A silhouette of a person with their arms raised in a gesture of celebration or triumph, standing on a wooden deck. The background features a bright sunset over a body of water, with the sun low on the horizon and its light reflecting on the water's surface. The sky is a mix of soft orange and pale blue. To the right, there are some dark silhouettes of trees and utility poles.

*Abortion and Women's
Mental Health:
Knowledge to Practice*

Priscilla K. Coleman, Ph.D.
Bowling Green State University

What does the peer-reviewed literature on abortion and mental health tell us?

To what extent is science influencing contemporary practice?

How do we incite change? ...barriers, progress, and hope for the future.

Psychology of Abortion

The world literature on abortion and women's mental health has grown considerably over the past few decades and the scientific rigor of the published studies has increased substantially.

The focus of the research has been on *identification of risk factors for* and the *frequency of* post-abortion psychological problems.

Risk Factors for Post-Abortion Psychological Problems



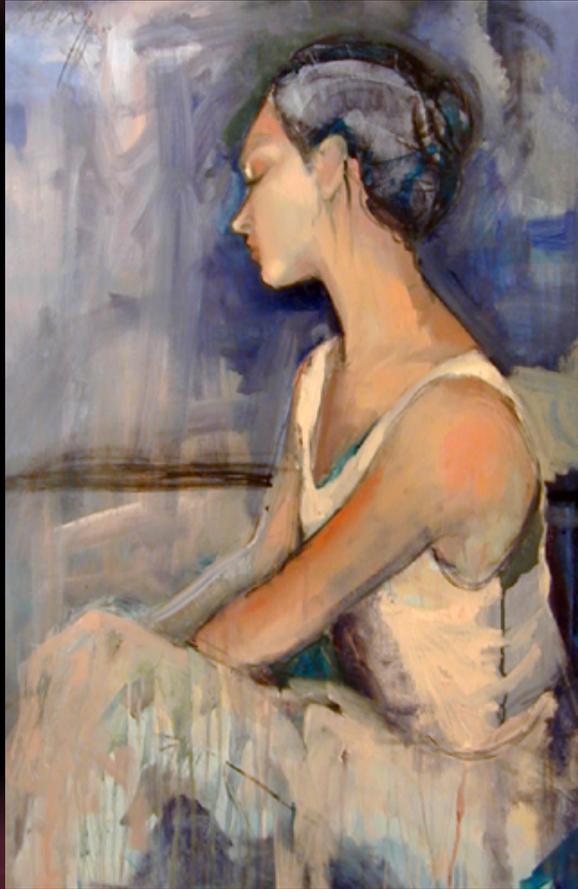
- ❖ Timing in adolescence
- ❖ Unmarried
- ❖ Intended pregnancy
- ❖ 2nd trimester abortion
- ❖ Prior emotional problems or unresolved trauma
- ❖ Conservative views of abortion and/or religious affiliation

Risk Factors for Post-Abortion Psychological Problems

- ❖ Feeling unable to cope with the abortion
- ❖ Pre-abortion ambivalence or decision difficulty
- ❖ Emotional investment in the pregnancy
- ❖ Involvement in violent relationships



Risk Factors for Post-Abortion Psychological Problems



- ❖ Unstable partner relationships
- ❖ Perceptions of one's partner, family members, or friends as non-supportive
- ❖ Feeling forced by one's partner, others, or by life circumstances

Psychological Consequences

An abundant literature comprised of methodologically sophisticated studies from around the world (e.g., U.S., Canada, Great Britain, South Africa, Norway, New Zealand, Australia) now indicates abortion significantly increases risk for the following mental health problems:

- ❖ Depression
- ❖ Anxiety
- ❖ Substance abuse
- ❖ Suicide ideation and behavior



Psychological Consequences

Abortion is further associated with a higher risk for negative psychological outcomes when compared with unintended pregnancy carried to term.

Psychological Consequences

..and the data indicate that risk for long-term psychological injury is considerably higher with abortion than with other forms of perinatal loss.



A silhouette of a person sitting on a beach, looking out at the ocean. The person is in the foreground, and the background shows a calm sea and distant hills under a soft, hazy sky. The overall mood is contemplative and serene.

**A minimum of
20 to 30% of
women who abort
suffer from serious,
prolonged negative
psychological consequences.**

Strengths of Studies Published Over the Last 10 years

❖ Larger samples, many nationally representative

❖ Statistical control over prior psychological history

❖ Control over personal and situational variables associated with the choice to abort. For Example:

*Violence

*Marital status

*Income

*Ethnicity

*Religious beliefs

*Education

*Planning of pregnancy

*Available support

*Reproductive history

*Number of children

Strengths of Studies Published Over the Last 10 years

- ❖ Prospective data collection
- ❖ Use of appropriate control groups
- ❖ More comprehensive measures of mental health, with several studies employing actual diagnostic codes assigned by trained professionals
- ❖ Significantly lower attrition rates in longitudinal studies

A woman with blonde hair is in the foreground, looking directly at the camera with a serious expression. She is wearing a purple top. In the background, a man with dark hair is also looking at the camera with a serious expression. He is wearing a dark suit jacket. The background is a dark, solid color.

