IN THE UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF MISSOURI
CENTRAL DIVISION

COMPREHENSIVE HEALTH OF PLANNED PARENTHOOD GREAT PLAINS, et al.	)	
Plaintiffs,	)	Case No. 2:16-cv-04313-HFS
v.	)	
PETER LYSKOWSKI, et al.,	)	
Defendants.	)	

THE STATE DEFENDANTS' MOTION FOR LEAVE TO FILE SURREPLY SUGGESTIONS IN OPPOSITION TO PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION AND SUGGESTIONS IN SUPPORT

Defendants Hawley and Lyskowski (the "State Defendants") respectfully request this Court's leave to file their Surreply Suggestions in Opposition to Plaintiffs' Motion for Preliminary Injunction. The State Defendants have consulted with Plaintiffs regarding the relief requested in this Motion, and Plaintiffs have declined to take a position on the motion until they have reviewed the proposed Surreply Suggestions and its supporting Declarations.

Surreply briefs are generally disfavored, but they are appropriate where the moving party presents "new evidence and new arguments in their reply brief." *Engineering & Mfg. Servs, LLC v. Ashton*, 387 Fed. Appx. 575, 583 (6th Cir. 2010); *see also First Technology Capital, Inc. v. Banctec, Inc.*, No. 5:16-CV-138-REW, 2016 WL 7444943, at *1-*2 (E.D. Ky. Dec. 27, 2016). Moreover, "other circumstances justify a surreply" in certain cases, including when the surreply "enhances the court's understanding of the critical . . . substantive issues not previously identified for the Court," and when "fuller briefing . . . will serve the interests of justice." *State of Kansas v. United States*, 192 F.Supp.3d 1184, 1189-90 (D. Kan. 2016). In addition, "[a] surreply may be permitted when the moving party would be unable to contest matters presented

to the court for the first time in the opposing party's reply." *K&S Real Properties, Inc. v. Olhausen Billiard Manufacturing, Inc.*, Civil Action No. ELH-15-1199, 2016 WL 3162799, at *12 (D. Md. July 6, 2016) (quotation marks and citations omitted). All of these circumstances gravitate in favor of granting the State Defendants leave to file their Surreply Suggestions in Opposition to Plaintiffs' Motion for Preliminary Injunction.

First, the Plaintiffs' reply briefing unquestionably raises "new evidence and new arguments." *Engineering & Mfg. Servs*, 387 Fed. Appx. at 583. Critically, Plaintiffs' new evidence includes a "rebuttal" declaration from an entirely new expert, Dr. Stanley K. Henshaw. Unlike Plaintiffs' other experts, Dr. Henshaw claims expertise in the new field of "reproductive epidemiology." Doc. 42-3, ¶ 1. His declaration contains a series of new arguments and cites several new studies that the State Defendants have had, as yet, no opportunity to address. *Id.* ¶¶ 4-28. Similarly, Plaintiffs' reply briefing contains a lengthy "rebuttal" declaration of their clinical expert, Dr. Eisenberg. Doc. 42-1. This rebuttal declaration includes an additional series of new arguments, including in-depth methodological defenses of studies cited by Plaintiffs and methodological critiques of studies cited by the State Defendants. *See id.* ¶¶ 3-15.

The State Defendants seek leave to file surreply suggestions to address these new arguments and new evidence. Specifically, they seek to file the attached two-page brief, along with supporting declarations from Dr. Tumulesh Solanky and Dr. Priscilla Coleman. Without leave to file this surreply, the State Defendants "would be unable to contest matters presented to the court for the first time in the opposing party's reply." *K&S Real Properties*, 2016 WL 3162799, at *12.

Moreover, surreply suggestions are particularly appropriate in this case, where important issues are at stake, and where the State Defendants, in light of the Court's guidance, have agreed

to withdraw their request for a contested evidentiary hearing on the Plaintiffs' motion for preliminary injunction. *See* Doc. 51. Surreply suggestions will permit the State Defendants to address disputed factual issues that otherwise might have been addressed through discovery and evidentiary hearing. In this way, granting leave to file a surreply will serve to "enhance[] the court's understanding of the critical . . . substantive issues" and "will serve the interests of justice." *State of Kansas v. United States*, 192 F.Supp.3d at 1189-90.

Finally, the proposed surreply briefing is appropriately restricted in scope. Though the State Defendants vigorously disagree with many arguments in the Plaintiffs' reply briefing, they have limited their proposed Surreply Suggestions to address two issues: the new evidence and arguments in the declaration of Plaintiffs' new expert, Dr. Henshaw; and the new evidence and arguments relating to methodological qualities of studies addressing the safety of abortion procedures and the effects of abortion access, as presented by Dr. Henshaw and Dr. Eisenberg. This Court should grant the State Defendants leave to file such limited Surreply Suggestions.

CONCLUSION

For the reasons stated, the State Defendants respectfully request leave to file their Surreply Suggestions in Opposition to Plaintiffs' Motion for Preliminary Injunction.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on the 14th day of February, 2017, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which sent notification to the following:

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COMPREHENSIVE HEALTH OF PLANNED PARENTHOOD GREAT PLAINS, et al.	)	
Plaintiffs,	)	Case No. 2:16-cv-04313-HFS
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THE STATE DEFENDANTS' SURREPLY SUGGESTIONS IN OPPOSITION TO PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION

Defendants Hawley and Lyskowski (the "State Defendants") respectfully submit these Surreply Suggestions in Opposition to Plaintiffs' Motion for Preliminary Injunction.

In their Reply Suggestions in Support of Motion for Preliminary Injunction, and in the supporting "rebuttal" declarations of Dr. Henshaw and Dr. Eisenberg, Plaintiffs argue that "abortion is extremely safe," and that there is "no evidence . . . beyond mere conjecture" that Plaintiffs' evidence "significantly under-reports abortion complications." Doc. 42, at 1, 2. These contentions are not correct. As set forth in the attached Declaration of Priscilla Coleman, the studies relied upon by the Plaintiffs' experts suffer from systematic methodological weaknesses in their estimation of the rate of physical post-abortion complications. *See* Declaration of Priscilla K. Coleman, Ph.D., at 4-15 (attached as Exhibit 1). In particular, the principal studies on which Dr. Eisenberg relies suffer from objective methodological weaknesses such as significant sample attrition, elimination from consideration of categories of complications and high-risk subsets of studied populations, and admitted risks of underreporting. *See id.* at 9-15. Similarly, the Plaintiffs' methodological critiques of the States Defendants'

studies lack merit. These studies, which predict a significantly higher rate of physical complications than estimated by Plaintiffs, possess objective methodological strengths such as large sample sizes, extended time frames, lack of sample attrition, population-based reporting, and objective outcome measurements. *See id.* 15-21 & tbl. 1.

In addition, Plaintiffs contend that the State Defendants' expert, Dr. Solanky, "gets the facts wrong when he attempts to show that changes in the number of abortion providers in the state have not affected the state's abortion rate," and that the "best available research" shows that "longer distances, such as those faced by Missouri women, will prevent an even higher percentage of women from accessing care." Doc. 42, at 7-8. On the contrary, Dr. Henshaw's analysis suffers from serious methodological flaws. Dr. Henshaw faults Dr. Solanky for relying on CDC data, rather than Guttmacher Institute data, but the Guttmacher Institute data yields the same statistical conclusions with a similarly high degree of confidence. *See* Supplemental Declaration of Tumulesh K.S. Solanky ¶¶ 3-4 (attached as Exhibit 2). By contrast, Dr. Henshaw relies on studies of abortion-clinic closures in Texas that lack methodological rigor because they fail to distinguish correlation from causation, among other deficiencies. *Id.* ¶¶ 9-14. In fact, recent studies published by Guttmacher Institute researchers indicate that there is no strong correlation between the number of clinics in a given State and the abortion rate, and that the consistent decline in the abortion rate, both in Missouri and nationwide, should be attributed to factors other than clinic access, such as increased use of contraception and decline in the rate of unwanted pregnancies. *Id.* ¶¶ 6-8, 15-16.

CONCLUSION

For the reasons stated, the State Defendants respectfully request that this Court deny Plaintiffs' Motion for Preliminary Injunction.

Respectfully submitted,

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Assistant Attorney General

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THE WESTERN DISTRICT OF MISSOURI
CENTRAL DIVISION

COMPREHENSIVE HEALTH OF PLANNED PARENTHOOD GREAT PLAINS, et al. Plaintiffs, v. PETER LYSKOWSKI, in his official capacity as Director of the Missouri Department of Health and Senior Services, et al. Defendants.	)	Case No. 2:16-cv-04313-HFS

DECLARATION OF PRISCILLA K. COLEMAN, PH.D

I, Priscilla K. Coleman, do hereby state under oath as follows:

I am of at least eighteen (18) years of age and am competent to testify.

I. Introduction, Professional Background and Credentials

1. I was retained by the Missouri Attorney General's Office to provide opinions regarding Missouri's Ambulatory Surgical Center Licensing Law ("ASCLL"), Mo. Ann. Stat. § 197.200 et seq, and its implementing regulations, Mo. Code. Regs. Ann. tit. 19 § 30-30.010, 050-070, which address requirements for abortion facilities ("ASC Restriction"). My opinions also pertain to requirements that physicians who provide abortions have hospital admitting privileges and/or a written transfer agreement with a nearby hospital, codified at Mo. Ann. Stat. § 197.215, Mo. Code Regs. Ann. tit. 19, § 30-30.060, Mo. Ann. Stat. § 188.080, and Mo. Ann. Stat. §188.027(1)(1)(e) (collectively referred to as the "Hospital Relationship Restriction").

Exhibit 1

2. I have been asked to evaluate and respond to the declarations and rebuttal declarations of the Plaintiffs' expert witnesses in this case, focusing on their interpretation and conclusions of the peer-reviewed literature, addressing physical complications associated with abortion and abortion-related mortality data among other related matters.
3. In my opinion, within reasonable scientific and medical certainty, the provisions of the ASC Restriction and the Hospital Relationship Restriction are prudent and necessary. In my opinion, these mandates safeguard the continuity of care in cases of procedure-related complications that have been substantially underestimated by the Plaintiffs' experts. In addition, the laws helps to enable more efficient tracking of abortion-related morbidity and mortality statistics, which have been unreliable as long as the procedure has been legal in the U.S. These data are vital to improving the quality of care and to enabling women to weigh the risks when making the decision to terminate a pregnancy.
4. In addition to reviewing the above named Missouri abortion statutes, I have reviewed the following documents in preparation for my rebuttal declaration: Declaration of DAVID L. EISENBERG in support of Plaintiffs' motion for a preliminary injunction dated December 12, 2016; Declaration of SHEILA M. KATZ, PH.D. in support of Plaintiffs' motion for a preliminary injunction dated December 12, 2016; Rebuttal declaration of DAVID L. EISENBERG in support of Plaintiffs' motion for a preliminary injunction dated January 31, 2017; Rebuttal declaration of STANLEY K. HERSHAW PH.D in support of Plaintiffs' motion for a preliminary injunction dated January 31, 2017; Declaration of TUMULESH K. S. SOLANKY dated January 10, 2017; and the Declaration of ANDREW STEELE M.D. dated January 10, 2017.

