

MSc Thesis – Elizabeth Orr; McMaster University – Nursing.

## THE BLOGGING PRACTICES OF WOMEN UNDERGOING IVF

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UNDERSTANDING THE BLOGGING PRACTICES OF WOMEN UNDERGOING  
IN VITRO FERTILIZATION FOR TREATMENT OF INFERTILITY

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## ABSTRACT

The experience of infertility and its associated treatments, including in vitro fertilization (IVF), can have a profound impact on the emotional health and well-being of women desiring to become mothers. While researchers have measured the impact of infertility or described the experience and processes related to infertility and its treatment, what remained to be explored was a virtually pre-packaged collection of rich descriptions of the IVF experience as captured in women's blogs. This discourse analysis sought to describe the blogging practices of women undergoing IVF for treatment of infertility, exploring both the content and function of the IVF blog discourse. Data were collected from the text of seven women's blogs and resulted in four main functions of the discourse: creation of and connection to a community, emotional support, blogging as therapy, and creation of an IVF resource. Findings suggest that blogging can have a positive impact on the psychosocial consequences experienced by women in fertility treatment. Findings of this study also have methodological implications for researchers considering blogs as a data source in qualitative research.

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## CHAPTER ONE: INTRODUCTION

### **Background**

Childbearing and parenthood are some of the most universally desired pursuits in adult life often, but not always, occurring when planned and hoped for. For the nearly 73 million couples around the world that experience fertility problems (Boivin, Bunting, Collins, & Nygren, 2007), realization of this desire is fraught with significant challenges. The World Health Organization (WHO) has defined infertility as a failure to conceive following 12 months of unprotected intercourse (2012). However, the absence of a consistent definition of infertility in the literature has resulted in the reporting of varying estimates of its prevalence (Gurunath, Pandian, Anderson, & Bhattacharya, 2011). From data gathered as part of 25 population-based surveys, the estimates of the 12-month prevalence rates of infertility ranged from 3.5% to 16.7% in more developed nations and from 6.9% to 9.3% in less-developed nations, with an estimated overall median prevalence of 9% (Boivin et al.). In the United States, the estimated prevalence of infertility for women is 7.4% (Stephen & Chandra, 2006). Comparable prevalence data in Canada have been measured using the couple as the unit of measure rather than only women like the US data; this appears to double the prevalence rate by counting both partners as experiencing infertility. Canadian estimates suggest that infertility affects as many as 16% of couples or 1 in 6 Canadians (Bushnik, Cook, Yuzpe, Tough, & Collins, 2012).

The etiology of infertility can be related to problems in either the male or female reproductive organs. In 40% of couples the cause of infertility is related to female factors, in 30% it is related to male factors, in 20% it is both male and female related, and in 10% of couples a cause cannot be identified (Assisted Human Reproduction Canada [AHRC], 2012). In women, infertility is associated with increasing age, ovulation disorders, history of sexually transmitted infections, uterine disorders, fallopian tube damage, endometriosis, hormonal imbalances, and past treatments for cancer (AHRC). Causes of infertility in men include poor sperm quality, low sperm count or absence of sperm, sexually transmitted infections, hormonal imbalances, and a past history of treatment for cancer (AHRC).

The social and psychological impact of infertility on one's health cannot be underestimated. Researchers have attempted to both measure and describe this impact. The psychosocial consequences of infertility are well documented and include anxiety, distress, depressive symptoms, lowered self-esteem, and reduced sexual satisfaction (Greil, 1997; Hammarberg, Baker, & Fisher, 2010). Women in infertile couples, when compared to their male partners, have lower self-worth, are more depressed, describe lower life-satisfaction, and are more likely to regard childlessness as being unacceptable (Schmidt, 2006). Onat and Beji (2012) studied the quality of life among couples with infertility and described in their findings the negative impact infertility had on couples' social lives. Infertile couples reported withdrawing from social interaction, avoiding places with

children, a reluctance to meet with friends, and stigmatization. In a systematic review evaluating quality of life (QOL) in infertility, Chachamovich et al. (2010) reported that among infertile subjects, women presented lower scores in several QOL domains in comparison to men, including significantly lower QOL in the dimensions of social functioning, role-emotional and overall mental health. They also reported that previous IVF attempts, young age, and low educational level were associated with lower mental health scores. Glover, McLellan and Weaver (2009) found the impact of infertility on couples to be profound and pervasive, leading them to review their life goals, including their commitment to parenthood and the relationship.

Infertility, and the powerful desire to have children, has led many couples to seek medical care. According to a review of 25 population-based studies from around the globe, on average 56% of couples seek medical advice for their infertility, with approximately half of those couples actually receiving medical treatment (Boivin et al., 2007). Following consultation and assessment by reproductive health specialists, the primary option for conception for many couples involves medically-assisted reproductive interventions. Medically-assisted reproductive interventions include ovulation induction; controlled ovarian stimulation; ovulation triggering; intrauterine, intracervical, and intravaginal insemination with semen of the partner or donor; and a range of assisted reproductive technologies (ART) (Moreau, Bouyer, Ducot, Spira, & Slama, 2010; Zegers-Hochschild et al., 2009). ART procedures are treatments that involve the

*in vitro* handling of both human oocytes and sperm or of embryos for the purpose of establishing a pregnancy. ART procedures include IVF and embryo transfer, intra-cytoplasmic sperm injection (ICSI), gamete intrafallopian transfer, zygote intrafallopian transfer, tubal embryo transfer, gamete and embryo cryopreservation, oocyte and embryo donation, and gestational surrogacy (Zegers-Hochschild et al.). In 2009, 16,315 treatment cycles involving ART were reported to the Canadian Assisted Reproductive Technologies Register (CARTR) by all 28 of the Canadian ART centers. Overall, 34.7% of cycles started resulted in a clinical pregnancy, with a 27.4% live-birth rate. A total of 12,325 Canadian women were treated with ART in 2009; 74% had one treatment cycle, 20% had 2 cycles, and 5% had 3 or more cycles. IVF, including ICSI, was the most common ART procedure performed, with 10,532 cycles reported (30% of these cycles addressed male factor infertility; 20% addressed idiopathic infertility; 16% addressed combined male and female causes; 9% addressed tubal factor only; and 5% each addressed endometriosis, ovulatory disorder, diminished ovarian reserve, >1 female factor, and other female factor) (CARTR, 2009).

Since the introduction of IVF in the late 1970's, and the subsequent birth of the world's first IVF baby on July 25 1978 (Loughlin, 2012) in Great Britain, approximately 3.5 million children worldwide have been born with ARTs (Chambers, Sullivan, Ishihara, Chapman, & Adamson, 2009). Despite the widespread adoption of ARTs and significant advancements in the field, there are both maternal and perinatal risks associated with these procedures.

### **Maternal Risks**

To promote ovarian stimulation, women undergoing ART or ovulation induction are required to follow prescriptive regimes of hormone therapy (Vloeberghs, Peeraer, Pexsters & D'Hooghe, 2009). Ongoing concern has been expressed that hormones prescribed during ovarian stimulation may lead to future cancer risk (breast, endometrial, ovarian, and cervical cancers) (Metwally & Ledger, 2011). However, the current evidence is wrought with several methodological problems making it difficult to draw any conclusions (Metwally & Ledger; Rosenbluth & Van Voorhis, 2011). For women, more immediate risks associated with egg retrieval include bleeding, infection, and damage to internal organs (Rosenbluth & Van Voorhis). Following egg retrieval, some women are at increased risk for Ovarian Hyperstimulation Syndrome (OHSS), a condition that involves severe ovarian enlargement with fluid shifts out of the intravascular space resulting in ascites, hypovolemia, and electrolyte imbalances. Severe complications of OHSS include thromboembolism, adnexal torsion, ovarian hemorrhage, and death (Rosenbluth & Van Voorhis; Vloeberghs et al.).

### **Perinatal Risks**

Perinatal risks associated with ARTs include gestational diabetes, preeclampsia, and stillbirth (Metwally & Ledger, 2011; Rosenbluth & Van Voorhis, 2011). While most babies conceived using ART are healthy, studies have demonstrated an increased risk of birth defects in these babies when compared with those conceived spontaneously (Rosenbluth & Van Voorhis). A meta-



analysis conducted by Hansen, Bower, Milne, Klerk, and Kurinczuk (2005) determined a statistically significant 30–40% increased risk of birth defects associated with ART and a sub-group analysis revealed that the pattern of increased risk of birth defects remained regardless of the way data were grouped (e.g. IVF or ISCI, singleton or multiple gestation). As well, with the relatively recent adoption and proliferation of these technologies, many of the risks and consequences remain unknown at this time (Rosenbluth & Van Voorhis).

### **Social and Psychological Risks**

The social and psychological impact of ART cannot be overlooked and is associated with many of the more general characteristics of infertility: stress, problems with self-image, social isolation, and loss of hope (Hinton, Kurinczuk & Ziebland, 2010; Metwally & Ledger, 2011). In their study of the psychosocial adjustment of infertility and its treatment, Beaurepaire, Jones, Thiering, Saunders and Tennant (1994) found that the level of anxiety amongst a sample of couples undergoing IVF, compared with community norms for 30-39 year olds, indicated that both IVF women and their partners were more anxious than same-sexed community controls. However, in a systematic review of the literature on women's emotional adjustment to IVF, IVF patients did not differ from norm groups with respect to depression levels (Verhaak et al., 2007). As well, the same review reported mixed results with regard to anxiety levels; some studies reviewed reported elevated levels of anxiety in the IVF patients while other studies reported no difference when compared to norm groups for anxiety level

(Verhaak et al.). The authors suggested that this lack of anxiety and depressive symptoms is possibly a result of women viewing treatment as a first step in the solution to their infertility after years of this chronic stressor. Peters (2003) explored the lived experience of women undergoing IVF and one of the major themes that emerged from this phenomenological study was “keeping secrets” (p. 260). The participants in the study expressed varying degrees of secrecy regarding their infertility treatments for fear of cultural or religious implications, and believed that infertility and its treatment carried a social stigma. Hinton et al. (2010) also studied infertility and its treatment qualitatively and while participants often talked about unpleasant physical aspects of treatment, isolation, as an individual and couple, from their normal social world was a dominant theme.

Despite the physical and emotional outcomes associated with infertility and ARTs for couples, and the associated cost (the average cost of a standard IVF cycle was \$12,513 in the United States, \$8,500 in Canada and funded directly by patients or through finance companies) (Chambers et al., 2009), women continue to consent to these procedures to achieve conception, pregnancy, and ultimately parenthood. With the advent of the Internet and social media, couples have discovered new channels for describing and sharing their personal, and often difficult, experiences of undergoing ART and uncovered a new medium for empowerment and support (Hinton et al., 2010).

Accessing health information is one of the most common uses of the Internet and couples going through infertility treatments are turning to the Internet

for a variety of reasons including information, education, support, and empowerment (Hinton et al., 2010). A Canadian survey estimated that in 2005 approximately 6 of every 10 home Internet users went online at some point within the year to search for health information (Underhill & Mckeown, 2008). An American study reported that 80% of Internet users (or 59% of all adults) have looked online for information about health related topics and 34% of Internet users have read someone else's commentary or experience about health or medical issues on an online news group, website, or blog (Fox, 2011). The Internet has the ability to connect people who share interests of all kinds and health is no exception. One in five Internet users have gone online to find others who might have health concerns similar to theirs (Fox).