Abortion and Relationships

The Impact of Abortion on Relationships

- ❖ Many couples choose abortion believing that the decision will preserve their relationship if one or both partners feel unprepared to have a child.
- ❖ The available data suggests the opposite with abortion causing challenges and introducing stress into the partnership.

The Impact of Abortion on Relationships: What the Research Indicates

❖ Increased risk for sexual problems

- Loss of sexual desire
- Reduced frequency of intercourse
- Loss of orgasmic ability
- Reduced satisfaction



The Impact of Abortion on Relationships: What the Research Indicates

- ❖ More frequent engagement in casual sexual activity and avoidance of intimacy
- ❖ Partner communication difficulties
- ❖ Conflict related to children, relatives, substances, jealousy, and money
- ❖ Domestic violence
- ❖ Separation or divorce



The Impact of Abortion on Relationships: What the Research Indicates



In a literature review, Bradshaw and Slade concluded that 10-20% of women experience abortion-related sexual problems in the early months after an abortion; while 5-20% report sexual difficulties a year later.

Reasons Why Abortion May Introduce Relationship Problems

- ❖ Perceptions of a partner as insensitive or insufficiently supportive.
- ❖ Anger due to relationship-based information (e.g., commitment, long-term plans, etc.) surfacing during abortion decision-making.
- ❖ Abortion-related anger directed inward or outward.

Reasons Why Abortion May Introduce Relationship Problems

- ❖ Unresolved grief and mental health problems in the man, woman, or both individuals.
- ❖ Altered self-perceptions which may result in feelings of estrangement from one's partner.

Our Recent Publications on Abortion and Relationships

Coleman, P.K., Rue, V. M. & Spence, M. (2007). Intrapersonal Processes and Post-Abortion Relationship Challenges: A Review and Consolidation of Relevant Literature: *The Internet Journal of Mental Health*. Vol. 4, No. 2. Available free online.

Coleman, P. K., Rue, V., Spence, M., & Coyle, C. (2008). Abortion and the sexual lives of men and women: Is casual sexual behavior more appealing and more common after abortion? *International Journal of Clinical and Health Psychology*, 8, 77-91.

Coleman, P. K., Rue, V., Coyle, C. (2009). Induced abortion and quality of intimate relationships: Analysis of male and female data from the Chicago Health and Social Life Survey. *Public Health* 123, 331–338.

Two Studies Published in 2010

Adjustment to abortion is highly individualized, as Goodwin and Ogden note: *“women’s responses to their abortion do not always follow the suggested reactions of grief, but are varied and located within the personal and social context.”*

To better understand abortion experiences, we conducted two Internet-based studies with assessments of personal and situational variables likely to lead to distinct responses.

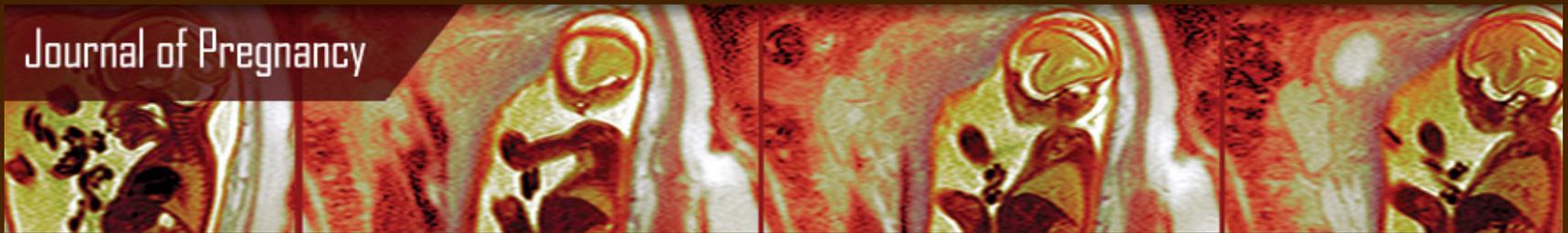


First New Study: Late-Term Abortion

Coleman, P.K., Coyle, C. T., & Rue, V.M. (2010). Late-Term Elective Abortion and Susceptibility to Posttraumatic Stress Symptoms, *Journal of Pregnancy*.

Link to free copy of the full article from this open access peer-reviewed journal:

<http://www.hindawi.com/journals/jp/2010/130519.html>



Late-Term Abortion Study

- ❖ The physical complication rate increases dramatically as abortions are performed in the 2nd trimester. However, relatively little is known about the increased mental health risks associated with late-term abortion. In this study we examined PTSD.
- ❖ We analyzed online surveys completed by 374 women who had either a 1st trimester abortion or a 2nd or 3rd trimester abortion.
- ❖ Most respondents were U.S. citizens (81%), Caucasian (85%), unmarried when they aborted (86%), and generally well-educated. The average amount of time elapsed since the abortion was 15 years.



Results

- ❖ Alarming, 52% of the early abortion group and 67% of the late-term abortion group met DSM-IV symptom criteria for Post-traumatic Stress Disorder.
- ❖ Later abortions were associated with higher intrusion scores or unwanted re-experiencing of the abortion. A later abortion was specifically linked with a greater likelihood of *reporting disturbing dreams, reliving of the abortion, and trouble falling asleep.*

Results

- ❖ Reporting the pregnancy was *desired by one's partner, pressure to abort, having left the partner prior to the abortion, not disclosing the abortion to the partner, and physical health concerns* were more common among women who received later abortions.
- ❖ *Social reasons* for the abortion were linked with significantly higher PTSD total and subscale scores for the full sample.