5. I am a developmental psychologist and a Professor of Human Development and Family Studies (HDFS) at Bowling Green State University (BGSU) in Ohio, where I have been employed full-time for the past 15 years. I received promotion to Associate Professor with tenure in 2005, and in 2010, I was promoted to the rank of Full Professor. As a faculty member in HDFS, I am responsible for teaching the following undergraduate courses: Child Development, Life-Span Development, Parenting Processes, and Research Methods. I also advise approximately 50-100 students enrolled in the HDFS major each year, and I serve on various committees at the program, school, college, and university levels at BGSU. I have a B.A. in psychology, an M.A. in general psychology and a Ph.D. in life-span developmental psychology.
6. I have published over 50 peer-reviewed scientific articles, the vast majority related to abortion complications. Based on my expertise, I am often called upon to serve as a content expert in state and civil cases involving abortion. I have given presentations in parliament houses in Great Britain, Northern Ireland, New South Wales, and Queensland. I have testified before state legislative bodies and before a U.S. Congress committee. I currently serve on the editorial boards for five international psychology and medicine journals. A complete listing of my academic and professional background, which includes peer-reviewed publications on abortion morbidity, is contained in my Curriculum Vitae, which is attached to this report (Exhibit A).
7. I hold the opinions expressed in this report to be true to a reasonable degree of scientific and medical certainty and they are based on my education, professional experience, the research I have conducted, and my extensive and ongoing review of the abortion complications literature. The references to peer-reviewed publications provided in this report have been formative in shaping my opinions on the issues I address, as have other publications too numerous to mention in my ongoing review of the scientific literature. I submit my rebuttal declaration as an

independent individual and do not speak for or act as an authorized representative of Bowling Green State University.

8. The collection and dissemination of accurate data on abortion morbidity and mortality has been a long-standing challenge in the US. None of the three experts for the Plaintiffs (Drs. Eisenberg, Henshaw, and Katz) describe, acknowledge, or even allude to the enormous difficulties inherent in deriving reliable and valid estimates of the risks of abortion to women's health. Instead a few studies from a large international peer-reviewed literature base with low complication rates are presented as definitive evidence of the safety of abortion. The focus of the few studies noted is on the bottom-line results with minimal discussion of the methodological strengths and weakness. The studies presented to affirm the safety of abortion and as evidence that the ASC Restriction and the Hospital Relationship Restriction are unwarranted do not in any way represent the strongest scientific evidence from the professional literature. In fact, some of the poorest studies are relied upon.
9. In my declaration I address the practical and methodological challenges of securing data that accurately reflects morbidity and mortality data on abortion in the US. I then provide a critique of the studies relied up by the Plaintiffs' experts, followed by a description and analysis of the best studies available on this topic, all of which were ignored or erroneously dismissed by the experts testifying on behalf of the Plaintiffs.

II. Complexities of Empirical Research on Abortion Morbidity and Mortality in the U.S.

1. Challenges to securing accurate maternal mortality data represent a longstanding concern in the US and throughout the world. According to the World Health Organization (WHO) [1] "Maternal deaths are hard to identify precisely because this requires information about deaths among women of reproductive age, pregnancy status at or near the time of death and the

medical cause of death. All three components can be difficult to measure accurately." Even in countries with routine registration of deaths, maternal deaths are significantly underreported according to the WHO [2]. Horon noted that US physicians fail to report recent or current pregnancies on a minimum of 50% of death certificates [3].

2. The WHO defines a 'maternal death' as one that occurs during pregnancy or within 42 days of termination (through delivery or abortion, spontaneous or induced) from any cause related to or exacerbated by the pregnancy or its management, not including accidental or incidental causes [4]. A pregnancy-associated death is more broadly defined by the American College of Obstetricians and Gynecologists (ACOG) and the Centers for Disease Control (CDC) as any death during pregnancy or within 1 year of the pregnancy outcome regardless of cause [5].
3. In the U.S, a federal requirement for reporting abortion complications does not exist, leaving only estimates. Moreover, in half of the US states providers are not mandated to report abortion complications to the Centers for Disease Control (CDC). Even among the states reporting "Many state health departments are able to obtain only incomplete data from abortion providers, and in some states, only 40–50% of abortions are reported." [6]
4. Although not noted in his report for this case, the Plaintiff's expert Dr. Henshaw [7] and his colleague commented in a 2006 report pertaining to the incidence of abortion: "The estimates presented in this report are subject to some limitations and should be considered provisional. First, not all states are included; the estimates assume that changes in abortion incidence in the excluded states are similar to the overall trend seen in the reporting states. Second, the completeness of abortion reporting to state health departments can vary from year to year. We attempted to exclude all states that had inconsistent reporting, but if (for example) reporting improved in some states we included, it would mean that earlier state reports were too low and

that the percentage decline we calculated was too small. In such cases, our new estimates of the number of abortions would be too high."

5. Other issues factor into the inaccuracy of assessments of abortion-related mortality. Specifically, there are no fetal death certificates issued when an abortion occurs and abortions are often underreported by women and thus do not appear in their medical records. Deaths due to abortion are often not recorded as resulting from the procedure, with only the immediate cause of death (e.g. embolism, sepsis, hemorrhage, etc.) provided. Coding rule 12 of the International Classification of Diseases-9 (ICD-9) required deaths due to medical and surgical treatments be reported under the complication of the procedure (e.g., infection) rather than the treatment (e.g., elective abortion). Therefore, even when a surgical complication of abortion is the direct cause of death, the death certificate will typically not contain this vital information. Or abortion-related deaths (from physical complications of the procedure) may be reported as a maternal deaths without reference to the abortion. Under such circumstances complications cannot be linked to the procedure and when the patient's medical records are incomplete, any aggregated abortion morbidity or mortality reporting and analyses naturally reflect this systematic bias.
6. Most women leave abortion clinics within hours of the procedure and many are likely to go to hospital emergency rooms if there are complications. The data reported by abortion clinics to state health departments and ultimately to the CDC therefore under-represents abortion morbidity and mortality. Many abortion providers do not offer after hours contact numbers or routinely send patients with problems to local emergency rooms to be seen by other health care providers. More than two thirds of women have been estimated to not return for follow-up appointments at abortion clinics [8].

7. Comparisons regarding the risk of death associated with abortion are often made to that for women who continue their pregnancies to birth. However efforts to do so are highly flawed. The National Center for Health Statistics (NCHS) provides maternal mortality information and the Center for Disease Control (CDC) provides abortion mortality statistics. Different standards and methods of data collection are used by the two systems rendering comparisons between the two inappropriate. The abortion data collection system is particularly prone to missing a large percentage of deaths as noted above.
8. When examining death statistics related to abortion compared to childbirth, it is essential to note that abortion death rates generally pertain to "uncomplicated abortion;" whereas childbirth deaths typically involve complicated delivery (e.g., caesarian delivery). To illustrate, abortion-related mortality is twice as high as childbirth related mortality when caesarean deliveries are excluded [9].
9. The majority of deaths due to childbirth are the result of conditions and age that do not apply to the average young healthy pregnant women, who most typically present for abortions. Maternal mortality statistics thereby overstate the risk of death associated with carrying to term for the vast majority of women.
10. Maternal mortality is determined by dividing maternal deaths by live births as opposed to pregnancies. Deaths due to ectopic pregnancies (the leading cause of death in the first trimester), molar pregnancies, miscarriage, and stillbirth are represented in the numerator, but not in the denominator. According to the CDC only 60% of pregnancy-related deaths occur in conjunction with a live birth. This means that 40% of the deaths are never represented in the denominator, resulting in a dramatically over-inflated maternal mortality rate. Moreover, the

majority of women who survive ectopic pregnancies, molar pregnancies, miscarriage, and stillbirth will not be in the data at all since their pregnancies do not result in live births.

11. Maternal mortality and abortion mortality statistics are not analogous because maternal mortality statistics do not consider the stage of gestation; whereas abortion mortality is predominantly based on first trimester losses. Appropriate comparisons would be prospective in nature with comparable gestational points related to deaths associated with the two reproductive outcomes. Bartlett and colleagues [10] examined national US data from 1988 – 1997 and found: the relative risk of abortion related mortality per 100,000 was 14.7/ 100,000 at 13-15 weeks gestation, 29.5 at 16-20 weeks, and 76.6 at or after 21 weeks. Even the use of gestational period comparisons are only valid with sophisticated controls for a variety of socio-demographic factors (age, income, education, marital status), which have been linked to higher risks for adverse pregnancy events occurring during pregnancy and the post-partum period.
12. Finally the incompleteness of state abortion records has received media attention in recent years. Reporter Megan Twohey published an article in the Chicago Tribune in 2011 titled "State Abortion Records Full of Gaps: Thousands of Procedures Not Reported to Health Department," [11] describing evidence from a national research group indicating between 7000 and 17,000 abortions go unreported annually in Illinois. In addition nearly 4,000 reports of abortion complications involving Illinois residents in 2009 were missing. This information is required by law with the Illinois Department of Public Health, mandated to provide details regarding every abortion performed in the state, including whether the patient is injured or dies. As noted by the author, health care providers who intentionally fail to submit accurate and complete reports are committing a crime, with failure to report considered grounds for license

revocation. The Department of Public Health has never sought disciplinary action against a provider.

13. Dr. Henshaw, one of the Plaintiffs' experts was interviewed and noted "lax enforcement" across the country. Based on the reporter's interview with Dr. Henshaw she stated "Henshaw theorizes it is the shoddiest operators who are not reporting the abortions they perform. Either they refuse to comply or are so off the radar they are unaware of the requirement."

III. Plaintiffs' Coverage of Medical Literature on Abortion-Related Complications

1. In Dr. Eisenberg's declaration in support of the Plaintiffs' Motion for a Preliminary Injunction, he provides a brief description of studies (pp 4-5) regarding the safety of legal abortion and the incidence of complications. He begins by stating that large scale comprehensive studies from the 1970s and 80s demonstrated that less than 1% of women experience abortion-related complications. He does not list or describe these studies that are minimum of 27 years old, but instead relies on a secondary source and cites an 11 page chapter from a dated abortion text-book.
2. Dr. Eisenberg then proceeds to provide the results of 4 peer-reviewed journal articles. He does not offer any methodological details nor does he address the scientific merits of the studies he relies on in formulating his opinions. Such information is vitally necessary to ascertain the degree to which the results cited constitute a reliable and valid assessment of the true physical health risks of the procedure.
3. The first study is by Weitz and colleagues [12] with a reported physician performed complication rate of .89% (or 9 per 1000). The complication rate for non-physicians presented in the study is 17.6 per 1000. A detailed methodological examination of this study reveals that the figure cited by Dr. Eisenberg is, in my opinion, unreliable.

4. To begin, the sample on which Weitz and colleagues base their analyses is unlikely representative of women seeking abortions. The authors originally identified 17,258 eligible women to potentially serve as participants from Planned Parenthood facilities. However, only 13,807 agreed to participate and then 2320 were eliminated, because the Nurse Practitioners (NPS), Certified Nurse Midwives (CNMs), and Physicians Assistants (PAs) performing the abortions were in training. In other words, the investigation team removed the high risk sector of the data. Another 79 women were eliminated from the study due to a protocol violation, leaving a total of 11,487 surgical aspiration abortions completed between August 2007 and August 2011 included in the baseline measurements. However, 3,446 women, representing 30% of study participants, did not participate in after-abortion follow-up. Of the 8,041 remaining abortions that were considered in the study, approximately half were done by licensed physicians and the other half done by Nurse Practitioners, Certified Nurse Midwives, and Physicians Assistants. The figure on which Dr. Eisenberg relied in the complications section of his report was generated from a study wherein data from only 46.6% of the participants initially deemed eligible were included.
5. A study on the seriousness of sample attrition relative to results reported was conducted by Amico and colleagues [13] and published in the very same journal that Weitz's study was published in, The American Journal of Public Health a few years prior. Referring to the Centers for Disease Control and Prevention's strategic plan through 2010-19 with an emphasis on increasing the number of "effective" interventions that receive funding, Amico stated "…attrition rates of greater than 30% or 40% in either study arm are considered indicative of "fatal" flaws in the study, in effect negating intervention outcome results regardless of other qualifications, and, importantly, steering funding away from supporting such interventions."

