

Creating Demand for Abortion Service: A Content Analysis of Online Advertising Videos for Abortion Care in Mainland China

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Abstract

This study examines how online advertisements use fear appeals to promote abortion services among Chinese women. Using a quantitative content analysis, we identified various emotional appeals, as well as the four constructs of the extended parallel process model adopted in 159 Chinese online advertising videos promoting abortion services. We found that 83.0% of ads used emotional appeals, while the emotion of fear was addressed most frequently (73.0%); 98.7% of ads included self-efficacy information and response efficacy information, followed by susceptibility messages (81.8%); and severity messages were the least likely to be mentioned (73.6%). Based on these findings, we conclude that Chinese online abortion ads rely most heavily on fear appeals rather than other types of emotional appeals. These fear-related messages oversell the benefits of abortion services and medicalize the experience of unplanned pregnancy, presenting abortion as a solution for Chinese women with unplanned pregnancies.

Key words

abortion advertisements, online advertising videos, extended parallel process model, fear appeals, content analysis

Introduction

Each year in Mainland China, a large number of women become pregnant unintentionally, and many decide to end unplanned pregnancy via induced abortion. One report by the China Population Communication Center indicates that 13 million unplanned pregnancies are ended by induced abortion annually at public hospitals, of which almost half are among

women under age 25 (People.cn, 2015). This number excludes an estimated millions of abortions done by private clinics (Xinhua News Agency, 2013).

Induced abortion is a largely safe reproductive experience when modern medical technologies are used. Nevertheless, if mishandled, it is associated with a series of short- and long-term risks to a woman's health. As the China Population Association reports, from 15.0% to 20.0% of childbearing aged women in China cannot get pregnant naturally, and the majority of such cases are caused by prior repeated abortions or unsafe abortions (People.cn, 2012). Furthermore, Singh (2010) argues that repeated abortions and unsafe abortions also impose heavy financial burdens on household economic well-being and national public care systems.

Media depictions of abortions can impact people's real-life beliefs and behaviors (Sisson & Kimport, 2017). In Mainland China, abortion care is rarely discussed in news coverage or entertainment media but has been widely advertised in recent years (Chen, 2013). The use of the internet as an accessible source of information related to reproduction has also become increasingly popular among Chinese women (Gao, Larsson, & Luo, 2013).

Chinese news sources and scholars have long argued for stricter regulation and proper guidance of abortion-related online advertising. In their view, abortion ads create unnecessary demand for abortion by amplifying the threat of unplanned pregnancy and overselling the value of abortion as a potential solution (e.g., Chen, 2013). However, little research has systematically analyzed how these ads describe the threat of unplanned pregnancy or portray abortion as a desirable solution. To address the gap, we conducted a quantitative content analysis. The aim of our research was to examine the ways in which fear appeals have been used as a persuasive tactic to promote abortion within the online advertising context by identifying the four key variables of the extended parallel process model (EPPM) in ad content—the severity of a threat, the susceptibility to a threat, self-efficacy, and response efficacy. As video ads combine multimedia technologies, and thereby can provide more information to viewers than audio ads and print ads (Frosch, Krueger, Hornik, Cronholm, & Barg, 2007), we specifically focused on video-based ads of abortion care.

Literature Review

Induced Abortion in Mainland China

After the establishment of the People's Republic of China in 1949, the nation has been engaged in a series of birth policy reforms, coinciding with changes in the regulation and acceptance of abortion care. In 1953, the Public Health Ministry of the Chinese government implemented its first administrative regulation of induced abortion—*The Regulation of Contraception and Induced Abortion*. This policy had very clear rules on when, where, and under which circumstances an abortion is legal (United Nations, 2015). From 1958 to 1961, a nationwide food crisis broke out in Mainland China. To reduce the rate of population growth and thereby reduce food demand, the Chinese government adjusted its population policies from pro-birth to birth control (Qiu, 2014). Abortion regulation was also relaxed to achieve a faster population decline. However, this depopulation plan reached pronounced heights during a ten-year period of political turmoil, during which about 3,000,000 to 5,000,000 abortions were performed annually (National Health and Family Planning Commission of the People's Republic of China, 2010). During the reform era at the end of the 1970s, the Chinese government began implementing the One-Child Family Planning Policy, aimed at curbing population growth for economic development. This coercive birth limitation policy led to huge numbers of forced abortion and forced sterilization cases in China (National Health and Family Planning Commission of the People's Republic of China, 2010). Meanwhile, it strictly banned fetus sex checks and sex-selective abortion. Three decades later, in 2013, the central government replaced the One-Child Policy with the Two-Child Policy under pressure of a tightening labor supply and an increasingly aging population. Currently, the Chinese government permits abortions to be performed for up to six months of gestation (United Nations, 2015), but the ban on sex-selective abortion remains in effect.

Over the last 20 years, newly liberal attitudes toward premarital sex and lagging sex education have contributed to a rising number of unmarried pregnancies in China (Yang, Ye, & Jiang, 2016). Although government-forced abortion still occurs (Sudworth, 2016), the social pressures associated with unmarried motherhood have become the major reason for Chinese women to seek abortions. According to the National Research Institute for

Family Planning's report in 2013, there are 6 million single women, including teenagers, having abortions each year in China, with 65% of all abortion surgeries among unmarried females under 29 years old. On the one hand, single mothers are stigmatized by stereotypes of dissolute women (Yang, He, & Li, 2012). A deep fear of being discriminated against drives many single women to seek abortion services. On the other hand, being a single mother may also result in added financial burdens and parenting responsibility (Zhang, Chen, Zhang, & Huang, 2016). Overwhelmed by these challenges, some prefer to terminate their pregnancies instead. Unlike sex-selective abortion seekers, these single women have legal access to safe abortion treatments provided by public hospitals, but some would still choose private clinics for privacy considerations where the screening of personal information and medical records is much more relaxed (Yang et al., 2016).