Results



❖ Only 15% of the early group and 10% of the late-term group indicated *satisfaction with the information provided* on the physical and emotional risks of the procedure.

❖ *Counseling on alternatives was only deemed adequate* by 17% of the early group and 14% of the late-term group.

Second New Study: Pre-Abortion Counseling

Coyle, C., Coleman, P., & Rue, V. (2010) Inadequate Pre-abortion Counseling and Decision Conflict as Predictors of Subsequent Relationship Difficulties and Psychological Stress in Men and Women.

Traumatology: An International Journal, 16, 16-30.



Pre-Abortion Counseling Study

- ❖ The sample included 374 women and 198 men (average age 38 yrs).
- ❖ Most respondents were from the U.S. (81% of women and 78% of men)
- ❖ A majority of the respondents (85%) were Caucasian and other ethnic groups included African-American, Hispanic, & Asian.
- ❖ Most participants (76%) had some level of educational training beyond high school.

General Results

- ❖ 86% of the women and 87% of the men reported *pre-abortion counseling was inadequate*.
- ❖ 51% of the women and 53% of the men *disagreed with their partners about the abortion decision*.
- ❖ 78% of the women and 71% of the men *described their abortion experience as causing "high" to "overwhelming" stress*.



Results Related to Relationship Problems

- ❖ Perceptions of inadequate pre-abortion counseling predicted abortion-related anger, relationship problems, and sexual problems among men and women.
- ❖ Disagreement with partners about the abortion decision predicted abortion-related anger, relationship problems, and sexual problems among men.

Findings Related to Psychological Stress

- ❖ *Perceptions of inadequate pre-abortion counseling* predicted symptoms of intrusion, avoidance, hyper-arousal and meeting diagnostic criteria for PTSD among women.
- ❖ *Perceptions of inadequate pre-abortion counseling* predicted symptoms of intrusion and avoidance among men.



Findings Related to Psychological Stress



- ❖ *Disagreement with partners* about the abortion decision predicted symptoms of intrusion, and meeting PTSD diagnostic criteria among women.
- ❖ *Disagreement with partners* about the abortion decision predicted symptoms of intrusion, hyper-arousal, and meeting diagnostic criteria for PTSD among men.

PTSD Symptoms Defined

- ❖ *Intrusion*: persistent and unwanted re-experiencing of the traumatic event in the form of recurrent and distressing memories, flashbacks, and hyper-reactivity to associated stimuli.
- ❖ *Avoidance*: persistent and deliberate efforts to avoid recalling the traumatic event using various forms of denial, dissociation, or detachment.
- ❖ *Hyper-arousal* is a general uneasiness or jumpiness that is characterized by insomnia, startling easily, feelings of impending danger, trouble concentrating, irritability, and possibly violent behavior.

Hiding the Truth

The rapidly accumulating literature on the negative effects of abortion is rarely made available to practitioners and to women considering abortion as professional organizations, including the APA and the AMA, along with the liberal press expend incredible amounts of energy to hide the now scientifically verified truths.



Hiding the Truth

The American Psychological Association Task Force Report on Abortion and Mental Health released in 2008 was an extremely biased survey of the literature.

The report was met by criticism from many researchers both within and outside the U.S. who had actively published on the topic.

Thousands of women who have suffered and continue to experience post-abortion psychological distress voiced discontent with this grand effort to deny their pain.

Since the APA report was released several other very biased surveys of the literature have been published.

Hopeful signs that the Truth Cannot Continue to be Suppressed

1. **Publication of an abundance of data** indicative of adverse effects from many nations and the continued lack of data describing any real benefits of abortion to women
2. **The APA report and other biased reviews were likely published in response to the dozens of studies demonstrating negative consequences.** Alarm bells are going off and we are seeing frantic, scientifically indefensible efforts to dismiss and discredit the studies.

Hopeful Signs that the Truth Cannot Continue to be Suppressed

3. Recently we have witnessed influential professionals not affiliated with pro-life groups recognizing the scientific evidence of adverse post- abortion consequences. A key few examples:

- ❖ Fergusson and colleagues (2006) concluded: *“the present research raises the possibility that for some young women, exposure to abortion is a traumatic life event which increases longer-term susceptibility to common mental disorders.”*
- ❖ After the Fergusson study was published a group of psychiatrists and obstetricians wrote a letter to the London Times stating: *“Since women having abortions can no longer be said to have a low risk of suffering from psychiatric conditions such as depression, doctors have a duty to advise about long-term adverse psychological consequences of abortion.”*

Hopeful Signs that the Truth Cannot Continue to be Suppressed

4. **More willingness on the part of secular news media to describe the research...** fair stories have appeared in the *Wall Street Journal* and the *London Times* to name a few.
5. Recent years have brought more legal challenges wherein women's abortion-related injuries have received more public attention.
6. The general push toward evidence-based practice in medicine is raising the bar for all services to be backed by legitimate current research data.