6. Amico further notes "The primary concern in evaluating threats caused by attrition is the extent to which participants or their data are missing at random or not at random." In the Weitz et al. study and others involving assessments of complications associated with abortion, it is highly probable that participants who do not return for follow-up are not a random sample and instead over-represent women with complications. Weitz and colleagues note that the most common complication during the study was incomplete abortions. If left untreated, incomplete abortions can result in hemorrhaging or serious, life-threatening infections. Many women would be very disinclined to return to a clinic that performed the incomplete abortion in the first place.
7. The 3rd study Dr. Eisenberg relied on is by Cleland and colleagues [14] published in 2013. The objective of this study is described by the authors as "To analyze rates of significant adverse events and outcomes in women having a medical abortion at Planned Parenthood health centers in 2009 and 2010, and to identify changes in the rates of adverse events and outcomes between the 2 years."
8. In Dr. Eisenberg's single sentence synopsis of the Cleland et al. study he provides incorrect calculations, claiming the report showed 1.2 women in 10,000 were treated in an emergency room. The stated rate of emergency room visits reported on page 8 of the study is .10% (238/233,805) resulting in a per 10,000 cases rate of 10 (10,000 x .001). Then he states that 6 women in 100,000 were admitted to a hospital. Here again an incorrect calculation minimizing risk. The rate of admission was .06% (135/233,805) resulting in a per 100,000 rate of 60. In both of these calculations, Dr. Eisenberg's errors result in an approximately 10-fold understatement of risks.
9. This study, using Planned Parenthood data and conducted by Planned Parenthood employees, only included tracking of the most serious complications (hospital admission, blood transfusion,

emergency room [ER] treatment, intravenous antibiotics administration, infection requiring treatment with IV antibiotics or admission to the hospital, and death) along with two significant outcomes after medical abortion (ongoing intrauterine pregnancy and ectopic pregnancy diagnosed after medical abortion treatment was initiated). Less serious complications were not addressed. The authors acknowledge this shortcoming: "The data analyzed in this paper are those reported to or received by PPFA; we cannot exclude the possibility that some clinically significant adverse events or outcomes were not included. Some patients may have experienced a significant adverse event or outcome but did not follow-up after their medical abortion."

10. Another serious methodological flaw of this study is described by the authors: "Detailed information about patient age and gestational age (but no other demographic information) is collected through the PPFA reporting system only for those women with significant adverse events or outcomes after medical abortion. Therefore, we are unable to analyze rates of significant adverse events and outcomes based on patient age, gestational age or other demographic variables, or to identify the exact regimens used in the 232,275 medical abortions with no reported complications." In fact they fail to provide any demographic information on the women examined. This is vital information because those identified by the abortion provider may have been very different demographically from the general population of abortion patients. Specifically, many of the women captured in the Planned Parenthood records may not have had insurance or funds to go elsewhere for assistance with complications. This decision could have very well been linked to more chaotic lives, less stable work histories, lower education, and or lower income. As noted previously, many women who experience complications would be inclined not to return for additional poor quality care, but would

instead seek services from a well-trained physician at a hospital, assuming they could afford the care and/or had insurance coverage.

11. Eisenberg relies on a review by Raymond and Grimes [15], reporting that women are 14 times more likely to die during or after giving birth to a live baby compared to dying from complications of an abortion. This study by Raymond and Grimes is based on seriously incomplete data. In arriving at their conclusion that abortion is many times safer than childbirth, Raymond and Grimes relied only on data from the Center for Disease Control (CDC) to secure numbers of deaths related to childbirth and abortion; however, the data reported by abortion clinics to state health departments and ultimately to the CDC significantly underrepresents abortion morbidity and mortality for many reasons as cited earlier in my report. The authors acknowledge underreporting: "Weaknesses include the likely under-reporting of deaths, possibly differential by pregnancy outcome (abortion or childbirth.)", but they make no attempt to address the factors associated with this shortcoming, nor do they discuss the magnitude of the problem, as I did at the outset of my report.
12. Raymond and Grimes also failed to address abortion-related deaths beyond the first trimester which constitute 12-13% of all abortions performed in the U.S. [6, 16] As noted earlier, using national U.S. data, Bartlett and colleagues reported the relative risk of mortality was 14.7 per 100,000 at 13–15 and as 76.6 at or after 21 weeks. The latest data from the CDC reported by Jatlaoui and colleagues [17] indicates that of the 5,416 abortions performed in Missouri, 58.7% occurred at or before 8 weeks, 27.75% were performed between 9 and 12 weeks, 9.5% were between 13 and 17 weeks, and 4% at or beyond 18 weeks. When these data are considered in light of the national study by Bartlett and colleagues, approximately 13.5% of Missourians undergoing abortion are at a substantially increased risk of death associated with undergoing

the procedure. Research indicates common reasons women seek second-trimester abortions include not realizing they were pregnant until much later, physical health conditions, such as obesity, and a lack of pregnancy symptoms [18-19] Research from the England has revealed that has decision uncertainty, changing personal circumstances (e.g., romantic partnerships or job loss), as associated with delay in seeking abortion [20].

13. Finally, Raymond and Grimes ignored a wealth of data showing childbirth is protective in the immediate and long-term against death from non-obstetrical causes, both from natural causes such as breast cancer and unnatural causes including suicide [21-25]. When deaths from direct obstetric causes are removed, death rates among women during pregnancy or within 90 days of delivery have been shown to be significantly lower than in women who have never been pregnant [26]. Pregnant women are 1/20th as likely to commit suicide when compared to non-pregnant women of childbearing age [21].
14. Dr. Eisenberg cites Grimes' 2006 article [27] wherein he calculated the risk of death to be .6 per 100,000. In this study, Grimes calculated the risk of death associated with miscarriage and childbirth as well. None of the serious flaws inherent in Grimes' calculations are noted by Dr. Eisenberg, despite the fact that Grimes himself delineates several limitations of the study. First, except for the live births figure, the denominators are estimates. Second, the distribution of pregnancy outcomes was derived from an earlier decade, with the distributions likely not representative of pregnancies in the 1990s. As an example he notes "the legal abortion rate declined in the 1990s, so the 21.9% figure from the prior decade is too high." Third, he cautions the reader that deaths related to legal abortion could have been wrongly coded as miscarriage related and "if so, the mortality rate for miscarriage is too high and that for legal abortion too low."

15. The only other place in Dr. Eisenberg's declaration wherein complication rates are provided is on p. 10. He states that with medical abortion the incomplete abortion rate is 2% to 5% with tissue remaining in the uterus and in .5% of cases the life of the fetus has not been terminated. He does not provide any references in support of these low figures.
16. Turning to Dr. Eisenberg's rebuttal declaration addressing the opinions of Defendants' experts, he states on p. 3 of his rebuttal declaration that "Dr. Steele relies upon two studies that include 'complications' events that are not complications at all…the first is an outlier study from Finland that reports rates of hemorrhage following abortion that were based on patient self-reports rather than documented complications." This is plainly incorrect. As noted by the Finnish authors, Niinimäki and colleagues [28]:"This was a cohort study including all women undergoing termination of pregnancy in Finland between January 1, 2000, and December 31, 2006." Data from over 42,000 women were analyzed wherein they "linked information on the study participants in the Hospital Registry concerning all hospital-inpatient episodes (all hospitals) and outpatient visits (public hospitals) within 42 days after termination of pregnancy to analyze complications related to induced abortion. All of the diagnoses (based on the International Classification of Diseases [ICD]-10, International Statistical Classification of Diseases and Related Health Problems) and codes for surgical procedures (based on the Nordic Classification of Surgical Procedures) found in the cohort were evaluated to select those considered to be of clinical importance."
17. The study by Niinimäki and colleagues has many strengths: no loss of participants over time, actual diagnostic codes as outcome measures, stratification of results based on several demographic and reproductive history variables, and no conflicts of interest between those

examining the national data and providers of abortion services. The term "outlier" implies a small study with atypical findings due to poor sampling or other methodological shortcomings.

18. Dr. Eisenberg cites a reply by the authors of the Finnish study to a letter to the editor related to the high complication rates reported wherein they state that some of the diagnostic codes could have conceivably been in error. However significant over-estimation seems highly unlikely given the fact that the ICD-10 coding system is the worldwide standard for medical diagnostic reporting, with continuing efforts to refine the accuracy of the codes. More probable is underestimation as only hospital care was captured in their data. They stated "adverse events dealt with outside the public hospital system, especially those treated in primary health care, will have been missed."
19. The authors of the above Finnish study published another population-based study with similarly high complications rates [29] and it is summarized below in the section of my report detailing several of the best available empirical studies demonstrating the physical complications of abortion to be far higher than Dr. Eisenberg claims.
20. Another example of Dr. Eisenberg's unfounded dismissal of a study from Dr. Steele's declaration relates to the work by Reardon and colleagues. On p. 7 of Dr. Eisenberg's rebuttal declaration he states that the study was deemed to be of poor quality by the Academy of Royal Colleges & National Collaborating Centre for Mental Health and the American Psychological Association (APA). However, the Reardon article was published in the highly reputable, peer-reviewed, Southern Medical Journal. As noted in a meta-analysis on abortion and mental health that I published in the British Journal of Psychiatry [30] and in my capacity as one of 20 reviewers of the APA report, I am of the opinion that the APA report lacked methodological rigor. The Medi-Cal studies (Reardon and colleagues) [31] were criticized by the APA for

insufficient controls, despite the use of a large demographically homogeneous population-based data set wherein differences are likely distributed across the groups. Fergusson and colleagues' study [32] showing significant increased risk of mental health problems following abortion had numerous positive methodological features (population-based, 25 year prospective data collection, numerous controls, etc.) and the APA focused on a few minor limitations, ignoring the clear strengths. Sample attrition as a methodological weakness is downplayed, because the studies with the highest attrition rates are also the ones that provide little evidence of negative effects. They were embraced despite loss of 60% of the participants between pre and post assessments. This is reminiscent of Dr. Eisenberg citing evidence related to physical complications with high attrition rates.

21. The other report that Dr. Eisenberg identified as not favorably reviewing the work by Reardon and colleagues was conducted by the Royal College of Psychiatrists (RCP). Like the APA report, the RCP report suffers from significant methodological flaws. The quality scales used by RCP were not well-validated and required a significant subjective interpretation. For example, a 1995 Gilchrist and colleagues [33] study received a rating of "Good" when only 34.4% of the termination group and only 43.4% of the no termination group were retained at the end of the study. No standardized measures for mental health diagnoses were employed and evaluation of the psychological state of patients was reported by general practitioners, not psychiatrists. Among the scores of studies identified and excluded in the RCP review, the most common reasons were the nebulous "no usable data" and "less than 90 days follow-up." The latter is highly problematic because elimination of studies only measuring women's mental health up to 90 days does not take into consideration the fact that many of the women in these studies likely continued to suffer beyond the early assessment and the serious and more acute episodes that

are treated soon after exposure are missed. A large percentage of the eliminated studies coincidentally revealed adverse post-abortion consequences for significant percentages of women.

IV. Methodologically Sound Studies on Abortion-Related Morbidity and Mortality

1. Population-based record-linkage studies with complete reproductive history and deaths data provide the only way to bypass serious limitations of most abortion morbidity and mortality studies. As noted by Niinimäki and colleagues [29] regarding their 2011 study published in the BMJ: "This study covered almost all abortions carried out in Finland in all regions and hospitals during a seven year period and thus shows reliable national trends. Earlier studies assessing the completeness of the Finnish abortion register found that 99% of abortions were reported to the register and at least 95% of information matched the medical records."
2. In 2012, I published an extensive record-linkage study using Danish population-based data collected between 1980 and 2006 [34]. The study was undertaken to provide reliable data pertaining to the relative risk of death associated with distinct reproductive history patterns over many years. The study population included all women in Denmark born between the years 1962 and 1993, who were alive on January 1st 1980 and did not die prior to age 16 (n=1,001,266). For the full population, the average number of pregnancies per woman was 1.23 (SD=1.61). There were 5,137 recoded deaths occurring at a mean age of 27.4 years (SD=7.30).
3. With age at last pregnancy and the number of pregnancies controlled along with year of birth, compared to the birth only group, the induced abortion only group was associated with a 66% increased risk of death. In a second set of analyses, the impact of repeated abortions, after controlling for other forms of loss, age at last pregnancy, and year of birth, was examined with the reference group being women who had not experienced an induced abortion. Two abortions

resulted in moderately high increased risk of death (114%), with 3 or more abortions associated with a 191.7% increased risk of death.