Reading and hearing others' accounts of personal experiences of health and illness is a key feature of Internet use for health-related purposes. However, the act of participating in the creation of health content through blogging and social networking is an important part of patients' health experiences and has implications for health care providers' understanding of the patient's role in health care management and information (Ziebland & Wyke, 2012). Blogs, often compared to an online journal or diary, are a unique source of unsolicited narratives that allows the sharing of information, thoughts, feelings and creativity, and provides insight into the authors' health experiences (Heilferty, 2009). Infertility is one such health experience chronicled in personal blogs. The emergence of blogging as a communication channel is currently permitting

women to share their personal experiences of infertility and its treatment in a very public forum.

### **Literature Review**

To determine if any literature or research studies exploring the blogging practices of women undergoing IVF existed, an initial database query was performed. The CINAHL, MEDLINE, and Web of Science databases were searched using the key word blog\* combined with infertility and/or IVF, and returned 2, 4, and 4 results respectively (see Appendix A). Only one of these articles was determined to be relevant. Therefore, the scope of the search was expanded and a subsequent comprehensive review of the literature was conducted to broadly define the practice of blogging, understand generally who is blogging, gain a conceptual understanding of individuals' motivations for blogging, and understand how blogs are being used in health research.

An electronic search of the following databases was conducted: CINAHL, MEDLINE, Web of Science, PsycINFO, and CommAbs. Each database was searched using the key word blog (with the truncation symbol "\*" to include all variations (e.g. blogs, blogging)). Each search was limited to English-language journal articles published between 2000 and June 2013. Web of Science, PsycINFO and CommAbs database searches were also combined with searches for the keywords practice\* or motivat\* (See Appendix A). CINAHL and MEDLINE were searched using the database-recommended subject heading (blogs and blogging) as well as blog\* as a keyword and title search. Due to the large

number of citations for publications of organizations' blogs or other online content indexed under the blog subject heading (for example, *Nursing Times* publishes weekly top tweets), the CINAHL results were further limited to citations with references available, thus eliminating these extraneous citations. Results of each of these searches were scanned and duplicates as well as unrelated citations were eliminated and relevant entries were flagged for further review. Abstracts of flagged articles were read to further determine relevance for this literature review.

A second method of searching for relevant literature included a manual search of the reference lists of key articles. Reference lists were scanned and relevant citations were selected for review. This proved to be one of the most fruitful strategies due to the wide variety of sources and databases reporting research on blogs. This search method also led to some grey literature including conference proceedings and unpublished theses and dissertations relevant to this topic.

Finally, Google scholar was used to search within the grey literature using the key phrases “blogging practices”, “motivation to blog”, and “blogging about infertility.” This strategy did not yield any relevant literature not previously found using the first two search strategies. This search was employed on two separate occasions: first in June 2012 for the purposes of the thesis proposal and second in June 2013 for updating the literature review for this thesis chapter. Of note, most new literature between the two search dates was found within the sub-

category of blogs used in health research, with over a dozen new articles reviewed following the second search.

### **Defining Blogs and Describing the Practice of Blogging**

Blogs are commonly defined as "frequently modified web pages in which dated entries are listed in reverse chronological sequence" (Jones & Alony, 2008, p. 433). Blogs are a blend of personal diaries or journals, web sites, or online communities (Embrey, 2002). They are a low to no cost medium that allows individuals a freedom of expression and the power to control the distribution of their thoughts, feelings, and ideas previously not readily available by other means. With increasing access to the Internet, the first blogs were identified in the late 1990's (Jones & Alony). The term "weblog" has been reported to be coined in 1997 by Jorn Barger, editor of the Robot Wisdom blog and the contracted term "blog" was first coined by Perter Merholz on his website in 1999 (The Huffington Post, 2008; Jones & Alony).

The number of blogs or people writing blogs (bloggers) at any given time is difficult to ascertain. Technorati, a blog search engine and index of over one million blogs, publishes on their website a series chronicling the rise and evolution of the blogosphere known as the "State of the Blogosphere" (Technorati, n.d.). In March 2006, the site first measured the growth of blogging and counted over 30 million bloggers on the Internet. At that time this figure was estimated to be doubling every 6 months (Technorati, 2006). Factors contributing to this proliferation have been reported to include the increased accessibility and

pervasiveness of the Internet, availability of social software that provides bloggers with frameworks for creating and then blogging with minimal barriers to entry, and an increased acceptance of blogs as a communication tool and information source (Jones & Alony, 2008).

There are various types of blogs, including personal, corporate, professional, political, expert, team, and educational blogs. In general, blogs have the following attributes: posts are organized in reverse chronological order, blog readers have the ability to comment on blog postings, they are interlinked in that links to other sites or blogs are provided, and author information or a user profile is usually accessible (Eastham, 2011; Hookway, 2008; Schiano, Nardi, Cumbrecht & Swartz, 2004). Blog posts are primarily textual, but are often more than just words on a page. They often simultaneously offer text, visual expression using icons and template selection, photos, and other multimedia content (Hookway; Schiano et al.). Many examples of blogs exist on the Internet. Peter Merholz began writing online prior to introducing the term “blog” and offers a clear example of a blog at his website [www.peterme.com](http://www.peterme.com). An example of an IVF related blog can be viewed at the following link:

<http://lifeandloveinthepetridish.blogspot.ca/>.

### **Characteristics of the Blogger and Common Blog Content**

In 2006, the Pew Internet & American Life Project conducted a telephone survey of a nationally representative sample of Internet users obtained by random-digit dialing. Of the sample, those who kept a blog (n=233) were asked

to respond to a questionnaire and the subsequent report by Lenhart and Fox (2006) provided a picture of who was blogging in America at that time. The survey results indicated that while many well-publicized blogs focus on politics, the American blogosphere (or all the blogs and their interconnections) (Jones & Alony, 2008) is predominantly occupied by individuals blogging about their lives and personal experiences. The survey also found the blogging population sampled to be young (84% of bloggers were < 50 years) and fairly equally represented by men and women (54% of bloggers were male). While the majority of bloggers surveyed were white (60%), there was a range of bloggers of other ethnicities, including African American (11%), English-speaking Hispanic (19%), and other (10%) (Lenhart & Fox). Geographically, 51% of bloggers lived in suburban areas, 36% lived in urban areas, and 13% were from rural locations. Only a relatively small group of bloggers surveyed viewed blogging as a public endeavor despite the public nature of creating a blog; 84% of bloggers described their blog as a hobby or just something to do. Findings also demonstrated that bloggers were heavy users of the Internet compared to all Internet users. Seventy-seven percent of bloggers had shared their own artwork, photos, stories, or videos online; by comparison, only 26% of all Internet users had shared these materials (Lenhart & Fox).

Kumar, Novak, Raghavan, and Tomkins (2004) studied the profile pages of 1.3 million bloggers at [livejournal.com](http://livejournal.com), one of the world's most popular blogging sites. They found that bloggers came from all seven continents, with



certain regions having larger numbers of bloggers. In the United States, the largest numbers of bloggers were located in California, Florida, New York, and Michigan. Other countries with high numbers of bloggers included Canada, England, Russia, and Australia. They also found that 75% of bloggers were aged 16 to 24 years and their blogs tended to focus on core themes within their age group. For example, bloggers aged 19 to 21 years focused on themes such as dormitory living and college life.

In the 2011 “State of the Blogosphere”, Technorati surveyed 4,114 English-speaking bloggers from over 45 countries; however nearly 50% of the sample was based in the US. Their results concluded that 60% of blogger respondents were male, the majority were aged 25 to 44 years, they had been blogging for a mean of 2 years, and the majority updated their blogs 2 to 3 times per week. Of those surveyed, 60% of bloggers were labeled hobbyists or “blog for fun” and measured their blog success by their personal satisfaction (Technorati, 2011).

Guadagno, Okdie, and Eno (2008) examined whether blogging practices were predicted by different personality traits. The researchers sampled 278 university students from a large Southeastern U.S. university and asked each participant to complete a survey about their experience of writing and reading blogs. Participants also completed a five-factor personality inventory, the NEO (Neuroticism, Extraversion, and Openness to experience) personality inventory (Costa & McCrae, 1992). The five-factor inventory of personality posits that

individuals vary on five key dimensions: neuroticism, extraversion, openness, agreeableness, and conscientiousness. Results indicated that significant predictors of blogging were openness to experiences and, when looking specifically at women, there was a significant finding for neuroticism. Women with high scores of neuroticism were more likely to report blogging (23.8%) than women low in neuroticism (13%) ( $p < .05$ ).

Fullwood, Melrose, Morris, and Floyd (2013) examined 360 blog posts with the goal of describing the impact of sex, age, genre, and identifiability on the communication strategies of UK bloggers. Their findings suggest that women are more likely than men to keep a diary-style blog and are thus more likely to write about their own lives and experiences rather than external events. Men were more likely to swear and attack others in their blogs than women and male bloggers were more likely to identify themselves than female bloggers, which may suggest that men were less concerned with online privacy. The study also found that less identifiable bloggers were more likely to be writing a diary-style blog than a blog commenting on external events.

Miller, Pole, and Bateman (2011) aimed to describe the characteristics of health bloggers and the features of their blogs by completing a content analysis of 951 health blogs. Inclusion in this study was based on blog characteristics therefore did not discriminate between bloggers who were healthcare professionals and laypersons blogging about health-related topics. Findings were reported based on gender differences, occupational differences, and

perspective differences, and included demographic data as well as blog features, such as the number of postings or presence of advertising. Some of the results were: women health bloggers were younger than male health bloggers (34.6 years vs. 38.7 years;  $p < .001$ ); male bloggers tended to have blogged longer than female bloggers (3.6 years vs. 3.2 years;  $p < .001$ ); male bloggers were more likely than female bloggers to have doctoral-level degrees (62.1% vs. 23.4%;  $p < .001$ ); those employed outside the health-sector were more likely than those in the health sector to blog about specific disease topics (chronic disease or reproduction); and those blogging from a professional perspective tended to have more external links than those blogging from a patient/consumer or caregiver perspective.

The above examples serve to highlight that knowing who is blogging is an important aspect of understanding the blogging phenomenon. The question of why bloggers are blogging is a question as diverse and complex as the bloggers themselves and valuable to the comprehensiveness of this literature review.

### **Exploring Why Individuals Blog**

Almost as soon as blogs and bloggers made their debut in the late 1990s, researchers have been trying to understand more about this phenomenon that has so quickly infiltrated society and culture. Much of the focus of research related to blogs has attempted to answer the question, “why do people blog?” The Pew Internet and American Life Project (2006) telephone survey found that while most American bloggers (37%) chose their life or life experiences as the

main topic of their blog, a range of other issues were cited as the primary topics for their blogs: public life, such as government and politics (11%); entertainment (7%); sports (6%); general news and current events (5%); business (5%); technology (4%); religion; spirituality or faith (2%); or a specific hobby or illness (1%). In this survey, the primary reasons for blogging included creative expression (52%) and documentation and sharing of personal experiences (50%). Only seven percent of bloggers acknowledged that income generation was a primary reason to blog. While often characterized as a form of journalism, the majority of bloggers did not think of their writing as journalism, although 35% did spend time trying to verify facts and provide links to original sources of blog content (Lenhart & Fox, 2006). While more than half of bloggers responded that they blog primarily for themselves, 32% wrote their blogs to entertain or engage an audience (Lenhart & Fox).