Media Portrayal of Induced Abortion and Induced Abortion Ads in Mainland China

Mass media have been used by governments and non-profit organizations to promote reproductive health. However, studies have suggested a mismatch between real-life care and framing of abortion care in the mass media. In the United States, Sisson and Kimport (2016, 2017) examined fictional plotlines with abortion-related themes in American television and film between 2005 and 2015, and found that abortion was portrayed as more accessible and dangerous than it really was. In the United Kingdom, Purcell, Hilton, and McDaid conducted a qualitative content analysis to examine how national newspapers framed abortion in 2014. Their study shows that abortion was more likely to be presented as a risky and discredited social practice rather than a positive legitimate choice. In Australia, Evans and O'Brien researched language use of 150 online news reports on an abortion case in 2015. They found that stigmatizing descriptions of abortion existed widely and promoted a pro-life ideology. In Turkey, O'Neil (2013) analyzed depictions of abortion recipients in Turkish soap operas, and found stigmatized depictions of such women.

In Mainland China, abortion ads are not public service announcements made for health promotion. Instead, they are paid by hospitals and clinics as a marketing approach to stimulate consumer demand. Those abortion

providers, especially private ones, are ultimately responsible to their shareholders rather than the public. As shareholders' profit-driven agendas often counter public interest, there is conflict between what abortion providers want to advertise and public needs. Further, China does not have clear regulation of abortion ads and abortion providers, raising concerns of intentional distortion that may violate norms of a public health promoting agenda (Cao, Li & Dong, 2016; Chen, 2013).

Historically, clinics in China have used traditional media such as television and newspapers to promote abortions. However, this is changing with the trend in using the internet as a common source of reproductive health information. A national survey on young people's access to reproductive health shows that the internet has become one of the most popular sources for reproductive health information among Chinese adolescents (Zheng & Chen, 2010). Li, Jiao, Jiang, Tan, and Qian reviewed 269 articles that reported surveys about Chinese youth's sexual and reproductive health in 2015. They also reported a tendency to search online for reproductive health information. Gao and her colleagues interviewed 335 pregnant Chinese women in 2013, and found that 88.7% used the internet to retrieve health information about pregnancy and abortion, and half regarded online information as reliable.

Chinese healthcare groups and news outlets have expressed concerns about abortion advertising practice. One critique is that current abortion advertisements are biased as they do not address accurate and balanced information about unplanned pregnancy and abortion procedures for consumers to make informed health decisions (e.g., Lu, 2012). A few Chinese scholars have echoed such concerns. Their studies indicate that Chinese abortion ads tend to overemphasize negative outcomes of unplanned pregnancy while overlooking possible risks and hidden costs associated with abortion (e.g., Chen, 2013; Zhang & Liu, 2015). Although these scholars have raised important questions about abortion ads, their conclusions are generated from a largely unsystematic analysis and a case study. Without theoretically driven systematic investigation, we do not know to what extent abortion ads oversell the benefits of abortion care or divert consumers from alternatives.

Framing Theory and Emotion as Frames

The way in which abortion advertising reveals or conceals, highlights or overshadows certain aspects of an issue can be explained by the framing theory (Bryant & Oliver, 2009). Framing is defined as “a central organizing idea or storyline that provides meaning to an unfolding strip of events” (Gamson & Modigliani, 1987, p. 143). It is used to unify information, arguments, pictures, statistics, and metaphors that messages provide to audiences (Bryant & Oliver, 2009). As a “selection and salience” (Entman, 1993, p. 32) approach is applied in the information framing process, some sides of a perceived reality are selected and highlighted while other aspects of truth are covered or overlooked in the given context. In this way, receivers’ responses to certain issues can be influenced by framed messages.

Emotions are “internal mental states representing evaluative reactions to events, agents, or objects that vary in intensity” (Ortony, Clore, & Collins, 1988, p. 289). They are evoked in person-environment interactions and shaped by one’s personal goals (Nabi, 2003). Lazarus (1991) proposed that emotions have a core relational theme, which works as an important eliciting factor and predictor of individuals’ emotional responses (e.g., the core theme for fear is “concrete and sudden danger of imminent physical damage,” p. 235). Once an emotion is activated, its associated action tendency will arise with a purpose to realize one’s emotional goal and eventually shape the way in which individuals process information (Nabi, 2003). Hence, a message containing key features may help elicit particular emotions and subsequently activate associated beliefs and influence behavioral intentions. In this way, emotions are infused into messages and function as frames to activate certain problem definitions, causal interpretations, and treatment recommendations.

Scholars have found that emotional content is widely detected in Chinese abortion ads to appeal to women with unplanned pregnancies (Chen, 2013; Zhang & Liu, 2015). Hence, taking a further step to map out the emotional framing of online abortion ads can raise important questions about audience responses. In this regard, the first research question of this study is as follows:

RQ1: Which emotional frame has been addressed most frequently in Chinese online advertisements about abortion services?