4. As we note in the article: "The primary strengths of the study are the use of large scale population level data that includes reliable records on all possible reproductive outcomes and prospectively gathered data from different birth cohorts of women. The results of comprehensive studies of this nature offer more accurate information regarding mortality risks associated with reproductive outcomes than the data acquired by governmental agencies relying on information primarily garnered from death certificates." Our results are comparable to other record-based studies that examined a longer time frame than was the focus of the studies provided in Table 1 below.
5. We published a second study with the data from Denmark that provided short-term and long-term information related to the risk of dying based on distinct reproductive histories and that article is reviewed in Table 1 below. In addition to this study, the table provides synopses of 6 more large scale studies that are methodologically superior to the studies relied upon by the Plaintiff's experts. These studies further demonstrated far higher abortion-related complication rates than those identified by the Plaintiffs' experts.
6. In addition to the large-scale studies presented in Table 1, there are several methodologically strong studies populating the professional literature that have illustrated higher rates of abortion-related complications than the Plaintiffs' experts claim. For example, in 2001, Paul and colleagues [35] published an article in the American Journal of Obstetrics and Gynecology. Prospectively gathered data on all eligible patients (n=1132), who had surgical abortions at <6 weeks of gestation at 3 Planned Parenthood clinics from January 1, 1998, to August 31, 2000 were examined. Among the women who had the earliest abortions (21-27 days), 14.3%

experienced complications, 5% of those who were 28-34 days along had complications, and 3% of the women who were between 35 and 41 days experienced complications. The overall rate was 4%. These authors noted that "of the 727 women with known complete abortions, 159 (22%) required special monitoring to ascertain the final outcome. The surgeons' or pathologists' failure to identify products of conception in the tissue aspirate triggered this monitoring in 47% and 25% of cases, respectively; findings of "rare villi" on pathology review prompted most of the remaining follow-up. Overall the follow-up included 427 telephone calls, 217 serum B-hCG determinations, 21 ultrasound examinations, and 132 non-routine visits to Planned Parenthood or another provider."

7. In 2015 Lederie and colleagues [36] published a study in Obstetrics and Gynecology designed to examine obesity as a possible risk factor for complications after second trimester (up to 24 weeks) dilation and evacuation (D&E) procedures. The study was a retrospective cohort study of 4520 women who underwent the procedure between February 2009 and April 2013 at a hospital-based abortion practice in California. This study was particularly strong compared to others as the number of participants in the study represented 98.4% of the D&E's identified. The only reasons for exclusion were under 14 weeks gestation, D&E for a reason other than pregnancy, and charts unavailable.
8. The results revealed no association between obesity and D&E complications. However, the overall complication rate was 9.8%, with major complications occurring in 1.7% of cases. The most common complications in the sample were clinical hemorrhage (6.6%), cervical laceration (3.8%), uterine atony (3.0%) and hemorrhage with EBL ≥500ml (2.3%). The authors reported the most common interventions employed to manage complications were 3 or more doses of uterotonics (6.1%), uterine reaspiration for bleeding, pain or retained tissue (2.8%), and

intrauterine balloon tamponade (2.6%). Forty-six of the 125 uterine reaspirations (37%) occurred during the procedure time and did not necessitate a return trip. Major complications requiring more serious interventions including hospitalization, transfusion, uterine artery embolization, laparotomy and hysterectomy occurred in under 2% of cases. Two cases required hysterectomy. As is often the situation in these studies, the authors acknowledge that all complications may not have been identified if some patients received care for a complication at an outside institution without their knowledge.

9. Based on my assessment of the professional literature, as evidenced by the extensive data reviewed herein from the strongest studies published, I believe abortion-related morbidity and mortality are far greater than the estimates provided by the Plaintiffs' experts. A careful examination of the data described in Table 1 and elsewhere in this report, relying on the most complete data sources with the most reliable diagnostic information, suggests that abortion-related physical complication rates are a minimum of 5 to 10 times greater than the Plaintiffs' experts contend, and the risk of death resulting from abortion compared to childbirth is a minimum of 2 to 4 times greater. In my opinion, given the current state of scientific knowledge addressing the risks of physical harm associated with abortion, Missouri abortion laws (ASC Restriction and the Hospital Relationship Restriction) are necessary to protect women.

I declare under penalty of perjury that the foregoing is true and correct. Executed on February 14, 2017.

Priscilla K. Coleman, Ph.D.

Table 1: Large Scale and Record-Based Studies Examining Abortion Physical Complication Rates and Abortion Mortality Rates

Study	Overview	Results	Key Study Strengths
Bartlett LA et al., Risk factors for legal induced abortion-related mortality in the United States, Obstetrics & Gynecology, 2004, 103(4):729–737.	Epidemiologic study of women dying from complications of induced abortions. Numerator data were derived from the Abortion Mortality Surveillance System. Denominator data were from the Abortion Surveillance System, which monitors the number and characteristics of women who have legal induced abortions in the United States.	During 1972–1997, a total of 337 /30,975,129 deaths determined to be causally related to legal induced abortions was identified by the Abortion Mortality Surveillance System for an overall legal induced abortion–related mortality rate of 1.1 deaths per 100,000 legal induced abortions. The risk of death increased exponentially by 38% for each additional week of gestation beyond 8 weeks or less when it was found to be .7 per 100,000. The relative risk of abortion-related mortality per 100,000 women was 14.7 at 13–15 weeks of gestation, 29.5 at 16 –20 weeks, and 76.6 at or after 21 weeks.	Large size, extended time frame, record-based. Calculated gestational age-adjusted, race-specific, and maternal age–specific mortality rates.
Niinimäki M, Suhonen S, Mentula M, Hemminki E, Heikinheimo O, Gissler M. Comparison of rates of adverse events in adolescent and adult women undergoing medical abortion: population register based study. British Medical Journal 2011; 342:d2111.	Examined the risks of short-term adverse events in adolescent and older women undergoing medical abortion. Population-based study using Finnish abortion register from 2000 to 2006 (n=27 030) undergoing medical abortion. Incidence of adverse events (hemorrhage, infection, incomplete abortion, surgical evacuation, injury, and thromboembolic disease) among adolescent (<18 years) and older (≥18 years) women was examined. Gestational age was up to 20 weeks, but 80.2% of the abortions were at or under 9 weeks.	The adult cohort had a significantly higher incidence of hemorrhage (3690 or 15.4% v 386 or 12.8%), incomplete abortion (2450 or 10.2% v 212 or 7.0%), and surgical evacuation of retained products of conception (3121 or 13.0% v 333 or 11.0%). In addition, the adult cohort had significantly more participants with adverse events (5535 or 23.1% v 575 or 19.0%).	Large scaled, population-based Diagnostic codes for outcome measures, avoided issues of concealment and sample attrition. Stratification by several demographic and reproductive history variables.

Gissler M, Berg C, Bouvier-Colle M, Buekins P. Pregnancy-associated mortality after birth, spontaneous abortion, or induced abortion in Finland, 1987-2000. American Journal of Obstetrics and Gynecology 2004; 190: 422-7.	Population-based, retrospective cohort study from Finland (1987 to 2000).Information on all deaths of women aged 15 to 49 years in Finland (n= 15,823) was received from the Cause-of-Death Register and linked to the Medical Birth Register (n=865,988 live births and stillbirths), the Register on Induced Abortions (n=156,789 induced abortions), and the Hospital Discharge Register (n= 118,490 spontaneous abortions) to identify pregnancy-associated deaths (n=419).	The age-adjusted mortality rate for women during pregnancy and within I year of termination was 36.7 deaths per 100,000 pregnancies, which was significantly lower than the mortality rate among non-pregnant women, 57.0 per 100,000 person-years (relative risk [RR] 0.64, 95% CI 0.58-0.71). The mortality was lower after a birth (28.2/100,000) than after a spontaneous (51.9/100,000) or induced abortion (83.1/100,000).	Large scale population-based, extended time frame. Record-based outcomes, avoided concealment and sample attrition issues. Non-pregnant, birth, and spontaneous abortion comparison groups.
Gissler M, Kauppila R, Meriläinen J, et al. Pregnancy-associated deaths in Finland in 1987–1994 – definition problems and benefits of record linkage. Acta Obstet Gynaecol Scand.1997;76:651–7.	The death certificates of reproductive age women who died from 1987 to 94 in Finland (n = 9,192) were linked to the Birth, Abortion, and Hospital Discharge Registers (n=513,472 births, 93,807 induced abortions, and 71,701 other ended pregnancies). All deaths that occurred up to 1 year pregnancies ended were included.	The mortality rate was 41 per 100,000 registered ended pregnancies (27 for births, 48 for miscarriages or ectopic pregnancies, and 101 for abortions).	Large scale population-based, extended time frame. Diagnostic codes for outcome measures, avoided issues of concealment and sample attrition. Birth and spontaneous abortion comparison groups.
Oud L., Watkins P. Evolving trends in the epidemiology, resource utilization, and outcomes of pregnancy-associated severe sepsis: a population-based cohort study. J. Clin. Med. Res. 2015;7:400–416.	Performed a population-based study of deaths due to pregnancy-associated severe sepsis (PASS) between 2001 and 2010. There were 4,060,201 pregnancy-associated hospitalizations and 1,007 PASS hospitalizations during study period.	Case fatality of PASS hospitalizations over study period was 33.3% (25.7%) for induced abortions, 12.5% (14.6%) for fetal loss, and 13% for live births during delivery hospitalizations. The authors noted the mortality rate has not changed over the past four decades PASS is more likely to develop among minority women and those with chronic illness. Pregnant women with history of	Large scale population-based, extended time frame. Record-based outcome, avoided concealment and sample attrition issues. A specific cause of death definitively linked to abortion.

		drug abuse and lacking health insurance are at high risk of both developing and dying with PASS.	
Reardon, D. C., & Coleman, P. K. (2012). Short and Long Term Mortality Rates Associated with First Pregnancy Outcome: Population Register Based Study for Denmark 1980-2004. Medical Science Monitor, 18(9).	Medical records for the entire population of women born in Denmark between 1962 and 1991 and were alive in 1980, were linked to death certificates. Mortality rates associated with first pregnancy outcomes (delivery, miscarriage, abortion, and late abortion) were calculated.	Mortality rates per 100,000 within 180 days of pregnancy termination were 7.8 for birth, 19.5 for miscarriage, 19 for early abortion, and 55 for late abortion. Mortality rates at 1 year were equal to were 17.9 for birth, 31.2 for miscarriage, 33.8 for early abortion, and 110 for late abortion.	Large-scale, population based study over an extended time frame. Birth, miscarriage, early, and late abortion comparison groups. Analyses adjusted for pregnancy age and birth year.
Upadhyay UD et al. Incidence of emergency department visits and complications after abortion. Obstet Gynecol 2015 Jan; 125:175	Using 2009–2010 abortion data among women covered by the fee-for-service California Medicaid program and all subsequent health care for 6 weeks after having an abortion, we analyzed reasons for ED visits and estimated the abortion-related com- plication rate and the adjusted relative risk	Based on 54,911 abortions identified, the total abortion-related complication 2.1%: 5.2% for medication abortion and 1.3% for first-trimester aspiration abortion.	Large scale, record-based. Use of medical billing codes for outcome measures. Examined complication rates based on type of abortion.