South Dakota: A Woman's Right to Choose

7. Women are more outspoken and the topic of abortion is finding its way into the popular media. A good example is Bruce Isacson's movie, "South Dakota: A Woman's Right to Choose" The lives of two teens are followed ...one chooses abortion and one chooses birth.

(<http://www.southdakotathemovie.com/index.php>)



Director Bruce Issacson's Description of the Film

“During production I realized how little I knew about this volatile issue. After filming many interviews I concluded that most of the public, particularly teenagers, were as uneducated as I was on this subject. Women and men, need to have enough information before they can make a rational decision when facing such an emotional choice.”



Director Bruce Issacson's Description of the Film

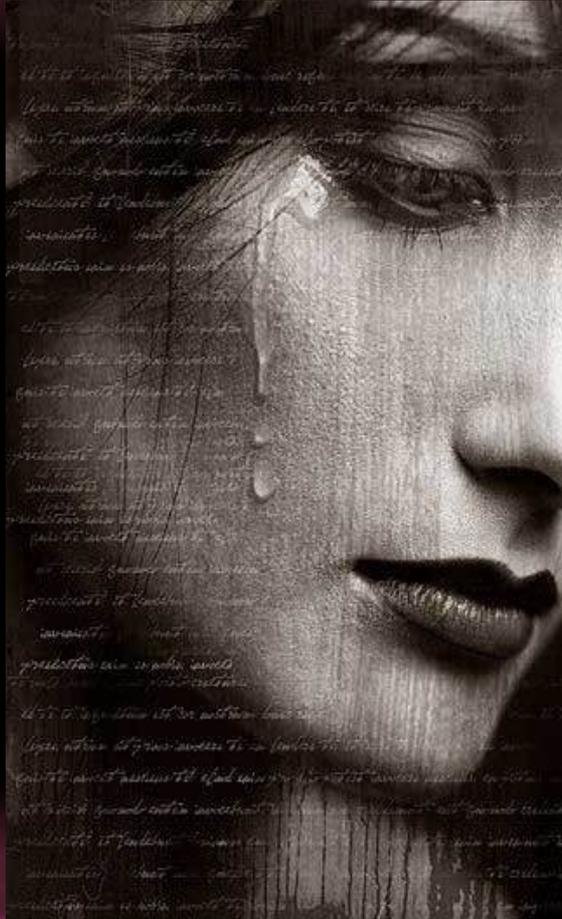


“Each time we screen “SOUTH DAKOTA,” the audience eagerly asks when they can see the feature length documentary, which has rich, in-depth coverage on this important matter that touches virtually every person and every culture throughout the globe. To that question I eagerly reply, soon after the movie is in the theaters, this exclusive documentary will follow”

Three Contemporary Challenges

1. Produce accurate, easily understood synopses of the best available evidence.
2. Continue actively researching this topic addressing neglected areas.
3. More effectively transmit scientific information to professional organizations, practitioners, and society generally.

First Challenge: Need for Systematic Reviews of the Evidence



Strong qualitative and quantitative reviews are now urgently needed to counter the claims of biased narrative reviews and accurately reflect the extensive published research documenting the psychological risks of abortion.

Meta-Analysis Basics

By systematically combining the numerical results from many high quality studies addressing the same general question, (e.g., *is there an association between abortion and mental health?*) very reliable results are produced.

Studies are weighted statistically and meta-analysis offers a logical, more objective alternative to qualitative reviews when the area of study is embedded in political controversy.

Meta-Analysis

I conducted a meta-analysis knowing the truth of countless women's suffering is in the published data and this is the only reliable and defensible method for pooling the information.

Coleman, P.K. Abortion and Mental Health: A Quantitative Synthesis and Analysis of Research Published from 1995-2009. Second revision submitted to the *British Journal of Psychiatry*.

Meta-Analysis Inclusion Criteria

1. Sample size of 100 or more participants
2. Use of a comparison group (no abortion, pregnancy delivered, or unintended pregnancy delivered)
3. One or more mental health outcome variable(s): depression, anxiety, alcohol use, marijuana use, or suicidal behaviors