The Extended Parallel Process Model (EPPM)

A fear appeal is a type of persuasive message highlighting physical, psychological, or social consequences one will suffer if one fails to comply with message recommendations (Hale & Dillard, 1995). Current research indicates that fear tactics are among the most used persuasive strategies in Chinese abortion ads (e.g., Chen, 2013). Frosch et al. (2007) believe that appealing to fear might encourage consumers to seek treatments for clinically inappropriate reasons. However, the relationship between fear and persuasion is complex. Either maladaptive responses, adaptive responses, or no response can be generated from fear's action tendency depending on the structure and components of fear appeals addressed in the persuasive process (Hale & Dillard, 1995). Thus, identifying the main fear-appeal patterns used in these online abortion ads is an essential step to evaluate persuasive effects.

Witte (1992, 1994) proposes the EPPM as a framework to articulate how people process and respond to fear-appeal messages. Like prior models, it proposes dual pathways to message outcomes: fear control and danger control. Fear control is a problematic outcome and results in audiences trying to manage their fear, rather than trying to manage the perceived threat. From the perspective of the message sender, it is an illustration of why fear-appeal messages fail. Fear control is activated when a threatening message successfully elicits fear (which motivates an efficacy appraisal), but the message does not sufficiently address efficacy concerns. In such situations, audiences may deny, ignore, or minimize the message in an effort to manage their experienced fear. On the other hand, danger control is considered as an adaptive response to fear-appeal messages from the perspective of the message sender. It occurs when a message not only successfully elicits fear (via a perceived serious and relevant threat) but also results in a successful efficacy appraisal, meaning that the message recipient feels confident in his or her ability to engage in feasible protective actions and, as such, follows the message recommendations. In brief, both perceived threat and perceived efficacy influence the persuasiveness of fear-appeal messages. High perceived threat and high perceived efficacy lead to a problem-solving process that can encourage the message compliance recommendation of the persuasive message; high perceived threat and low perceived efficacy lead to a problem-avoiding process of engaging in maladaptive responses (e.g., denial, avoidance, distraction). With low-perceived-threat messages, neither

threat control nor danger control are triggered because the message does not evoke the emotion of fear. Accordingly, four factors are identified to decide which process would prevail over the other: the severity of threat, the susceptibility to threat, self-efficacy, and response efficacy.

It is also important to note that threat comprises two underlying dimensions: perceived severity of the threat, which refers to the significance and magnitude of the danger, and perceived susceptibility to the threat, which refers to audiences' belief about their vulnerability to the harm (Witte, 1992, 1994). One common use of fear appeals emphasizes the harmful physical consequences of failing to adopt the recommended belief, attitude, or behavior (Hale & Dillard, 1995). In addition, negative psychological influences and social influences are also often stressed. Clarifying how the negative influence of unplanned pregnancy is described in ads will address how this threat is framed. Moreover, information about abortion-related risks will help quantify the extent to which the advertisements offer full disclosure about the possible outcomes of the procedure. Therefore, two research questions are posed to address how the severity of the threat is framed in abortion ads:

RQ2-1: How frequently do Chinese online abortion advertisements address physical, psychological, and social harms associated with unplanned pregnancy?

RQ2-2: How frequently do Chinese online abortion advertisements address physical, psychological, and social harms associated with abortion procedures?

Perceived susceptibility to the threat also affects individuals' perceptions of threat-related messages. According to Witte (1992), if the message addresses a negative outcome of the threat, but audiences cannot relate this harm to themselves, then the fear appeal would fail. Hence, it can be predicted that the persuasiveness of abortion ads would be weakened if the negative influence of unplanned pregnancy or abortion procedures is not personalized to make the audience feel vulnerable. On the basis of this assumption, research question 3 is as follows:

RQ3: How frequently is the threat of unplanned pregnancy or abortion procedures personalized in Chinese online advertisements about abortion services?

Witte (1992) also identifies the two dimensions underlying efficacy: self-efficacy and response efficacy. In terms of self-efficacy, which refers to individuals' beliefs about whether they can perform the message recommendation, the EPPM states that if individuals' beliefs about self-efficacy are high, they are more likely to confront the threat and apply what the persuasive messages recommend in practice; if they do not believe in themselves, message rejection would be expected (Witte, 1992, 1994). Research question 4 addresses how often the self-efficacy component is presented:

RQ4: How frequently is self-efficacy addressed in Chinese online advertisements of abortion services?

Response efficacy refers to individuals' cognitions about the effectiveness of the message's recommendations in avoiding or eliminating the threat (Witte, 1992). If the audience is confident about the recommended solutions, persuasive messages have a higher likelihood of success (Witte, 1994). If not, persuasive messages may fail or backfire depending on the threat one perceives (Witte, 1994). Therefore, it is important to know how often the response efficacy component is framed in abortion ads:

RQ5: How frequently is response efficacy addressed in Chinese online advertisements about abortion services?

Methods

Study Sample

Four key phrases were entered into Baidu.com video search engine to gather abortion ads appearing in the Chinese internet: (a) 流产 + 广告 (abortion + advertisement), (b) 人工流产 + 广告 (induced abortion + advertisement), (c) 人流 + 广告 (induced abortion + advertisement), and (d) 堕胎 + 广告 (induced abortion + advertisement).¹ We conducted these searches in November 2014, and March 2015 to ensure that search results were kept current. The initial search resulted in 788 advertisements. After excluding

¹ (b), (c) and (d) are the same when being translated into English, but they are different Chinese characters: “人工流产” is the professional term for induced abortion; “人流” is the abbreviation of “人工流产”; “堕胎” is a more traditional way to say induced abortion.

duplicates ($n = 223$), non-advertisement videos ($n = 379$), and videos deleted by their providers ($n = 15$), we obtained 171 abortion advertisement clips.

