Levels of Depressive Symptoms

Depression following childbirth is classified as either baby blues, postpartum depression, or postpartum psychosis depending on symptom severity (Mayo Clinic Staff, 2012). Baby blues are experienced by about three-quarters of postnatal women, with onset typically occurring within four to five days after childbirth as hormonal levels change, and lasting for approximately two weeks postpartum (American Pregnancy Association, 2014). Symptoms associated with baby blues include poor concentration, mood swings, impatience, restlessness, fatigue, sadness, crying without reason, anxiety, and irritability. Postpartum depression entails more severe symptoms and can last for months. Symptoms vary by case, but can involve loss of appetite, feelings of inadequacy, reduced interest in sex, intense anger and irritability, insomnia, feelings of shame and guilt, withdrawal from friends and family, fatigue, difficulty bonding with baby, thoughts of self-harm or harm to the baby, severe mood swings, fear of being a bad mother, racing and scary thoughts, fear of being left alone with the baby, sleeping too much, excessive increase of appetite, and difficulty concentrating (APA, 2015; Mayo Clinic Staff). Postpartum psychosis is the most severe level of depression following childbirth; symptoms include confusion, hallucinations, delusions, paranoia, disorientation, and actual self-harming behaviors (Mayo Clinic Staff).

Although a great deal of PPD symptoms are synonymous with those of major depressive disorder (e.g., sadness, changes in appetite, feelings of guilt and worthlessness, sleep disturbances, loss of pleasure in activities; Mayo Clinic, 2012), PPD

is distinguished by its implications. Specifically, PPD may inhibit a parent's ability to form a parent-child bond and to be responsive to a newborn's physical and emotional needs, impact the child's developmental stages and behavioral outcomes, and affect the mother's mental health in the future (APA, 2015).

Severity Triggers

There is no single cause of PPD, but risk and severity are associated with physical changes and emotional factors (National Institute of Mental Health [NIMH], 2015). For example, childbirth is followed by a precipitous decline in estrogen and progesterone (NIMH), as well as changes in blood volume and pressure, metabolism, and the immune system, and these physical changes may lead to fatigue, sluggishness, and feelings of depression after giving birth (Mayo Clinic Staff, 2012). Furthermore, emotional hardships could arise if the individual struggles with self-identity, has prior self-esteem issues, or feels less attractive following childbirth. Caring for a newborn often leads to sleep deprivation and feelings of being overwhelmed, which in turn may compound the situation by diminishing one's ability to handle even relatively minor issues, thereby leading to feelings of anxiousness (Mayo Clinic Staff). Additionally, sleep deprivation may cause physical discomfort, triggering more severe symptoms of the illness (NIMH). Lifestyle changes associated with the transition to parenthood—diminished social network, financial challenges, shifts in daily routine—may also contribute to PPD, and those effects may be intensified by factors such as a demanding baby, a baby with special needs (e.g., premature, physically ill), or problems breastfeeding (APA, 2015; Mayo Clinic Staff). Additional factors associated with increased risk of PPD include a personal or family history of depression, experiencing other emotional stressors such as death of a

loved one, pregnancy in non-normative childbearing ages, and obstetrical factors such as

unwanted pregnancy or unfavorable pregnancy experiences (APA; Rich-Edwards et al.,

2006).

Age, Depression History, and Infant Temperament

Young maternal age, history of depression, and caring for a temperamental infant

are three primary PPD risk factors (APA, 2015; Mayo Clinic Staff, 2012; Rich-Edwards

et al., 2006). Each factor has a considerable influence on how individuals experience

PPD.

Age. Any woman can experience postpartum depression regardless of her age, but

younger women have an increased risk of developing the mood disorder (APA, 2015).

Although the national prevalence rate of PPD is between 13 and 19% among all women

who give birth in the United States (O'Hara & McCabe, 2013), the prevalence is

considerably higher among adolescent mothers, with the reported rate as high as a 57% in

this population (Family & Youth Services Bureau, 2013; Schmidt, Wiemann, Rickert, &

Smith, 2006). Furthermore, anxiety disorders and depression, which typically occur

simultaneously, are the most common psychological disorders that occur among

adolescents (Graczyk, & Connolly; 2015; Roberts, 2015). Adolescent mothers are also

likely to encounter stigma associated with teen pregnancy (SmithBattle, 2013), which

may further compound the experience of PPD.

History of depression. Although postpartum depression can affect any mother,

history of depression is the best predictor of antenatal depression, and antenatal

depression during pregnancy is the best predictor of postpartum depression (Rich-

Edwards et al., 2006). Similarly, women who have experienced PPD have an elevated

risk of experiencing it again with subsequent pregnancies (APA, 2015). Examining how depression history impacts the perception of PPD experiences could be useful for understanding how stigma or expectations of motherhood are influenced by the mother's history of depression or lack thereof.

Infant temperament. Having a challenging baby (i.e., one who is difficult to comfort, cries a lot, has irregular and unpredictable eating and sleeping patterns) is a common risk factor for postpartum depression (APA, 2015). Perceived level of difficulty to provide care for the child may affect perceptions of mothers' PPD experiences. Societal expectations of motherhood may also influence level of stigma with regard to infant temperament. Combined, infant temperament and unmet expectations of motherhood play a considerable role in the experience of PPD (Eastwood, Jalaludin, Kemp, Phung, & Barnett, 2012). Thus, the idealization of motherhood and expectations of the motherhood role (Thurgood, Avery, & Williamson, 2009) may influence perceptions concerning the acceptability of experiencing PPD symptoms. For example, mothers tend to attribute depressive symptoms to personal weakness (Edhborg, Friberg, Lundh, & Widstrom, 2005); a narrative that may be echoed by others as well.

Diagnosis and Service Utilization

PPD diagnoses are usually made by primary care physicians, obstetricians, and mental health providers, but at least 50% of cases go undiagnosed (Thurgood, Avery, & Williamson, 2009). Diagnosis rates are impacted by a lack of uniformity in screening procedures and instruments (Le, Munoz, Soto, Delucchi, & Ippen, 2004). Studies reporting the use of screening measures indicate that assessment varies from five weeks to twelve months following childbirth, with the median first-time assessment occurring at

three months, and use of screening tools also vary between the Edinburgh Postnatal Depression Scale, the Beck Depression Inventory, the General Health Questionnaire, a clinical diagnostic interview, or a combination of more than one tool (Le et al.).

Fortunately, postpartum depression has gained greater traction in health policy agendas. The U.S. Preventive Services Task Force, a panel appointed by the Department of Health and Human Services, has recommended depression screening for women during and after pregnancy, acknowledging that PPD is experienced on a much larger scale than detected (New York Times, 2016). The recommendation is included in updated depression screening guidelines administered by the task force, which previously recommended depression screening only if clinics had staff to provide treatment and support; updates now recommend unconditional screening, attention to accurate depression screening tools, and treatment support for pregnant and postpartum women (Siu & U.S. Preventive Services Task Force, 2016). Obstetricians and other health providers have expressed reluctance toward assessing for depression, while women impacted by PPD have reported apprehension about informing physicians about their symptoms (New York Times); thus, this recommendation for universal and uniform screening is a potentially fruitful step toward ensuring that women experiencing PPD are diagnosed and treated.

In addition to inconsistent screening procedures, the diagnosis rate is particularly low among low-income minority women and others who tend not to seek treatment due to barriers such as not having reliable transportation or time to attend appointments, inability to afford health care, mistrust of health professionals and mental health services, and unreliable childcare (Abrams, Dornig, & Curran, 2009; Goodman, 2009). With

African American women in particular, the pressure of portraying a persona of "strong womanhood" may contribute to the disconnect between these women and health care providers (Abrams et al., 2009). This specific cultural expectation is a fitting example of how societal prescriptions and idealizations of motherhood can create a barrier in women's tendency to seek help. The combination of stigmas that stem from both community attitudes and self-inflicting beliefs may not only minimize a woman's treatment-seeking behaviors, but also hinder her ability to genuinely detect the presence of her symptoms.

Diagnosis-related stigma. Angermeyer and Matschinger (2003) explored the impact of formal diagnosis on those experiencing mental illnesses. They found evidence indicating that formal diagnosis can be beneficial to the extent that it increases one's understanding of the experience; having a label for mental illness may reduce uncertainties and false notions associated with undiagnosed symptoms, while increasing knowledge about sources of help and personal measures to take while dealing with the illness. However, formal diagnosis can also lead to negative consequences such as judgment and stigma to the extent that psychiatric labeling triggers the perpetuation of stereotypes, which leads to discrimination and social distancing (Angermeyer & Matschinger, 2003).

Effects of PPD on Children

The effects of PPD are relational, meaning they impact the parent's relationship with her or his partner, family, friends, and child (APA, 2015). Children are most vulnerable to the effects of PPD; the quality of mother-child interactions are diminished when mothers have PPD, and children's emotional and cognitive development are

adversely affected as well (Parsons, Young, Rochat, Kringelbach, & Stein, 2012). Due to the likelihood of receiving less developmentally appropriate care than children not impacted by PPD, children who are impacted by the illness are more likely to be insecurely attached, become withdrawn, consistently inconsolable or irritable, develop behavioral problems, and have a higher risk of developing anxiety disorders and major depression during childhood and adolescence (APA; Wachs, Black, & Engle, 2009). Furthermore, when mothers are depressed, they are less likely to engage in storytelling, reading, or singing songs to or with their children (Paulson, Dauber, & Leiferman, 2006). Essentially, the general health and developmental progression of children, the parent-child bond, and parenting experience as a whole can be compromised when a parent experiences PPD (Paulson et al.).

Detecting PPD

Maternal detection of PPD is sometimes difficult because there is a tendency to attribute symptoms of depression to unrelated factors such as personal weakness (e.g., inadequacy as a mother) rather than to the illness itself (Edhborg, Friberg, Lundh, & Widstrom, 2005). Attitudes and perceptions considerably impact the way women experience motherhood and how they believe they should fulfill the role, which could both inform their ability to detect signs and symptoms of the illness or seek the help needed. Depressed mothers tend to reject the PPD label because stigma associated with the illness produces feelings of guilt, shame, embarrassment, and fear, and further suggests that societal depictions uniformly portraying motherhood as a positive experience reinforce the stigma for women who do not experience the transition positively (Thurgood, Avery, & Williams, 2009). Maternal role idealization, feelings

about judgment from others, and ideas surrounding the responsibilities of motherhood are the three most influential dimensions of maternal perceptions that impact acceptance of depressive symptoms (Sockol, Epperson, & Barber, 2014). The barriers associated with idealized maternal expectations lead to masking of symptoms in order to reduce the risk of being seen as a bad parent (Thurgood et al.). Overall, attitudes about motherhood impact the way a woman conceptualizes her maternal experience in relation to her expectations, and how she addresses the experience of depressive symptoms.

Social Constructionism

Perceptions concerning PPD can be understood through Berger and Luckmann's (1966) assertion that we experience phenomena in the context of socially constructed meanings. They posited that society constructs the meanings that shape our perception of reality; in other words, our realities are shaped by shared experiences with others. Thus, one's attitudes toward specific phenomena are derived from the gestalt of attitudes and meanings perceivably held by others. Essentially, "there is an ongoing correspondence between *my* meanings and *their* meanings in this world" (Berger & Luckmann, 1966, p. 37).

Long-standing beliefs derived from societal prescriptions surrounding the concepts of womanhood and motherhood have viewed the two as synonymous and inextricably linked in that motherhood is viewed as the most important role in a woman's life (Medina & Magnuson, 2009). Furthermore, the standards of "good" mothering are socially constructed, and although those standards have evolved over time, the ideology that ties good motherhood to sacrifice and emotional resilience persists (Medina & Magnuson, 2009). The general ideology of motherhood, and society's tendency to devote

greater attention to mothers meeting others' needs as opposed to their own (Medina &

Magnuson), may work in conjunction with stigma and contribute to denial and low

treatment-seeking behaviors among women with PPD (Abrams, Dornig, & Curran,

2009).

Educational Interventions

Video-based interventions are used to educate about various phenomena in

medical, educational, and community settings. A systematic review of research on video-

based educational interventions for modifying health behaviors demonstrated their

effectiveness across a variety of health-related topics (Tuong, Larsen, & Armstrong,

2014). For example, videos have been effective with regard to both knowledge

(O'Donnell, Doval, Duran, & O'Donnell, 1995) and behavior (O'Donnell, O'Donnell,

Doval, Duran, & Labes, 1998) concerning condom use and sexually transmitted diseases,

for actually reducing rates of sexually transmitted infections (Warner et al., 2008), and

for increasing the number of breast, colorectal, and cervical cancer screenings (Baron et

al., 2008). Similarly, video-based information related to coronary medical procedures

(i.e., coronary angiography and angioplasty) has can substantially improve patient

knowledge about the technicalities of each procedure (Giuseppe et al., 2007).