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Academic Degrees

Date	Degree	Major	University
1998	Ph.D.	Life-Span Developmental	West Virginia University Psychology, Morgantown, WV
1992	M.A.	General Psychology	James Madison University, Harrisonburg, VA
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Academic Positions

2010-present Professor of Human Development and Family Studies, School of Family and Consumer Sciences, Bowling Green State University, Bowling Green, OH

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Non-academic Positions

1988-1989 Residential Counselor, Homestead Project Inc., Ellsworth, ME

Teaching Experiences

Bowling Green State University (Campus and Web-based Delivery)
Human Development across the Life-Span
Parenting Processes
Research Methods
Child Development
Research Methods (Graduate)
Family Studies (Graduate)

University of the South
Child Development
Introduction to Personality and Development
Social Psychology
Social Psychology Research Seminar
Educational Psychology: Introduction to Educational Assessment
& Exceptionality in the Classroom

West Virginia University
Life-Span Development
Child Behavior and Development
Exceptional Child
Applying to Graduate School Seminar

James Madison University
Psychological Statistics
Experimental Psychology with lab

Research Interests

The development, expression, and effects of individual differences in parenting
Socio-emotional development in early childhood
Parent-child interaction and family dynamics
Post-abortion emotional sequelae
Induced abortion and intimate relationship quality
Perinatal loss and parenting

Research Projects and Grants

EDHD Research Grant, April 2004 entitled "The Choice to Abort Among Mothers Living Under Ecologically Deprived Conditions: Predictors and Consequences" to the Research Development Committee, College of Education and Human Development, Bowling Green State University, $12,058. funded.
Faculty Research Committee Research Incentive Grant for AY 2003, entitled "The Choice to Abort vs. Deliver During Adolescence: Personal and Social Predictors and Consequences", $5,976.

PICT Curriculum Grant for AY 2002-03, "A Concept-based Approach to Infusing Technology in the Early Childhood Studies Program" Nancy Stockall, Priscilla Coleman, Sally Kilmer, & Marcia Rybczynski, $15,000. Funded.

duPont Faculty-Student Research Grant from the University of the South Spring 2002 "Development of Maternal Self-Efficacy and its Relation to Early Maternal Behavior", $1,428 Funded.

Faculty Research Grant from the Appalachian College Association for AY 2000-2001, "Maternal Self-Efficacy, Parenting Behavior, and Toddler Performance on the Bayley Scales of Infant Development", $1,625. Funded

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Coleman, P. K., & Karraker, K. H. (2003). Maternal self-efficacy beliefs, competence in parenting, and toddlers' behavior and developmental status. Infant Mental Health Journal, 24, 126-148.

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Cougle, J., Reardon, D. C., & Coleman, P. K. (2003). Depression associated with abortion and childbirth: A long-term analysis of the NLSY cohort. Medical Science Monitor, 9(4), CR105-112.

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Blair, T. M., Nelson, E. S., & Coleman, P. K. (2001). The relationship between deception and power in college students' dating relationships: An exploratory study. Journal of Sex and Marital Therapy, 27, 57-71.

Carlton, C. L., Nelson, E. S., & Coleman, P. K. (2000). College students' attitudes toward abortion and commitment to the issue. Social Science Journal, 37, 619-625.

Coleman, P. K., & Karraker, K. H. (2000). Parenting self-efficacy among mothers of school-age children: Conceptualization, measurement, and predictors. Family Relations, 49, 13-24.

Coleman, P. K., & Watson, A. (2000). Infant attachment as a dynamic system. Human Development, 43, 295-313.

Coleman, P. K., & Watson, A. (2000). A reply to commentaries (*by Alan Fogel, Alan Sroufe, and Megan Sampson*) on "Infant attachment as a dynamic system". Human Development, 43, 327-331.

Coleman, P. K., & Nelson, E. S. (1999). Attitudes toward abortion and interest in the issue as determinants of perceptions of the appropriate level of male involvement in abortion decisions. Journal of American College Health, 47, 164-172.

Coleman, P. K., Nelson, E. S., & Sundre, D. (1999). The relationship between prenatal expectations and postnatal attitudes among first- time mothers. Journal of Reproductive and Infant Psychology, 17, 27- 39.

Coleman, P. K., & Karraker, K. H. (1998). Self-efficacy and parenting quality: Findings and future applications. Developmental Review, 18, 47-85.

Coleman, P. K., & Nelson, E. S. (1998). The quality of abortion decisions and college students' reports of post-abortion emotional sequelae and abortion attitudes. Journal of Social and Clinical Psychology, 17, 425-442.

Erwin, T. D., & Coleman, P. K. (1998). The Influence of intercultural experiences and second language proficiency on college students' cross-cultural adaptability. International Education, 28, 5-25.

Nelson, E. S., Coleman, P. K., & Swager, M. (1997). Attitudes toward the level of male involvement in abortion decisions. Journal of Humanistic Education and Development, 25, 217-224.

Nelson, E. S., Karr, K., & Coleman, P. K. (1995). The relationships among daily hassles, optimism, and reported physical symptoms. Journal of College Student Psychotherapy, 10, 11-26.

Abstracts

Dawson, E., Haar, C., Pobocik, R., Coleman, P., Babies, K., Houston, M.S., Increased self-efficacy and dairy consumption resulting from a dairy curriculum for junior high school students. Journal of Nutrition Education and Behavior, 2007; 39: S131.

Dawson, E., Pobocik, R., Coleman, P., Haar, C., Babies, K., Houston, M.S. Development of an instrument to assess self-efficacy and behavior related to dairy foods in adolescents. FASEB J. 2007 21:528.11.

Papers Read to Professional Societies

Invited Papers

Coleman, P. K. (July, 2016). Analysis of the Scientific Literature on Abortion and Women's Mental Health. Association for Research in Values and Social Change, Annual Meeting, Washington, DC.

Coleman, P. K. (July, 2016). Pro-Abortion Bias in Professional Organizations: American Psychological Association. Association for Research in Values and Social Change, Annual Meeting, Washington, DC.

Coleman, P. K. (February, 2016). Mental Health Risks of Abortion: The Evidence and Contemporary State Policies, Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME Meeting.

Coleman, P. K. (October, 2015). The Negative Impact of Abortion on Women and Families. Key Note Speaker, West Virginia for Life, Annual Convention.

Coleman, P. K. (July, 2015). Psychological Risks of Abortion: challenges and inroads to gathering data, informing the public, and effecting change. Association for Research in Values and Social Change, Annual Meeting, New Orleans, LA.

Coleman, P. K. (March, 2015). The Relative Risk of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality. Franciscan University, Steubenville, OH.

Coleman, P. K. (February, 2015). Fetal Anomaly and the Increased Maternal Psychological Toll Associated with Pregnancy Termination, Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME Meeting.

Coleman, P. K. (November, 2014). The Relative Risk of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality. Keynote Speaker for the Kentucky Doctors for Life Foundation, Louisville, KY.

Coleman, P. K. (June, 2014). The Relative Risk of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality. Presentation for the International Association for Research in Values and Social Change, Louisville, KY.

Coleman, P. K. (February, 2014). Abortion and Intimate Partner Violence: Intervening to Save Lives, Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME Meeting.

Coleman, P. K. (November, 2013). Abortion vs. Childbirth: The Latest Evidence on Psychological Risk. Keynote Speaker for Annual Conference, The deVeber Institute for Bioethics and Social Research, Toronto, CA.

Coleman, P. K. (October, 2013). Served as a keynote speaker for the 2013 Real Choices Conference: Abortion Symposium: Ideology and Informed Consent" Delivered two presentations titled: 'Informed Consent Averted: what women are told and what women should be told regarding mental health risks' and 'Coercion to Abort: understanding a

hidden form of interpersonal violence' Melbourne, Victoria, Australia.

Coleman, P. K. (September, 2013). The Relative Risk of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality Presentation at the Annual Care Net Conference, Denver, Colorado.

Coleman, P. K. (February, 2013). Reaching Women Before the Decision to Abort: Mental Health Research Priorities Presentation for the American Association of Pro-Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting, Washington, DC.

Coleman, P. K. (February, 2012). The Relative Safety of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality, Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME Meeting.

Coleman, P. K. (September, 2012). The Relative Safety of Abortion vs. Childbirth: A Focus on Psychological Morbidity and Mortality. International Symposium on Maternal Health, Dublin, Ireland.

Coleman, P. K. (September, 2012). Abortion and Women's Mental Health, Stormont Parliament Address, Belfast, Ireland.

Coleman, P. K. (May, 2012). Served as a keynote speaker for the 2012 Real Choices Conference: "Setting the Standards." Delivered two presentations titled: *The Psychology of Abortion: Addressing the Critical Questions to Maximize Women's Health in 2012* and *Reproductive Outcomes and Mortality: Debunking the Myth that Abortion is Safer than Childbirth Using Existing and New Data*, Melbourne, Victoria, Australia.

Coleman, P. K. (May, 2012). Abortion and Women's Mental Health: Research to Practice. Australian Family Association, Melbourne, Victoria, Australia.

Coleman, P. K. (May, 2012). Abortion and Women's Mental Health: Research to Practice. Parliament House, Sydney, New South Wales, Australia.

Coleman, P. K. (May, 2012). Abortion and Women's Mental Health: Research to Practice. Parliament House, Brisbane, Queensland, Australia.

Coleman, P. K. (May, 2012). Abortion and Women's Mental Health: Research to Practice. Emily's Voice, Toowoomba, Queensland, Australia.

Coleman, P. K. (March, 2012). Abortion and Women's Mental Health: Knowledge to Practice. Colloquium on the Psychological Effects of Abortion, UK Parliament, London, England.

Coleman, P. K. (March, 2012). Abortion and Women's Mental Health: Knowledge to Practice. The McAuley Education Center, Mater Hospital, Dublin, Ireland.

Coleman, P. K. (February, 2012). The Psychology of Abortion: Addressing the Critical Questions to Maximize Patient Care in 2012. Presentation for the American Association of Pro-Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting.

Coleman, P. K. (February, 2012). Reproductive History and Long-Term Mortality Rates: A Progress Update on the Danish Population-Based Study. Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME Meeting.

Coleman, P. K. (September, 2011). Abortion and Women's Mental Health: Helping through Knowledge. Care Net Annual Conference, Orland FL.

Coleman, P. K. (October, 2011). Abortion and Women's Mental Health: Knowledge to Practice. Healing Vision International Conference, Milwaukee, WI.

Coleman, P. K. (October, 2011). Abortion and Mental Health: Knowledge to Practice. Women in Medicine and Dentistry Annual Conference, Scottsdale, AZ. Coleman, P. K. (October, 2011). Abortion and Mental Health: Knowledge to Practice.
University of Chile, Santiago, Chile.

Coleman, P. K. (May, 2011). Abortion and Mental Health: Research to Practice. Keynote Address for the First National Convention of Real Choices Australia, Collaroy, NSW, Australia.

Coleman, P. K. (May, 2011). Medical Abortion: An update on Psychological Risks to Women. First National Convention, Real Choices Australia, Collaroy, NSW, Australia.

Coleman, P. K. (March, 2011). Abortion and Mental Health: Research to Practice. Commission on the Status of Women, 55th Session United Nations.

Coleman, P. K. (March, 2011). Medical Abortion and Women's Mental Health. Commission on the Status of Women, 55th Session United Nations.

Coleman, P. K. (January, 2011). Abortion and Women's Mental Health: Research to Practice: Presentation for the American Association of Pro-Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting.

Coleman, P. K. (January, 2011). Abortion and Women's Mental Health: Model Research:

Presentation for the American Association of Pro-Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting.

Coleman, P. K. (January, 2010). Evidence-Based Practice in Informed Consent for Abortion: Toward More Systematic Qualitative and Quantitative Reviews of the Literature Presentation for the American Association of Pro-Life Obstetricians and Gynecologists Annual CME meeting.