On the basis of the address information of abortion providers in ads, it was determined that this collection represents a wide variety of ads from nearly 80.0% of the province-level administrative divisions of China, including all divisions with the highest populations (see Table 1). Of the 171 ads, 45 were of 15 seconds, eight of 60 seconds, and the vast majority, 116, of 30 seconds. Two (1.2%) lasted over 60 seconds.

Table 1
Sources of Abortion Ads in the Sample (N = 171)

| Region | AD Number | Percent | Region | AD Number | Percent |
|-----------|-----------|---------|--------------|-----------|--------------------|
| Shanxi | 21 | 12.3 | Jilin | 4 | 2.3 |
| Shandong | 16 | 9.4 | Hebei | 3 | 1.8 |
| Zhejiang | 12 | 7.0 | Heilongjiang | 3 | 1.8 |
| Liaoning | 11 | 6.4 | Tianjin | 3 | 1.8 |
| Guangdong | 10 | 5.8 | Xinjiang | 3 | 1.8 |
| Jiangxi | 10 | 5.8 | Chongqing | 2 | 1.2 |
| Sichuan | 9 | 5.3 | Guizhou | 2 | 1.2 |
| Anhui | 8 | 4.7 | Neimenggu | 2 | 1.2 |
| Fujian | 8 | 4.7 | Yunnan | 2 | 1.2 |
| Hunan | 7 | 4.1 | Beijing | 1 | 0.6 |
| Gansu | 6 | 3.5 | Ningxia | 1 | 0.6 |
| Henan | 6 | 3.5 | Shanghai | 1 | 0.6 |
| Hubei | 6 | 3.5 | Shaanxi | 1 | 0.6 |
| Guangxi | 5 | 2.9 | Untold | 3 | 1.8 |
| Jiangsu | 5 | 2.9 | Total | 171 | 100.9 ^a |

Note. ^a: as the figures in the table are rounded to the nearest single decimal place, the total percentage exceeds 100.0%.

Coding System

Words, phrases, sentences, paragraphs, or images from abortion ads that refer to any of the following thematic categories were examined.

Affective appeal.

Emotional appeals used in the context of persuasion could be divided

into negative emotions and positive emotions (Nabi, 2002). Negative emotional appeals include the following: (a) Fear, which is characterized by indicating that one's physical or psychological self is threatened, and the threatening situations are out of one's control (Nabi, 2002, p. 291). For example, an abortion ad may suggest that "there is a high physical and mental cost involved, and many women with unplanned pregnancy are not always fully aware of these consequences." (b) Guilt, which is characterized by a gnawing feeling that one has done something wrong as well as an action tendency to atone or make reparation for the harm done (Nabi, 2002, p. 292). For example, an ad may show that the male partner blamed himself when he got his girlfriend pregnant unexpectedly. (c) Sadness, which is characterized by a feeling of isolation, wistfulness, and a sense of unhappiness, with an action tendency toward inaction or withdrawal into oneself to solicit comfort or dwell on that which was lost (Nabi, 2002, p. 294). For example, an ad may show that a couple feel distressed and sad because of the unplanned pregnancy as they will never enjoy carefree love again.

Positive emotional appeals include the following: (d) Happiness, which is characterized as an emotional state of "gaining or making progress towards what one desires" (Nabi, 2002, p. 295). For example, an ad may demonstrate a couple hugging, laughing, and kissing each other after an abortion. (e) Relief, which "occurs after a goal-incongruent condition has been resolved" (Nabi, 2002, p. 297), and accordingly is associated with "the alleviation of emotional distress" (Nabi, 2002, p. 297). Messages that presented a trouble-resolved scene to relieve stress were identified as relief appeals. For example, a woman in an ad says, "I'm so relieved after receiving an abortion at XXX hospital." The difference between the relief appeal and the happiness appeal is the presence of emotional distress caused by unplanned pregnancy or abortion procedures. Messages were coded as *relief* as well as *happiness* if both emotional distress and the scene in which the trouble is resolved were clearly described. Only the presence of the scene in which a trouble is resolved without emphasizing the emotional distress was coded as *happiness*. (f) Hope, which stems from negative circumstances and represents a desire for a better situation when the odds are against a positive outcome (Nabi, 2002). It is often associated with uncertain future expectation and a feeling of yearning (Nabi, 2002, p. 297). For example, it may address *hope* by showing that "when a woman feels sad or scared because of the unplanned pregnancy, she is told that XXX hospital could

help her solve this trouble.” If multiple affective appeals were presented, all of them were coded.

Severity.

Severity was operationally defined as any reference (verbal arguments or visual depictions, or both) to the seriousness or danger of a threat (Goodall, Slater, & Myers, 2013). Accordingly, abortion ads were coded to indicate whether reference was made to negative consequences of unplanned pregnancy or abortion procedures. If presented, ads were also coded to indicate whether they made reference to (a) physical suffering (e.g., hemorrhage, sepsis, abdominal organs, ectopic pregnancy, and premature delivery); (b) social consequences (e.g., the ruin of future career achievements, economic difficulties, moral judgments, losing or hurting family/friend/partner); or (c) emotional suffering (e.g., sadness, anxiousness, helplessness, or depression when experiencing an unplanned pregnancy).