Video interventions have also been used in social science research to examine its

effects on thoughts and (planned) behaviors. For example, viewing an educational video

on non-medical child birthing options, particularly midwife-assisted out-of-hospital

childbirth, had a considerably positive influence on attitudes toward and planned

behaviors concerning midwife-assisted out-of-hospital childbirth (Hans & Kimberly,

2011). Video interventions are also effective for increasing knowledge and reducing

stigma about mental illness (Thornicraft, Rose, Kassam, & Sarotarius, 2007). Similarly, a combination of education and video interventions given through a school-based stigma reduction program substantially improved knowledge and decreased stigmatizing attitudes toward mental illness at pretest, posttest, and during a 1-month follow-up (Chan, Mak, & Law, 2009). The idea that increased knowledge about an experience reduces stigma is further exhibited in a study regarding attitudes toward homosexuality, in which respondents with favorable attitudes largely reported having knowledge of and interaction with gay men and lesbians, while those with less favorable attitudes reported education as a means to potentially shift their view (Hans, Kersey, & Kimberly, 2012). The results of these and similar studies support the use of video-based educational interventions in clinical and educational settings as a method of increasing knowledge and reducing stigma.

The Present Study

Stigma surrounding mental illness may stem from lack of knowledge, influence attitudes and prejudices, and lead to differential interaction and treatment of those with the illness (Thornicraft, Rose, Kassam, & Sartorius, 2007). However, empirical evidence has demonstrated that interventions can reduce stigma by improving knowledge about mental illnesses (Thornicraft et al.). Educational interventions that build awareness concerning PPD are needed, both for women who are childbearing and for those who work closely with perinatal women. Thus, the purpose of this study was threefold: (a) to assess the efficacy of a video intervention on participants' ability to recognize the symptoms of PPD; (b) to assess the effects of video interventions on respondent attitudes toward the experience of PPD; and (c) to explore the effects of a woman's age, history of

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depression, infant temperament, and diagnosis on views about her PPD experience. Specifically, the following hypotheses and research questions have been developed based on the existing body of literature and will be examined:

H_1: Greater stigma will be associated with a 19-year-old experiencing PPD than with a 32-year-old.

H_2: Greater stigma will be associated with a woman who has a history of depression prior to experiencing PPD symptoms than with a woman who has no prior history of depression.

H_3: Greater stigma will be associated with a mother who has an infant with a mild temperament than a mother who has an infant with a difficult temperament.

RQ_1: How does a formal PPD diagnosis impact stigma toward those experiencing the mood disorder?

RQ_2: Do opinions about PPD and related concerns vary systematically according to demographic characteristics?

H_4: After viewing a brief educational video, participants will demonstrate better ability to recognize the symptoms of PPD.

H_5: After viewing a brief educational video, participants will exhibit less stigma toward the experience of PPD.

Chapter Two

Method

Sampling

A probability sample of students enrolled in medical, health, behavioral, and social science programs—due to their increased likelihood of entering careers where they will provide professional care or services to women in in the postpartum phase—at a large Southern land-grant university were recruited for this study utilizing an adaptation of the Tailored Design Method (TDM; Dillman, Smyth, & Christian, 2009). The TDM sampling approach maximizes survey response rates, in part by employing a pre-contact, contact, and follow-up strategy when recruiting participants.

For the purpose of this study, e-mail addresses for all students in the sampling frame (i.e, those currently enrolled in medical, health, behavioral, and social science programs at the targeted university) were obtained via an open-records request. Instructors of courses within the targeted programs were contacted (see Appendix A) several weeks prior to data collection to request permission to have an informational pre-contact with as many students in the sampling frame as possible. The pre-contact consisted of delivering a 2-minute recruitment speech during regularly-scheduled class sessions informing students about the study, the reason they were being recruited, and alerting them that a hyperlink to the survey would be e-mailed to them in the coming hours or days.

As an incentive to complete the survey, the initial recruitment e-mails indicated that the first x number of responders (depending on the total number who were in each recruitment batch) would receive $5 e-gift cards for Starbucks®; a total of 255 gift cards

were distributed. Follow-up e-mails were sent both one and two weeks after the initial e-mail contact to those in the sampling frame who had not yet completed the survey (see Appendix B). These recruitment procedures resulted in a completion rate of 26.3%. Family science (66.7%) had the highest response rate within particular programs of study, followed by public health (24.3%), psychology (23.8%), nursing (21.8%), pharmacy (21.5%), health sciences (19.5%), medicine (18.1%), and social work (14.1%).

Participants

The vignette portion of the study was completed by 1,871 students, and 1,178 of them also completed the intervention portion of the study. Respondents ranged from 18 to 66 years of age ($M = 25.4$, $SD = 6.4$) and a majority of the sample was comprised of females (82.6%), those who reported being single or never married (75.7%), and those who did not have children of their own (84.2%). A majority of the sample was also non-Hispanic Whites (79.2%), followed by Blacks (7.1%), Asians (5.3%), and Hispanics or Latinos (3.0%). Nursing students ($n = 297$) were most prevalent in the sample, followed by students majoring in psychology ($n = 241$), medical school ($n = 216$), health sciences ($n = 194$), family science ($n = 128$), pharmacy school ($n = 106$), social work ($n = 68$), public health ($n = 59$), pre-medicine ($n = 37$), and pre-pharmacy ($n = 37$). All combined, 61.7% of respondents were undergraduates, 7.2% were master's students, and 31.1% were doctoral or professional students. Lastly, 20.3% of respondents reported paid employment experiences that required some knowledge of mental illness, and 32.5% reported a great deal of personal or academic experience with mental illness, 37.8% reported a moderate amount, and 26.2% reported little to no personal or academic experience with mental illness.

Design and Procedures

Procedures for participation were implemented in accordance with a research protocol approved by the University of Kentucky Office of Research Integrity's Institutional Review Board (IRB). Prior to beginning the survey, informed consent was obtained from participants (see Appendix C).

In factorial surveys (e.g., Rossi & Rossi, 1990), one or more variables in a brief vignette are altered to assess the effect that the manipulated variables have on responses to a question designed to measure respondent attitudes, knowledge, beliefs, judgments, or opinions. For example, gender may be the manipulated in a study about perceptions of domestic violence in a heterosexual couple, with some respondents randomly assigned to hear that "Peter hits Sarah when he is angry with her" and other respondents to hear "Sarah hits Peter when she is angry with him." Next, respondents might be asked to rate their level of concern about Sarah or Peter's behavior. With random assignment to the gender condition and a sufficient sample size, group differences in the level of concern about the behavior can be attributed to the experimental condition (in this case, gender composition of the aggressor and victim of domestic violence).

Multiple segment factorial vignettes (MSFVs), an extension of factorial vignettes, allow researchers to assess respondent knowledge, attitudes, beliefs, and judgments across multiple vignette segments (Ganong & Coleman, 2006). MSFVs are unique from factorial surveys because the story continues across segments, and researchers can therefore manipulate the timing that various vignette variables are introduced to respondents. In the present study, four variables were presented with two levels each, making the design a 2 x 2 x 2 x 2 multiple-segment factorial vignette. The four

independent variables used to assess opinions concerning PPD were maternal age, history

of depression, infant temperament, and diagnosis or lack thereof. Each respondent was

randomly selected to hear one of 16 versions of the vignette, which was presented in

three segments, each followed by questions designed to assess detection of PPD

symptoms and respondent opinions in the given context.

Segment 1. The first segment presented two independent design variables:

maternal age (19 or 32 years of age) and infant temperament (mild or difficult-to-soothe).

The segment also revealed five PPD symptoms, which is the minimum number of

symptoms needed for diagnosis (Diagnostic and Statistical Manual of Mental Disorders

[DSM-5], 2013). Specifically, respondents read the following (the randomly manipulated

independent variables are italicized):

> Angela is *19/32* years old and gave birth to a baby a few weeks ago who turns out
>
> to have a very *mild/difficult-to-soothe* temperament. Angela has been
>
> experiencing mood swings, feelings of shame and guilt, loss of interest in eating,
>
> trouble sleeping more than three hours per night, and has withdrawn from friends
>
> and family since the birth of the baby. Her symptoms are getting worse by the
>
> day, and she missed her first checkup the week after giving birth and has not
>
> rescheduled.

Respondents were then asked whether they believed Angela was experiencing

normal post-childbirth experiences, or something more serious (response options were

normal [baby blues] and *serious [postpartum depression]*). They were then asked how

much they held Angela responsible for her current emotional state (*a great deal, a

moderate amount, a little bit, not at all*), and the extent to which they believed Angela's

baby was at direct risk for physical harm and psychological/social harm (*a great deal, a moderate amount, a little bit, not at all*) due to her experiences. The last closed-ended item asked respondents if they believed Angela was a fit mother (*yes, no*). Segment 1 ended by asking respondents to briefly explain their reason for choosing their responses to the preceding questions.

      Segment 2. The second vignette segment presented another PPD symptom; all respondents read that the mother had thoughts and daydreams about the baby either disappearing or dying. Additionally, a third independent variable was presented: Respondents either read that the mother had a history of depression or mood disorders, or that she had no such history. This segment was presented as follows:

      A few weeks after giving birth, Angela went for a checkup and told the physician that she was struggling with thoughts of wishing she hadn't had the baby and that, although she would not hurt the baby herself, she sometimes daydreamed about the baby disappearing or dying. Angela has *a/no* history of depression or mood disorders.

      The closed-ended questions asked after the first segment were then asked again after the second segment. Respondents also once again provided open-ended rationales for their responded to the closed-ended questions.

      Segment 3. The third vignette segment revealed the physician's opinion about what Angela was experiencing. Some respondents read that she received a PPD diagnosis, and others read that she received no diagnosis. The following paragraph was presented:

      After talking to Angela about her experience further, the physician decided that

she *had postpartum depression/did not have postpartum depression, but normal*

post-childbirth feelings that would subside over time without intervention.

After this segment, respondents were not asked whether they believed Angela was experiencing normal (baby blues) or more serious (PPD) symptoms. However, they were again asked the extent to which they held her responsible for her emotional state, their opinions about whether her experiences placed her baby at direct risk of physical or psychological harm, and whether they believed she was a fit mother. Rationales for the answers provided to those closed-ended questions were also queried.

Respondent characteristics. To serve as a distractor, numerous respondent characteristic items were presented after the (pretest) vignette but before the PPD video and posttest vignette. Respondents were asked to report the year they were born, sex, ethnicity/race, relationship status, number of children they had, academic program affiliation, level in their program, the extent of their experience with mental illness in personal and academic settings, and whether any previous paid employment required knowledge about mental illness (see Appendix D).

Educational intervention. In addition to the multiple-segment factorial vignette, a pretest-posttest design was implemented to examine the extent to which viewing an educational video on PPD would change responses. Pretest-posttest designs are commonly used for examining the effectiveness of an intervention (Gliner, Morgan, & Leech, 2011). For example, a community-based organization may create a campaign to highlight the importance of parental involvement in children's schooling. The dependent variable in this case (i.e., what the pretest-posttest design would reveal) is shifts in attitudes about involvement.

The intervention used for this study was a 5-minute video adapted from Postpartum Support International's 13-minute "Healthy Mom, Happy Family: Understanding Pregnancy and Postpartum Mood and Anxiety Disorders" educational DVD. The video was adapted to minimize length while ensuring that essential and relevant information was not cut. Specifically, segments that were retained for the adapted video included an introduction, information pertaining to distinguishing types of perinatal mood disorders, PPD symptoms, PPD risk factors, PPD treatment options, and Postpartum Support International contact information. Although brief portions of personal testimonies were retained to provide contextual information about living with PPD, the majority of excluded segments from the original video contained anecdotal accounts from mothers who had experienced PPD. The adapted video, as well as specific time segments of the video, are available upon request.

Posttest vignette. After the educational video, the pretest vignette was repeated, but the variables were not randomly manipulated for the posttest vignette. Rather, each of the four variable levels not presented in the pretest vignette were selected for the posttest vignette. For example, respondents who initially heard about a 19-year-old with ho history of depression, a mild-tempered child, and a diagnosis of PPD for the pretest vignette, heard about a 32-year-old with a history of depression, a difficult-tempered child, and no diagnosis of PPD for the posttest. The same survey items that followed the pretest vignette were repeated after the posttest vignette.

Analytical Approach

The vignette. Binary logistic regression analyses were conducted to examine predictors of respondent opinions about whether the mother's symptoms were baby blues

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or PPD, and whether she was a fit parent. Ordinal logistic regression analyses were conducted to explore predictors of the extent to which respondents held the mother responsible for her emotional state, perceived risk of physical harm to the baby, and perceived risk of psychological harm to the baby. The independent design variables manipulated in the vignette—mother's age, history of depression, her infant's temperament, and diagnosis—were forced into the models, then two-way interaction effects were entered using a forward stepwise procedure, and finally respondent characteristics were forced into the models.

The intervention. Differences in respondents' classification of the mother's symptoms as baby blues or PPD, and respondents' opinions about her parental fitness, before and after the intervention, were examined using chi-square tests. Paired samples t-tests were used to examine differences in perceptions of maternal symptomatic responsibility, and perceived risk of physical and psychological harm to the baby, before and after participants viewed the educational video. The magnitude of the effects were assessed using d effect sizes.

Open-ended rationales. After each vignette segment, respondents were asked to provide a brief rationale for their responses to the closed-ended questions. Those open-ended responses were coded inductively using standard content analysis procedures (see Hsieh & Shannon, 2005). The unit of analysis was a unique rationale, so each response could have been coded into multiple categories. Indeed, across all segments and across both vignettes a mean of 2.5 codes per response were recorded. One-third of the open-ended data were coded by a second coder to assess inter-rater agreement, which demonstrated *substantial* (Landis & Koch, 1977) or *excellent* (Fleiss, 1981) agreement

between the coders (κ = .80).