Nardi, Schiano, Gumbrecht, and Swartz (2004) conducted in-depth interviews as part of an ethnographic study of blogging as a form of personal expression and communication. They recruited a purposeful sample of 23 bloggers. All participants lived in California or New York and were well educated, middle-class adults in school or employed in academic or artistic pursuits. Blogger participants were known to the researchers, identified through Stanford University's Google portal, or named by key informants. From their thematic analysis, five primary motivations for blogging emerged: 1) documenting one's life, 2) providing commentary and opinions, 3) expressing deeply felt emotions, 4)

articulating ideas through writing, and 5) forming and maintaining community forums.

Hollenbaugh (2011) also explored motivations behind people's blogging practices and seven motivational factors emerged from the survey data collected: helping informing, social connection, pass time, exhibitionism, archiving/organizing, professionalism, and getting feedback. Participants motivated by *helping informing* blogged because they wanted to motivate, help, and encourage others by sharing information, knowledge and skills. Participants motivated by the *social connection* factor blogged to share information and communicate with friends and family members with whom they may not talk on a regular basis. Participants used blogging to *pass time* and because there was nothing else to do. Blogger participants motivated by the *exhibitionism* factor blogged for attention, to gain fame, and because they thought people liked to read things about them. Participants motivated by the *archiving/organizing* factor blogged to record and organize thoughts and feelings and to read what was written in previous posts. Participants who were motivated by *professionalism* blogged because they were required to do so to meet requirements for a job or school. Blogger participants were motivated to get *feedback*, advice, or more points of view from others. According to this study, exhibitionism, archiving/organizing, and getting feedback were new motivational factors that were not found in existing literature.

Through exploring the existing literature on the motivation to blog, Jones and Alony (2008) developed a framework of seven motivational schemes, each with several related motivations clustered within each scheme. This framework helps to explain the needs that are met by the act of blogging. The seven needs met by blogging that were identified included (1) the need for self-expression (to publish, to share, to promote ideology); (2) the need for recognition; (3) the need for social contact (both in existing and new relationships); (4) the need for introspection; (5) academic needs for knowledge and interests; (6) the need for documentation (to chronicle life); and (7) the need for artistic activity or to channel creativity.

Another study explored why people write blogs and what impact blogging had on social life (Jung, Song, & Vorderer, 2012). In the study, 531 users of a Korean blog service provider were administered an online questionnaire measuring impression management, voyeuristic surveillance, social comparison, perceived anonymity, perceived social support, loneliness, belonging, and well-being. Findings revealed that impression management and voyeuristic surveillance were two major psychological factors that motivated individuals to participate in posting and reading blogs. The study also drew conclusions about how online activities can result in real life consequences and vice versa thus emphasizing that one cannot separate the two. For example, being an active blog user can result in a greater perceived social support from blogs and

decreased feelings of loneliness, which translates to a sense of belonging and well-being in real life.

Other studies examining motivational factors have reported similar findings. Liu, Liao, and Zeng (2007) administered a questionnaire to a sample of 177 bloggers from a well-established blog platform in Taiwan ([www.wretch.cc](http://www.wretch.cc)). Participants were asked to evaluate the importance of 10 possible attractive outcomes of blogging. The authors found that the two greatest motivational factors for bloggers were the intrinsic motivation of pouring out feelings and the extrinsic motivation of connecting with people. Huang, Shen, Lin, and Chen (2007) presented a model to help practitioners and academics understand the factors behind blogging activities. They tested the conceptual model on a random sample of 311 bloggers from the top-three Taiwanese blog service providers and concluded that self-expression, life documenting, and commenting were driving blogging practices. Chen (2012) studied a randomly selected sample of 312 women bloggers from 4 public women blog directories: BlogHer, BlackWomenBlogs.com, Blogadera.com, and BlogsByWomen.org to explore why women write personal blogs. The results of the 43-item online survey revealed a statistically significant positive relationship between the need for self-disclosure and seeing blogging as a way to express one's own voice ( $p < .001$ ). Chai and Kim (2010), based on survey results, found a positive relationship between bloggers' trust and their knowledge-sharing practices. Ekdale, Namkoong, and Fung (2010) argued the importance of differentiating between those who blog

about personal, social, and cultural topics and those who focus on political issues, as their motivations may differ. To investigate these differences they created a survey studying the motivation for blogging by popular American political bloggers, or those blogging about political events and issues. One hundred and fifty-four of the top political bloggers (based on blog ranking) were invited to participate, with 66 bloggers completing the survey. The three items that most strongly resonated with the respondents as motivations to blog were 1) to provide an alternative perspective to the mainstream media, 2) to inform people about the most relevant information on topics of interest, and 3) to influence public opinion.

In summary, the research to date answering the question why people blog consists primarily of studies that used a quantitative survey design to confirm or disconfirm models and hypotheses. The sample sizes were often small and not representative of the populations of interest, and data were collected using tools that had been developed for the purpose of the study and that had not undergone reliability or validity testing. Researchers that attempted to answer the “why” question qualitatively poorly described their methods for data collection and analysis and, despite less than rigorous methods, were frequently cited throughout the literature.

### **What Can Be Learned From the Content of Blogs**

Exploring people’s motivations to blog and analyzing blog content to understand why people are so engaged in this relatively new activity, and what



can be learned from this type of communication, is an emerging research topic in the health studies field. Based on the current literature, health researchers and practitioners are learning from blogs in two ways: 1) analysis of blogs is providing insight and understanding into the health and wellness of individuals, and the impact of illness on their lives; and 2) blogging is being examined as a variable in the evaluation of different health-related outcomes or as a specific intervention itself.

**Using analysis of blog content to gain a better understanding of health and wellness.** Clarke and Lang (2012) examined the blog posts of parents (primarily mothers) whose children were diagnosed with attention deficit disorder or attention deficit hyperactivity disorder (ADD/ADHD) and their discussions regarding concerns about medication use. Using discourse analytic methods these researchers found that parents viewed ADD/ADHD as a legitimate medical condition that is readily treatable with pharmaceuticals and that parents viewed themselves as experts in the difficult and complex issues related to “pharmaceuticalized parenting” (p. 402). Their analysis also revealed that there is virtually a complete lack of attention to schooling, bullying, or other social determinants of health as potential causes of the child’s problems within the blog content. Healthcare providers reading this research are provided with glimpses into the lives of parenting children with ADD/ADHD, especially related to medication use, which provides valuable insight when encountering these clients in the clinical setting.

Shah and Robinson (2011) studied patients' perspectives on self-testing of oral anticoagulant therapy using blogs as their data source. Using content analysis the authors were able to explore themes related to self-testing including: patient benefits (time saved, personal control, choice, travel reduction, cheaper testing, peace of mind); equipment issues (high costs, reliability, quality, learning how to use the device); PT/INR issues (frequency of testing, INR fluctuations, therapeutic INR level); and social issues (pain and stress). The results of this study provided insight into the experiences and perspectives of patient on self-testing while receiving oral anticoagulant therapy. This information is valuable for anyone involved in developing effective self-testing strategies in healthcare where self-management has gained considerable momentum in the care of patients experiencing chronic illness.

Clarke and van Amerom (2008) compared the blogs of men and women who self-identified as depressed. Their findings demonstrated three major thematic differences between male and female bloggers. There were differences between men and women participants in the acceptance of the bio-medicalization of depression. Male bloggers seemed to readily accept the view that depression is biologically based, whereas women bloggers were much more likely to voice skepticism about the medicalization of depression and criticism of their own doctors. Males were more likely to explain that their depression resulted from, and was aggravated by, external circumstances. Women attributed their depression to relationships and voiced guilt over how their depression impacted

their relationships. The study also found a higher prevalence of violent images and fantasies in the male blogs, when compared to those written by females. This research has the potential to contribute to a greater understanding of depression and how men and women experience it differently.

Dahlen and Homer (2013) performed a qualitative thematic analysis of blogs to examine how women discussed the option of vaginal birth after cesarean section (VBAC) and what factors influenced this decision. Three hundred and eleven blogs were included in analysis. The study found that women's decision making regarding VBAC is filtered through a belief system and either "prioritizes their needs as vital in order to best meet the needs of the baby (motherbirth), or positions their needs as secondary and to be sacrificed for the sake of the baby (childbirth)" (p. 172).

Decision-making was also explored in a study by Nan and Madden (2012). Using a controlled experimental design, 341 students were exposed to either a negative blog post about the human papillomavirus (HPV) vaccine or a positive one. Results showed that those who were exposed to the negative blog post held more negative attitudes toward the HPV vaccine and perceived it to be less safe. Those exposed to the positive blog post were not significantly affected with regards to their perceptions or intentions about the vaccine demonstrating the power of user-generated content in health attitudes and decision making.

The body of literature utilizing blog content to understand individuals' health experiences is growing rapidly. Some of the health experiences described

in the literature by individuals who use blogs as a primary data source include weight loss, hospitalized bed-rest during pregnancy, young women with cancer, and young adults with mental health concerns (Keim-Malpass et al., 2013; Keim-Malpass, & Steeves, 2012; Leggatt-Cook & Chamberlain, 2012; Marcus, Westra, Eastwood, & Barnes, 2012; Rubarth, Schoening, Cosimano, & Sandhurst, 2012). Blogs are being viewed not only as an excellent data source to capture the unique health experiences faced by individuals, but also as an adjunct to traditional health care or as a therapeutic experience itself.

**Blogging as therapy or complementary to traditional healthcare.**

Blogging has been suggested to be a practice that can contribute to the health and well-being of its authors as well as a strategy to provide healthcare clinicians with insight into patient perceptions, decision-making, and experiences. Rains and Keating (2011) studied authors of 384 active health blogs that were dedicated to the experience of living with a specific health condition. Analysis of their questionnaire results demonstrated that, for a majority of bloggers, blog readers were a source of support that was distinct from their family and friends. This support was positively associated with bloggers' perceptions of health self-efficacy, or "individuals' beliefs about their ability to manage their health (Lee, Hwang, Hawkins, & Pingree, 2008, p. 362)". The information and empathy bloggers received from readers encouraged them to feel more confident in their ability to manage their health condition. The results also demonstrated that

health blogging presents an opportunity for individuals lacking family and friend support to access support resources and bolster their well-being.

Chung and Kim (2008) evaluated the perceived outcomes of cancer patients' and their companions' blogging activities. A sample of cancer patients ( $n=70$ ) and their companions ( $n=43$ ) were asked to assess 16 statements about their perceptions of the outcomes that blogging activities had on their lives. Analysis of the self-administered questionnaire demonstrated that participants perceived many blogging activities to be beneficial to their current condition, including: "(b)logs have helped me express my frustration in dealing with cancer ( $M=4.35$ ,  $SD=0.89$ )"; "(b)logs have helped me cope with my cancer-related situation ( $M=4.31$ ,  $SD=0.88$ )"; "I have learned new information through reading cancer blogs ( $M=4.03$ ,  $SD=0.91$ )"; and "(b)logs have given me a feeling of empowerment that I have not felt through the assistance of traditional health care providers ( $M=3.86$ ,  $SD=.98$ )" (p. 301). The overall findings suggested that cancer patients and companions found blogging activity to be most helpful for "emotion management and information-sharing followed by problem-solving and prevention and care" (p.302).