Susceptibility.

Susceptibility was defined as any reference to the likelihood that an individual might suffer the negative consequences of a threat. To examine the susceptibility to negative consequences of an unplanned pregnancy or the risks associated with abortion procedures mentioned in abortion ads, coders looked for the following messages: (a) factual examples, which indicate stories or cases that “happened and were witnessed” (Huber & Snider, 2006, p. 72) (e.g., shows that a couple was unhappy when they found the woman had become pregnant); (b) hypothetical examples, which refer to narratives based on certain given settings that may happen in the future (Quick, 2010) (e.g., asks audience “have you ever thought about what you should do if you become pregnant unintentionally”); and (c) statistics, which refer to numbers or quantitative information of many instances (e.g., says, “50% of pregnant women suffer various complications caused by unsafe abortions each year”).

Self-efficacy.

Abortion ads were also coded to determine if they helped strengthen target audiences’ beliefs that they can undertake the recommended abortion

service to avoid potential risks. The subcategories for self-efficacy include: (a) self-confidence building, promoting self-confidence emotionally (e.g., says, “you can do it!” or demonstrates emotional support from boyfriends or sisters); (b) information accessibility, recommending ways to access help/treatment/more knowledge (e.g., says, “call 800xxxxxx”); (c) security, claiming that patients’ work, security, and privacy² will not be affected (e.g., says that the recommended abortion service “does not affect the life and work”); and (d) economic appeals, providing price or discount information (e.g., says, “students have discounts”).

Response efficacy.

Response efficacy was coded if the effectiveness of abortion services was discussed in the ads. The subcategories include: (a) effectiveness, claiming that the recommended abortion service is quick, painless, safe, and does not harm physical health; (b) social-psychological enhancements, showing that the recommended abortion service helps the target audience enjoy romantic relationships and guilt-free pleasure by solving the burden of unplanned pregnancy; (c) technology appeals, highlighting the advanced technology used for abortion treatment (e.g., technology from the United States, Germany, South Korea, Japan, Australia, the United Kingdom, or France); (d) expertise, displaying the high professionalism and rich experience that abortion providers have (e.g., 20 years of experience, hundreds of operations without any medical accidents); and (e) reputation, indicating the solid reputation of the recommended medical institution (e.g., recommended by the National Reproductive Health Project, or a “Grade-III Class-A” hospital).

All categories listed above are not mutually exclusive. The ad may address both severity and response efficacy information simultaneously or mention the reputation of the recommended medical institution as well as the advanced medical technology at the same time. Figure 1 depicts the overall design of this study.

² Private clinics are often selected rather than public hospitals because of promises of privacy (Yang, Ye, & Jiang, 2016). This may be a significant motivating factor considering the significant shame and stigma associated with unplanned pregnancy in China. As such, promises of privacy may enhance self-efficacy.

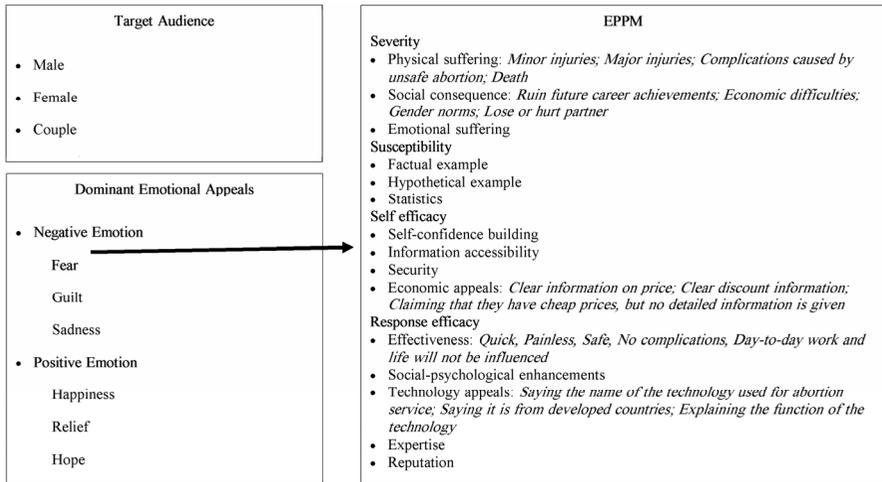


Figure 1. Overall design of the content analysis.

Procedures and Reliability

The code book was originally developed in English and was translated into Chinese by the first author. The quality of the translation was examined by having another native Chinese graduate student translate it back into English. The two English versions were compared and analyzed. Differences were resolved after two translators' discussion.

The two translators were trained as coders, and the Chinese coding book was used for coding work. Twelve ads were randomly selected from the sample for coding training. These ads were excluded from the final analysis as coders' judgments in the actual coding process might have been impacted by their first decisions on coding categories (Shi & Hazen, 2012). The number of abortion ads used for analysis was 159.

The two coders watched 12 abortion ads and discussed the operationalization of each variable listed in the coding book. The coding book was modified to clarify some categories during this training period. In the following week, two trained coders coded 40 (25.2%) abortion ads from the sample separately using the revised coding list. For each coding disagreement, they watched and discussed the case together until consensus was reached. The inter-coder reliabilities were calculated before the disagreements were discussed. After excellent reliabilities were reached, the remaining ads were coded solely by the author.