Chapter Three

Results

Preliminary Analyses

The closed-ended items presented after each segment of the pretest and posttest vignette included randomly ordered response options. Preliminary analyses revealed a statistical ordering effect when respondents were asked about the mother's level of responsibility for her emotional state. The mean responsibility placed on the mother was higher among respondents who heard "a great deal, a moderate amount, a little bit, not at all" than among those who heard "not at all, a little bit, a moderate amount, a great deal," but the effects were small (d = ~0.10).

Roughly 30% of respondents who completed the first vignette elected to terminate the survey prior to completing the second vignette (i.e., they terminated participation at some point during the respondent characteristics, educational video, or posttest vignette). Therefore, chi-square and independent samples *t* tests comparing responses on the first vignette between those who completed the survey and those who completed the first vignette but terminated prior to completion of the second vignette were conducted to guard against mortality biases in the intervention portion of the analysis. Results (available upon request) did not reveal any systematic differences between the two groups, and those differences that did exist were meaningless in magnitude (*d* = 0.04–0.15). Response distributions that did not meet the assumptions of normality were also adjusted prior to conducting the paired-samples *t* tests using square root transformations.

Descriptive Statistics of Independent Variables

Overall, after learning about the baby's temperament and the mother's age and

history of depression, but before knowing the physician's assessment, 91.5% of respondents correctly believed that she had PPD. Descriptive statistics of responses between each independent variable as well as the interaction between age and temperament (see Table 1) indicate the percentage of respondent diagnoses were largely consistent across the experimental vignette conditions.

Baby Blues or Postpartum Depression?

Results revealed predictors of respondents' assessment of whether the mother's symptoms were baby blues or PPD (see Table 2). Those who read that the mother had a history of depression were 83% more likely to label her experience as PPD than were those who read that she did not have a history of depression. An interaction effect between the mother's age and infant's temperament indicated that those who read about an older mother with a mild-tempered child were less likely to label her experience as PPD than were those who heard about a younger mother with a mild-tempered child. Regardless of the child's temperament, those who heard about a younger mother were more likely to label her experience as PPD.

Vignette variables aside, female respondents were twice as likely as male respondents to label the mother's experience as PPD, and Black respondents were less than one-third as likely as White respondents to do so. After reading whether the mother had a history of depression, respondents who had learned about mental illnesses through personal or academic experiences were 41% more likely than those who had no such experience to label her experience as PPD.

Maternal Symptomatic Responsibility

Predictors of the extent to which respondents held the mother responsible for her

emotional state are presented in Table 3. Attributions of maternal responsibility were not statistically associated with maternal age, depression history, and child temperament, but those who read that the mother had received a PPD diagnosis placed less responsibility on her for her emotional state than did those who read that PPD was not diagnosed. Female and White respondents were consistently less likely than male and Black respondents, respectively, to place responsibility on the mother for her emotional state. Students in behavioral and social science programs were initially more likely those from medical and health science programs to hold the mother responsible for her emotional state, but that difference waned once depression history and the physician's diagnosis were revealed. Those with more experience in various aspects of life tended to place less responsibility on the mother for her emotional state than did those with less experience. Specifically, doctoral and master's students, those who had previously learned about mental illnesses through personal or academic experiences, and those who had previous professional experience with mental illnesses all tended to hold the mother less responsible than did their respective less-experienced counterparts.

Results also revealed whether the degree of symptomatic responsibility placed on the mother was related to respondents' attribution of her symptoms to baby blues or PPD. After Segment 1, the perceived degree of responsibility was higher among those who attributed the mother's symptoms to baby blues ($M = 0.80$, $SD = 0.84$) than to PPD ($M = 0.52$, $SD = 0.73$), $t(252) = 4.57$, $p = <.001$, $d = 0.38$, 95% CI [0.23, 0.52]. Similarly, after Segment 2, perceived degree of responsibility was also higher among those who attributed the mother's symptoms to baby blues ($M = 0.94$, $SD = 0.91$) than to PPD ($M = 0.63$, $SD = 0.85$), $t(1674) = 4.78$, $p = <.001$, $d = 0.36$, 95% CI [0.21, 0.51]. The

magnitudes of these differences suggest that the baby blues respondent would hold the mother more responsible for her emotional state than the PPD respondent in approximately 60% of randomly paired baby blues and PPD respondents.

Risk of Physical Harm

Predictors of respondents' perceived risk of physical harm to the baby are provided in Table 4. The effect of the child's temperament on perceived risk of physical harm was mediated by the mother's age. That is, those who read about a younger mother with a temperamental child reported the highest risk of physical harm, and those who read about an older mother with a temperamental child reported the lowest risk of physical harm. Perhaps most notably, however, prior to reading the diagnosis, respondents who read that the mother had a history of depression tended to perceive a greater risk of physical harm to the baby than did those who read that the mother did not have a history of depression. Then, once the diagnosis was revealed, the diagnosis had an even more pronounced effect on perceptions about risk of physical harm to the child; those who read about a PPD diagnosis tended to attribute more risk for harm than did those who read about a baby blues diagnoses.

Black respondents and those with medical or health majors tended to perceive a higher risk for physical harm to the baby than did White respondents and those with behavioral or social science majors, respectively. Although statistical differences were found for two of the three experience-based variables, in one segment each, an overall reading of the results indicates that experience-based characteristics were not meaningfully associated with respondents' perceptions concerning the risk of physical harm to the baby.

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Risk of Psychological Harm

Predictors of respondents' perceived risk of psychological harm to the baby are provided in Table 5. Those who read that the mother was either 19 years of age or had a history of depression perceived more risk of psychological harm to the baby than did those who read that the mother was 32 years of age or had no history of depression, respectively. An interaction effect between the mother's age and infant's temperament indicated that the highest risk of psychological harm was perceived with those who read about a younger mother with a temperamental child, while the lowest risk of psychological harm was perceived with those who read about an older mother with a temperamental child. Conversely, the mother's age did not affect perceptions of physical risk among those who read that the child had a mild temperament. Female respondents tended to perceive more risk of psychological harm to the baby than did male respondents, and behavioral and social science majors were less likely than medical and health science majors to perceive a risk of psychological harm to the baby.

Maternal Fitness

Results also highlighted predictors of respondents' perception of the mother's parental fitness (see Table 6). Those who read that the mother was 19 years of age or that she had a history of depression were roughly 30% less likely to indicate that she was a fit mother than were those who read that she was 32 years of age or had no history of depression, respectively. Similarly, respondents who read that the mother was not diagnosed with PPD—that is, that the physician judged her experiences to be consistent with baby blues—were 50% more likely to indicate that she was a fit mother than were those who read that she had been diagnosed with PPD.

Perceptions of the mother's fitness were more closely related to several respondent characteristics than to the contextual variables manipulated in the vignette. Prior to learning about the physician's diagnosis, respondents who had children of their own were approximately two-thirds as likely to indicate that she was a fit mother than were those who reported having no children of their own. Black and Hispanic respondents tended to be less likely than White respondents to perceive the mother as fit, while point estimates indicate that Asian respondents—although not statistically different than whites with this sample due to the small Asian group size and correspondingly low statistical power—tended to be more likely than respondents from the other racial and ethnic groups to state that she was fit prior to reading the physician's diagnosis. Behavioral and social science students tended to be more likely than medical and health science students to perceive that the mother was fit, and more advanced students across all fields were more likely to perceive that the mother was fit than were undergraduate students. Similarly, respondents who reported learning about mental illnesses through academic or personal experiences tended to be slightly more likely to indicate that the mother was fit, but the same cannot be said of professional experience, which had no perceptible effect on perceptions of fitness.

PPD Educational Intervention

Differences in perceptions of maternal symptomatic responsibility, and perceived risk of physical and psychological harm to the baby, before and after participants viewed the educational PPD video were examined using paired samples t tests (see Table 7). Effect sizes (d) for the paired-samples t tests were computed using pretest and posttest means and standard deviations to avoid the systematic overestimation of effect produced

by paired-samples t scores relative to independent samples t scores (Dunlop, Cortina, Vaslow, & Burke, 1996). Mean differences revealed that the degree of responsibility placed on the mother for her symptoms decreased after each segment of the vignette after watching the video. In addition, perceived risk of physical harm to the baby decreased after the first and third vignette segments, but remained the same after the second segment. Finally, perceived risk of psychological harm to the baby decreased after the first and third vignette segments, but increased after the second segment following the video. The largest effect sizes were observed in the decline of perceived risk for physical and psychological harm to the baby after the first vignette segment.

Chi-square tests were then conducted to examine the differences in respondents' classification of the mother's symptoms as baby blues or PPD, and respondents' opinions about her parental fitness. Results demonstrated that the intervention had a positive impact on the likelihood of respondents correctly classifying the mother's symptoms. That is, after watching the video, respondents were more likely to attribute the mother's symptoms to PPD than to baby blues. Respondents were 2.2 times more likely to move in the correct direction than in the incorrect direction after Segment 1 (χ^2 (1, $N = 1159$) = 75.89, $p < .001$, $d = 0.53$, 95% CI [0.41, 0.65]) and were 4.5 times more likely to do so after Segment 2 (χ^2 (1, $N = 1157$) = 63.41, $p < .001$, $d = 0.48$, 95% CI [0.36, 0.60]).

The results also indicated that the intervention had a positive effect on reducing stigmatizing views about the mother's parental fitness. Respondents were 5.6 times more likely to indicate that she was a fit mother after Segment 1 (χ^2 (1, $N = 991$) = 218.24, $p < .001$, $d = 1.06$, 95% CI [0.92, 1.20]), 5.5 times more likely to do so after Segment 2 (χ^2 (1, $N = 979$) = 305.16, $p < .001$, $d = 1.35$, 95% CI [1.19, 1.50]), and 6.4 times more likely

to do so after Segment 3 (χ^2 (1, N = 1005) = 359.97, p < .001, d = 1.49, 95% CI [1.34, 1.65]).

Pretest Vignette Open-Ended Rationales

Across all segments of the initial vignette, respondents provided a mean of 2.75 coded rationales per response. The most common rationales provided by respondents who believed the mother was experiencing baby blues or PPD after each of the first two segments are summarized in Table 8.

First vignette segment. Symptom severity and commonality were the most frequent rationales provided to support respondents' opinion about whether the mother was experiencing baby blues or PPD. The two most recurrent codes for those who classified her experience as baby blues were *normal symptoms* and *common experience,* which together were cited by 65% of respondents. Among those who classified the mother's experience as PPD, stating that she had *serious symptoms* was the most common rationale*,* which was cited by 59% of respondents. Interestingly, 14.4% of respondents who believed that the mother had baby blues also believed that her symptoms were serious. This may relate to the less frequent, but notable code of *feelings not persisted long*, which was cited by eight percent of respondents who believed that her symptom duration did not yet qualify for PPD.

Regardless of how they classified the mother's symptoms, respondents frequently reported that the mother *needs help/treatment.* This code was the third most frequent rationale among those who classified the mother's condition as baby blues, and second most frequent rationale among those who believed she was experiencing PPD. For example, one respondent wrote, "[She] needs help from a therapist to talk it out."

Although this was a primary concern for respondents regardless of symptom classification, 14% of baby blue respondents and 45% of PPD respondents provided this rationale, indicating that those who believed she had PPD were about 3 times more likely to indicate that she needed help than were those who believed she had baby blues.

Three additional codes were common among respondents, regardless of symptom classification: (a) *not responsible for feelings,* (b) *fit mother,* and (c) *responsibility to make an effort.* Among respondents who believed that the mother had baby blues, 12% indicated that she was not responsible for the way she was feeling, 11% stated that she was fit to mother, and 11% believed she had a responsibility to make an effort toward treatment and resolution. Among respondents who believed that the mother had PPD, 28% indicated that she was responsible for the way she was feeling, 24% stated that she was fit to mother, and 14% believed that she had a responsibility to make an effort toward treatment and resolution. Overall, each of these codes was more prevalent among respondents who believed the mother had PPD than among those who believed she had baby blues.

Second vignette segment. The second segment of the vignette revealed similar, but unique open-ended rationale patterns compared to the first segment. *Normal symptoms* and *common experience* remained the most frequent codes among baby blues respondents, but *needs help/treatment* replaced *serious symptoms* as the most frequently coded rationale among those who believed that the mother had PPD. This shift may reflect a more acute sense of urgency after the mother's thoughts and daydreams about the baby disappearing or dying were revealed. In fact, *negative thoughts about the baby* was coded for 26% of respondents who thought that the mother had PPD, which made it

the third most frequent rationale among this group. In contrast, 10% of those who believed that she had baby blues expressed concern for the mother's thoughts.

Another notable shift in rationales occurred concerning the frequency of rationales focused on the mother's responsibility to strive for resolution of the situation. Specifically, 14% of all respondents expressed that the mother was responsible for making an effort toward treatment and resolution after the first segment, and 18% of all respondents highlighted the effort she had made after the second segment. That is, *she has sought help/made effort* became the third most common code among those suggesting baby blues, and fifth most common code among those suggesting PPD.

Rationales indicating that the mother was fit to parent remained relatively consistent across the two vignette segments among those who believed she had baby blues, but decreased by 38% among those who believed that she had PPD. A similar pattern was observed with respondents reporting that the mother was not responsible for the way she was feeling. The percentage of those who conveyed this belief remained relatively consistent across the two vignette segments among those who classified her experience as baby blues, but a larger decline—from 28% to 12%—was observed among those who believed that she was experiencing PPD. This pattern may reflect the disclosure of the mother's depression history or lack thereof in the second segment, but the frequency of rationales focused on the history (or lack thereof) of depression (7–8%) was similar regardless of symptom classification.