Studies have also identified blogs as a tool for encouraging health-promotion behaviors. West and colleagues (2010) found that blogs were being used to support breastfeeding behaviors. Almost half of the posts analyzed by the researchers contained praise, behavior cues, and positive attitudes toward breastfeeding. Based on their findings, the need for further research into the

effectiveness of interventions in which blogging could be used to increase the frequency of breastfeeding is highlighted.

Andersson, Gustafsson, Hansson, and Karlsson (2013) used a qualitative inductive approach and interviewed bloggers whose relatives were receiving end-of-life care for cancer. The authors concluded that blogging helped to prevent ill-health in the family members and helped to facilitate a normal grief process, while preserving memories and events.

McDaniel, Coyne, and Holmes (2012) conducted a study to examine the association between participation in social-networking or blogging and maternal well-being. The study surveyed 157 new mothers with children under 18 months of age and attempted to measure media use, computer and Internet use, reasons for blogging, feelings of connectedness, social support, parenting stress, marital conflict, marital satisfaction, and maternal depression. Results of the analysis revealed that the frequency of blogging positively predicted feelings of connection to extended family and friends. The researchers concluded that blogging could be a simple intervention suggested to new mothers by caregivers to decrease feelings of social isolation. Similarly, Ressler, Bradshaw, Gualtieri, and Kwan Ho Chui (2012) surveyed bloggers writing about their experiences with chronic pain and illness and found that blogging decreased feelings of isolation and created a sense of purpose for participants in helping others in similar situations.

A study by Graham, Rouncefield, and Satchell (2009) attempted to establish the nature of the relationship between blogging and quitting smoking.

The researchers provided four individuals desiring to quit smoking with mobile phones and encouraged them to blog about their quitting experiences. The researchers described, through examples taken from the participants' blogs, instances of self-expression, replacement, and self-awareness. However, none of the participants were successful in their quitting attempt. Despite major methodological and design flaws (no clear research question, small sample size, and an ambiguous methodological approach), this study is one of the only studies found that evaluated blogging as an intervention that measured health-related outcomes. While studies using blogs as a therapeutic tool are few, many researchers are explicit about 1) the need to incorporate blogging as an intervention in future research efforts and 2) developing research methods that utilize blogs as a primary data source (Chung and Kim, 2008; Heilferty, 2009; West et al., 2010).

In summary, while there are studies that attempt to describe the blogging practices of individuals and the general needs that are potentially being met by the practice of blogging, studies focusing on the blogging practices of specific populations have been limited to geographic and gender differences between bloggers or specific groups, for example, cancer patients or political bloggers (Chai, Das, & Rao, 2011; Ekdale et al., 2010; Kim & Chung, 2007; Pederson & Macafee, 2007; Pederson, 2007). There are also studies using blogs as the primary data source to provide insight into personal experiences of health and illness and study the potential for blog-related health benefits.

This study seeks to understand the blogging practices of women undergoing IVF for treatment of infertility and to explore what writing a blog during this experience accomplishes. A look to the current literature provides very little assistance in understanding this phenomenon completely. However, as a result of this literature review, a very clear impetus for this type of research, and subsequently this study, has emerged.

### **Problem Statement**

One in six Canadians is affected by infertility, with 10,532 cycles of IVF performed in Canada in 2009 (Bushnik et al., 2012; CARTR, 2009). These statistics are noteworthy and the prevalence, etiology, and treatment of infertility have been the primary focus of the literature in the field to date. Researchers have tried not only to measure the impact of infertility but a smaller body of qualitative research has aimed to explain the lived experience and processes related to infertility and its treatment, thus contributing to a more holistic understanding of the topic. What remains to be explored is a virtually pre-packaged collection of rich descriptions of the IVF experience as captured in women's blogs. The scarcity of research on this blogging phenomenon combined with the apparent call for a better understanding of blogs in general within the health literature created the motivation for this study.

Therefore, the purpose of this discourse analytic study is to describe the blogging practices of women undergoing IVF for treatment of infertility and to identify the impact blogging may have for this population. This exploration was



guided by the following research questions: 1) what are the blogging practices of women undergoing IVF?; 2) what does writing a blog throughout the IVF experience accomplish?; and 3) what impact does blogging have on the IVF experience? This study contributes to the establishment of discourse analysis as a methodology and blogs as a valuable primary data source within the field of qualitative nursing research.

### **Relevance**

The topic of blogging about the IVF experience has not been explored in the infertility or related literature. This research study provides findings that offer an expanded understanding of the blogging practices of women undergoing IVF. The evidence gleaned from the text provides further insight into what is accomplished by blogging about the infertility and IVF experience. A better understanding of this phenomenon can lead to a more complete picture of the IVF experience. Thoroughly understanding the IVF experience from this unique perspective also has the potential to uncover aspects that return a more sensitive, empathic and holistic care of these women by health care providers, thus limiting the severe long-lasting negative social and psychological consequences of childlessness and infertility.

While discourse analysis is gaining a place in nursing science as a relevant research method, it remains in its infancy when compared to other qualitative methodologies. Nurse researchers have also been criticized for having a lack of a clear conceptual understanding of discourse analysis in

combining different discourse analytic approaches with individual theoretical perspectives (Campbell & Arnold, 2004; Crowe, 2005). The product of this study contributes to the development of discourse analysis as a distinct, rigorous, and fruitful approach to qualitative research within the nursing literature.

If discourse analysis, as a methodological approach in nursing research, is in its infancy, then analysis of online content can be characterized as fetal in comparison. This study thus highlights the emerging importance of online content, specifically blogs, as a valuable source of qualitative data for nurse researchers and provides an example of how to sample blogs, recruit study participants, collect blog data, and analyze blog data while maintaining ethically admissible results.

### **Key Terms**

**Infertility:** a failure to conceive following 12 months of unprotected intercourse (WHO, 2012).

**Blogging practices:** for the purposes of this study, blogging practices will refer to the content of blog postings (primarily text) and where applicable blogger responses to comments on blog content. Practices such as frequency of blog posting will only be only used for the purposes of describing the sample.

## CHAPTER 2: METHODS

### **Study Design**

The purpose of this study is to describe the blogging practices of women undergoing IVF for treatment of infertility and to answer the following research questions: 1) what are the blogging practices of women undergoing IVF?; 2) what does writing a blog throughout the IVF experience accomplish?; and 3) what impact does blogging have on the IVF experience? These research questions are best answered using a qualitative research approach. Qualitative research addresses the question of “what?” and demands investigation of the phenomenon “as a whole and in its various parts, the way these parts are related and organized as a whole, and how the whole is similar to and different from other things” (Wertz et al., 2011, p.2). More specifically, the second two research questions highlight the suitability of a discourse analysis within the context of a qualitative research approach. Discourse analysis is an umbrella term used for the many traditions by which discourse may be analyzed and has been applied in varying ways. These range from purely linguistic research, looking at conversations on the micro level, to Michel Foucault’s broad “historicophilosophical” (Lupton, 1992, p.145) approach analyzing power relations and societal attitudes (Morgan, 2010). Discourse analysis is both a way of conceptualizing and analyzing language (Wertz et al.). Discourse analysts believe that language both mediates and constructs our understanding of reality and that language and words, as a system of signs, are, in and of themselves

meaningless and that “meaning is created through the shared, mutually agreed on use of language” (Starks & Trinidad, 2007, p. 1374).

There are many discourse analysis methodological techniques. They differ on dimensions such as epistemological position, the nature and role of theory, the types of data that are analyzed, how context is understood and treated, and how claims are warranted, as a result, discourse analysis is a very non-specific term (Wertz et al., 2011). For the purposes and direction of this study, the principles of the discourse analysis approach developed within the realm of social psychology by the theoretical, methodological and empirical work of Jonathan Potter and Margaret Wetherell (1987) will be used to guide sampling, data collection and analysis. This version of discourse analysis is one of the better known approaches making it accessible to researchers in a number of disciplines (Wood & Kroger, 2000). This approach was chosen because of the focus on practical versus analytically relevant research, which is congruent with the goals of nursing science and the study of health related issues. Discourse analysis is attractive to nursing scholars because it offers a rigorous method for analyzing naturally occurring talk and text, both considered important sources of data for nursing practice and policy (Traynor, 2006). Using the psychosocial discourse analysis approach, nursing scientists and other health researchers have studied the theme of acceptance within palliative care literature, a woman’s account of homelessness and mental illness, young peoples’ discourses about Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome

(AIDS), endometriosis blogs, mothers' of children who have ADD/ADHD discussions about medication use, and infant feeding messages presented in antenatal education groups (Clarke & Lang, 2012; Fenwick et al., 2012; Graffigna, & Olson, 2009; Montgomery, McCauley, & Hill Bailey, 2009; Neal & McKenzie, 2011; Zimmermann, 2012). Potter and Wetherell's approach emphasizes a "shift from the usual focus of interest in the phenomena to which the discourse refers to a focus on the discourse itself" (Wood & Kroger, 2000, p. 8). Potter (1997) provided the operational definition for discourse analysis that will act as a compass throughout this study:

Discourse analysis has an analytic commitment to studying discourse as texts and talk in social practice. That is, the focus is not on language as an abstract entity such as a lexicon and set of grammatical rules (in linguistics), a system of differences (in structuralism), a set of rules for transforming statements (in Foucauldian genealogies). Instead, it is the medium for interaction; analysis of discourse becomes, then, analysis of what people do. (p. 146)

The research questions asked by the discourse analyst are many and varied (Potter & Wetherell, 1987). The focus of research questions in discourse analysis are most often broadly related to structure and function, for example, how is discourse put together and what is gained by this construction (Potter and Wetherell). The previously stated research questions were formulated based on these principles and that in this version of discourse analysis, a discourse is treated as a potent, action-oriented medium with the ability to point to why people do what they do (Potter & Wetherell).

This study used discourse analysis to explore the naturally occurring text of women's IVF experiences as presented in their blogs. The analysis of these texts helped the researcher understand what is accomplished through blogging, what impact blogging may have on the IVF experience, and provided further insight into this phenomenon.

### **Blogs in Qualitative Research**

Blogs are a blend of personal diaries or journals, web sites, and the interactions between blog writers form an online community (Jones & Alony, 2008). Blogs cover a vast array of subject matter and attract an extensive readership. The proliferation of blogs and blogging practices has recently attracted the attention of researchers as blogs are becoming recognized as a rich source of qualitative data. The advantages of using blogs as a data source for qualitative research are: (1) they are a publicly available, low-cost and instantaneous technique for collecting substantial amounts of data; (2) they are a source of naturally occurring text, eliminating both research interference or influence and the need for transcription, which is both costly and time consuming; (3) the archived nature of blogs makes them amenable to examining social processes over time; (4) they provide fast and easy access to the information of greatest value through categorization of blog content; (5) they provide candid and genuine personal accounts of human experiences; and (6) they afford an added option for confirmation and consistency through interaction with the blogger (Hookway, 2008; Jones & Alony). Some shortcomings that may be faced by

researchers when using blogs as a source of research data include the variability of blog content as not all blogs are well written, succinct, concise, or elaborate; and there are no means to prevent fictitious blogs. However, “with adequate research parameters in place, blogs can have an important and valuable place in the qualitative researcher’s toolkit” (Hookway, p. 107).