Inter-coder reliability, measured by Krippendorff's alpha, was .86 for target audience, .82 for emotional appeals, .88 for severity, .94 for susceptibility, .92 for self-efficacy, and .91 for response efficacy. SPSS 16.0 was used for data analysis.

Results

Research Question 1

The first research question sought to identify the most common emotional appeals used in online abortion advertising videos. As Table 2 shows, emotional appeals were identified in 83.0% of the abortion ads in the sample ($n = 132$). The emotion of *Fear* was addressed most frequently (73.0%, $n = 116$) in these ads. *Hope* appeals were the second most frequently used emotion frames, which were identified in 102 ads (64.2%). The emotions of *Happiness* (46.5%, $n = 74$), *Sadness* (36.5%, $n = 58$), and *Relief* (28.9%, $n = 46$) were also detected in many ads. *Guilt* was addressed infrequently—only 10.1% of these ads ($n = 16$) contained guilt appeals.

Table 2
Sample Description (N = 159)

| | Frequency | Percent |
|-------------------------------|-----------|---------|
| Emotional Appeals | 132 | 83.0 |
| Fear | 116 | 73.0 |
| Hope | 102 | 64.2 |
| Happiness | 74 | 46.5 |
| Sadness | 58 | 36.5 |
| Relief | 46 | 28.9 |
| Guilt | 16 | 10.1 |
| Other ^a | 20 | 12.6 |
| Messages with EPPM Components | 159 | 100.0 |
| Severity | 117 | 73.6 |
| Susceptibility | 130 | 81.8 |
| Self-efficacy | 157 | 98.7 |
| Response efficacy | 157 | 98.7 |
| All four components | 108 | 67.9 |

Note. ^a: other emotional appeals include *anxiety* ($n = 13$), *depression* ($n = 3$), *anger* ($n = 2$), and *love* ($n = 2$).

Research Question 2-1 and 2-2

About 68.0% ($n = 108$) of the sample included all the severity, susceptibility, self-efficacy, and response efficacy messages in a single ad (see Table 2). *Severity* messages were the least likely to be mentioned (73.6%, $n = 117$), followed by *Susceptibility* messages (81.8%, $n = 130$). Almost all abortion ads in the sample included *Self-efficacy* information (98.7%, $n = 157$) and *Response efficacy* information (98.7%, $n = 157$).

Two questions focus on how the severity of unplanned pregnancy threats (RQ2-1) and abortion procedure risks (RQ2-2) was addressed in abortion ads by examining the frequency of physical, psychological, and social harms of unplanned pregnancy or abortion procedures included in these ads. Results of these two questions are presented in Table 2 and Table 3.

Overall, the severity messages were discussed frequently in the sample (73.6%, $n = 117$). Of such ads, a majority (87.2%, $n = 102$) described the emotional sufferings of unplanned pregnancy (e.g., fear, anxiety, depression, and sadness), 40.2% ($n = 47$) mentioned the social impacts of unplanned pregnancy, and fewer than 30.0% of abortion ads in the sample ($n = 34$) referred to physical risks associated with abortion procedures.

Four specific social costs were developed under the social suffering category. Results indicated that the negative influence of unplanned pregnancy on romantic relationships was highlighted in abortion ads. Of the 47 ads with social influence information, 42 focused on the deterioration of romantic relationships caused by unplanned pregnancy. *Gender norms* followed, with 29 ads expressing or implying that male partners would be under great moral pressure if their girlfriends or wives had unplanned pregnancies, and they should take the main responsibility for this man-made trouble. Very few ads discussed unplanned pregnancy's negative influence on career development ($n = 3$), or financial situation ($n = 2$).

Of the 34 abortion ads addressing physical risks of abortion procedures, 14 talked about minor physical injuries not requiring hospitalization or professional care (e.g., minor pain and discomfort), 12 highlighted major injuries or life-threatening physical injuries requiring hospitalization or professional care (e.g., sepsis and hemorrhage that lead to infertility or even hysterectomy), and 12 specifically discussed the complications caused by unsafe abortions (e.g., hemorrhage, sepsis, and premature delivery). No ad referred to a fatality due to abortion practices.

Table 3
Characteristics of EPPM Messages in Abortion Ads

| | Frequency | Percent |
|--|-----------|---------|
| Severity Messages | 117 | 100.0 |
| Emotional suffering | 102 | 87.2 |
| Social consequences | 47 | 40.2 |
| Lose or hurt partner | 42 | 35.9 |
| Gender norms | 29 | 24.8 |
| Ruin future career achievements | 3 | 2.6 |
| Economic difficulties | 2 | 1.7 |
| Physical suffering | 34 | 29.1 |
| Minor injuries | 14 | 12.0 |
| Major injuries | 12 | 10.3 |
| Complications caused by unsafe abortion Major injuries | 12 | 10.3 |
| Death | 0 | 0.0 |
| Others ^a | 6 | 5.1 |
| Susceptibility Messages | 130 | 100.0 |
| Factual examples | 81 | 62.3 |
| Hypothetical examples | 45 | 34.6 |
| Statistics | 1 | 0.8 |
| Others ^b | 7 | 5.4 |
| Self-efficacy Messages | 157 | 100.0 |
| Information accessibility | 157 | 100.0 |
| Self-confidence building | 57 | 36.3 |
| Economic appeals | 22 | 14.0 |
| Clear information on price | 17 | 10.8 |
| No detailed price information | 4 | 2.5 |
| Clear discount information | 1 | 0.6 |
| Privacy | 9 | 5.7 |
| Response efficacy Messages | 157 | 100.0 |
| Effectiveness | 140 | 89.2 |
| Painless | 116 | 73.9 |
| Safe | 108 | 68.8 |
| Quick | 74 | 47.1 |