Third vignette segment. After reading about the physician's diagnosis in the third vignette segment, *needs help/treatment* and *serious symptoms* emerged as two of the top three rationales provided by respondents regardless of whether they heard that the

mother received or did not receive a formal diagnosis. Among those who read that the mother was diagnosed with PPD, 41% reported that her symptoms were serious, and 40% reported that she needed help or treatment. Among those who read that she received no diagnosis, 23% reported that her symptoms were serious, and 25% reported that she needed help or treatment. The prevalence of these rationales between the two groups reveals that respondents had a greater concern for the severity and attention needed for the mother's experience when those experiences received a clinical label. In addition, 19% of those read that the physician diagnosed the mother with PPD indicated that she was *not responsible for [her] feelings*, compared to 9% of those who read that the physician regarded her experience as normal.

Consistent with the quantitative results depicting a greater predicted risk of both physical and psychological harm to the baby once a formal diagnosis was revealed, *baby at risk of harm* was mentioned by 19% of those who read that the mother received a formal PPD diagnosis, making it the third most common rational among this group. Sixteen percent of those who read that she received no diagnosis also reported that the *baby [was] at risk of harm,* however, five other rationales were more common among this group.

Those who read that the mother received no diagnosis were more likely than those who read about formal PPD diagnosis to mention the *physician's opinion/diagnosis,* which was reported by 21% of those reading about no diagnosis compared to 13% of those reading that the physician told the mother she had PPD. This rationale was coded when respondents made general statements about the physician's decision, or expressed agreement with the physician due to reliance on his or her expertise. For example, one

respondent stated, "If the doctor believes the feelings are normal then they must be. The doctor knows more about that than anyone else." Although this rationale reflected a common reluctance to deviate from the physician's judgment, among those reading that the physician regarded the mother's symptoms as normal, 24% of respondents reported that they *disagree with the physician.* This code was the second most frequent rationale when a formal diagnosis was not provided. This finding supports the high symptom recognition rate exhibited by respondents when asked to classify the mother's experience as baby blues or PPD, and reveals respondent confidence in detecting PPD in the midst of physician misjudgment.

Open-Ended Rationales After the Educational Video

Across all vignette segments after respondents viewed the educational video, respondents provided a mean of 2.5 coded rationales per response. The most common rationales provided by respondents who believed the mother was experiencing baby blues or PPD after each of the first two segments are summarized in Table 9.

The stated rationales demonstrated increased awareness of information presented in the educational video. Some respondents (up to 7%) specifically referenced the video within their responses. *Video* was coded when rationales included statements such as, "After watching the video, I believe that mothers with postpartum depression can be very good mothers" or "After watching the video I now know Maria is showing signs of postpartum depression and that she can still be a good mother once she receives help." Even without explicitly mentioning the video though, several changes in codes demonstrated an increased awareness that may be attributed to the video. For example, there was an increase in attention to symptom duration, with those classifying the

symptoms as baby blues—although incorrect—indicating that her *feelings had not persisted long enough,* and those suggesting baby blues indicating that *her feelings had persisted awhile.* Additionally, changes in the frequency of rationales utilizing the mother's age and her thoughts about the baby as justification for respondent opinions may reflect information regarding PPD risk factors and symptoms presented in the video.

Respondents demonstrated less concern for the mother's age after the first vignette segment when this independent variable was introduced. Results revealed that utilizing the mother's age as justification for their responses decreased by 82% among those who classified her symptoms as baby blues, and 80% among those who classified her symptoms as PPD, after viewing the video. *Age* was coded when respondents provided statements such as, "Angela is young and has confusion in her feelings. She needs to be taught what feelings and actions are normal and appropriate."

After viewing the educational video, respondents also expressed slightly less concern for the mother's *negative thoughts about the baby;* a rationale that again emerged after the second segment when the vignette revealed that the mother would not hurt the baby, but daydreamed about the baby disappearing or dying. Eight percent of those suggesting the mother had baby blues, and 15% of those suggesting she had PPD expressed concern for the mother's thoughts after viewing the video, which represents a 20% and 42% decrease in this rationale among these subgroups, respectively, from pretest to posttest.

Rationales demonstrated mixed patterns with regard to how respondents conceptualized the duration of the mother's symptoms. After viewing the educational video, those who believed that the mother had PPD increasingly reported that her

symptoms had lasted long enough to qualify as PPD, suggesting that the video helped

some respondents move in a positive direction toward PPD recognition. However, some

respondents—albeit, a smaller proportion—interpreted the situation or video information

differently and indicated that the mother's symptoms either were normal, or had not

lasted long enough to qualify as PPD. Specifically, among those who believed that she

was experiencing baby blues after the video, 66% of rationales—a 44% increase from the

pretest—nonetheless indicated that the mother was experiencing *normal symptoms*.

After watching the educational video, in the third vignette segment once a formal

diagnosis was made, the prevalence of the code *baby at risk of harm* decreased by 15.8%

among those who read that the mother received a formal PPD diagnosis. Additionally,

there was a 16.7% increase in respondents reporting that the mother had a *potential to be*

fit among this group. Among those who read that the mother was not diagnosed with

PPD, *disagree with the physician* remained relatively consistent, yet agreement with the

physician's opinion regardless of accuracy decreased as a rationale among this group, as

evident by a 47% decline in the code *physician's opinion/diagnosis*.

Table 1.1

Percentage of Responses Within Each Level of the Independent Variables

Independent variable	*n*	Baby Blues	Postpartum Depression	Don't know
Maternal age				
19 years of age	964	10.5	88.2	1.3
32 years of age	907	12.1	86.3	1.5
Infant temperament				
Difficult to soothe	968	10.5	88.2	1.2
Mild	903	12.1	86.3	1.7
Age x temperament				
19 x difficult	508	9.4	89.8	0.8
19 x mild	456	11.6	86.4	2.0
32 x difficult	460	11.7	86.5	1.7
32 x mild	447	12.5	86.1	1.3
Depression history				
History of depression	857	5.7	93.7	0.6
No history of depression	852	9.5	89.2	1.3

Above the table columns Baby Blues, Postpartum Depression, and Don't know spans the header: Baby Blues or Postpartum Depression?

Table 1.2

Binary Logistic Regression Predicting Whether the Mother's Symptoms Indicate Postpartum Depression

Predictor	Segment 1 (*n* = 1,540)					Segment 2 (*n* = 1,544)				
	B	*SE*	*p*	*OR*	95% CI	*B*	*SE*	*p*	*OR*	95% CI
19 years of age (32 years of age)	0.27	0.16	.094	1.31	[0.96, 1.80]					
Temperament (mild temperament)	0.06	0.16	.707	1.06	[0.78, 1.46]					
Depression history (no history of depression)						0.60	0.20	.003	1.83	[1.23, 2.72]
Age x temperament						1.00	0.41	.014	2.73	[1.23, 6.07]
Respondent characteristics										
Female (male)	0.67	0.20	.001	1.95	[1.32, 2.88]	0.72	0.24	.003	2.04	[1.28, 3.28]
Child (no children)	-0.21	0.24	.395	0.82	[0.51, 1.31]	0.31	0.26	.224	1.37	[0.83, 2.27]
Race or ethnicity (Caucasian)										
Asian	-1.17	0.83	.160	0.31	[0.06, 1.59]	-1.00	1.10	.361	0.37	[0.04, 3.13]
Black	-1.23	0.27	< .001	0.29	[0.17, 0.50]	-1.52	0.30	< .001	0.22	[0.12, 0.39]
Hispanic	-0.08	0.34	.813	0.92	[0.48, 1.80]	-0.45	0.37	.222	0.64	[0.31, 1.31]
Behavioral/social science (medical/health)	-0.29	0.29	.313	0.75	[0.43, 1.31]	-0.31	0.37	.404	0.73	[0.36, 1.52]
Academic level (undergraduate)										
Doctoral	0.03	0.20	.890	1.03	[0.69, 1.53]	-0.18	0.25	.482	0.84	[0.52, 1.37]
Master's	-0.14	0.31	.644	0.87	[0.48, 1.59]	0.11	0.40	.789	1.11	[0.51, 2.41]
Personal or academic experience	0.13	0.10	.187	1.14	[0.94, 1.38]	0.34	0.12	.005	1.41	[1.11, 1.79]
Professional experience (no professional experience)	-0.26	0.22	.232	0.77	[0.50, 1.18]	0.22	0.25	.378	1.25	[0.77, 2.02]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 1.3

Ordinal Logistic Regression Predicting Whether the Mother is Responsible for Her Current Emotional State

Predictor	Segment 1 (n = 1,551)					Segment 2 (n = 1,546)					Segment 3 (n = 1,551)				
	B	SE	p	OR	95% CI	B	SE	p	OR	95% CI	B	SE	p	OR	95% CI
19 years of age [(32 years of age)]	0.11	0.10	.277	1.12	[0.91, 1.37]	0.14	0.10	.161	1.15	[0.95, 1.40]	0.17	0.10	.098	1.19	[0.97, 1.46]
Temperament [(mild temperament)]	0.04	0.10	.730	1.04	[0.85, 1.27]	-0.01	0.10	.908	0.99	[0.81, 1.20]	0.01	0.10	.891	1.01	[0.83, 1.24]
Depression history [(no history of depression)]						0.01	0.10	.927	1.01	[0.83, 1.23]	-0.06	0.10	.592	0.95	[0.77, 1.16]
PPD diagnosis [(baby blues)]											-0.27	0.10	.010	0.76	[0.62, 0.94]
Respondent characteristics															
Female [(male)]	-0.16	0.15	.278	0.85	[0.64, 1.14]	-0.29	0.14	.038	0.75	[0.57, 0.98]	-0.41	0.14	.004	0.66	[0.50, 0.88]
Child [(no children)]	0.10	0.15	.503	1.11	[0.82, 1.49]	-0.03	0.15	.818	0.97	[0.73, 1.28]	-0.01	0.15	.934	0.99	[0.74, 1.32]
Race or ethnicity [(Caucasian)]															
Asian	0.03	0.24	.885	1.03	[0.65, 1.64]	0.46	0.22	.037	1.58	[1.03, 2.42]	0.33	0.22	.143	1.39	[0.90, 2.15]
Black	0.32	0.20	.115	1.37	[0.93, 2.03]	0.66	0.20	.001	1.93	[1.32, 2.83]	0.66	0.20	.001	1.94	[1.32, 2.86]
Hispanic	-0.14	0.31	.640	0.87	[0.47, 1.58]	-0.16	0.30	.588	0.85	[0.47, 1.53]	-0.36	0.32	.270	0.70	[0.37, 1.32]
Behavioral/social science [(medical/health)]	0.28	0.12	.019	1.33	[1.05, 1.68]	-0.10	0.12	.391	0.90	[0.72, 1.14]	-0.17	0.12	.170	0.85	[0.67, 1.07]
Academic level [(undergraduate)]															
Doctoral	-0.64	0.13	<.001	0.53	[0.41, 0.69]	-0.70	0.13	<.001	0.49	[0.38, 0.64]	-0.57	0.13	<.001	0.57	[0.44, 0.73]
Master's	-0.69	0.22	.002	0.50	[0.33, 0.78]	-0.44	0.21	.036	0.64	[0.43, 0.97]	-0.18	0.21	.392	0.83	[0.55, 1.26]
Personal or academic experience	-0.35	0.06	<.001	0.70	[0.62, 0.79]	-0.31	0.06	<.001	0.73	[0.65, 0.83]	-0.24	0.06	<.001	0.79	[0.70, 0.89]
Professional experience [(none)]	-0.19	0.14	.152	0.82	[0.63, 1.07]	-0.33	0.13	.011	0.72	[0.56, 0.93]	-0.26	0.13	.052	0.77	[0.59, 1.00]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 1.4

Ordinal Logistic Regression Predicting Whether the Baby is at Risk of Physical Harm