Coleman, P. K. (January, 2009). Abortion and Mental Health: The APA Task Force Report of the Literature and the Reality. Presentation for the American Association of Pro- Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting.

Coleman, P. K. (March, 2009). Abortion and Mental Health: The APA Task Force Report of the Literature and the Reality. Commission on the Status of Women, 53rd Session United Nations, March 2009.

Coleman, P. K. (October, 2008). APA Task Force Report on Abortion and Mental Health: A Violation of the Ethics of Science and a Breech of Public Responsibility. Panel Presentation, Family Research Council, Washington, DC.

Coleman, P. K. (October, 2008). Abortion and Mental Health Research Panel Presentation, Family Research Council, Washington, DC.

Coleman, P. K. (January, 2008). Does abortion hurt intimate relationships? Review of the evidence. Presentation for the American Association of Pro-Life Obstetricians and Gynecologists, Annual CME meeting.

Coleman, P. K. (January, 2008). Post-abortion mental health research: update and quality of Evidence. Presentation for the American Association of Pro-Life Obstetricians and Gynecologists (a special interest group of the American College of Obstetricians and Gynecologists), Annual CME meeting.

Coleman, P.K. (November, 2007). Abortion and Mental Health. First Meeting of the Lisbon Medical Studies about Life: The impact of abortion on women's health, Lisbon, Portugal.

Coleman, P. K. (March, 2007). Maternal-Fetal Attachment. 51st Session on the Status of Women, United Nations.

Coleman, P. K. (March, 2007). Post-abortion mental health research: update and quality of evidence. 51st Session on the Status of Women, United Nations.

Coleman, P. K. (Feb, 2007) Post-abortion mental health research: update and quality of evidence. Furman University.

Coleman, P. K. (Nov, 2006) Post-abortion mental health research: update and quality of evidence. Princeton University. Refereed Papers

Dawson, E., Haar, C., Pobocik, R., Coleman, P., Babies, K., Houston, M.S. (July, 2007). Increased self-efficacy and dairy consumption resulting from a dairy curriculum or junior high school students. Society for Nutrition Education, Chicago, Il.

Dawson, E., Haar, C., Pobocik, R., Coleman, P., Babies, K., Houston, M.S. (April 2007). Development of an instrument to assess self-efficacy and behavior related to dairy foods in adolescents. Experimental Biology, Washington, DC.

Coleman, P. K. (March, 2007). Development of Parenting Self-Efficacy during the First Six Months (Troutman, B.R., Chair). Serving as Discussant for symposium accepted for presentation at the Biennial Meeting of SRCD.

Coleman, P. K. (April, 2005). Resolution of Unwanted Pregnancy during Adolescence: Predictors and Consequences. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Atlanta, GA.

Coleman, P. K. (July, 2004). Partner violence, induced abortion, and women's mental health. Paper presented at the Annual American Psychological Association Convention, Honolulu, HI.

Coleman, P. K., & *Maxey, C. D. (May, 2004). Pregnancy resolution and substance use in the Fragile Families and Well-being Study. Poster presented at the 16th annual meeting of the American Psychological Society, Chicago, IL.

Karraker, K. H., Wiedman, C., & Coleman, P. K. (May, 2004). Infancy in life-span perspective: Relationships between infants and family members. In K. Karraker (Chair), The role of infants in family relationships across the life-span. Symposium paper presented at the 14th Biennial International Conference on Infant Studies, Chicago, IL.

Coleman, P. K., & Karraker, K. H. (April, 2004). Parenting self-efficacy, competence in Parenting, and possible links to children's social and academic outcomes. 12th International Roundtable on School, Family, and Community Partnerships.

Coleman, P. K., Reardon, D. C., & Cougle, J. (June, 2003). Substance use associated with prior history of abortion and unintended birth: A national cross sectional cohort study. Presented at the 15th annual meeting of the American Psychological Society, Atlanta, GA.

Coleman, P. K., Karraker, K. H., *Lowe, M., *Murden, R., *Reid, C.,& *Merchant, M. (April, 2003). Prenatal and postnatal correlates of parenting self-efficacy. Poster presented at the meeting of the Society for Research in Child Development, Tampa, FL.

Coleman, P. K., Reardon, D. C., Rue, V., & Cougle, J. (June, 2002). Prior history of induced abortion and substance use during pregnancy. Poster presented at the American Psychological Society, 14th Annual Convention, New Orleans, LA.

Reardon, D. C., Ney, P. G., Scheuren, F. J., Cougle, J. R., Coleman, P. K., & Strahan, T. W. (May, 2002). Suicide associated with pregnancy outcome: A record linkage study of low income American women. Poster presented at the American Psychiatric Association Meeting, Philadelphia, PA.

Coleman, P. K. (April, 2002). Self-efficacy beliefs, parenting, and toddler behavior and development. In M. Stern (Chair), Maternal expectations, caregiving and infant outcomes. Symposium paper presented at the 13th Biennial International Conference on Infant Studies, Toronto, Canada.

Coleman, P. K., & Neilsen, A. (April, 2002). Length of institutionalization, contact with relatives, and previous hospitalizations as predictors of social and emotional behavior in young Ugandan Orphans. Poster presented at the 13th Biennial International Conference on Infant Studies, Toronto, Canada.

Karraker, K. H., Atkins, M., Coleman, P. K., & Cottrell, L. E. (April, 2002). Mothers' expectations for their infants' performance on the Bayley Scales of Infant Development. In M. Stern (Chair), Maternal expectations, caregiving and infant outcomes. Symposium paper presented at the 13th Biennial International Conference on Infant Studies, Toronto, Canada.

Coleman, P. K., *Bryan, S., *King, B., *Trent, A., *Anderson, J., *Cavender, N., *Nalley, I. *Nazir, M., *Novarese, A., & *Rogers, N. (June, 2001). Mothers' self-efficacy beliefs, parenting behavior, and toddler performance on the Bayley Scales of Infant Development. Poster presented at the American Psychological Society, 13th Annual Convention, Toronto, Canada.

Coleman, P. K., Reardon, D. C., & Cougle, J. (June, 2001). Child developmental outcomes associated with maternal history of abortion using the NLSY data. Poster presented at the American Psychological Society, 13th Annual Convention, Toronto, Canada
.
Coleman, P. K. (April, 2001). Interpersonal correlates of peer victimization in young adolescents. Poster presented at the meeting of the Society for Research in Child Development, Minneapolis, MN.

Coleman, P. K., *Bryan, S. *King, B., & *Trent, A. (March, 2001). Mechanisms linking parenting self-efficacy beliefs to parenting competence and toddler development. Poster presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Coleman, P. K., Reardon, D. C., & Cougle, J. (March, 2001). Child developmental outcomes associated with maternal history of abortion using the NLSY data. Poster presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Coleman, P. K., Reardon, D. C., Rue, V. & Cougle, J. (March, 2001). State-funded abortions vs. deliveries: A Comparison of outpatient mental health claims over six years. Poster presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Cougle, J., Reardon, D. C., & Coleman, P. K. (March, 2001). Depression associated with abortion and childbirth: A long-term analysis of the NLSY cohort. Poster presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Cougle, J., Reardon, D. C., Rue, V., Shuping, M., Coleman, P. K., & Ney, P. (March, 2001). Psychiatric admissions following abortion and childbirth: A record-based study of low- income women. Poster presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Reardon, D. C., Ney, P., Schueren, F., Cougle, J., & Coleman, P. K. (March, 2001). Suicide deaths associated with abortion: A record linkage study. Symposium paper presented at the 1st World Congress on Women's Mental Health, Berlin, Germany.

Karraker, K. H., Coleman, P. K., & Cottrell, L. (July, 2000). Prenatal and postnatal maternal self-efficacy. Poster presented at the 12th Biennial International Conference on Infant Studies. Brighton, UK.

Coleman, P. K., *Anderson, J., *Bryan, S., *Byrd, C., *King, B., *Lacy, A., *Novarese, A., & *Trent, (April, 2000). Potential process mechanisms linking parenting self-efficacy beliefs to parenting competence and toddler development. Poster presented at the 16th biennial meeting of the Conference on Human Development, Memphis, TN.

Coleman, P. K., *Anderson, J., *Bryan, S., *Byrd, C., *King, B., *Lacy, A., *Novarese, A., & *Trent, A. (April, 2000). Potential process mechanisms linking parenting self-efficacy beliefs to parenting competence and toddler development. Poster presented at Scientific Sewanee.

Coleman. P. K., Karraker, K. H, & Cottrell, L. (April, 2000). Prenatal and postnatal maternal cognitions as predictors of infant behavior and parenting competence in mothers of 3-6 month old infants. Poster presented at the 16th biennial meeting of the

Conference on Human Development, Memphis, TN.

Coleman, P. K., & Reardon, D. C. (June, 2000). State-Funded Abortions vs. Deliveries: A Comparison of Subsequent Mental Health Claims Over Six Years. Poster presented at the American Psychological Society, 12th Annual Convention, Miami, FL. Coleman, P. K., & Erwin, T. D. (June, 1999). Novelty-seeking and persistence among college students: Preliminary study of the Curiosity Index. Poster presented at the American Psychological Society, 11th Annual Convention, Denver, CO.

Coleman, P. K., & Karraker, K. H. (April, 1999). Maternal self-efficacy beliefs as predictors of parenting competence and toddlers' behavior and development. Poster presented at the meeting of the Society for Research in Child Development, Albuquerque, NM.

Karraker, K. H., & Coleman, P. K. (April, 1999). Mothers' predictions of their toddlers' performances on the Bayley Scales of Infant Development. Poster presented at the meeting of the Society for Research in Child Development, Albuquerque, NM.

Karraker, K. H., & Coleman, P. K. (May, 1998). Parenting self-efficacy beliefs among mothers of school age children. Poster presented at the American Psychological Society, 10th Annual Convention, Washington, DC.

Coleman, P. K. (April, 1997). Toward a dynamic system of child development: The importance of changing environments and person-context relations. In A. W. O'Reilly (Chair), Dynamic systems theory: Taking seriously the complexity of organism-behavior-environment relations. Paper symposium conducted at the meeting of the Society for Research in Child Development, Washington, DC.

Coleman, P. K., & Nelson, E. S. (April, 1997). The quality of abortion decisions and college students' reports of post-abortion emotional sequelae and abortion attitudes. Poster presented at the meeting of the Society for Research in Child Development, Washington, DC.

*student collaborator

Professional Service

Founder and Director of the World Expert Consortium for Abortion Research and Education (WECARE). The website for this 501c(s), June, 2011-present. is www.wecareexperts.org

Served as an external reviewer for Stacy Thompson's promotion to Full Professor, Southern Illinois University (Sept, 2016).

Served as an external reviewer for Dr. Alice Hall's promotion to Full Professor, Georgia Southern University (Aug, 2016).

Served as an external reviewer for Dr. Shannon Zentall, applicant for tenure and promotion to Associate Professor in Child and Family Development in the School of Family and Consumer Sciences, University of Akron (Aug, 2015)

Served as an external reviewer for M. Angela Nievar's application for tenure. Development and Family Studies Program, Educational Psychology Department, University of North Texas. (Fall, 2009)

Served as a reviewer for a report produced by the American Psychological Association Task Force on Abortion and Mental Health; submitted a 10 single-spaced page evaluation of their 80 page document reviewing the published literature between 1990 and 2007. November, 2007.

Served on the Scientific Committee for an international conference entitled "Abortion: Causes, Ramifications, Therapy" sponsored by the Demographic Committee of the Polish Academy of Science, The Ombudsman for Children in Poland, and the Institute of Psychiatry and Neurology (June, 2004).

Serving on the Council of Healthcare Advisors, Gerson Lehrman Group. The Council of Healthcare Advisors provides investment analysts access to a highly structured network of industry and academic experts to conduct surveys, phone consultations, and arrange in-person events (Fall, 2003-present).