| | Frequency | Percent |
|--|-----------|---------|
| No complications | 47 | 29.9 |
| Day-to-day life will not be influenced | 8 | 5.1 |
| Others ^c | 18 | 11.5 |
| Technology appeals | 121 | 77.1 |
| Say the name of the technology | 114 | 72.6 |
| Say it is from developed countries | 28 | 17.8 |
| Say the function of technology | 26 | 16.6 |
| Social-psychological enhancements | 117 | 74.5 |
| Expertise | 51 | 32.5 |
| Reputation | 43 | 27.4 |

Note. ^a: others include *unplanned pregnancy interferes with normal life seriously* ($n = 4$) and claiming that *unsafe abortion has long-term harms for women* ($n = 2$).

^b: other evidence refers to the qualitative summary of research findings or academic results.

^c: other information includes *green technology* ($n = 6$), *high cure rate* ($n = 5$), *quick recovery* ($n = 4$), *good for health* ($n = 2$), and *comfortable* ($n = 1$).

Research Question 3

Research question 3 asks how the threat of unplanned pregnancy or abortion procedures was personalized in abortion ads. Table 2 shows that 81.8% of abortion ads contained susceptibility messages. Three types of susceptibility evidence were adopted: 62.3% ($n = 81$) of abortion ads used *Factual examples*, 34.6% ($n = 45$) used *Hypothetical examples*, and only one ad provided statistical support for its claims (See Table 3).

Research Question 4

The fourth research question addresses the presence of self-efficacy messages. As Table 2 shows, the majority of abortion ads (98.7%, $n = 157$) in the sample contained self-efficacy messages. Table 3 shows that all these ads aimed to strengthen viewers' efforts to acquire recommended abortion services by increasing the accessibility of abortion service information (e.g., providing health hotline/address/website information in ads). Additionally, 57 (36.3%) ads adopted other Chinese women as role examples or demonstrated emotional support from friends to promote self-confidence. Economic barriers were mentioned and refuted in 22 (14.0%) ads to con-

vince audiences to carry out behaviors. Only nine ads persuaded audiences to adopt recommended abortion services by stating their privacy policies.

For the 22 ads with economic appeals, 17 provided clear price information for their abortion services; the lowest price was RMB 30.0 (about USD 5.0), the highest price was RMB 580.0 (about USD 95.0), and the average price was RMB 335.1 (about USD 55.0). One ad had a student discount. Other ads did not have clear information on price or discounts.

Research Question 5

Research question 5 investigates response efficacy messages framed in abortion ads. Table 2 shows that almost all ads (98.7%, $n = 157$) worked on building response efficacy. Five primary strategies were used to promote perceived response efficacy in the sample (see Table 3). Most ads (89.2%, $n = 140$) gave specific introductions to recommended abortion services, followed by technological information (77.1%, $n = 121$), and messages emphasizing that couples can enjoy their romantic relationship and guilt-free pleasure by effectively solving the burden of unplanned pregnancy (74.5%, $n = 117$). Additionally, 51 (32.5%) ads emphasized the high professionalism and rich experience abortion providers had, while 43 (27.4%) indicated the solid reputation of the recommended medical institutions.

Five specific functions were developed as subcategories of effectiveness to further understand discourses of response efficacy. Table 3 shows that *Painless* (73.9%, $n = 116$) and *Safe* (68.8%, $n = 108$) were mentioned most frequently in the sample, followed by *Quick* (47.1%, $n = 74$) and *No complication* (29.9%, $n = 47$). Only eight ads indicated that the recommended abortion services would not influence day-to-day work and life. In regard to the technological information introduced ($n = 121$), 114 ads mentioned the name of the abortion technology; 28 ads claimed that the abortion technology was imported from developed countries, and 26 ads gave detailed explanations of the recommended abortion technology.

Other Results

Results from a one-sample chi-squared test with a comparison level of 50% shows that susceptibility messages ($n = 130$) were presented significantly more frequently than severity messages ($n = 117$) in the sample,

$\chi^2 (1, N = 159) = 51.056, p < .001$. No significant difference was found among the use of self-efficacy messages ($n = 157$) and response messages ($n = 157$), $\chi^2 (1, N = 159) = .026, p = .872$. Where response efficacy messages were presented, self-efficacy messages were presented as well.

By grouping severity and susceptibility as *threat*, and response efficacy and self-efficacy as *efficacy*, a clearer picture of abortion advertising content could be seen. A one-sample chi-squared test indicates that the employment of threat messages ($n = 111$) and efficacy messages ($n = 155$) in the sample were not significantly different from each other, $\chi^2 (1, N = 159) = .052, p = .819$. Both threat and efficacy were addressed frequently.

Discussion

This study identifies the content of Chinese online abortion ads through the lens of emotional appeals and the EPPM. We analyzed 159 advertising videos of abortion care and reached the following conclusions.