Predictor	Segment 1 (*n* = 1,532)					Segment 2 (*n* = 1,548)					Segment 3 (*n* = 1,549)				
	B	*SE*	*p*	*OR*	95% CI	*B*	*SE*	*p*	*OR*	95% CI	*B*	*SE*	*p*	*OR*	95% CI
19 years of age [(32 years of age)]	0.18	0.10	.059	1.20	[0.99, 1.44]						0.12	0.10	.190	1.13	[0.94, 1.36]
Temperament [(mild temperament)]	0.06	0.10	.536	1.06	[0.88, 1.28]						0.02	0.10	.830	1.02	[0.85, 1.23]
Depression history [(no history of depression)]						0.19	0.09	.042	1.21	[1.01, 1.45]	0.11	0.10	.256	1.11	[0.93, 1.33]
PPD diagnosis [(baby blues)]											0.58	0.10	< .001	1.79	[1.48, 2.15]
Age x temperament						0.44	0.19	.020	1.54	[1.07, 2.23]					
Respondent characteristics															
Female [(male)]	-0.23	0.13	.080	0.79	[0.61, 1.03]	-0.07	0.13	.575	0.93	[0.72, 1.20]	-0.14	0.13	.266	0.87	[0.67, 1.12]
Child [(no children)]	-0.19	0.14	.170	0.83	[0.63, 1.08]	-0.21	0.13	.116	0.81	[0.62, 1.05]	-0.21	0.13	.124	0.81	[0.63, 1.06]
Race or ethnicity [(Caucasian)]															
Asian	-0.28	0.21	.190	0.76	[0.50, 1.15]	-0.25	0.21	.239	0.78	[0.52, 1.18]	-0.22	0.21	.286	0.80	[0.53, 1.20]
Black	0.38	0.19	.051	1.46	[1.00, 2.13]	0.56	0.19	.004	1.75	[1.20, 2.54]	0.33	0.19	.084	1.39	[0.96, 2.02]
Hispanic	0.12	0.28	.702	1.11	[0.64, 1.95]	-0.20	0.28	.464	0.82	[0.48, 1.40]	-0.10	0.28	.751	0.92	[0.53, 1.58]
Behavioral/social science [(medical/health)]	-0.32	0.11	.004	0.72	[0.58, 0.90]	-0.39	0.11	< .001	0.68	[0.55, 0.84]	-0.31	0.11	.005	0.73	[0.59, 0.91]
Academic level [(undergraduate)]															
Doctoral	0.10	0.12	.418	1.10	[0.87, 1.39]	-0.01	0.12	.922	0.99	[0.79, 1.24]	0.14	0.12	.211	1.16	[0.92, 1.45]
Master's	-0.16	0.19	.419	0.86	[0.59, 1.25]	-0.38	0.19	.047	0.68	[0.47, 1.00]	-0.11	0.19	.553	0.89	[0.61, 1.30]
Personal or academic experience	0.05	0.06	.432	1.05	[0.93, 1.17]	0.03	0.06	.579	1.03	[0.92, 1.16]	0.09	0.06	.131	1.09	[0.97, 1.22]
Professional experience [(none)]	-0.18	0.12	.153	0.84	[0.66, 1.07]	-0.21	0.12	.081	0.81	[0.64, 1.03]	-0.33	0.12	.007	0.72	[0.57, 0.91]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 1.5

Ordinal Logistic Regression Predicting Whether the Baby is at Risk of Psychological Harm

Predictor	Segment 1 (n = 1,542)					Segment 2 (n = 1,548)					Segment 3 (n = 1,551)				
	B	SE	p	OR	95% CI	B	SE	p	OR	95% CI	B	SE	p	OR	95% CI
19 years of age [32 years of age]	0.23	0.10	.014	1.26	[1.05, 1.52]	-0.08	0.14	.580	0.93	[0.71, 1.21]	0.14	0.10	.131	1.15	[0.96, 1.38]
Temperament [mild temperament]	-0.09	0.09	.327	0.91	[0.76, 1.10]	-0.18	0.14	.189	0.84	[0.64, 1.09]	-0.01	0.10	.910	0.99	[0.82, 1.19]
Depression history [no history of depression]						0.29	0.10	.002	1.34	[1.11, 1.61]	0.24	0.10	.010	1.27	[1.06, 1.53]
PPD diagnosis [baby blues]						0.40	0.19	.035	1.49	[1.03, 2.15]	0.63	0.10	<.001	1.87	[1.55, 2.25]
Age x temperament															
Respondent characteristics															
Female [male]	0.17	0.13	.193	1.19	[0.92, 1.53]	0.35	0.13	.008	1.42	[1.10, 1.83]	0.26	0.13	.048	1.29	[1.00, 1.66]
Child [no children]	0.01	0.13	.952	1.01	[0.78, 1.31]	-0.01	0.13	.952	0.99	[0.76, 1.29]	-0.06	0.13	.628	0.94	[0.72, 1.22]
Race or ethnicity [Caucasian]															
Asian	-0.08	0.21	.707	0.92	[0.61, 1.39]	-0.13	0.21	.551	0.88	[0.59, 1.33]	-0.15	0.21	.465	0.86	[0.57, 1.29]
Black	0.10	0.19	.612	1.10	[0.76, 1.60]	0.27	0.19	.158	1.31	[0.90, 1.91]	0.31	0.20	.105	1.36	[0.94, 1.96]
Hispanic	-0.03	0.28	.914	0.97	[0.56, 1.67]	-0.44	0.28	.112	0.65	[0.38, 1.11]	-0.10	0.27	.708	0.90	[0.53, 1.54]
Behavioral/social science [medical/health]	-0.17	0.11	.117	0.84	[0.68, 1.04]	-0.26	0.11	.021	0.77	[0.62, 0.96]	-0.24	0.11	.032	0.79	[0.64, 0.98]
Academic level [Undergraduate]															
Doctoral	0.00	0.12	.982	1.00	[0.79, 1.25]	-0.07	0.12	.576	0.94	[0.75, 1.18]	0.04	0.12	.732	1.04	[0.83, 1.30]
Master's	0.03	0.19	.884	1.03	[0.71, 1.50]	-0.02	0.19	.904	0.98	[0.67, 1.43]	0.18	0.19	.345	1.20	[0.82, 1.74]
Academic or personal experience	0.02	0.06	.791	1.02	[0.91, 1.14]	0.01	0.06	.818	1.01	[0.90, 1.13]	0.01	0.06	.933	1.00	[0.90, 1.12]
Professional experience [none]	-0.13	0.12	.274	0.88	[0.69, 1.11]	-0.11	0.12	.384	0.90	[0.71, 1.14]	-0.12	0.12	.314	0.89	[0.70, 1.12]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 1.6

Binary Logistic Regression Predicting the Mother's Fitness

Predictor	Segment 1 (*n* = 1,334)					Segment 2 (*n* = 1,336)					Segment 3 (*n* = 1,378)				
	B	*SE*	*p*	*OR*	95% CI	*B*	*SE*	*p*	*OR*	95% CI	*B*	*SE*	*p*	*OR*	95% CI
19 years of age (32 years of age)	-0.30	0.14	.037	0.74	[0.56, 0.98]	-0.20	0.12	.087	0.82	[0.65, 1.03]	-0.13	0.13	.304	0.88	[0.69, 1.12]
Temperament (mild temperament)	0.05	0.14	.712	1.05	[0.80, 1.39]	0.08	0.12	.486	1.09	[0.86, 1.37]	-0.08	0.13	.546	0.93	[0.73, 1.18]
Depression history (no history of depression)						-0.25	0.12	.035	0.80	[0.62, 0.98]	-0.09	0.12	.467	0.91	[0.72, 1.17]
PPD diagnosis (baby blues)											-0.40	0.13	.002	0.67	[0.53, 0.86]
Respondent characteristics															
Female (male)	0.19	0.20	.349	1.21	[0.81, 1.79]	-0.05	0.17	.777	0.95	[0.68, 1.33]	0.00	0.18	.987	1.00	[0.71, 1.43]
Child (no children)	-0.52	0.24	.029	0.60	[0.38, 0.95]	-0.44	0.19	.017	0.64	[0.45, 0.92]	-0.26	0.20	.187	0.77	[0.53, 1.13]
Race (Caucasian)															
Asian	0.39	1.10	.726	1.47	[0.17, 12.70]	1.12	1.10	.308	3.06	[0.36, 26.42]	-0.22	0.86	.796	0.80	[0.15, 4.33]
Black	-0.73	0.28	.010	0.48	[0.28, 0.84]	-0.43	0.26	.099	0.65	[0.39, 1.09]	-0.58	0.27	.029	0.56	[0.33, 0.94]
Hispanic	-0.47	0.28	.091	0.62	[0.36, 1.08]	-0.62	0.24	.009	0.54	[0.34, 0.86]	-0.38	0.24	.114	0.68	[0.42, 1.10]
Behavioral/social science (medical/health)	0.36	0.30	.230	1.43	[0.80, 2.55]	0.62	0.25	.013	1.86	[1.14, 3.03]	0.48	0.27	.077	1.62	[0.95, 2.76]
Academic level (undergraduate)															
Doctoral	0.76	0.19	<.001	2.14	[1.48, 3.10]	0.47	0.15	.002	1.59	[1.19, 2.14]	0.48	0.16	.003	1.61	[1.18, 2.21]
Master's	0.27	0.30	.362	1.31	[0.73, 2.34]	0.48	0.27	.073	1.62	[0.96, 2.72]	0.69	0.30	.019	1.99	[1.12, 3.56]
Academic or personal experience	0.09	0.09	.278	1.10	[0.93, 1.30]	0.15	0.07	.039	1.16	[1.01, 1.34]	0.08	0.08	.192	1.11	[0.95, 1.28]
Professional experience (none)	0.06	0.19	.760	1.06	[0.73, 1.53]	-0.19	0.16	.229	0.83	[0.60, 1.13]	-0.05	0.17	.763	0.95	[0.69, 1.32]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 1.7

Group Differences in Outcome Variables Before and After the Intervention

Variable	Before the Intervention		After the Intervention						
	M	*SD*	*M*	*SD*	*t*	*df*	*p*	d	95% CI
Segment 1									
Responsible[t]	0.44	0.57	0.37	0.56	4.87	1178	<.001	0.12	[0.04, 0.20]
Physical harm	1.57	0.84	1.17	0.92	15.97	1157	<.001	0.45	[0.37, 0.54]
Psychological harm	1.77	0.88	1.36	0.95	16.08	1164	<.001	0.45	[0.37, 0.53]
Segment 2									
Responsible[t]	0.51	0.61	0.41	0.60	6.06	1169	< .001	0.16	[0.08, 0.24]
Physical harm[t]	1.46	0.31	1.46	0.94	-0.11	1172	<.001	0.00	[-0.07, 0.06]
Psychological harm[t]	1.37	0.31	1.61	0.96	-6.72	1167	<.001	-0.34	[-0.42, -0.25]
Segment 3									
Responsible[t]	0.44	0.59	0.32	0.54	8.94	1169	<.001	0.21	[0.12, 0.29]
Physical harm	1.55	0.94	1.31	0.97	11.22	1167	<.001	0.25	[0.17, 0.33]
Psychological harm	1.77	0.95	1.47	0.97	13.10	1165	<.001	0.31	[0.23, 0.39]

Note. CI = confidence interval for the effects size (*d*). [t] = transformed variables.

Table 1.8

Most Common Rationales in the Vignette Based on Symptom Attribution and Diagnosis

Rationale	Baby Blues		PPD	
	n	%	*n*	%
Segment 1	**139**		**1325**	
Normal symptoms	52	37		
Normal/common experience	39	28	181	14
Serious symptoms	20	14	777	59
Needs help/treatment	20	14	594	45
Not responsible for/can't help feelings	17	12	365	28
Hormones	16	12		
Fit mother/not unfit	15	11	314	24
Baby at risk of harm			314	24
Responsibility to make an effort	15	11	186	14
Neglect/inadequate care			170	13
Potential to be fit			152	12
Needs guidance/support			142	11
Segment 2	**87**		**1121**	
Normal symptoms	30	34		
Normal/common experience	19	22		
Needs help/treatment	12	14	395	35
Serious symptoms			343	31
Baby at risk of harm	9	10	248	22
She has sought help/made effort	17	20	203	18
Fit mother/not unfit	11	13	167	15
No risks to baby	11	13		
Not responsible for/can't help feelings			135	12
Neglect/inadequate care			102	10
Negative thoughts about baby	9	10		
Segment 3	**503**		**530**	
Needs help/treatment	127	25	212	40
Serious symptoms	116	23	216	41
Disagree with physician	122	24		
Physician's opinion/diagnosis	105	21	70	13
Baby at risk of harm	79	16	100	19
Not responsible for/can't help feelings			99	19
Normal symptoms	89	18		
Fit mother/not unfit	49	10	90	17
Potential to be fit			64	12
She has sought help/made effort			57	11

Table 1.9
Most Common Rationales After the Video Based on Symptom Attribution and Diagnosis

Rationale	Baby Blues		PPD	
	n	*%*	*n*	*%*
Segment 1	**171**		**251**	
Normal symptoms	113	66		
Feelings not persisted long	22	13		
Video	19	11		
Serious symptoms	13	8	251	45
Needs help/treatment	16	9	206	37
Normal/common experience	16	9		
Fit mother/not unfit	12	7	102	18
Baby at risk of harm			89	16
Not responsible for/can't help feelings	10	6	83	15
Responsibility to make an effort	10	6	66	12
Feelings persisted awhile			57	10
Symptoms worsening			45	8
Segment 2	**85**		**595**	
Normal symptoms	40	47		
Needs help/treatment	15	18	217	36
Serious symptoms			210	35
Baby at risk of harm			112	19
She has sought help/made effort	13	15	90	15
Fit mother/not unfit	11	13	88	15
Normal/common experience	9	11		
Video	8	9		
Negative thoughts about the baby	7	8	87	15
Not responsible for/can't help feelings			72	12
History of depression			52	9
Segment 3	**331**		**346**	
Needs help/treatment	86	26	178	51
Serious symptoms	68	21	125	36
Disagree with physician	73	22		
Normal symptoms	64	19		
Baby at risk of harm	45	14	54	16
Not responsible for/can't help feelings	30	9	56	16
Potential to be fit			49	14
She has sought help/made effort			48	14
Fit mother/not unfit	46	14	44	13
Physician's opinion/diagnosis	36	11	30	9
Needs guidance/support	25	8	28	8

Chapter Four

Discussion

The purpose of this study was to examine the influence of PPD risk factors (i.e., maternal age, history of depression, infant temperament) and formal diagnosis on respondents' opinions about PPD experiences among perinatal women. Findings revealed that a mother's age, history of depression, and her infant's temperament impacted respondents' attribution of her symptoms to baby blues or PPD, and also influenced stigmatizing attitudes toward her PPD experience. Results also demonstrated that the educational video had a positive effect on symptom recognition and reduced stigmatizing views.