Editorships of Journals

Editorial Board Member for "Current Women's Health Reviews." (June 04 – present)

Editorial Board Member for the Open General/Internal Medicine Journal, Feb 2007-present

Editorial Board Member for the Open Women's Health Journal, 2008-present Editorial Board

Member for the World Journal of Psychiatry, 2011-present.

Editorial Board Member, Child Development Research, 2011 – present

Reviewer for Submissions

Addiction
Annales Academiae Medicae Bialostocensis
BMC Pregnancy and Childbirth
British Journal of Medicine and Medical
British Journal of Psychiatry
Current Women's Health Reviews
Depression and Anxiety
Developmental Psychology
European Journal of Clinical Nutrition
European Journal of Psychology of Educations
Family Relations
General Hospital Psychiatry
Infant Behavior and Development
International Internet Journal of Mental Health
Issues in Law and Medicine
Journal of Adolescence
Journal of Applied Developmental Psychology
Journal of Child Psychology and Psychiatry and Allied Disciplines
Journal of Clinical and Social Psychology
Journal of Developmental Processes
Journal of Family Psychology
Journal of Medical Ethics
Journal of Pediatrics
Journal of Personality and Social Psychology
Journal of Psychiatric Research
Journal of Reproductive and Infant Psychology
Journal of Women's Health and Gender-Based Medicine
Journal of Youth and Adolescence
New England Journal of Medicine
Obstetrics and Gynecology International
Open Family Studies Journal
Open Women's Health Reviews
Parenting: Science and Practice
Psychology, Health, and Medicine
Psychology in the Public Interest
Research to Practice Journal for the Intervention Field
Social Problems
Social Sciences and Medicine

The Lancet
Women's Health Issues

Expert Testimony

Serving as an expert witness in Planned Parenthood Minnesota, North, Dakota, South Dakota, and Carol E. Ball, MD, Plaintiffs, vs. Dennis Daugaard, Governor SD, Marty J. Jackley, Attorney General SD, ALPHA CENTER, Sioux Falls, SD, Intervenors. House Bill 1217. Aug 2011-Present

Served as a Content Expert for the Office of the Attorney General, Civil Litigation Division as an expert witness on behalf of the State of North Dakota in defense of House Bill 1456. Sept 2013-Jan, 2014

Affidavit submitted in a Brief of Women and Families Hurt by RU-486 as Amici Curiae In Support of Petitioners in the Supreme Court of the United States in the case of Terry Cline, in his official capacity as Oklahoma Commissioner of Health, et al., Petitioners, v. Oklahoma Coalition for Reproductive Justice et al., Respondents on Petition for a Writ of Certiorari to the Supreme Court of Oklahoma. April, 2013

Provided Oral testimony as an expert witness for Senate Bill 49, State of Alaska March, 2013

Provided expert testimony for Ohio House Bill 78, Post-Viability Ban, March, 2011.

Affidavit submitted in the case of PLANNED PARENTHOOD OF THE HEARTLAND vs. DAVE HEINEMAN, Governor of Nebraska: JON BRUNING, Attorney General of Nebraska; KERRY WINTERER, Chief Executive Officer, and DR. JOANN SCHAEFER, Director of the Division of Public Health, Nebraska Department of Health and Services; and CRYSTAL HIGGINS, President, Nebraska Board of Nursing, and BRENDA BERGMAN-EVANS, President, Nebraska Board of Advanced Practice Registered Nurses, July 1010.

Affidavit submitted to the Supreme Court of the United States in support of Amicus Brief of Sandra Cano, the former "Mary Doe" of Doe v. Bolton and the American Association of Pro-Life Obstetricians and Gynecologists (AAPLOG) in Rosa Acuna v. Sheldon C. Turkish, M.D., May, 2008.

Provided Expert Testimony, Health Sub-committee, Committee on Energy and Commerce, U.S. House of Representatives. H.R. 20, the Melanie Blocker-Stokes Postpartum Depression and Care Act, Washington, DC, May 1, 2007

Expert witness for the Plaintiffs, Zallie v. Brigham, Camden, NJ, August, 2007-2011

Expert witness for the Plaintiffs, ROE ET AL. v. PLANNED PARENTHOOD, Cincinnati, OH, September, 2006-2010

Expert witness for the defense in PLANNED PARENTHOOD MINNESOTA, NORTH DAKOTA, SOUTH DAKOTA, and CAROL E. BALL, M.D., Plaintiffs, v. MIKE ROUNDS, Governor, and LARRY LONG, Attorney General, Defendants Civil Case No.: 05-4077. HB 1166, December 2005-2012.

Assisted legislation consultant, Vincent Rue, Ph.D. hired by Attorney General Phil Kline of Kansas in the defense of a mandatory underage sexual activity reporting statute (S.A. 38-1522), AID FOR WOMEN v FOULSON, Federal District Court, October, 2005-February 2006

Provided expert testimony for Ohio House Bill 239 pertaining to studies comparing the psychological effects of abortion versus childbirth, October 12, 2005.

Provided expert testimony to the South Dakota Task Force to Study Abortion on post-abortion mental health literature accumulated since 1973. The task force consists of eight legislators and nine medical and legal professionals and interested lay persons charged with studying the application of medical, psychological, technological, societal, economic, and sociological developments and research to legislative and public policy formulations on abortion issues. The testimony was presented during hearings at the State Capitol in Pierre, South Dakota Non-Profit, September 21, 2005

Honors and Awards

Phi Kappa Phi, West Virginia University, 1997 – present
Recipient of College of Education and Human Development Faculty Scholarship Award, $1,000, August, 2004
Recipient of Eberly College of Arts & Sciences WVU $450 Doctoral Award, 1998
Doctoral Qualifying Exams "Pass with Distinction," 1997
Recipient of Eberly College of Arts & Sciences WVU $200 Student Travel Award, 1997
Recipient of SRCD $300 Student Travel Award, 1997
Recipient of $2,000 HERF Fellowship 1997

IN THE UNITED STATES DISTRICT COURT FOR
THE WESTERN DISTRICT OF MISSOURI
CENTRAL DIVISION

COMPREHENSIVE HEALTH OF PLANNED PARENTHOOD GREAT PLAINS, et al. Plaintiffs, v. PETER LYSKOWSKI, in his official capacity as Director of the Missouri Department of Health and Senior Services, et al., Defendants.	)	Case No. 2:16-cv-04313-HFS

SUPPLEMENTAL DECLARATION OF TUMULESH K. S. SOLANKY

I, Tumulesh K. S. Solanky, do hereby state under oath as follows:

1.

I had previously submitted a declaration in this case entitled "DECLARATION OF TUMULESH K. S. SOLANKY" dated January 9, 2017.

2.

I have reviewed the following additional list of documents and materials since my declaration dated January 9, 2017: REBUTTAL DECLARATION OF DAVID L. EISENBERG IN SUPPORT OF PLAINTIFFS' MOTION FOR A PRELIMINARY INJUNCTION dated January 31, 2017; REBUTTAL DECLARATION OF STANLEY K. HENSHAW, PH.D. IN SUPPORT OF PLAINTIFFS' MOTION FOR A PRELIMINARY INJUNCTION dated January 31, 2017; REPLY SUGGESTIONS IN SUPPORT OF PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION dated January 31, 2017.

3.

In my January 9, 2017 declaration, I reported that the decrease in the number of abortions per 1,000 live births for Missouri residents shows a general downward pattern following a straight line and the year of abortion is able to predict 98.5% of the variation in the number of abortions per 1,000 live births for the Missouri residents. It was also reported that there is strong correlation of 0.94 between the number of abortions per 1,000 live births for the Missouri residents and for the entire US. The large correlation value of 0.94 (statistically significant with P-Value smaller than 0.0001) indicates that the factors which have potentially impacted the Missouri rate must have also impacted the US rate in about equal proportions, and vice versa. This along with the fact that the year of abortion is strong predictor for the Missouri rate and also for the US rate indicates that the number of available abortion facilities in Missouri has potentially negligible impact on the number of Missouri resident's abortions.

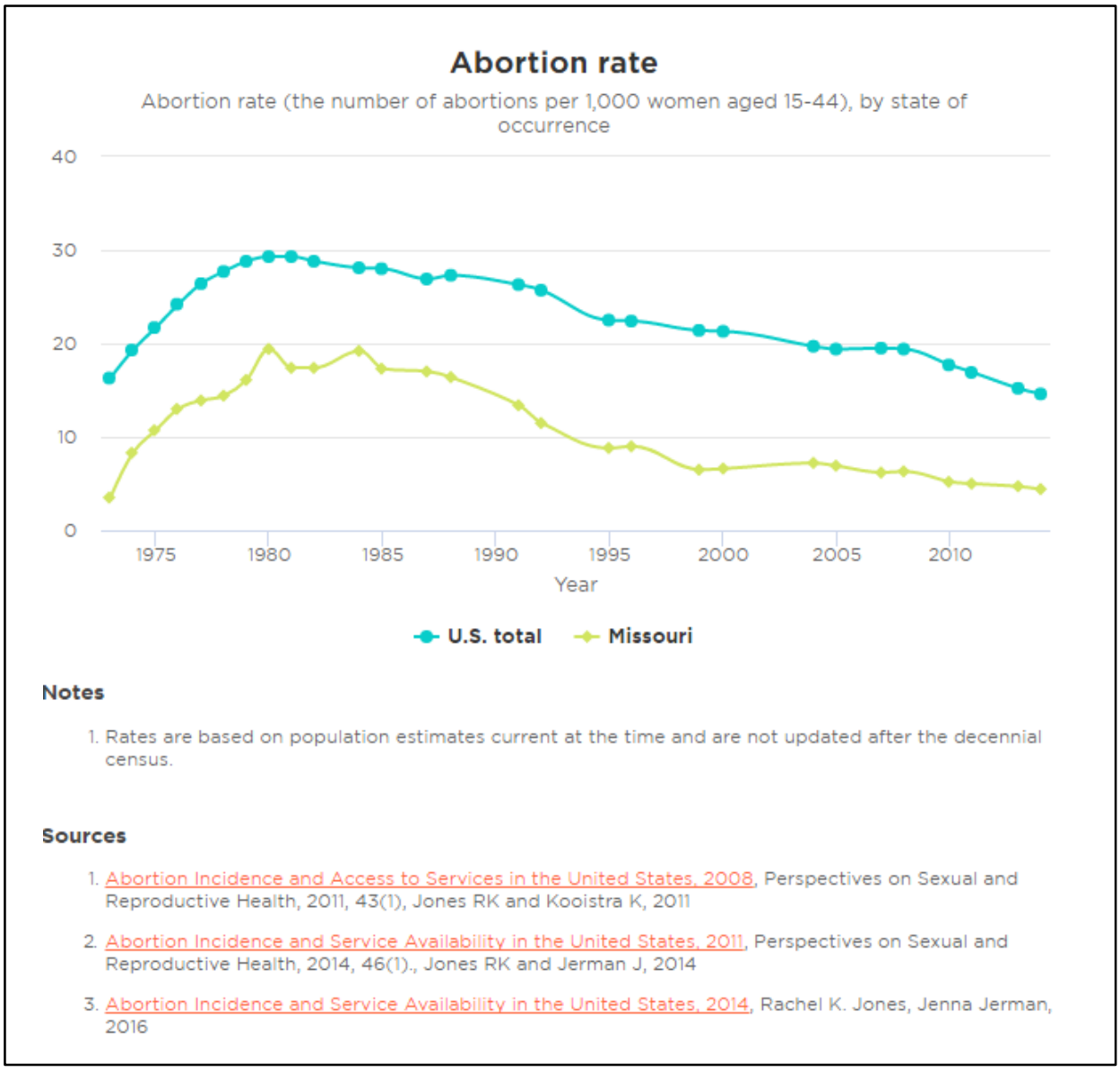
4.