### **Sampling and recruitment**

Sampling in discourse analysis, as in most qualitative inquiry, is purposeful, meaning that the researcher selects individuals or texts for study because they can purposefully inform an understanding of the research problem (Wood & Kroger, 2000). Purposeful sampling emphasizes that the sample be relevant to, or representative of, the phenomenon of interest (Creswell, 2007). The sample in a discourse analysis study may differ slightly from other qualitative research methods because in discourse analysis the interest lies in the language rather than the language users. Therefore, the units of analysis in this type of study are the texts or parts of texts rather than the participants themselves (Potter & Wetherall, 1987). The sampling technique used in discourse analysis also serves to emphasize the variability that results from obtaining a heterogeneous sample (Wood & Kroger). Wood and Kroger further described finding participants that, although similar in some regard, differ enough that they might give diverse accounts of the phenomenon of interest. Accordingly, this study purposely sampled all blogs that could inform about the blogging practices of women undergoing IVF for the treatment of infertility. While both men and

women are affected physically and emotionally by infertility and there is a physical requirement of both partners in the IVF treatment process, the interest of this study was the blogs of women for two reasons: 1) they experience the more intense manifestations and interventions of the IVF process and 2) men and women experience the diagnosis and treatment of infertility differently (Chachamovich et al., 2010; Schmidt, 2006).

The sampling strategy for this study began by using two blog specific search engines: Google blog and Technorati. Blog search engines are similar to web search engines in that they give a free interface to allow the inquirer to search large quantities of data gathered from the web. The main difference is that these tools offer the searcher the capability to search exclusively blog content while ignoring information on the rest of the web (Thelwall & Hasler, 2006). A Google blog search is comparable to a traditional Google search where results are displayed with a title and snippet from the blog posting and sorted by relevance or date. Advanced search functions are also available that can limit the search based on language, author, and date or date range (Google, n.d.).

Technorati was founded as the first blog search engine and, as previously described, is now the leading blog search engine and directory, indexing over one million blogs. Technorati.com also tracks the influence of blogs within the blogosphere. The inquirer may search the directory using keywords within blog sites or individual blog posts and advanced search functions allow results to be refined by relevance and date (Technorati, n.d.).



To obtain the sample of blogs desired for this study, the keywords “IVF,” “infertility”, and “my experience” were used. The keyword infertility was included to ensure that blogs were about IVF for the treatment of infertility. The phrase “my experience” was used in attempts to obtain blogs written by individuals experiencing IVF themselves, and to avoid blog content written by professional organizations and fertility experts. However, many such blogs remained at the end of the search. Using this search strategy over 3000 results met the search criteria. Technorati proved to have a more sensitive search with 208 blogs found and GoogleBlog returned 3240 blogs. Evidence suggests that a site located greater than three clicks away from the top 200 Google search engine results on a particular topic is unlikely to have substantial impact (Miller, Pole, & Bateman, 2011). This further suggests that scholars do not need to review thousands of blogs but "can focus on the most heavily linked ones since they are the most widely read and influential" (Miller, Pole, & Bateman, p.728). Based on this, the first 200 blogs from both the Technorati and GoogleBlog were reviewed. The search results were then scanned to eliminate any unrelated blogs or blogs that were no longer accessible and the remaining blogs were kept for further evaluation.

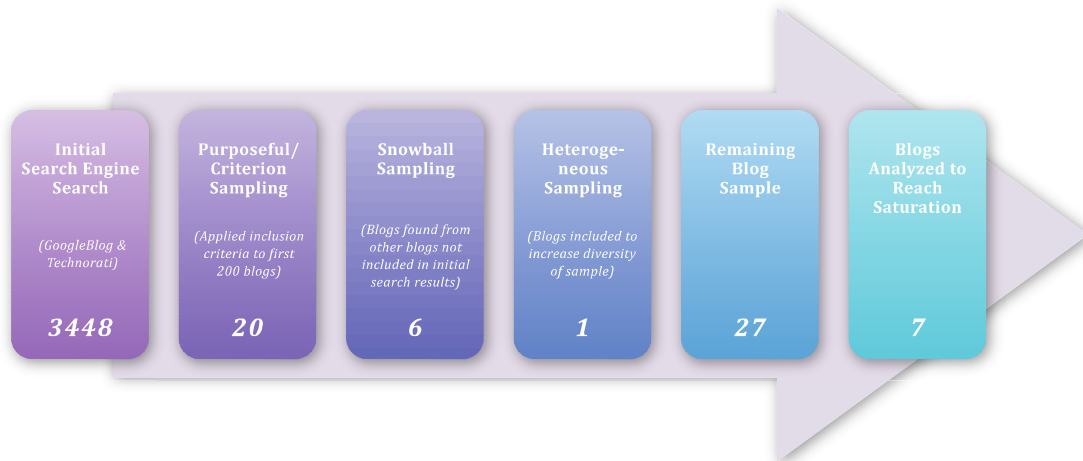
Snowball or chain sampling was also employed in this study, as this is another approach for locating information rich cases (Patton, 2001). Bloggers often include references to other blogs or bloggers they are following (or read their content regularly). This process allowed the researcher access to other

potentially rich sources of data that may not appear in the initial blog search.

This combined purposeful snowball sampling approach has been applied in other studies utilizing blogs as the primary data source (Miller, Pole, & Bateman, 2011; Neal & McKenzie, 2011).

Following an initial scan of the blogs, a criterion sampling strategy was employed. Criterion sampling is reviewing all cases that meet some predetermined criterion of importance because these cases are likely to be information rich (Patton, 2001). The primary criterion for inclusion in this study was that the blog had to be written in English by a woman who had either undergone or was undergoing IVF for primary cause infertility (childless at time of treatment). In addition, the blog must have: 1) been initiated after January 1, 2000 and updated within the last 2 years; 2) had a primary focus of infertility, including IVF treatment (i.e., the primary focus of the blog was to document the infertility experience that led to treatment with IVF); and 3) been authored in North America. As heterogeneity and variation in participant characteristics is a tenant of discourse analysis (Wood & Kroger, 2000) this study also included blogs based on their ability to contribute to the diversity of the sample. A specific example of this heterogeneity sampling was the inclusion of a blog written by a Canadian blogger when Americans had written the previous 6 blogs. Other areas of sample diversity that occurred more naturally throughout the other sampling strategies included age, type/cause of infertility, and number of IVF attempts recorded in blog. See Figure 1 for a summary of the approach to data collection.

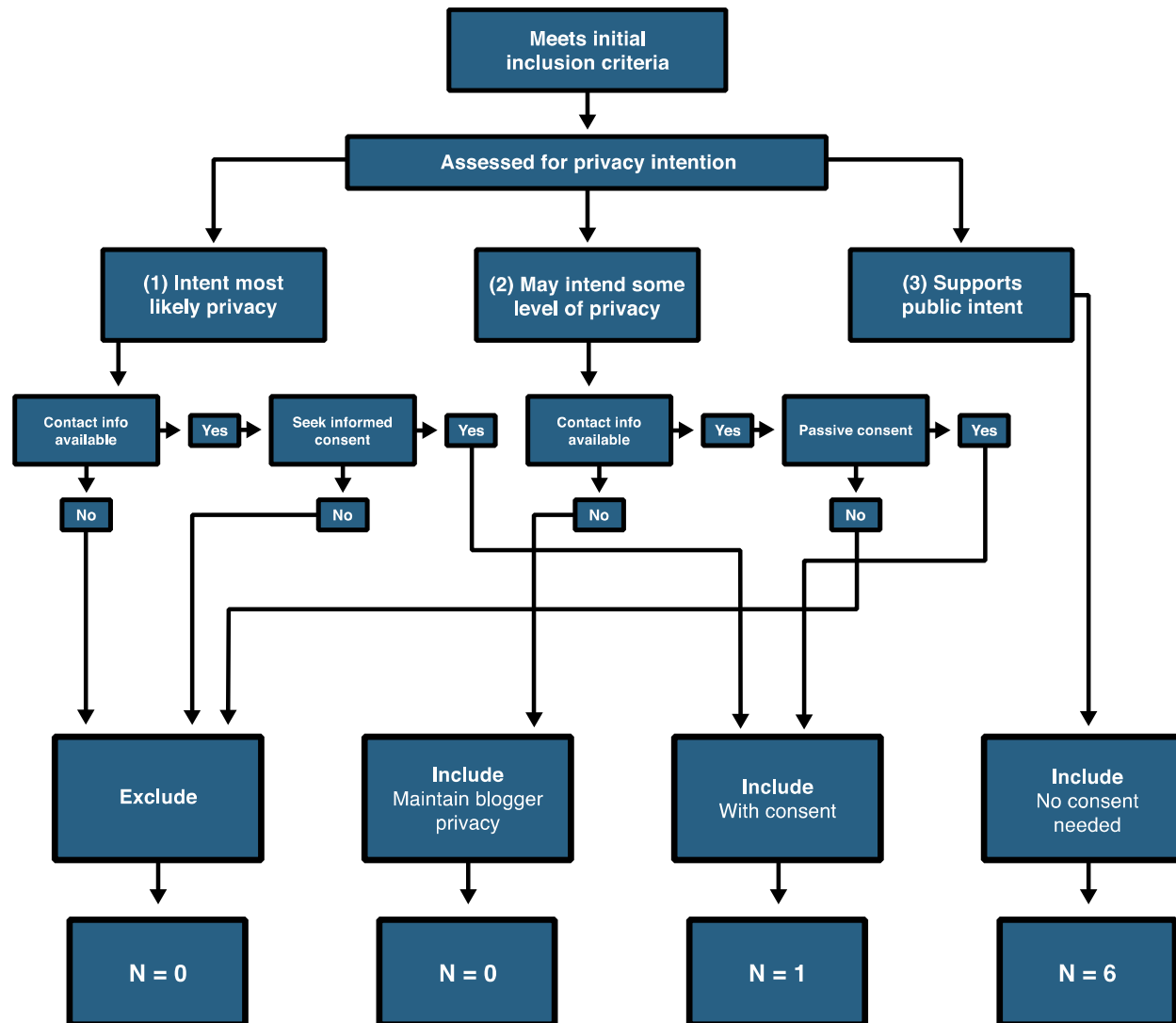
Figure 1: Sampling Strategy to Reach Saturation



Once blogs had been identified and met the preliminary inclusion criteria, they were evaluated using the decision tree proposed by Eastham (2011) to assess the privacy intentions of the blogger. The assessment of the blogger's privacy intentions was important because this guided whether or not informed consent was sought from the blogger. Based on characteristics of the blog, one of three conclusions related to privacy intention was reached: 1) intent most likely privacy; 2) may intend some level of privacy; or 3) supports public intent (Eastham). When a blog met the preliminary inclusion criteria, contact information (email) was available, and its intent fell into the first category, the researcher sought informed consent. The blogger was contacted by email to explain the study and seek consent to use the blog content for analysis (Appendix B). When the blogs' presumed privacy intentions fell into the second category and contact information was provided, a passive consent process was

initiated. The blogger was contacted by email on two occasions (1 week apart) to explain the study and request a reply to consent to the study or decline participation (Appendix C). If no reply was received by one week following the second email contact, the blog was enrolled in the study. If a blog fell into the second privacy category and contact information was not available, the blog was enrolled in the study and strategies were employed to protect blogger privacy (e.g., personal identifiers were removed). Blogs that met the initial inclusion criteria and were deemed to be written with public intent were enrolled in the study without the informed consent of the blogger. These decisions have been summarized in Figure 2.