Recognizing PPD

The study first tested respondents' ability to recognize the symptoms presented in the vignette as PPD rather than baby blues, the latter of which is clinically normal and therefore does not require clinical attention. The high rate of PPD symptom recognition in this study—more than nine in ten respondents correctly diagnosed PPD—is incongruent with the national PPD diagnosis rate of 50% presented in the literature (Thurgood, Avery, & Williamson, 2009). This suggests that the disconnect between PPD prevalence and diagnosis rates may not stem from lack of knowledge per se, but other factors that may limit clinicians' ability or propensity to label a mother's experience as PPD when presented with cases that may qualify as such. For example, one possible explanation for low rates of diagnosis juxtaposed with high symptom recognition may relate to obstetricians and other health providers' reluctance to assess for depression in the absence of adequate treatment and support staff (New York Times, 2016).

Having a history of depression history was associated with respondents' greater likelihood of classifying the mother's symptoms as PPD rather than baby blues. Due to the likeness of symptoms between PPD and major depression disorder (DSM-5, 2013), PPD is understandably perceived to be a readily plausible explanation for symptoms among those who have already experienced depression. This similarity may explain why respondents were more likely to attribute the symptoms to PPD when the mother in the vignette had a history of depression.

When presented with a mild-tempered child, respondents attributed the younger mother's symptoms to PPD more often than they did with the older mother. Teen pregnancy poses a considerably higher risk for PPD than pregnancy at normative childbearing ages (Family & Youth Services Bureau [FYSB], 2013; Schmidt, Wiemann, Rickert, & Smith, 2006), a phenomenon that may be reflected within the study's finding. Respondents who read about symptoms within the younger mother may have found PPD to be a more sensible justification due to the overlap of teenage pregnancy risk factors (e.g., poor parental and family support, low self-esteem, financial distress) and PPD risk factors (FYSB, 2013; Youth.Gov, 2016). However, most respondents probably were not aware of these risk factors when answering, suggesting that the higher rate of PPD among teen mothers may indicate that people (clinicians and physicians included) tend to over-interpret symptoms among teen mothers or under-interpret them among normatively-aged women according to preexisting biases and assumptions.

As hypothesized, after watching the educational video respondents demonstrated greater knowledge by their ability to classify the mother's symptoms as PPD rather than baby blues. Although there was a high symptom recognition rate prior to the video,

findings revealed that many of those who believed the mother was experiencing baby blues at pretest recognized her symptoms as PPD after the video. This finding is consistent with previous research indicating that educational interventions are effective for increasing knowledge acquisition concerning health-related topics (O'Donnell, Doval, Duran, & O'Donnell, 1995; Tuong, Larsen, & Armstrong, 2014). The current study advances this body of literature by demonstrating the effectiveness of video-based education in the context of PPD.

Attitudes Based on Risk Factors

A study hypothesis predicted that presenting an infant with a mild temperament would be associated with more stigmatizing views toward the mother. Although infant temperament alone did not have a notable effect on respondents' attitudes, it interacted with the mother's age such that the highest risk of harm was attributed to a younger mother with a temperamental child and the lowest risk of harm was attributed to an older mother with a temperamental. These results supported the study hypothesis anticipating greater stigmatizing views toward a younger mother. In addition to a perception of higher risk for physical and psychological harm among infants of younger mothers, respondents also consistently perceived younger mothers to be less fit as parents than their older counterparts. Teen pregnancy stigma refers to the social exclusion and disapproval of teen mothers (SmithBattle, 2013), and is troubling given the high PPD prevalence rates among adolescent mothers (Family & Youth Services Bureau [FYSB], 2013; Schmidt, Wiemann, Rickert, & Smith, 2006). In addition to justifying the denial of emotional and instrumental support teen mothers need, pregnancy stigma in health service settings may hinder the quality of care provided to adolescent mothers, and in turn exacerbate the

various challenges they often encounter (SmithBattle).

Consistent with the study hypothesis, stigmatizing views—greater perceived risk of psychological or physical harm to the baby prior to diagnosis, and less faith in the mother's parental fitness—were exhibited more frequently when the mother had a history of depression than when she had no history of depression. This was not surprising because psychiatric labels (e.g., depression) can to lead to stereotypes and social distancing (Angermeyer & Matschinger, 2003), which may be both a cause and a symptom of the common perception that those with mental illnesses or mood disorders are dangerous (Friedman, 2014). Although PPD has potential consequences for children's cognitive and emotional development when untreated (Parsons, Young, Rochat, Kringelbach, & Stein, 2012), respondent predictions about the level of harm posed by the mother with a history of depression may reflect this broader social attitude associating danger with mental illness. The combination of stereotypes and assumed danger might have also negatively influenced perceptions of the mother's fitness. Taken as a whole, these stigmatizing views serve to socially isolate mothers with PPD.

Attitudes Based on Diagnosis

Respondents who read that the mother received a formal PPD diagnosis exhibited more stigmatizing attitudes than did those who read that the physician attributed her symptoms to baby blues. That is, they were more likely to indicate that the mother presented a risk of both psychological and physical harm to her baby, and less likely to indicate that she was fit to parent, than were those who read that the mother received no diagnosis. Similar to the results revealing an association between depression history and stigma, reading about a formal PPD diagnosis may have induced assumptions regarding

the mother as a threat, which reflects social stereotypes connecting mental illness and danger (Friedman, 2014).

Respondents who read about a mother with a PPD diagnosis were less likely to hold the mother responsible for her emotional state than were those who read that the physician attributed her symptoms to baby blue. Researchers have been remiss to not examine the blame others place on those with depression; however, this finding was surprising given that individuals with depression experience substantial stigma and feel that others hold them responsible for their condition (Barney, Griffiths, Christensen, & Jorm, 2009). The incongruity of those qualitative experiences with the findings of the present study provides cause to further explore how blame and perceived symptomatic responsibility is associated with both stereotypes and stigmatizing attitudes as well as PPD experiences.

Respondent Characteristics and Attitudes

Several associations were found between various respondent characteristics and PPD-related attitudes. Females were generally more likely than males to correctly attribute the mother's symptoms to PPD rather than baby blues, and less likely to hold her responsible for her emotional state, but were more likely to perceive a risk of psychological harm to the baby. These findings are consistent with the gendered expression of empathy and response to other's feelings, wherein females are generally more empathetic and interpersonally sensitive than males (Hall, 2008; Mestre, Samper, Frias, & Tur, 2009). This gender difference may explain why females are more willing to attribute the mother's symptoms to PPD, and display less stigmatizing views regarding perceived risk of physical harm to the baby. That said, female respondents predicted

greater risk of psychological harm to the baby than did male respondents. Although inconsistent with the findings regarding physical harm, heightened interpersonal sensitivity may explain why women expressed greater concern for the child's psychological well-being than did men.

Respondents who reported having their own child were 33% less likely than those without children to indicate that the mother was fit. Thus, having children may be associated with greater expectations of mothers, or greater concern for the well-being of children, relative to those who have not had children. To this point, social constructionism (Berger & Luckmann, 1966) suggests that personal meanings, social meanings, and attitudes are inextricably intertwined. Thus, meanings associated with being a "good" mother, which is a product a social construction, may have more salience and clarity among those who have children.

Responses also varied by race. Most notably, Blacks were less likely than Whites to classify the mother's symptoms as PPD or perceive her as a fit parent, but were more likely to hold her responsible for her emotional state and perceive a risk of physical harm to the baby. Mental health stigma and lack of sensitivity concerning mental health conditions within the African American community stem from factors such as historical distrust of the healthcare system and reliance instead on non-medical sources such as family, church, and community for support (American Psychiatric Association, 2009). This under-reliance on the healthcare system, particularly mental health care, has served to preserve a culture of avoidance and stigma with regard to mental health conditions (National Alliance on Mental Illness [NAMI], 2016). These issues may explain the lower PPD detection rate and greater display of stigmatizing views among Black respondents.

The differences in responses by race could also relate to literature on the notion of strong womanhood and motherhood commonly displayed in the Black community (Abrams, Dornig, & Curran, 2009; Goodman, 2009). Perhaps reading about PPD symptoms that deviated from the qualities expected in a strong mother created a barrier in the ability to perceive the mother as harmless and fit in her current state. Whether ignorance concerning mental health, expectations of strong womanhood and motherhood, or something else, these results provide an impetus to study racial differences in views and experiences surrounding PPD.

Students enrolled in behavioral and social science programs were less likely to hold the mother responsible for her emotional state, and less likely to perceive a risk of physical and psychological harm to the baby, than those enrolled in medical and health science programs. Behavioral and social science students were also more likely to indicate that the mother was fit to parent. These findings may reflect the extent to which each discipline focuses on psychosocial elements of mental illnesses; although lacking empirical support for this assertion, it seems likely that behavioral and social science programs devote greater attention to the psychosocial consequences of mood disorders, while medical and health science programs devote greater attention to biological and etiological factors. Also, whether due to educational discrepancies or selection effects, high levels of mental health stigma among medical students (Law, Rostill-Brookes, & Goodman, 2009) and within medical and nursing professions (Ross & Goldner, 2009; Wallace, 2010) have been empirically documented and has implications for the care that mothers with PPD receive in healthcare settings. Thus, interventions to reduce stigma within these professions may be fruitful for ensuring the well-being of parents and their

children.

Mental illness stigma is associated with lack of knowledge (Thornicraft, Rose, Kassam, & Sartorius, 2007), and this was borne out in the current study. Specially, those with more personal or academic experience with mental illness were more likely to attribute the symptoms to PPD after reading about depression history, less likely to hold the mother responsible for her symptoms, and more likely to perceive that she was fit. Furthermore, having previous employment that required knowledge of mental illness was associated with respondents' decreased likelihood of holding the mother responsible for her symptoms. These findings reflect the connection between knowledge and stigma, as greater personal, academic, and employment experience with mental illness may reasonably result in greater knowledge of conditions such as PPD, thus leading to a reduction in negative judgments.

Another finding that logically reflects the connection between knowledge and stigma was observed in responses by program level. Doctoral and master's students displayed less stigmatizing views than undergraduate students; they placed less responsibility on the mother for her symptoms, and were more likely to indicate that she was a fit mother. Respondents were in fields focused on understanding and helping people, and it may seem intuitive that education is associated with increased knowledge about content within individual's respective fields. Although these suppositions were supported in the current study, they could not be assumed because a study examining empathy across years of experience in medical school found that first-year medical students displayed higher empathy scores than fourth-year medical students (Chen, Lew, Hershman, & Orlander, 2007).

The Intervention

As hypothesized, viewing the educational PPD video increased respondents' ability to recognize PPD symptoms and generally reduced stigmatizing attitudes toward PPD. However, the lone contrary result indicated that concern for the psychological well-being of the child increased after the second vignette segment—in which the mother's history of depression and thoughts regarding the baby disappearing or dying were introduced—which may reflect the previously discussed relationship between stigma and depression history as it relates to psychiatric labeling (Angermeyer & Matschinger, 2003). Additionally, the symptoms presented regarding the mother's thoughts may have heighted respondent concern and contributed to greater immediate perceptions of psychological risk. These findings align with previous research emphasizing the effectiveness of video-based interventions for increasing knowledge (O'Donnell, Doval, Duran, & O'Donnell, 1995; Tuong, Larsen, & Armstrong, 2014) and shifting attitudes (Chan, Mak, & Law, 2009; Hans & Kimberly, 2011) about various health related topics. However, the relative stability of judgments when a history of depression history existed suggests that interventions intended to increase knowledge about PPD may benefit from devoting considerable attention to highlighting depression history as one of the largest determinants of PPD onset (Rich-Edwards et al., 2006), and negative thoughts about the baby as a common symptom (APA, 2015; Mayo Clinic Staff, 2012), as a means to potentially reduce associated stigma.

Although untreated postpartum depression can have adverse consequences on children, popular media has exaggerated perceptions of direct harm posed from mothers with PPD to their babies (Pacific Postpartum Support Society, 2016). The media displays

stories about mothers who harm or kill their child without distinguishing PPD from postpartum psychosis, the more severe postnatal disorder that tends to result in such situations (Pacific Postpartum Support Society). This lack of distinction may explain participants' increased perceptions of physical and psychological harm prior to the intervention. This therefore suggests that the information presented in the educational video – distinction between perinatal mood disorders, explaining PPD symptoms, risk factors, and treatment – may have contributed to the positive shifts observed in respondents' attitudes about PPD.

Open-ended Rationales

Respondent rationales in the pretest vignette, based on whether they chose baby blues or PPD, logically correlated with concerns that distinguish the two experiences. First, those who believed the mother was experiencing baby blues—although incorrect— most frequently selected their choice due to a belief that the mother's symptoms were normal, while those who believed the mother was experiencing PPD made their decision due to a belief that the mother's symptoms were serious. Second, with respect to their sample sizes, a much larger percentage of those who classified the symptoms as PPD indicated that the mother needed help or treatment for her symptoms, compared to those who classified the symptoms as baby blues. These rationales reflect appropriate concerns between baby blues and PPD; PPD symptoms are more serious than baby blues and warrant greater clinical attention (APA, 2015; Mayo Clinic Staff, 2012).