Meta-Analysis Inclusion Criteria

4. Controls for 3rd variables

5. Use of odds ratios

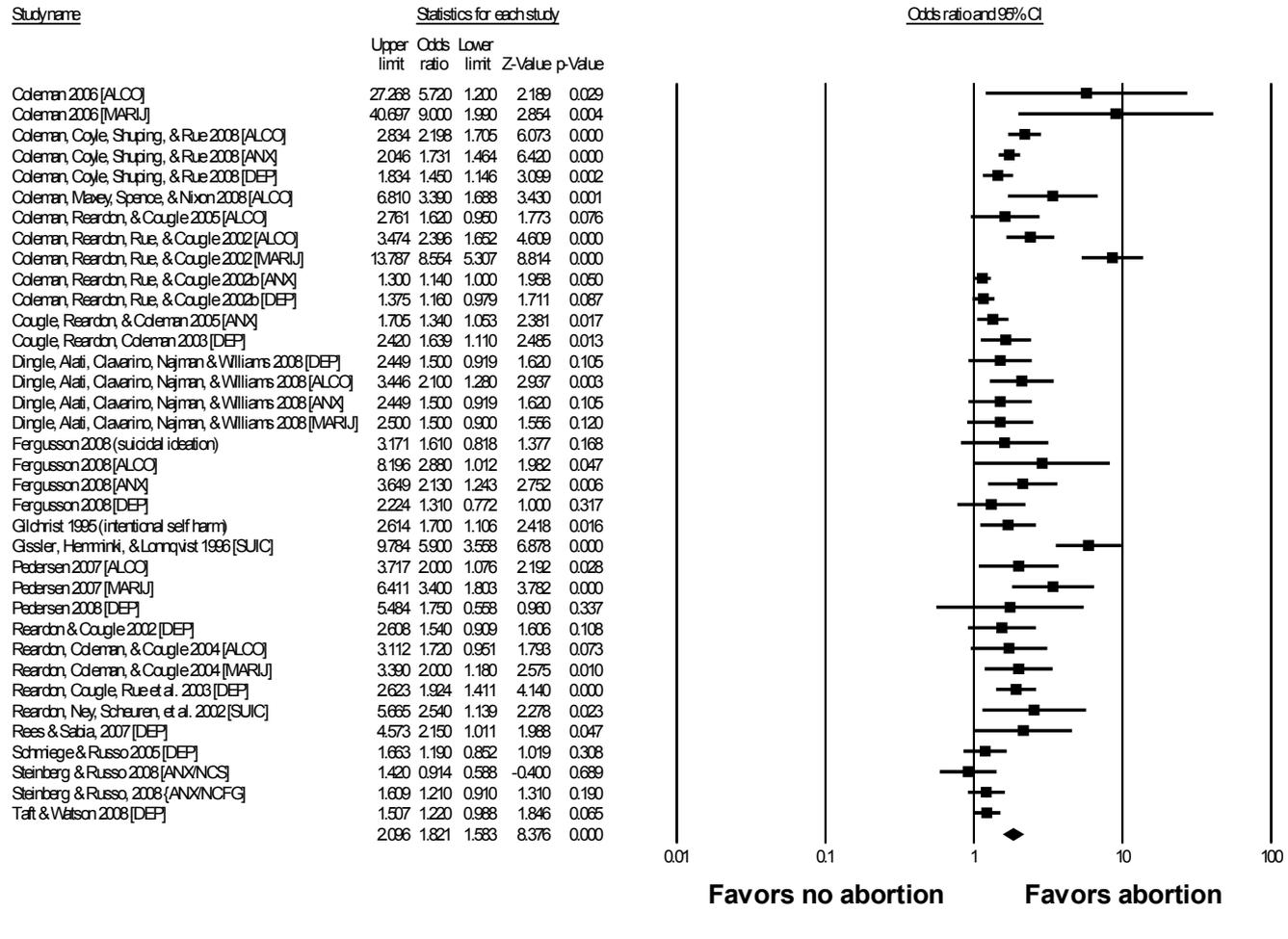
6. Publication in English in peer-reviewed journals between 1995 and 2009

Meta-Analysis Results

The 1st meta-analysis, which included all 36 adjusted odds ratios from the 22 studies identified, resulted in a pooled odds ratio of 1.82 (95% CI: 1.58-2.09), $p < .0001$. Women who have had an abortion experience an 82% higher risk for mental health problems of various forms when compared to women who have not had an abortion.



Table 2: Abortion and subsequent mental health outcomes



Meta-Analysis Results

A 2nd meta-analysis was conducted with separate effects based on the type of outcome measure. All pooled effects were statistically significant:

- Marijuana (OR=3.30; 95% CI: 1.64-7.44, p=.001)
- Suicide behaviors (OR=2.55; 95% CI: 1.31-4.96, p=.006)
- Alcohol use/abuse (OR=2.19; 95% CI: 1.87-2.57, p<.0001)
- Depression (OR=1.37; 95% CI: 1.22-1.54, p<.0001)
- Anxiety (OR=1.35; 95% CI: 1.11-1.63, p=.002)

The level of increased risk associated with abortion varies from 35% to 230% depending on the nature of the outcome.

Table 3: Abortion and subsequent mental health outcomes organized by dependent measures