Figure 2: Inclusion/exclusion of blogs based on privacy assessment



Sampling continued until the point of redundancy or data saturation. However, the notion of saturation in discourse analysis is more elastic than in other qualitative research approaches. For example, the researcher in discourse analysis must determine whether there are sufficient data to make an interesting argument and that there are sufficient data for those arguments to be well grounded (Wood & Kroger, 2000). Sample size in discourse analysis is relatively small compared to quantitative inquiry and even other qualitative methodologies. Because in discourse analysis one is particularly interested in the language and not the people generating the language a large number of linguistic patterns can emerge from a small sample size (Potter & Wetherell, 1987). For this study, it was estimated that the purposeful sampling and recruitment of 8 to 10 blogs would result in data saturation. However, following the analysis of five blogs, due to the depth and breadth of the writing, there was sufficient data to form an interesting argument. Two more blogs were analyzed to ensure that there were sufficient data to support the arguments and that no new arguments were warranted.

### **Data Collection**

Discourse analysts often work with records and documents of interaction as opposed to material acquired from the researcher's own transactions with the study participants. This collection of naturalistic records, such as news reports, letters, and official documents, has the advantage of the complete absence of researcher influence on the data and also allows the researcher to capture the

widest possible variation in accounts of the phenomenon of interest (Potter & Wetherell, 1987). This study collected the naturally occurring texts provided by women's accounts of their infertility and IVF experience as recorded in their blogs. This text had the advantage of not only providing rich data related to the topic of inquiry but also of being already transcribed.

Due to the nature of blogs and blogging as a way to chronicle life events, a blog about infertility and IVF often shifted focus with the experiences of the blogger. While some bloggers chose to write solely about the IVF treatment experience, others continue to blog through the initial stages of pregnancy if achieved, the tribulations experienced with the adoption process, or the decision to stop pursuing pregnancy or parenthood altogether. While this study was interested primarily in the IVF experience, blog entries posted outside of the IVF treatment period were also analyzed when this text provided further insight into the research questions posed.

A short demographic questionnaire was developed for the purpose of describing the sample, however, since contact with the majority of the bloggers was not necessary for consent, basic demographic information was collected from each blog (where possible). Data were collected on blogger age at start of blog, number of IVF cycles or attempts, start date and current status of blog, geographic information, cause/type of infertility, number of blog posts, number of blog followers and peak and average number of comments on blog posts. This description was designed to assist the reader of the final research product in

determining if the results were transferable to their context or experience.

Transferability is one element of determining rigour in qualitative research (Letts et al., 2007).

### **Data Analysis**

Using blogs as the data source for this study presented two challenges in the initial data collection and organization phase. First, the blogs had to be downloaded and organized in a chronological order opposite from the reverse-chronological order in which blogs are presented online. This involved navigating to the first blog post in the data set and systematically downloading and re-naming each subsequent post. Second, while the text of each blog post was the primary focus for this study, one could not ignore pictures or other visual details of the blog post; a feature of NVivo10 qualitative software called NCapture was used to download each of the blog posts as it appeared on the web (QSR International, 2010). NVivo 10 software was also used in the initial coding of the raw data and the organization of researcher notes.

Coding in discourse analysis does not refer to the central activity of analysis; rather it is a process that involves paring an often insurmountable amount of text down into manageable chunks (Potter & Wetherell, 1987; Wood & Kroger, 2000). For this study, this process involved searching the data obtained from blogs and identifying every reference made to the issues of interest as identified by the research questions. This process was done as inclusively as possible so that even borderline cases and cases that seemed only vaguely



related were included in the early stages of coding (McCloskey, 2008; Potter & Wetherell).

At the end of this early coding process, the discourse analyst moves to the process Potter and Wetherell (1987) call “analysis proper,” keeping in mind that the duration of the process would be cyclical with significant movement between analysis and coding for the duration (p. 167). Discourse analysis consists of two phases (Potter & Wetherell). First, there is a search for pattern within the text with close attention paid to both variability and consistency. Second, the analyst is concerned with function and consequence within the text, which is based on the theoretical underpinning of discourse analysis “that people’s talk fulfills many functions and has varying effects” (p.168). This second phase “consists of forming hypotheses about these functions and effects and searching for the linguistic evidence” (p. 168). In other words, the aim of discourse analysis is to explain what action the discourse is taking or what function the discourse performs, and how this is accomplished through its structure and organization (Wood & Kroger, 2000).

For this study, data were carefully read and re-read as prescribed by Potter and Wetherall (1987). The analysis of the organized chunks of data from the coding phase focused on both content (what topics were consistently blogged about during the IVF experience) and function (what was accomplished by the discourse). This analysis resulted in the formation of claims or hypotheses and evidence from the discourse was used to support these claims. The findings

section in a discourse analysis (or the analysis as discourse analysts prefer to name the results section) differs from other conventional reports because it involves a demonstration of the analysis process (Wood & Kroger, 2000). This includes presentation of one or more excerpts of the discourse with a detailed analysis following.

### **Trustworthiness**

Attention to rigour or trustworthiness of the data collection and analysis ensures that readers of qualitative research can be confident in the reported findings and quality of the research, and is the means by which qualitative researchers demonstrate the legitimacy of the research process (Letts et al., 2007; Tobin & Begley, 2004). Criteria for the evaluation of trustworthiness are well documented in the qualitative literature and include credibility, transferability, dependability, and confirmability (Tobin & Begley).

Credibility is established through the determination of whether the researcher has demonstrated an adequate submersion in the research setting and data to enable recurrent patterns to be identified and verified and answer the question, are the findings representative of the true picture of the phenomenon (Krefting, 1991; Letts et al., 2007)? This study utilized peer examination (discussing the research process and findings with the researcher's thesis committee who have expertise in both content and qualitative methods), and reflexivity (an ongoing analysis of the researcher's influence on the study through reflexive journaling) to ensure study credibility. Reflexivity and peer examination

were of particular importance throughout this study because the interest in this research topic originated from personal experience with IVF. These strategies ensured that findings were well supported by the discourse and free from researcher influence on a personal level.

Transferability of the research findings is established by the reader of the research and the extent to which generalizations about the subject of the research can be made by asking the question, can the findings be transferred to other situations? (Krefting, 1991; Letts et al., 2007). In discourse analysis the generalizability of results depends on a reader "assessing the importance and interest of the effect described and deciding whether it has vital consequences for the area of social life in which it emerges and possibly for other diverse areas" (Potter & Wetherell, 1987, p.161). To assist the reader in determining whether the findings of this study can be transferred to other situations, demographic information about each of the blogs and, where possible, the bloggers were collected and described. These served to illuminate the research context and describe the research participants.

Dependability, which is comparable to reliability in quantitative research, refers to how clearly another researcher can follow the decision trail used by the investigator and asks how consistent the findings are with the data (Krefting, 1991; Letts et al., 2007; Tobin & Begley, 2004). This study established dependability through keeping a detailed audit trail (exact methods of data collection and analysis/interpretation described) and peer examination (review

analysis and process and findings by thesis supervisor and/or committee members).

Confirmability is concerned with demonstrating that the findings of the research are clearly derived from the data and asks the question, what strategies are used to limit bias in the research (Letts et al., 2007; Tobin & Begley, 2004)? Discourse analysts sometimes refer to this as demonstration and describe it as a key requirement in the warranting of analytic claims. Demonstration involves presenting the steps involved in the analysis of an excerpt rather than simply presenting an argument and using an excerpt for illustrative purposes (Wood & Kroger, 2000). A detailed audit trail contributed to the confirmability of this study and the results and discussion sections established demonstration. The audit trail included specifics related to the raw data collected, data reduction and analysis processes, initial codes, data reconstruction and emerging themes, and detailed notes regarding decisions made and reflexivity (or being open about how the researcher shapes the writing that emerges in qualitative research) (Creswell, 2007; Krefting, 1991).

When Potter and Wetherell (1987) discussed rigour related specifically to discourse analysis research, one criterion they outlined for the validation of this type of research was fruitfulness. Fruitfulness refers to the fact that if research can be used to generate new and unique solutions to the problems in a field we can accord them more respect. The goal of this unique study was to report

findings that were meaningful and fruitful within nursing and health care, health research methods, and research ethics fields.

### **Ethical Considerations**

Ethical approval from the Hamilton Health Sciences/McMaster University Faculty of Health Sciences Research Ethics Board (HHS/FHS) was obtained before research began to protect the rights, safety, and welfare of all research participants. This process, however, proved to be challenging due to the limited precedent of using blogs as the primary data source in qualitative health research and relatively uncharted ethical territory.

There exists in the literature a wide diversity of opinion on appropriate approaches to ethical standards in Internet research (Heilferty, 2011). Other qualitative studies using online data such as blogs or online message boards have not sought informed consent from the writers of the content as the data were deemed public domain (Clarke & van Amerom, 2008; Clarke & Lang, 2012; Fleischmann & Fleischmann, 2012; Hookway, 2008; Malik & Coulson, 2010; Shah & Robinson, 2011). However, to avoid exploitation of this online content, consent (either informed or passive) was obtained from bloggers whose blogs, when assessed for bloggers' privacy intentions, indicated some level of privacy was intended. If, after being assessed for privacy intentions, a blog was determined to support public intent, consent was not obtained from the blogger. For example, a blog requiring a password to gain access to the blog was judged to indicate that the blogger might have expectations of some level of privacy and

required consent or exclusion. Whereas a blog that was indexed, available for search, and that offered RSS feeds, was interpreted to suggest that the blog author intended the content to be public or supported public intent and did not require a consent (Eastham, 2011). Of the blogs sampled for this study, only one blog when assessed for privacy intention was judged to have some intent of privacy. This blogger was contacted using the REB approved passive consent email (Appendix C) and email consent to use the blog content was obtained.

To preserve anonymity, all blog data were stripped of personal identifiers (e.g., names, locations, clinic information) and assigned a study identification number. Files were encrypted and saved on the researcher's password protected laptop.