As previously discussed, the educational video positively impacted respondents' PPD-related knowledge and attitudes. This effect was confirmed by respondents' rationales explicitly crediting the video for their answers. Specific rationales provided

after respondents viewed the educational video were reflected in the following code patterns: (a) an increase in *feelings persisted awhile* supporting PPD classification, (b) a decrease in *negative thoughts about the baby* and recognition of these thoughts as a PPD symptom, and (c) a decrease in *age* and *infant temperament* as justification for attitudes. Each of these rationales represents a sector of information presented in the video related to PPD distinction from baby blues based on timing, PPD risk factors, and PPD symptoms. Additionally, after watching the video, respondents who read that the physician did not provide a PPD diagnosis were much less likely to agree with his or her opinion than they were prior to watching the video. These qualitative accounts further extend support for the use of video-based interventions as tools to educate and ultimately shift attitudes about health-related topics, both generally and especially with regard to PPD.

Rationales showed that respondents' attitudes were consistently influenced by the mother's treatment seeking behaviors. Prior to her checkup, respondents regularly reported that she was responsible for making an effort to receive proper care and resolve her distress, and after her checkup, respondents frequently highlighted her efforts to attend her checkup and disclose her symptoms to the physician. These findings are supported by literature examining patterns in American attitudes toward mental health treatment seeking, which highlight an increase in social acceptability and demand for treatment seeking options in more recent generations (Mojtabai, 2007). This trend may be a useful explanation for respondents' concern for the mother's efforts to receive the help and services she needed. However, this trend contrasts with the persistent hindrance of real or perceived stigma with regard to treatment seeking behaviors among those with

mental health conditions (Abrams, Dornig, & Curran, 2009; Thurgood, Avery, & Williamson, 2009). The impact of stigma in this context could be better understood by exploring the ways in which societal trends in treatment-seeking attitudes impact the actual treatment-seeking behaviors among those with mental health conditions.

Although a considerable number of respondents who initially suggested baby blues shifted to PPD after the video, inaccuracy within the judgment among those continuing to suggest baby blues grew. A larger percentage of this subgroup rationalized their response by reporting that the mother's symptoms were normal and had not persisted long enough. This inaccuracy highlights the importance of distinguishing between what constitutes normal symptoms and a normal (i.e., common) experience in videos designed to provide PPD education. Baby blues is characterized by a lower level of distress and is often termed as normal (APA, 2015; Mayo Clinic Staff, 2012), however attempts to normalize the experience of PPD may be confusing and lead to misinterpretation if clinically and statistically normal experiences are confused with the subjectively normal experience of PPD.

Limitations

Although this study highlights new findings regarding PPD knowledge and stigma, a few findings should be interpreted with caution due to study limitations. The vignette did not present a case where the mother had baby blues, thus, all variations of the narrative involved a woman with PPD. Future studies would benefit from presenting narratives with both baby blues and PPD within the conditions, which would allow for more accurate assessment of respondents' ability to distinguish PPD symptoms from baby blues. Another limitation of the vignette is the durational presentation of

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symptomology. Although the symptoms presented met the minimum number required to fit a PPD diagnosis, the vignette language indicating that "she gave birth a few weeks ago" may have led to uncertainty as respondents made judgments about baby blues and PPD. Future studies employing this design should specify the number of weeks symptoms had lasted to remove ambiguity and ensure greater fidelity between responses and beliefs. A general limitation of the study design is the artificial nature of the vignette, which is likely to elicit more calculated responses and attitudes than what may be displayed in real world experiences (Hughes & Huby, 2004).

Because the study targeted students in behavioral, social, medical, and health science programs, findings cannot be generalized to the general public. Mental illness stigma may be exuded by the general public more or less than among students within these disciplines. Further investigation of stigmatizing attitudes toward PPD, utilizing a more general sample, would be also benefit existing literature. Additionally, the sample consisted of students who are most likely to provide health care and social services to postpartum women, but there is no certainty that these students will end up in careers with such roles. Conversely, students not enrolled in behavioral, social, medical, and health science programs are likely to end up in careers providing health care and social services to postpartum women. Thus, the results of this student-comprised sample may be different than results that would be found in professional settings.

Another limitation of the study is the brevity of the intervention; the video was designed to provide as much information about PPD within a brief time frame, in order to limit attrition – which would ultimately be inevitable – and inattention due to video length. Clinical, training, or educational settings that have greater freedom and time

availability may benefit from utilizing a more comprehensive version of the PPD video. It could be beneficial to examine respondent attitudes given greater exposure to supplementary information (e.g., personal anecdotes) that supports PPD facts. Lastly, the study lacked a long-term follow-up assessment. Future studies may consider exploring changes in respondent knowledge about, and attitudes toward PPD, at multiple time points following exposure to the educational video.

Chapter Five

Conclusions

Findings from the current study revealed a high PPD symptom recognition rate by students in behavioral, social, medical, and health science programs; symptom recognition strikingly exceeded the national PPD diagnosis rate. Furthermore, respondents who read about younger maternal age, a history of depression, and formal diagnosis exhibited more stigma than did those who read about older maternal age, no history of depression, and an absence of formal diagnosis, respectively, and stigma related to infant temperament was mediated by maternal age. These results suggest that those most susceptible to developing PPD symptoms and those who receive clinical identification of PPD may be the targets of more negative attitudes than their less-at-risk counterparts; this is troubling because mental illness stigma interferes with the delivery of quality health care (Friedman, 2014). These results have direct clinical implications for at-risk PPD populations. Health care settings may benefit from targeting screening procedures for those more at risk for PPD, while also ensuring provision of adequate treatment and support to assist with PPD recovery. Clinicians who work with individuals at risk of PPD should promote the development of protective factors that may mitigate

the onset or severity of PPD symptoms.

The effectiveness of a video-based intervention was also examined and, after watching the 5-minute educational video about PPD, respondents exhibited less stigma and demonstrated better ability to assess PPD symptoms. The positive shifts in perspectives on PPD were supported by qualitative rationales directly acknowledging the video for their responses, or highlighting information presented in the video within their reasoning. These findings have implications on the use of this tool within academic and clinical settings that seek to provide brief but impactful education about PPD. The video may also be useful in healthcare settings for educating pregnant and postpartum women about risk factors, symptoms, and treatment options for PPD. Although PPD is experienced within an individual, it can have minor to severe consequences for the child and the family if untreated. Thus, ensuring greater awareness among those most likely to provide care and services to postpartum women is an important step in ensuring quality care for individuals and the families impacted by PPD.

Appendix A

Recruitment Email to Instructors

Hello Dr. ___,

I hope this email finds you well. My name is Lekie Dwanyen and I am a second-year CFT master's student in the Department of Family Sciences. I am contacting you because I am conducting my master's thesis on the topic of postpartum depression, specifically assessing the effects of a short video intervention on responses to the experience of PPD, and I am hoping to inform students in your   class about the study. I am interested in your class because more generally, my target population is students enrolled in health professions and social sciences programs (i.e., medical school, nursing school, social work, family sciences).

With your permission, within 2 minutes, I would provide a quick synopsis of the study, explain why I am seeking their participation, inform them that participation is voluntary, and explain that the survey will be emailed to them in the near future. Please let me know if this is something you are willing to allow me to do. Please also let me know if you have any concerns regarding this request, or if you would like more information about the study. As far as dates, I am hoping to begin publicizing sometime on, or after October 12th. With your willingness, we can coordinate a day and time that works well for both parties.

Thank you, Dr. _____. I look forward to hearing from you.

Lekie Dwanyen
University of Kentucky
Family Relations, Editorial Assistant
Master's in Couple & Family Therapy, 2016

Appendix B

Participant Recruitment Emails

Dear Student,

Because you are enrolled in a medical, health, or social science field at the University of Kentucky, we would appreciate it if you will roughly 15 minutes to complete a survey designed to assess your thoughts about childbirth and the transition to parenting.

To begin the survey, go to: http://www.familysciences.info/survey

If you have any questions regarding this survey, please e-mail Lekie Dwanyen at Lekie.dwanyen@uky.edu

Respectfully,
Lekie and Dr. Hans

Appendix C

Participant Consent Form

You are being invited to take part in a research study about postpartum depression. You are being invited to this study because you are enrolled in a health profession or social science program at the University of Kentucky. Your response is highly valued and will contribute to research that may greatly improve the understanding of postpartum depression and needs associated with those who experience the mood disorder, as well as those who work with women during pregnancy and postpartum stages.

By doing this study, we hope to learn about effective ways to help women prepare for emotional highs and lows following childbirth, by way of understanding how specific tools can be used in our respective fields to better prepare us for working with pregnant and postpartum women.

Although you will not get immediate personal benefit from taking part in this research study, your responses may help us understand more about our needs as current and future professionals when working with mental illnesses in general.

We hope to receive completed questionnaires from about 300 people, so your answers are important to us. Of course, you have a choice about whether or not to complete the questionnaire, but if you do participate, you are free to skip any questions or discontinue at any time.

The questionnaire will take about 10-15 minutes to complete.

Your response to the survey is confidential which means no names will appear or be used on research documents, or be used in presentations or publications. The research team will not know that any information you provided came from you, nor even whether you participated in the study.

If you have questions about this study, please contact Dr. Jason Hans at jhans@uky.edu. If you have complaints, suggestions, or questions about your rights as a research volunteer, contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Thank you in advance for your assistance with this important research study.

Appendix D

Respondent Characteristics

1. What year were you born?

2. What is your sex?
    a. Male
    b. Female
    c. Intersex

3. Which of the following best describes your racial or ethnic identity?
    a. American Indian or Native Alaskan
    b. Asian or Asian American
    c. Black or African American
    d. Caucasian (non-Hispanic)
    e. Latino or Hispanic
    f. Middle Eastern or Arab American
    g. Native Hawaiian or other Pacific Islander
    h. Multiracial
    i. None of the above

4. What is your current marital/relationship status?
    a. Single (never married)
    b. Married
    c. Separated
    d. Divorced
    e. Widowed

5. How many children do you have?
    a. 0
    b. 1
    c. 2
    d. 3
    e. 4
    f. 5+

6. What is your academic program affiliation?
    a. Family Science
    b. Health Sciences
    c. Medical School
    d. Nursing School
    e. Pharmacy School
    f. Pre-Medicine
    g. Pre-Pharmacy
    h. Psychology
    i. Public Health
    j. Social Work
    k. Other (not listed)

7. What is your current level in the program?
    a. Undergraduate
    b. Master's
    c. Doctoral

8. To what extent have you learned about mental illnesses in your current or formal education and life experiences?
    a. A great deal
    b. A moderate amount
    c. A little bit
    d. Not at all

9. Prior to enrollment in your current program, were you employed in a profession that required knowledge of mental illness?
    a. Yes
    b. No

References

Abrams, L. S., Dornig, K., & Curran, L. (2009). Barriers to seeking service use for

postpartum depression symptoms among low-income ethnic minority mothers in

the United States. *Qualitative Health Research, 19,* 535–551.

doi:10.1177/1049732309332794

American Pregnancy Association. (2014). *Baby blues.* Retrieved from

http://americanpregnancy.org/first-year-of-life/baby-blue

American Psychiatric Association. (2009). *Mental health in the African American*

community. Washingtin, DC. Retrieved from

http://activeminds.org/storage/documents/2015_conference_docs/Multicultural-

African_American.pdf

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental*

disorders: DSM-5. Washington, DC. Retrieved from

http://dsm.psychiatryonline.org.ezproxy.uky.edu/doi/book/10.1176/appi.books.97

80890425596

American Psychological Association. (2015). *Postpartum depression.* Washington, DC.

Retrieved from http://www.apa.org/pi/women/resources/reports/postpartum-

depression-brochure-2007.pdf

Andrews, T. (2012). What is social constructionism? *The Grounded Theory Review, 11*.

Retrieved from http://groundedtheoryreview.com/2012/06/01/what-is-social-

constructionism

Angermeyer, M. C., & Matschinger, H. (2003). The stigma of mental illness: Effects of

labeling on public attitudes towards people with mental disorder. *Acta*

Psychiatrica Scandinaciva, 108, 304–309. doi:10.1034/j.1600-0447.2003.00150.x

Barney, L. J. (2009). Exploring the nature of stigmatizing beliefs about depression and help-seeking: Implications for reducing stigma. *Biomed Central Public Health, 9:61.* doi:10.1186/1471-2458-9-61

Baron, R. C., Rimer, B. K., Breslow, R. A., Coates, R. J., Kerner, J., Melilo, S., . . . Briss, P. A. (2008). Client-directed interventions to increase community demand for breast, cervical, and colorectal cancer screening: A systematic review. *American Journal of Preventive Medicine, 35,* S34–S55. doi:10.1016/j.amepre.2008.04.002

Berger, P. L., & Luckmann, T. (1966). *The social construction of reality.* London, England: The Penguin Group.