Group by Outcome	Studyname	Statistics for each study					Odds ratio and 95% CI
		Upper limit	Odds ratio	Lower limit	Z-Value	p-Value	
alcohol	Coleman 2006 [ALCO]	27.268	5.720	1.200	2.189	0.029	
alcohol	Coleman, Coyle, Shuping, & Rue 2008 [ALCO]	2.634	2.198	1.705	6.073	0.000	
alcohol	Coleman, Maxe, Spence, & Nixon 2008 [ALCO]	6.810	3.390	1.688	3.430	0.001	
alcohol	Coleman, Reardon, & Cogle 2005 [ALCO]	2.761	1.620	0.950	1.773	0.076	
alcohol	Coleman, Reardon, Rue, & Cogle 2002 [ALCO]	3.474	2.396	1.652	4.609	0.000	
alcohol	Dingle, Alati, Clavarino, Najman, & Williams 2008 [ALCO]	3.446	2.100	1.280	2.937	0.003	
alcohol	Fergusson 2008 [ALCO]	8.196	2.880	1.012	1.982	0.047	
alcohol	Pedersen 2007 [ALCO]	3.717	2.000	1.076	2.192	0.028	
alcohol	Reardon, Coleman, & Cogle 2004 [ALCO]	3.112	1.720	0.951	1.793	0.073	
alcohol		2.576	2.195	1.871	9.642	0.000	
anxiety	Coleman, Coyle, Shuping, & Rue 2008 [ANX]	2.046	1.731	1.464	6.420	0.000	
anxiety	Coleman, Reardon, Rue, & Cogle 2002b [ANX]	1.300	1.140	1.000	1.958	0.050	
anxiety	Cogle, Reardon, & Coleman 2005 [ANX]	1.705	1.340	1.053	2.381	0.017	
anxiety	Dingle, Alati, Clavarino, Najman, & Williams 2008 [ANX]	2.449	1.500	0.919	1.620	0.105	
anxiety	Fergusson 2008 [ANX]	3.649	2.130	1.243	2.752	0.006	
anxiety	Steinberg & Russo 2008 [ANX/NCS]	1.420	0.914	0.588	-0.400	0.689	
anxiety	Steinberg & Russo, 2008 [ANX/NCFG]	1.609	1.210	0.910	1.310	0.190	
anxiety		1.634	1.352	1.119	3.125	0.002	
depression	Coleman, Coyle, Shuping, & Rue 2008 [DEP]	1.834	1.450	1.146	3.099	0.002	
depression	Coleman, Reardon, Rue, & Cogle 2002b [DEP]	1.375	1.160	0.979	1.711	0.087	
depression	Cogle, Reardon, Coleman 2003 [DEP]	2.420	1.639	1.110	2.485	0.013	
depression	Dingle, Alati, Clavarino, Najman & Williams 2008 [DEP]	2.449	1.500	0.919	1.620	0.105	
depression	Fergusson 2008 [DEP]	2.224	1.310	0.772	1.000	0.317	
depression	Pedersen 2008 [DEP]	5.484	1.750	0.558	0.960	0.337	
depression	Reardon & Cogle 2002 [DEP]	2.608	1.540	0.909	1.606	0.108	
depression	Reardon, Cogle, Rue et al. 2003 [DEP]	2.623	1.924	1.411	4.140	0.000	
depression	Rees & Sabia, 2007 [DEP]	4.573	2.150	1.011	1.988	0.047	
depression	Schniege & Russo 2005 [DEP]	1.663	1.190	0.852	1.019	0.308	
depression	Taft & Watson 2008 [DEP]	1.507	1.220	0.988	1.846	0.065	
depression		1.548	1.379	1.229	5.449	0.000	
marijuana	Coleman 2006 [MARIJ]	40.697	9.000	1.990	2.854	0.004	
marijuana	Coleman, Reardon, Rue, & Cogle 2002 [MARIJ]	13.787	8.554	5.307	8.814	0.000	
marijuana	Dingle, Alati, Clavarino, Najman, & Williams 2008 [MARIJ]	2.500	1.500	0.900	1.556	0.120	
marijuana	Pedersen 2007 [MARIJ]	6.411	3.400	1.803	3.782	0.000	
marijuana	Reardon, Coleman, & Cogle 2004 [MARIJ]	3.390	2.000	1.180	2.575	0.010	
marijuana		7.441	3.503	1.649	3.261	0.001	
suicide	Fergusson 2008 (suicidal ideation)	3.171	1.610	0.818	1.377	0.168	
suicide	Gilchrist 1995 (intentional self harm)	2.614	1.700	1.106	2.418	0.016	
suicide	Gassler, Hemmink, & Lonnqvist 1996 [SUIC]	9.784	5.900	3.558	6.878	0.000	
suicide	Reardon, Ney, Scheuren, et al. 2002 [SUIC]	5.665	2.540	1.139	2.278	0.023	
suicide		4.964	2.552	1.312	2.759	0.006	

Meta-Analysis Results

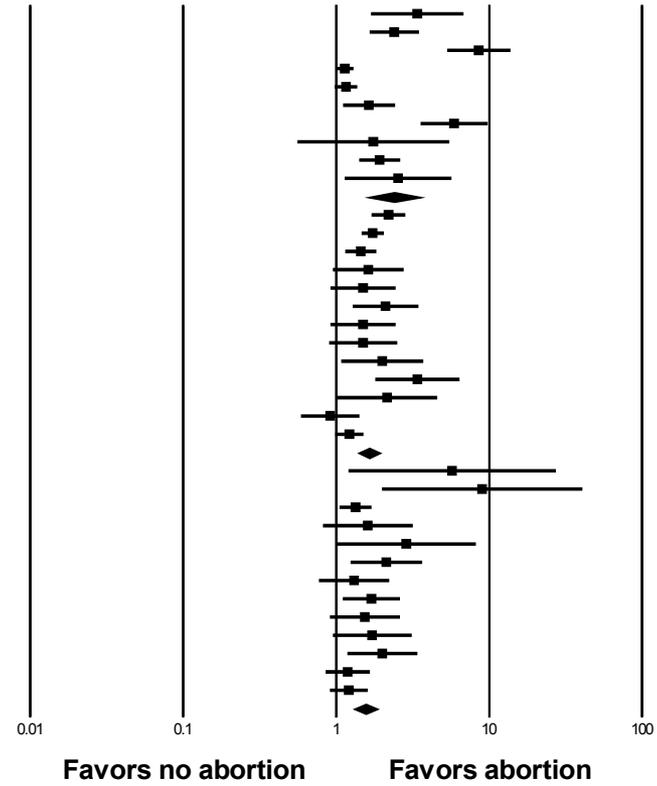
In a 3rd meta-analysis separate pooled odds ratios were produced based on the type of comparison group. All were significant:

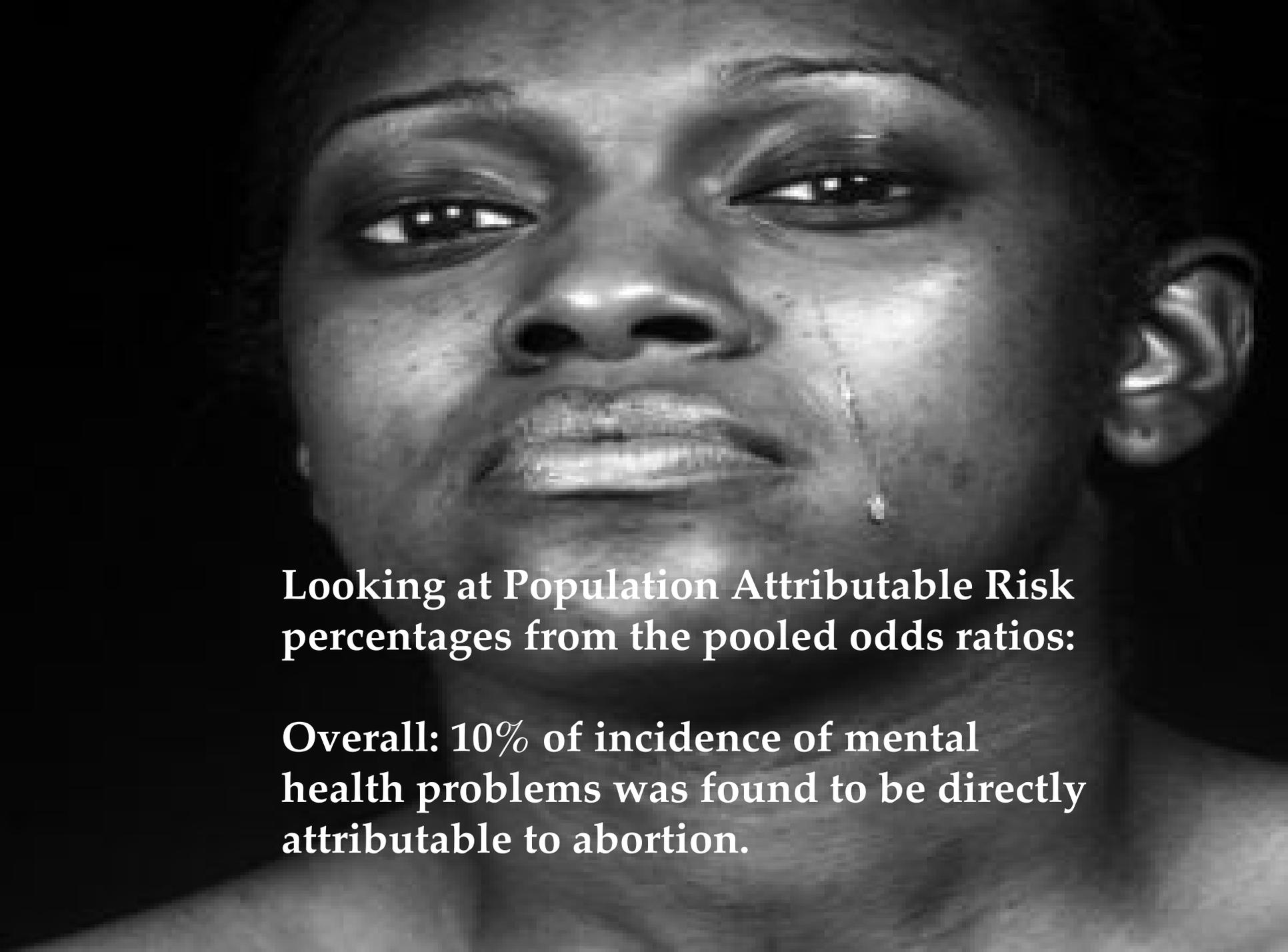
- **No abortion: OR=1.63; 95% CI: 1.39-1.91, $p<.0001$**
- **Carried to term: OR=2.38; 95% CI: 1.62-3.50, $p<.0001$**
- **Unintended pregnancy carried to term: OR=1.55; 95% CI: 1.30-1.83, $p<.0001$**

Regardless of the type of comparison group employed, abortion was associated with a 55% to 138% enhanced risk of mental health problems.