## CHAPTER 3: ANALYSIS

### **About the bloggers and their blogs**

The data for the following analysis were gathered from the text of seven women's blogs documenting their IVF experiences. All demographic data were extracted from the blog content and not through direct interview with the bloggers (see Table 1 and 2 for demographic summary). Six of the seven blogs were analyzed without contacting the blogger for consent; one blogger was contacted for passive consent due to the perceived privacy intention of the blog (see Chapter 2) but failed to return the demographic questionnaire provided with the consent. The mean age of the bloggers for whom demographic information was obtained (n=7) was 33 years, with a range from 24 to 40 years at the time of their first blog post. The mean time spent trying to conceive (TTC) as reported by the bloggers at the start of their blogs was 41 months, with a range from 20 to 132 months. The majority of bloggers (86%) blogged about more than one IVF experience, with an average of three IVF attempts written about. To highlight this range of experience, one blogger achieved pregnancy on her first IVF attempt and another chronicled five IVF cycles and two frozen embryo transfers (FET). Three of the seven (43%) bloggers identified themselves as having female factor infertility, two of the seven had combined male and female factor infertility (29%), and the remaining two (29%) had unexplained infertility. The bloggers were diverse based on geographic location. The majority (86%) of bloggers were from the United States and one blogger was from Canada. The six bloggers from the

US were spread across the country; they were located on both the east and west coasts as well as in the mid-western states and Texas. Bloggers also represented rural, suburban, and urban demographics. Some reported commuting over 4 hours for their infertility treatments while others were located only a few city blocks from their treatment centres.

A vast amount of text was created by each of the bloggers included in this study. One thousand, one hundred and forty-nine (1,149) blog posts were included and were read in their entirety during the initial phase of analysis. Length of posts varied from one or two sentences to mini essays that were thousands of words long. Bloggers posted an average of 8 posts per month with a range of 3 and 12 posts. The average amount of time that the blogs covered was 23 months, with a range between 3 and 48 months. Some blogs remained active at the conclusion of the data collection phase of this study while others were no longer being actively updated. In some cases blogs traded their focus from IVF to pregnancy and parenting once pregnancy was achieved (these posts were not included in data analysis). The blog posts included in the analysis were written between June 2008 and June 2013.

Also of note is the interconnectivity of the blogs and their authors. As described in the previous chapter, a blogger's blog roll (or list of blogs they subscribed to) was a fruitful source for snowball sampling. These connections and interactions between bloggers also became important in the data analysis phase of this study. Some blogs appeared to be more connected than others.



Two of the seven blogs (29%) had over 200 followers (people regularly reading blog posts or adding blog to blog roll) and one blog had over 400 followers. The remaining blogs had less than 20 (29%) followers or no data on number of followers was available (29%). Comments on blog posts also demonstrated the interactive nature of blogging. The number of comments on a particular post varied, with the average number of comments per post across all seven bloggers being approximately twelve. Particularly emotional or provocative posts often generated much higher than average comments. One blogger stimulated 326 comments when she posted a long awaited birth announcement.

**Table 1: Summary of Blogger Demographics**

<b>Summary of Blogger Demographics</b>								
	Blog 1	Blog 2	Blog 3	Blog 4	Blog 5	Blog 6	Blog 7	Overall Mean
<b>Blogger age (years)</b>	31	35	40	35	24	31	34	33
<b>Time spent trying to conceive (months)</b>	33	32	20	23	27	132	21	41
<b>Number of IVF attempts blogged about</b>	3	5	2	4	1	2	2	3
<b>Type of infertility</b>	Female	Female	Unexplained	Combined male/female	Combined male/female	Female	Unexplained	
<b>Geographic location</b>	New Jersey Suburban	California Suburban	Alberta Urban	New York Urban	Indiana Suburban	Texas Rural	Midwest USA Suburban	

**Table 2: Summary of Blog Demographics**

<b>Summary of Blog Demographics</b>									
	Blog 1	Blog 2	Blog 3	Blog 4	Blog 5	Blog 6	Blog 7	Total	Overall Mean
<b>Total Number of Blog posts</b>	267	95	81	440	47	114	152	N=1,149	207
<b>Total time covered by blog (months)</b>	48	27	19	41	4	11	13	N=163	23
<b>Mean number of posts/month</b>	6	3	4	11	12	10	12		8
<b>Number of followers</b>	269	206	81	480	17	No Data	No Data	N=1,053	211
<b>Mean number of comments per post</b>	18	7	7	30	1	2	16		2
<b>Blog roll/blogs followed displayed on blog</b>	Yes	No	Yes	Yes	Yes	No	Yes		

### **About the blog content**

During the coding, or first phase of analysis, data were organized into manageable chunks and the subsequent analysis focused on both content (what topics were consistently blogged about during the IVF experience) and function (what was accomplished by the discourse) (Potter & Wetherell, 1987). While the focus of this thesis is on the function of the IVF blog discourse, function is a result of the sum of the individual posts and exists within the context of documenting the IVF experience. Therefore, it is important to note what these women were blogging about, or the general content of the blogs (see summary Table 3).

Blog posts can be easily categorized by topic with the writer often completing the categorization for the reader by giving the post an appropriate title or linking the post within the blog to posts with similar content. For example, this excerpt was posted under the title “Day 8 update:”

A few quick updates from my last post. Estradiol came back <5, which is great -- means no activity and a clean slate to grow good follicles. I have been doing my Lupron injections in my thigh, which I'm (weird word, I know) loving. Most have been painless, and even when it pricks a bit, it's less intimate than my tummy, so less of a big deal. Apparently it varies a lot woman to woman, so I'm happy it's working for me. This morning I started the Gonal F and the Menopur, and decided to do one on each side of my tummy. That way when I pinch to get some flesh, I don't make the previous injection spot bleed. (Blog #2)

The preceding excerpt is also an example of the *procedural update* blog category, as it was labeled for this study. This was by far the most frequently written type of post by bloggers with over 300 references made to blood work or other laboratory values, procedure preparation or results, and medication

administration practices. Based on their content other frequent posts included symptom reporting, “all I have to go through,” exploring alternatives, navigating relationships, and being grateful or “counting one’s blessings”.

*Symptom reporting* was a common topic amongst all bloggers especially during the time when waiting for results was the only action required of women going through the IVF process. One blogger outlined her 2-week wait (the time between embryo transfer and confirmation of pregnancy by blood test):

1. Crazy Butt Pain. These progesterone shots are killer. It's not the shot itself, but the aftermath. Yesterday, I felt like a little old lady who needed help just to roll off the couch. In some weird, sadomasochistic way, I actually like these shots because they make me feel like I'm still doing something to keep those little cells viable. Maybe I just got addicted to giving myself shots every night - it sometimes feels like something is missing these days....
2. Cramps. I get nervous when I get them and nervous when I don't.
3. Anxiety. I'm dealing this by doing nice things for myself. I got a pedicure this afternoon and on the advice of a good friend, purchased a copy of Twilight this afternoon. (Blog #7)

Similar to symptom reporting, bloggers often focused their writings on a description of everything they had to go through during the IVF process. This included, but was not limited to, the travel to and from clinic appointments, balancing work and the demands of the IVF process, and the physical and emotional toll of the IVF process. The following is an example of this kind of post:

This morning I left at 6:30 to make it to me RE's office by 9 my time, 8 their time. Of course, I got there a few minutes early and I had to wait. I go in three times next week which means missing about 5 hours of work each of those days. (Blog #5)

All seven bloggers made at least one reference that could be categorized as *exploring alternatives*. Bloggers discussed adjuncts to their current IVF

protocol, for example: taking certain supplements, immunological therapies, or trying acupuncture; new IVF protocols both with their current clinics and seeking second and third opinions from other clinics; and alternative pathways to parenthood including gestational surrogacy and adoption. Bloggers often worked through these decisions in great detail allowing their readers access to their innermost thoughts and feelings on the topics, especially when discussing alternatives like surrogacy and adoptions.

*Navigating relationships* was another category with frequent posts and was a common topic to all seven bloggers. This category focused on posts documenting the struggles between infertility and going through the IVF process and interacting with the rest of the world including friends, family, co-workers, healthcare professionals and even strangers. This blogger commiserates with her readers about learning that a relative coming to stay with her will be pregnant at the time of her visit:

My cousin, who is exactly my age, is coming to stay with us for a few days at the end of the month. Today, I received an email from my father filled with newsy news about the extended family, whom he just saw. And embedded within the email was a sentence that this cousin is expecting her third child and is due in September. I am now dreading her visit. She knew she was pregnant when she asked me if she could stay with us. I'm wondering if it ever occurred to her to let us know. Or if she was planning to just drop this bomb upon her arrival? She knows that we've been trying to conceive for almost two years and have been going through fertility treatments. And forgive me, but had I known, I'm not sure I would have offered our place for her to stay in during her upcoming business trip to NYC. The last thing I want to do is to hear about her pregnancy - or even worse, to hear her advice about our lack of a baby. (Blog #4)

Bloggers often made attempts to balance some of the more negatively toned posts with positive ones. Each blogger wrote at least one post stating something they were *grateful* for or how they felt *blessed*. One blogger stated very simply “i [sic] try to be thankful that [husband] and i [sic] have a roof over our heads and bellies full of food, if not babies.” (Blog #1) Another blogger created a weekly series of posts that focused on being grateful.

While blog posts documented other areas of the IVF experience, the preceding categories represent the most frequent content posted and the most common topics written about across all seven bloggers. While the topics blogged about and content included in each woman’s blog are interesting and could spark stimulating discussion, a summary or analysis of content alone would fail to address the research questions for this study that relate to the function of the IVF blog discourse: what does writing a blog throughout the IVF experience accomplish? and what impact does blogging have on the IVF experience? These questions are answered throughout the second phase of analysis where the goal is to explain what is being done by the discourse (Wood & Kroger, 2000).

Table 3: Summary of blog content

<b>Summary of blog content</b>									
	<b>Blog 1</b>	<b>Blog 2</b>	<b>Blog 3</b>	<b>Blog 4</b>	<b>Blog 5</b>	<b>Blog 6</b>	<b>Blog 7</b>	<b>Total</b>	<b>Overall Mean</b>
<b>Number of references to Procedural Updates</b>	45	69	15	104	15	44	25	N=317	45
<b>Number of references to Symptom reporting/all I have to go through</b>	16	18	8	46	14	23	3	N=128	18
<b>Number of references to Exploring alternatives</b>	2	8	4	28	2	1	4	N=58	8
<b>Number of references to Navigating relationships</b>	3	4	3	10	5	7	18	N=50	7
<b>Number of references to being Grateful or Blessed</b>	5	2	2	9	3	3	6	N=30	4

### **Functions of IVF blog discourse**

Four functions of the discourse emerged from the analysis of the IVF blog data. These functions are creation of and connection to community, emotional support, therapy, and creation of an IVF resource. Each of these will be discussed in turn below with attention paid to both what is being accomplished by the discourse and the effect attained.

#### **Creation of and Connection to a Community**

Blogging throughout the IVF experience connected the writer to other IVF bloggers, and as bloggers connected to one another, a community was formed. Evidence that women blogging about their IVF experience created a community amongst one another and their readers can be seen through how they write and what they write about as well as in features of the blog itself.

**Inclusion through exclusion.** The notion of community amongst IVF bloggers is often first established by the blogger proclaiming their exclusion from the fertile/baby-making/child-having world and thus including oneself in the infertile and childless world. Blogger #4 demonstrated these feelings of exclusion by expressing frustration with the “fertile world”:

I'm going to admit to a pet peeve of mine - Stick Figure Family Car Window Stickers....Do you know the stickers I mean? The ones people plaster on their car rear windows for all the world to see? ...And perhaps needless to say, but there seem to be no family stickers for those without children. Oh wait, since we're childless, maybe we don't even qualify ... Honestly, it's because they seem to be yet another unintended sucker punch from the fertile world. Another proclamation of fertile people's normality, their damn irritating fecundity. And another reminder of my defectiveness, my barrenness, my pronounced child-killing abilities. (Blog #4)



Others described their exclusion more explicitly using language like “left out” or “missed something”.