Chan, J. Y., Mak, W. S., & Law, L. S. (2009). Combining education and video-based contact to reduce stigma of mental illness: "*The Same or Not the Same"* anti-stigma program for secondary schools in Hong Kong. *Social Science & Medicine, 68,* 1521–1526. doi:10.1016/j.socscimed.2009.02.016

Chen, D., Lew, R., Hershman, W., & Orlander, J. (2007). A cross-sectional measurement of medical student empathy. *Journal of General Internal Medicine, 22,* 1434–1438. doi:10.1007/s11606-007-0298-x

Daniel, J. (2012). *Sampling essentials: Practical guidelines for making sampling choices.* Thousand Oaks, CA: Sage Publications.

Dillman, D., Smyth, J. & Christian, L. (2009). *Internet, mail, and mixed-mode surveys: The Tailored Design Method.* New York: Wiley.

Dunlop, W. P., Cortina, J. M., Vaslow, J. B., & Burke, M. J. (1996). Meta-analysis of experiments with matched groups or repeated measures designs. *Psychological*

Methods, 1, 170–177. doi:10.1037/1082-989X.1.2.170

Eastwood, J. G., Jalaludin, B. B., Kemp, L. A., Phung, H. N., & Barnett, B. E. (2012). Relationship of postnatal depressive symptoms to infant temperament, maternal expectations, social support and other potential risk factors: Findings from a large Australian cross-sectional study. *BioMed Central Pregnancy and Childbirth, 12.* doi:10.1186/1471-2393-12-148

Edhborg, M., Friberg, M., Lundh, W., & Widstrom, A. M. (2005). "Struggling with life": Narratives from women with signs of postpartum depression. *Scandinavian Journal of Public Health, 33*, 261–267. doi:10.1080/14034940510005725

Family & Youth Services Bureau. (2014). *The hardest adjustment: Recognizing postpartum depression in teen mothers.* Retrieved from http://ncfy.acf.hhs.gov/features/mental-health-first-step-well-being/hardest-adjustment-recognizing-postpartum-depression

Fleiss, J. L. (1981). *Statistical methods for rates and proportions* (2nd ed.). New York: John Wiley.

Friedman, M. (2014). The stigma of mental illness is making us sicker: Why mental illness should be a public health priority. *Psychology Today.* Retrieved from https://owl.english.purdue.edu/owl/resource/560/10/

Ganong, L. H., & Coleman, M. (2006). Multiple segment factorial vignettes. *Journal of Marriage and Family, 68,* 455–468. doi: 10.1111/j.1741-3737.2006.00264.x

Giuseppe, S., Viada, E., Marengo, B., Canale, R., & Nursing and the medical staff of the cardiac catheterization unit. *Journal of Cardiovascular Medicine, 8,* 348–353. doi:10.2459/01.JCM.0000268131.64598.49

Gliner, J. A., Morgan, G. A., & Leech, N. L. (2011). *Research methods in applied settings: An integrated approach to design and analysis.* New York: Routledge

Goodman, J. H. (2009). Women's attitudes, preferences, and perceived barriers to treatment for perinatal depression. *Birth, 36,* 60–69. doi:10.1111/j.1523-536X.2008.00296.x

Graczyk, P. A., & Connolly, S. D. (2015). Anxiety disorders. In. T. Gullotta, R. Plant, & M. Evans (Eds.), *Handbook of adolescent behavioral problems: Evidence-based approaches to prevention and treatment* (pp. 107–130). New York: Springer. doi:10.1007/978-1-4899-7497-6_7

Grotevant, H. D., & Cooper, C. R. (1985). Patterns of interaction in family relationships and the development of identity exploration in adolescence. *Child Development, 56,* 415–428. doi:10.2307/1129730

Hall, J. A., & Mast, M. S. (2008). Are women always more interpersonally sensitive than men? Impact of goals and content domain. *Personality and Social Psychology Bulletin, 34,*144–155. doi: 10.1177/0146167207309192

Hans, J. D., Kersey, M., & Kimberly, C. (2012). Self-perceived origins of attitudes toward homosexuality. *Journal of Homosexuality, 59,* 4-17. doi:10.1080/00918369.2012.638547

Hans, J. D., & Kimberly, C. (2011). An educational intervention to change planned behavior concerning midwife-assisted out-of-hospital childbirth. *Journal of Midwifery & Women's Health, 56,* 371–375. doi:10.1111/j.1542-2011.2011.00036.x

Hoddinott, S. N., & Bass, M. J. (1986). The Dillman total design survey method: A sure-

fire way to get high survey return rates. *Canadian Family Physician, 32,* 2366–2368.

Hoffman, M. L. (1977). Sex differences in empathy and related behaviors. *Psychological Bulletin, 84,* 712–722. doi:10.1037/0033-2909.84.4.712

Hsieh, H.-F., & Shannon, S.E., 2005. Three approaches to qualitative content analysis. *Qualitative Health Research, 15,* 1277–1288. doi:10.1177/1049732305276687

Hughes, R., & Huby, M. (2004). The construction and interpretation of vignettes in social research. *Social Work & Social Sciences Review, 11,* 36–51. doi:10.1921/17466105.11.1.36

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33,* 159–174. doi:10.2307/2529310

Law, G. U., Rostill-Brookes, H., & Goodman, D. (2009). Public stigma in health and non-healthcare students: Attributions, emotions and willingness to help with adolescent self-harm. *International Journal of Nursing Studies, 46,* 109–119. doi:10.1016/j.ijnurstu.2008.08.014

Le, H. N., Munoz, R. F., Soto, J. A., Delucchi, K. L., & Ippen, C. G. (2004). Identifying risk of onset of major depressive episodes in low-income Latinas during pregnancy and postpartum. *Hispanic Journal of Behavioral Sciences, 26,* 463–482. doi:10.1177/0739986304269165

Mayo Clinic Staff. (2012). *Postpartum depression.* Retrieved from http://www.mayoclinic.org/diseases-conditions/postpartum-depression/basics/definition/con-20029130

Medina, S., & Magnuson, S. (2009). Motherhood in the 21st century: Implications for

counselors. *Journal of Counseling and Development, 87,* 90–96.

doi:10.1002/j.1556-6678.2009.tb00553.x

Mestre, M. V., Samper, P., Frias, M. D., & Tur, A. M. (2009). Are women more

empathetic than men? A longitudinal study in adolescence. *The Spanish Journal*

of Psychology, 12, 76–83. doi:10.1017/S1138741600001499

Mojtabai, R. (2007). American' attitudes toward mental health treatment: 1990-2003.

Psychiatric Services, 58, 642–651. doi:10.1176/appi.ps.58.5.642

National Alliance on Mental Illness. (2016). *African American Mental Illness.* Arlington,

VA. Retrieved from https://www.nami.org/Find-Support/Diverse-

Communities/African-Americans

National Institute of Mental Health. (2015). *Postpartum depression facts* (NIH

Publication No. 13-8000). Retrieved from

http://www.nimh.nih.gov/health/publications/postpartum-depression-facts

The New York Times (2016). *Panel calls for depression screenings during and after*

pregnancy. New York, NY. Retrieved from

http://www.nytimes.com/2016/01/27/health/post-partum-depression-test-epds-

screening-guidelines.html?_r=3

O'Donnell, C. R., O'Donnell, L., Doval, A. S., Duran, R., & Labes, K. (1998).

Reductions in STD infections subsequent to an STD clinic visit: Using video-

based patient education to supplement provider interactions. *Sexually Transmitted*

Diseases, 25, 161–168.

O'Donnell, L., Doval, A. S., Duran, R., & O'Donnell, C. R. (1995). The effectiveness of

video-based interventions in promoting condom acquisition among STD clinic

patients. *Sexually Transmitted Diseases, 22,* 97–103.

O'Hara, M. W., & McCabe, J. E. (2013). Postpartum depression: Current status and future direction. *Annual Review of Clinical Psychology, 9,* 379–407. doi:10.1146/annurev-clinpsy-050212-185612

Pacific Postpartum Support Society (2016). *5 myths about postpartum depression & anxiety debunked.* Retrieved from http://postpartum.org/services/for-moms/5-myths-about-postpartum-depression-anxiety-debunked/

Paulson, J. F., & Bazemore, S. D. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression. *Journal of the American Medical Association, 303,* 1961–1969. doi:100.1001/jama.2010.605

Paulson, J. F., Dauber, S., & Leiferman, J. A. (2006). Individual and combined effects of postpartum depression in mothers and fathers on parenting behavior. *Official Journal of the American Academy of Pediatrics, 118*, 659–668. doi:10.1542/peds.2005-2948.

Parsons, C. E., Young, K. S., Rochat, T. J., Kringelbach, M. L., & Stein, A. (2012). Postnatal depression and its effects on child development: A review of evidence from low- and middle-income countries. *British Medical Bulletin, 101,* 57–59. doi:10.1093/bmb/ldr047

Rich-Edwards, J. W., Kleinman, K., Abrams, A., Harlow, B. L., McLaughlin, T. J., Joffe, H., & Gillman, M. W. (2006). Sociodemographic predictors of antenatal and postpartum depressive symptoms among women in a medical group practice. *Journal of Epidemiology & Community Health, 60,* 221–227. doi:10.1136/jech.2005.039370

Roberts, C. (2015). Depression. In. T. Gullotta, R. Plant, & M. Evans (Eds.), *Handbook*

    of adolescent behavioral problems: Evidence-based approaches to prevention and

    treatment (pp. 107–130). doi:10.1007/978-1-4899-7497-6_10

Ross, C. A., & Goldner, E. M. (2009). Stigma, negative attitudes and discrimination

    towards mental illness within the nursing profession: A review of the literature.

    Journal of Psychiatric and Mental Health Nursing, 16, 558–567.

    doi:10.111/j.1365-2850.2009.01399.x

Rossi, A., & Rossi, P. (1990). *Of human bonding.* NewYork: Aldine deGruyter.

Schmidt, R. M., Wiemann, C. M., Rickert, V. I., & O'Brian Smith, E. (2006). Moderate

    to severe depressive symptoms among adolescent mothers followed four years

    postpartum. *Journal of Adolescent Health, 38,* 712–718.

    doi:10.1016/j.jadohealth.2005.05.023

Siu, A. L., & U.S. Preventive Services Task Force. (2016). Screening for depression in

    adults: U.S. Preventive Services Task Force recommendation. *Journal of the*

    American Medical Association, 315, 380–387. doi:10.1001/jama.2015.18392

SmithBattle, L. I. (2013). Reducing the stigmatization of teen mothers. *American Journal*

    of Maternal/Child Nursing, 38, 235–241. doi:10.1097/NMC.0b013e3182836bd4

Sockol, L., Epperson, C., & Barber, J. (2014). The relationship between maternal

    attitudes and symptoms of depression and anxiety among pregnant and

    postpartum first-time mothers. *Archives of Women's Health, 17,* 199–212.

    doi:10.1007/s00737-014-0424-9

Steffenino, G., Viada, E., Marengo, B., Canale, R., & the Nursing and the Medical Staff

    of the Cardiac Catheterization Unit. (2007). Effectiveness of video-based patient

information before percutaneous cardiac interventions. *Journal of Cardiovascular Medicine, 8,* 348–353. doi:10.2459/01.JCM.0000268131.64598.49

Thornicraft, G., Rose, D., Kassam, A., & Sartorius, N. (2007). Stigma: Ignorance, prejudice or discrimination? *The British Journal of Psychiatry, 190,* 19–-193. doi:10.1192/bjp.bp.106.025791

Thurgood, S., Avery, D. M., & Williamson, L. (2009). Postpartum depression (PPD). *American Journal of Clinical Medicine, 6,* 17–22.

Tuong, W., Larsen, E. R., & Armstrong, A. W. (2014). Videos to influence: A systematic review of effectiveness of video-based education in modifying health behaviors. *Journal of Behavioral Medicine, 37,* 218–233. doi:10.1007/s10865-012-9480-7

University of Kentucky Office of Research Integrity (2014). *IRB survival handbook for human research protections.* Retrieved from http://www.research.uky.edu/ori/IRB-Survival-Handbook.html#Informed

Wachs, T. D., Black, M. M., & Engle, P. L. (2009). Maternal depression: A global threat to children's health, development, and behavior and to human rights. *Child Development Perspectives, 3*, 51–59. doi:10.1111/j.1750-8606.2008.00077.x

Wallace, J. (2012). Mental health and stigma in the medical profession. *Health (London), 16,* 3–18. doi:10.1177/1363459310371080

Warner, L., Klausner, J. D., Rietmeijer, C. A., Malotte, K., O'Donnell, L., Margolis, A. D., . . . Borkowf, C. B. (2008). Effects of a brief video intervention on incident infection among patients attending sexually transmitted disease clinics. *PLOS Medicine, 5,* e135. doi:10.1371/journal.pmed.0050135

Youth.Gov. (2016). *Risk and protective factors.* Retrieved from http://youth.gov/youth-

topics/teen-pregnancy-prevention/risk-and-protective-factors

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African American College Access Outreach Facilitator   January 2012-May 2014
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SCHOLASTIC AND PROFESSIONAL HONORS

2016 School of Human and Environmental Sciences Master's Student of Excellence
2015 Gamma Sigma Delta Honor Society, University of Kentucky Chapter
2015 Alice P. Killpatrick Fellow
2014-2015 Lyman T. Johnson Fellow
2013-2014 Mortar Board National College Senior Honor Society
2013 Ronald E. McNair Scholar
2013 Alpha Kappa Alpha Sorority, Incorporated Central Region Scholar
2012-2013 Multicultural Civic Engagement Program Scholar
2012 Alpha Kappa Alpha Sorority, Incorporated Central Region Scholar