Dr. Henshaw in his declaration ¶ 4, 7, and 9 has criticized me for using the CDC data, and has stated that CDC data is incomplete as it does not include data from California and there are other states who also do not report complete data to CDC. However, the same conclusions are obtained even with the data from the Guttmacher Institute. In Figure 1 below, using the Guttmacher Institute data, the abortion rate (number of abortions per 1,000 women aged 15-44) is provided for Missouri and also for the entire United States.

The correlation between the US abortion rate and the Missouri abortion rate is 0.956 using the Guttmacher Institute data (statistically significant with P-Value smaller than 0.0001). Again indicating that the factors which have potentially impacted the Missouri

rate must have also impacted the US rate in about equal proportions, and vice versa. These two rates are depicted in the Figure 1 below.

Figure 1: US and Missouri Abortion Rate Based on Guttmacher Institute Data



5.

Since my January 9, 2017 declaration, several reports have been published by researchers at the Guttmacher Institute which support my overall statistical conclusion

that the number of available abortion facilities in general have potentially negligible impact on the abortion rates in United States. These recent studies have reported that the evidence suggests that there are other factors which have played a larger role in lowering the abortion rates.

6.

Based on the published article by Jones and Jerman (2017)[1] who are researchers at the Guttmacher Institute, there appears to be no correlation between the number of clinics and abortion rates. The lack of correlation, is evident from the fact that, for example, the number of clinics in the Midwest declined 22% during the study period, for instance, while the abortion rate in that region declined 9%. And, in the Northeast, however, the number of clinics increased 14% and the abortion rate declined 11% between 2011 and 2014.

7.

The article Jones and Jerman (2017) in its conclusion states that the relationship between abortion access, as measured by the number of clinics, and abortion rates is not straightforward. And, further research is needed to understand the decline in abortion incidence.

8.

[1] Jones, R. K. and Jerman, J. (2017), Abortion Incidence and Service Availability In the United States, 2014. Perspect Sex Repro H. doi:10.1363/psrh.12015.

In another recent article, Joerg Dreweke (2017) [Guttmacher Policy Review, Vol. 20, 2017] titled "U.S. Abortion Rate Reaches Record Low Amidst Looming Onslaught Against Reproductive Health and Rights", the study has reported that the evidence suggests that contraception and fewer unintended pregnancies played a larger role in these most recent declines than new abortion restrictions. And, well over 60% of the decline in the number of abortions occurred in states without new restrictions.

The study also reported that there is no clear pattern linking restrictions and declines in abortion incidence. Of the 22 states with major new restrictions in effect, eight had abortion declines that were greater than the national average. But among the 28 states and the District of Columbia that did not have major new restrictions in effect, 10 states had larger-than-average declines as well. In addition, four of the 22 states with new restrictions actually saw increases in their abortion rates, compared with two states and DC in the group without new restrictions.

Joerg Dreweke (2017) has also stated that new restrictions can be ruled out as having had any impact in 28 states and the District of Columbia, given that they did not put any new measures into effect. Of those 29 jurisdictions, all but three saw abortion declines in 2011–2014, and combined they accounted for 62% of the total decline in the number of U.S. abortions.

9.

In general, in his rebuttal declaration, Dr. Henshaw has relied upon some outdated reports and has assumed that any decrease in the abortion rate that has happened over the years must have been due to the restrictions or decrease in the number of abortion clinics.

Dr. Henshaw in his declaration has simply ignored the impact contraception and fewer unintended pregnancies played in the decreased abortion rate. Dr. Henshaw's declaration also completely ignores that there has been quite steady decrease in the abortion rates even in the states where the number of abortion facilities have increased, and, in the states where the number of abortion facilities have remained unchanged.

Due to these flaws the projections in Henshaw Decl. ¶ 26 and 27, concluding that at least 15-20% women in Joplin area, or 20-25% women in Columbia and Springfield area would be prevented from obtaining an abortion are inaccurate and misleading.

10.

Dr. Henshaw has reported incomplete data to exaggerate the unavailability of abortion clinics for the Missouri women of reproductive age, Henshaw Decl. ¶ 26 and 27.

As reported in Solanky Decl. ¶ 8, Missouri women of reproductive age would have to travel an average of approximately 64 miles to obtain abortion services if facilities in St. Louis, Missouri and in the nearby states are available for abortion. Under the hypothetical scenario that there are four additional facilities, located in Kansas City, Columbia, Joplin and Springfield, Missouri, then the Missouri women would have to travel an average of approximately 38 miles to obtain abortion services, a decrease of 26 miles.

As reported in Solanky Decl. ¶ 10, approximately 96% of the Missouri women of reproductive age would have to travel 150 miles or less to obtain abortion services if facilities in St. Louis, Missouri and in the nearby states are available for abortion. Under the hypothetical scenario that there are four additional facilities, located in Kansas City,

Columbia, Joplin and Springfield, Missouri, then approximately 99% of Missouri women of reproductive age would have to travel 150 miles or less to obtain abortion services.

The complete statistics on driving distance by Missouri women of reproductive age was provided in the Solanky Decl.: Tables 1, page 15 and Table 2, page 16.

11.

The studies Dr. Henshaw has relied upon, Grossman et al. (2017) and Grossman et al. (2014), Henshaw Decl. ¶ 16, ¶ 17, ¶ 18, ¶ 19 and ¶ 20, study the impact of restrictions or the availability of abortion clinics on the abortion rate by considering only the state of Texas where it is already known that

(i). that the abortion rate had decreased over the years 2012-2014 in the state, and

(ii). there had been decrease in the number of available abortion clinics or facilities in the state, which would produce larger distances or driving distances.

And, then based on this small data for 3 years from 2012 to 2014 from Texas, the studies claim that whatever drop in abortion rate that has been observed in Texas over the study period must have been due to the increased distance. And, Dr. Henshaw has applied those results to project that the research he reviewed would be applicable to entire United States and to project the percentage of women who would be prevented from seeking abortion, Henshaw Decl. ¶ 18, 26 and 27.

12.

Drawing conclusions from such incomplete studies which fail to take into account other factors impacting the abortion rate has the potential to generate misleading results. The scientific value of these studies can be tested by applying their underlying theory to the same states over the years when there has been no change or little change in the number of available abortion clinics or facilities in the state.

For example, in Texas prior to the Texas House Bill 2, enacted in 2013, the abortion rate per 1,000 women aged 15-44 years had dropped from 16.2 to 13.5 between the years 2008 to 2011. A drop of 17% in the abortion rate and during the same period 2008 to 2011, the number of abortion clinics in Texas decreased marginally from 50 to 46—a drop of 8% [Source: Jones and Jerman[2] (2014)]. Whereas, abortion rate declined from 13.5% to 9.8%-- a drop of 28% in Texas between 2011 and 2014 after the Texas House Bill 2 [Source: Jones and Jerman (2014)]. From 2011-14, the number of abortion clinics in Texas decreased from 46 to 28—a drop of 39%. This data indicates that there is no strong correlation between the decline in abortion clinics and the decline in abortion rate.

Further, the underlying theory which Dr. Henshaw has relied upon to make projections, Henshaw Decl. ¶ 26 and 27, is clearly contradicted in Wisconsin where the abortion rate dropped 21 percent, whereas there was no change in the number of abortion clinics from 2011 to 2014 [Source: Jones and Jerman (2014)].

Jones and Jerman (2014) has stated that it is crucial to note that abortion rates decreased by larger-than-average amounts in several states that did not implement any new

[2] Jones RK and Jerman J, Abortion incidence and service availability in the United States, 2011, *Perspectives on Sexual and Reproductive Health,* 2014, **46**(1):3–14, doi:10.1363/46e0414.

restrictions between 2008 and 2010, such as Illinois (18%) and Oregon (15%). So, even in states like Louisiana and Missouri, we cannot assume that the new restrictions were responsible for the decline in abortion incidence.

13.

In general, the studies Dr. Henshaw has relied upon have based their findings on correlation and have not even attempted to prove causation. It is well known in the scientific literature that correlation does not prove causation. The studies also fail to acknowledge the existence and impact of factors which can potentially impact the abortion rate.

A number of recent studies by the researchers of the Guttmacher Institute, such as, Joerg Dreweke (2017) [Guttmacher Policy Review, Vol. 20, 2017] have reported that the evidence suggests that contraception and fewer unintended pregnancies played a larger role in these most recent declines than new abortion restrictions.

Dr. Henshaw in the research article he had co-authored in year 2008 with other researchers from the Guttmacher Institute [Rachel K. Jones, Mia R. S. Zolna, Stanley K. Henshaw and Lawrence B. Finer Jones, "Abortion in the United States: incidence and access to services, 2005." *Perspectives on sexual and reproductive health* 40.1 (2008): 6-16] had concluded that the numbers of abortions and the abortion rate continued their long-term decline through 2005. Reasons for this trend are unknown but may include improved access to and use of contraceptives or decreased access to abortion services.

14.

Dr. Henshaw, Decl. ¶ 13 and 14, has also relied on Shelton et al (1976) to state that for every 10 miles of distance from Atlanta, there was a decline of 6.7 abortions per 1,000 live births.

First of all, the Shelton study is based on the data from 1974—about a year after abortion became legal in Georgia—and clearly a lot has changed since 1974. Such as: there was no internet then; there were fewer options for public transportation; car ownership has increased; and the social acceptance of abortion has increased. The Shelton study looked at the number of abortions per 1,000 live births in 159 counties in Georgia and used distance in miles from Atlanta to measure the distance someone must drive for abortion. Shelton assumed that since 90% of the abortions in 1974 were in Fulton and De Kalb Counties—which contain metropolitan Atlanta, that all abortions in Georgia were performed in Atlanta. Thus he computed highway distances of the 159 counties from Atlanta. But the Shelton study did not consider the impact of the remaining 10% abortions which were carried out in Georgia outside of the Fulton and De Kalb Counties. As there were 22,000 abortions in Georgia in the year 1974, the 10% (or 2,200 abortions) which were disregarded would have significant impact on the study results, especially because all of these would have occurred in counties away from Atlanta.

Shelton has no way of incorporating this information in his analysis unless he changes the study design and bases it on the distance from the nearest available abortion facility and considers all available abortion facilities in Georgia in 1974—and not only the ones in located in the Atlanta area.

Shelton also reports that a number of the 159 counties are rather small. Therefore, whenever subgroups of the population were compared, counties were excluded in which there had been fewer than 10 births per year to any subgroup. It is unclear how much of the data was excluded via this exercise and its potential impact on the projections.

15.

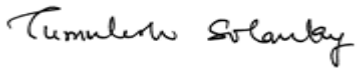
Jones and Jerman (2014) has reported that between 2008 and 2011, the number of clinics providing abortions[3] nationwide declined by only 1%, and decreases in abortion incidence occurred in almost all states, including states that enacted multiple restrictions and states that enacted none. Jones and Jerman (2017) has also reported that fewer women had abortions in 2011 than in 2008 because fewer women became pregnant when they did not want to: Over this period, the proportion of pregnancies that were unintended declined from 51% to 45%, and the rate of unintended pregnancy dropped 18%, from 54 to 45 per 1,000 women.

16.

The abortion rate per 1,000 women aged 15-44 in Missouri was 5.0 in the year 2011 and it was 4.4 in the year 2014--a drop of 12%. In the same time period the rate for entire United States has dropped 13.6% [Source: Jones and Jerman (2017)].

[3] While some hospitals and physicians' offices provided abortions, the overwhelming majority of procedures—95%—were accounted for by clinics [Source: Jones RK and Jerman J, Abortion incidence and service availability in the United States, 2011, *Perspectives on Sexual and Reproductive Health,* 2014, **46**(1):3–14, doi:10.1363/46e0414].

I declare under penalty of perjury that the foregoing is true and correct. Signed this 14th day of February, 2017.



Tumulesh K.S. Solanky