Table 4: Abortion and subsequent mental health outcomes organized by comparison group

Group by	Study name	Statistics for each study				Odds ratio and 95% CI
		Upper limit	Odds ratio	Lower limit	Z-Value p-Value	
Control Group						
delivery	Coleman, Maxe, Spence, & Nixon 2008 [ALCO]	6.810	3.390	1.688	3.430	0.001
delivery	Coleman, Reardon, Rue, & Cogle 2002 [ALCO]	3.474	2.396	1.652	4.609	0.000
delivery	Coleman, Reardon, Rue, & Cogle 2002 [MARIJ]	13.787	8.554	5.307	8.814	0.000
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delivery		3.502	2.386	1.626	4.443	0.000
no ab	Coleman, Coyle, Shuping, & Rue 2008 [ALCO]	2.834	2.198	1.705	6.073	0.000
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no ab	Taft & Watson 2008 [DEP]	1.507	1.220	0.988	1.846	0.065
no ab		1.914	1.634	1.395	6.094	0.000
unintended	Coleman 2006 [ALCO]	27.268	5.720	1.200	2.189	0.029
unintended	Coleman 2006 [MARIJ]	40.697	9.000	1.990	2.854	0.004
unintended	Cogle, Reardon, & Coleman 2005 [ANX]	1.705	1.340	1.053	2.381	0.017
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unintended	Schniege & Russo 2005 [DEP]	1.663	1.190	0.852	1.019	0.308
unintended	Steinberg & Russo, 2008 [ANX/NCFG]	1.609	1.210	0.910	1.310	0.190
unintended		1.836	1.551	1.309	5.082	0.000



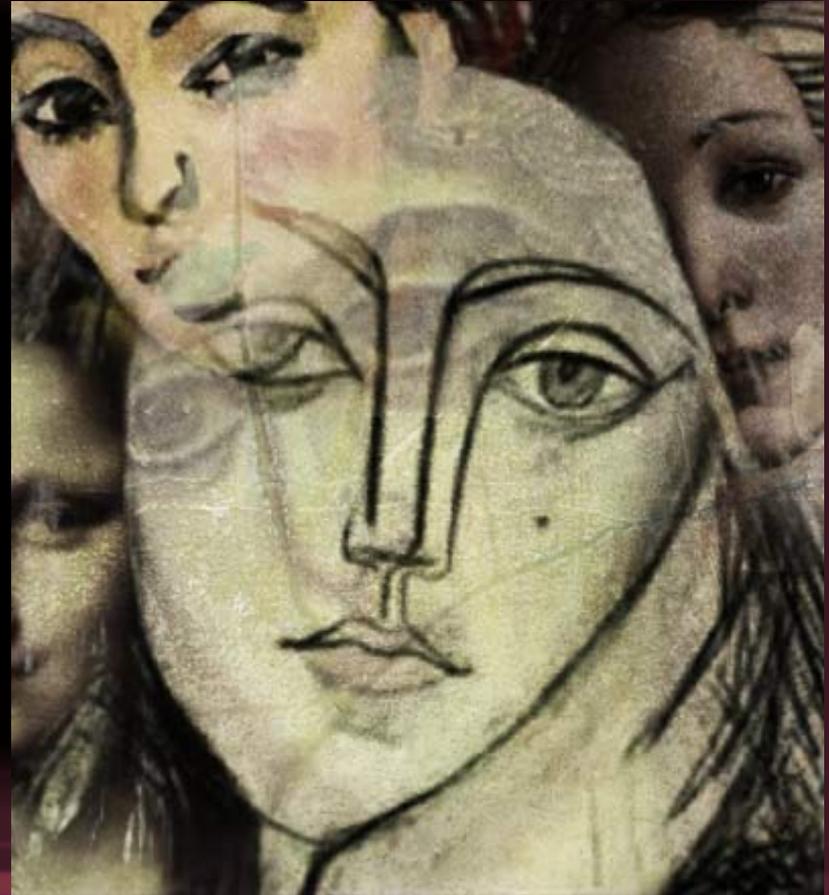


Looking at Population Attributable Risk percentages from the pooled odds ratios:

Overall: 10% of incidence of mental health problems was found to be directly attributable to abortion.

Population Attributable Risk Percentages for Specific Outcomes

- **Anxiety: 8.30%**
- **Depression: 8.72**
- **Alcohol use: 11.5%**
- **Marijuana use: 26.5%**
- **Suicide: 34.96%**
- **All suicidal behaviors: 20.96%**



Second Challenge



Continue to actively study the psychology of abortion with special emphasis on treatment efficacy studies.

Treatment Efficacy Studies

There are excellent faith-based therapies for women seeking help after abortion; however, the lack of empirically validated treatment protocols in the mainstream indirectly affirms the position of the APA and other professional organizations suggesting no harm and leaves many women without hope for relief.

An essential future goal is therefore to develop treatment protocols, test them, and publish the results.

A Sampling of Additional Research Questions Awaiting Future Investigation

1. What specific forms of information and support in the counseling context facilitate healthy reproductive decision-making among women with differing demographics?
2. Does abortion history predispose women to experiencing subsequent trauma?
3. What are some of the less pathological ways abortion reduces women's quality of life? For example, do women with an abortion history tend to isolate, stay perpetually busy, feel estranged from their children, etc.?

Third Challenge

The 3rd challenge of more effectively transmitting scientific information to professional organizations, practitioners, and society generally is the most difficult and requires a cultural shift wherein there is acknowledgement that a significant percentage of women experience adverse psychological effects from abortion.

With this recognition should come more concerted efforts to prevent psychological harm and the development of more effective interventions to meet the emotional and relational needs of those suffering.



**With knowledge, commitment,
effective organization, and compassion,
we can assist professionals as they
endeavor to empower women to make
healthy choices**