First, Chinese online abortion service advertisements rely heavily on emotional appeals emphasizing that abortion services are a solution to the problem of unplanned pregnancy. More than 80.0% of abortion ads use emotional appeals. Among various emotional frames, fear-based appeals were addressed most frequently in the sample (73.0%, $n = 116$). By highlighting the negative influence on personal life as a result of not terminating the pregnancy, these ads aim to motivate viewers to accept pregnancy termination as a solution. We also observe that many fear-appeal advertisements in the sample adhere to EPPM recommendations to address all key severity and efficacy variables (67.9%, $n = 108$). As Witte (1992) argues, the balanced presence of threat and efficacy components contributes to the overall persuasiveness of fear-appeal messages. In this respect, it raises concerns that these messages might be persuasively effective, despite some members of the target audience having desirable alternative options unaddressed by the ads. Nevertheless, the overall levels of fear appeal used in Chinese online abortion ads, especially the intensity of threat and efficacy messages, have not yet been sufficiently examined in this study. In addition, the investigation of effects is an important consideration for future research.

Moreover, the messaging heavily emphasizes the idea that unplanned pregnancy results in emotional/social harms. As the results of the study show, abortion ads highlight negative feelings, social burdens, relationship

breakup, and gender pressure as the natural and direct consequences of an unplanned pregnancy. This raises potentially important implications, as unplanned pregnancy does not necessarily lead to emotional/social harms. Meanwhile, a woman with an unplanned pregnancy may be willing to parent rather than to terminate her pregnancy, in which case abortion is not needed and the harms described in ads are minimized. Therefore, it is necessary to ensure that pregnant women in different circumstances receive balanced health information to allow for a full consideration of options.

Finally, an overwhelmingly large number of response efficacy messages are mentioned in the sample (98.7%, $n = 157$). Consistent with existing literature critiquing the accuracy of mediated portrayals of abortion (Chen, 2013; Zhang & Liu, 2015), we also detect a mismatch between mediated representations and real-life experience regarding the procedure. For example, the average price of abortion surgery, as portrayed in the ads, was RMB 335.1 (about USD 55.0). However, according to Wang (2009) and Evans (2012), the average cost of an abortion provided by a qualified Chinese hospital is about RMB 600–1,000 (about USD 88–152). The price portrayed in ads is far lower than it actually is. This may suggest that these advertisers provide substandard quality service or add hidden charges later when women come to obtain the service. Whichever the reality is, abortion seekers face further physical, emotional, or financial harm. Furthermore, the results of RQ5 indicate that many abortion ads emphasize their painless, safe, and quick services without any complications. However, risks of complications, even if rare, are always present and should be disclosed. Therefore, we suggest that risks have been largely ignored in Chinese online abortion ads. By amplifying the efficacy of recommended abortion treatments, these depictions try to communicate the recommended abortion service as a natural and accessible way to avert the “danger” of unplanned pregnancy. This advertising pattern, according to Sisson and Kimport (2016), may skew viewers’ perceptions of the efficacy of the advertised abortion care in a way that prohibits them from fully assessing the costs and risks they should consider before they decide to have an abortion.

Our research shows that online advertisements often attempt to persuade viewers with fear appeals regarding the risks and benefits of induced abortion services. The function of modern abortion care is introduced to web viewers in this advertising practice but, as we found, its power and usefulness have been inflated to unrealistic proportions. Our findings also in-

dicating a trend toward medicalizing unplanned pregnancy, although unplanned pregnancy might be just a normal human experience for many Chinese women. Based on these analyses, we would like to conclude that current abortion advertising videos spreading on the Chinese internet have limited educational value and undersell the social, financial, and health costs of abortion services. These inaccurate depictions may mislead public perceptions of abortion care as well as pregnancy experience, and thereby create more demand for abortion services among women with unplanned pregnancies.

We view this issue as similar to the controversial issue of the United States legalizing direct-to-consumer prescription drug advertising (DTCA) in 1997, a decision that countered the wider global norm of only allowing drug companies to market prescription drugs to health care providers, rather than directly to consumers. A widely criticized practice, DTCA raises concerns about overselling the benefits of drugs and underselling their risks, especially considering the serious safety issues of heavily marketed drugs (Donohue, Cevasco, & Rosenthal, 2007). It also raises concerns for offering promises that the drug will solve the problem while ignoring other (perhaps safer) alternative solutions, including healthy lifestyle change (Boden & Diamond, 2008). Although the issue of abortion advertising also adds the element of being a controversial social issue, like DTCA, it similarly raises concerns about depicting a balanced overview of risks and benefits, with a clear discussion of various solutions to the problem—all of which are necessary for women to make informed health decisions. Thus, at a minimum, we argue that these advertisements should be regulated to address the above concerns, while also recognizing that U.S. regulation of DTCA has failed to adequately eliminate such concerns and that further action is likely necessary.

One limitation of this study is that all abortion ads examined are online videos, while in reality, people tend to collect abortion care information from various media sources. As individuals' exposure to other types of abortion advertising content are excluded, our research findings should not be generalized beyond this limited context. Another limitation is that the two coders in this study watched all abortion ads carefully and repeatedly based on their own beliefs and personal experiences. However, Chinese internet users may not interpret these abortion ads in the same way. It is entirely possible that they have different viewing experiences, with lower at-

tention and interest due to numerous distractions and various (even opposing) personal beliefs (Frosch et al., 2007). Therefore, we suggest that future work should examine how general audiences interpret these advertising messages, as well as the relationship between ad watching and abortion-related belief building.

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