Secondly, I feel so left out. I'm either surrounded by early 20- somethings who haven't even begun thinking about pregnancy (and the daunting prospect of IF isn't even a blip on their radar screens - how I miss those days!) or 30-somethings who have children who look old enough to enter high school. I swear, I look at some of these kids and feel so behind. I find myself wondering if I missed something somewhere...how the hell did I get here again? (Blog #7)

These excerpts demonstrate how exclusion from one community leads to inclusion in another. These women felt “left out” of one group/community/world and decided to blog about it, which led to inclusion in the community of IVF bloggers. Also highlighted in these excerpts is the common interest amongst IVF bloggers to be part of this fertile/child having world and the pain of being excluded from it. Not all infertile women or IVF bloggers would express the same “pet peeve” of rear-window stickers but they share some sense that they are being constantly reminded of what they want but do not have. Common attitudes or interests are a requisite part of community by definition (Oxford Dictionary). These women not only shared the desire to become pregnant and have children and more specifically had chosen IVF to help them achieve this end – they had all chosen to blog about it.

**Blogging practices that lead to community.** Many of the posts written by women blogging about their IVF experience perform actions. These actions or blogging practices, while not always intended by the blogger, fostered the sense of community between the blogger and their readers.

I'm [name of Blogger 5] I am currently struggling with infertility and am trying to share my experience with others who may be going through the same thing.

In this excerpt the blogger accomplished two things that support the establishment of community. First she introduced herself and second she created common ground. As a newcomer to the community (this was her first post) an introduction would be the social norm. Her declaration of infertility and wanting to share her experience with others demonstrated that she belongs in the community.

So sorry to be silent for so long. I've been reading your blogs, cheering you on quietly, not commenting very much at all. I have had my head down and have been just slogging through the depot lupron...one foot in front of the other. I don't recommend it to anyone, but those days are behind us.(Blog #4)

As promised, here are a few details about my Colorado FET prep and their post- transfer recommendations. These are just some of the things that stick out in my mind since they differ from my prior clinic. (Blog #4)

I have Blogger's Block. Yep - after so many months of so much to say, today, I've got nuttin'. I suppose I could give The Update...but even at that, there isn't much to report! (Blog #3)

I'm still here...(Blog #6)

These excerpts demonstrate another common practice performed by bloggers that support the creation of a community – accountability to readers. Women who have established themselves within the IVF blogger community and are recognized by others in the community as consistent contributors feel a certain duty to remain active within the community. Excerpt one demonstrates that even while not actively posting or commenting this blogger was still part of

the community and more active contributions were forthcoming. The words “as promised” in the second excerpt conveyed that the blogger was following through on a request or comment from someone else in the community thus displaying commitment to the community. Excerpts three and four are examples of when bloggers feel they have nothing to say but don’t want to be forgotten by others in the community. Any activity from the blogger, even just an “update” will bring the blogger back to the top of the list of anyone following her posts. Posting ensures that the blogger remains part of the community.

**Requisite posts and language.** An unwritten set of rules or norms appeared to govern how and what was written by women blogging about their IVF experience. Ascribing to these norms can be seen as requisites for inclusion within IVF blogger community. Certain language and acronyms were used in the posts that would appear foreign to someone outside the community. This language was common amongst all seven blogs analyzed and one blogger (Blog #7) had a glossary displayed within her blog titled “IF Terms/Acronyms You Never Wanted to Know.” (IF is an acronym for infertility). Even this title implies that those included in the community already “know” these terms and outsiders will need to consult the glossary.

A requisite post amongst all bloggers was the TTC (trying to conceive) timeline or infertility history. This was a lengthy list of dates sometimes starting with the woman’s first menstrual cycle outlining every detail of their journey trying to become pregnant and in some cases stay pregnant.

My infertility history: 07/07 - went off birth control 07/08 - visited a RE  
01/09 - IUI #1 w/ Clomid 02/09 - IUI #2 w/ Clomid 04/09 - changed REs,  
IUI #3 w/ Femara 05/09... (Blog #2)

This post provides an example of another way that bloggers may establish themselves as valid members of the community. Other requisite posts include, medication delivery photos and cycle updates complete with laboratory values and follicle sizes.

**Blog attributes.** Many of the key characteristics of a blog and the features available through blog service providers serve to support the IVF blog community. The interconnectivity and public nature of blogs is what distinguishes them from personal journals or diaries. The ability to follow or subscribe to individual blogs is one such attribute that facilitates interaction and creation of community. First, allowing one's blog to be followed demonstrates the willingness or desire for the blog to be read by others, therefore indicating that the blogger is open to the idea of community. The majority of bloggers displayed the blogs they were following on the main page of their blog. These lists then became a virtual directory of bloggers belonging to the IVF blogger community (see Figure 3).

Figure 3: Example of blog links within blog page



Screenshot from Blog#3, June 7, 2013

**When bloggers no longer fit within the community.** The existence of a community amongst women blogging about their IVF experience is also evident in the conflict that arises when a blogger's status changes, for example, they become pregnant or pursue adoption. Two bloggers documented this struggle to understand where they now stood after becoming pregnant.

I don't know if I'll start posting again. I've noticed that sometimes people create new pregnancy blogs, which I can completely understand. But somehow, this doesn't feel like the right venue for me because I still feel like infertility is undeniably my shadow, even throughout pregnancy: in no way does it feel like a part of my life that's completely finished. (Blog #7)

This excerpt highlights how the blogger realized her status as pregnant may compromise her inclusion in the community of bloggers blogging about IVF; however she was conflicted because she did not want to lose her infertility identity.

I originally wanted to post about every aspect of my pregnancy, but somehow it didn't seem appropriate to do so in this forum because every time I did, I felt like I was evoking pain for someone else. I know that's presumptuous - I mean, in all likelihood if my posts caused pain for anyone out there, surely they'd just stop reading my blog. I know that, but it still felt like "that girl" who can't stop talking about her pregnancy, and my

heart has been broken by that person so many times throughout this experience in my life. (Blog #2)

This blogger struggled to reconcile feelings of excitement about her pregnancy and not wanting to appear insensitive toward a group so openly envious of her situation.

Another blogger assumed that her recent pregnancy announcement would result in her dismissal from the community and she was surprised at the continuing support despite her status change; “I have more love and support from you guys than I could ever have imagined. Isn't this when you're all supposed to un-follow me and stop reading? Guess not. Or not yet at least.” (Blog #4) This example also suggests that relationships formed within the community of IVF bloggers can withstand the negative emotions felt toward other pregnant women who have not experienced IVF.

I came to realize that on a deeper level, this blog was a means of emotional expression for me at a time when my life was thrown into absolute chaos. A time when nothing was happening the way it was "supposed to". A time when I needed to send my thoughts into the abyss, in hopes that someone, somewhere out there, could relate to what I was going through and connect with me...But now that I find myself at peace, and content, I find myself no longer seeking this place to run to. (Blog #3)

This blogger doesn't appear to struggle with the conflict felt by other IVF bloggers when she became pregnant. Instead she recognized that the IVF blog community was there for her during a time when she needed it and since becoming pregnant it was no longer a group she felt she needed to belong to. No matter what bloggers decided to do with their blog when their status as an IVF

blogger changed, the fact that bloggers felt conflicted about this decision provides additional evidence to support the existence of community.

**Effects of community.** Support for the existence of a community amongst women blogging about their IVF experience can also be determined through the examination of outcomes or effects of participation in a community. One observed effect of being part of the blog community is the formation of meaningful relationships. Bloggers often referenced the care, love and support received from readers and other bloggers throughout the ups and downs of their IVF journeys. Some online relationships even developed into real-life friendships.

I got to see two blogging women I've come to love this week...And still amazing to me that real life relationships have sprung (and hopefully will continue to spring?) from this online world. Wish I hadn't met you here ladies, but since I'm here and you're here. Nice! (Blog #4)

Hope was the other overwhelmingly evident effect of belonging to the IVF blog community. The community was where hope was found. Women experiencing IVF found hope in the successes that had been recorded within the IVF blog discourses either through other bloggers' posts or comments on their own posts.

Sending out a great, big, congratulatory hug today to my "cyber-friend" CJDR, who has just received multiple BFPs on her hpts after her third IUI!! What a blessing this is for her and her husband - I know that she was beginning to feel defeated and so terribly discouraged. After an almost three year struggle, she is finally experiencing the happiness she deserves and her situation has helped to reinforce for me that dreams really do come true... (Blog #3)

I have loved all of your encouragements (they have really, really helped, thank you), and especially [blogger name]'s that she got a positive very

late in the two week wait ([Blogger name], I continue to hold on to your story as my singular hope) (Blog #4)

But I need to be comforted. It cheers me up to hear women write about how thrilled they are that they are pregnant from their most recent gonalf/iui cycle. It gives me hope. Maybe, just maybe, this is it. (Blog #3)

These excerpts demonstrate the hope that was found within the pages of writing bloggers created while documenting their IVF experience. This hope was accessible only through the connection to the IVF blog community and could not be found if one was blogging in isolation or not participating in the interconnected features built into blogs. Another unique aspect of hope within the community is the fact that bloggers searching for hope in a particular part of their journey have the ability to provide hope to someone else in a different time or stage of their journey.

### **Emotional Support**

The findings of this study indicate that a woman's blog and connection to the blogosphere is a source of emotional support during the IVF experience. Evidence that women blogging about their IVF experience was a source of emotional support can be seen through how women looked to the blogosphere for emotional support, blogging about receiving emotional support, blog features that foster support, and the effects of emotional support from the blogosphere.

**Looking to the blogosphere for support.** In between the procedural updates and venting about the most recent baby bump to appear in the office there was a subtle but detectable reaching out from the writer to the reader for emotional support.



I'm trying to stay optimistic - given the amount of meds going into my body, SOMETHING should happen by Saturday... Right...? (Blog #2)

Unfortunately, I am feeling a little defeated and pessimistic right now. I guess I'm just tired, you know? Wishing that it didn't have to be so hard. (Blog #3)

The questions posed may appear rhetorical, however, they indicate an emotionally low point in the IVF process or times when optimism was evading the writer. These simple questions “you know?” were often enough for the community to spring into supportive action by way of advice, kind words, or the collective “we know.” Other bloggers were not as subtle when looking to the blogosphere for emotional support.

So tell me, have you ever just felt like enough is enough, and how in the hell did you find it in yourself to keep trudging through this? By the way, this is not a rhetorical question - I would really like your feedback. I need some momentum. Badly. (Blog #7)

In the meantime...as usual, I turn to you guys. Anybody have a beta this low turn out to be an actual, living child nine or ten months later? Anybody have a beta around this level at all? What happened? It's OK to share both positive and negative outcomes. (Blog #4)

**Emotional support received from the blog community.** Bloggers very often took the time to acknowledge the emotional support received from the blogosphere.

Thank you all so much for your feedback about our "to tell or not to tell" dilemma. Still on the fence, but praying for resolution. We'll figure it out, but the important thing is that I feel so supported right now. It's amazing what that does for my mood state! I feel so blessed.(Blog #7)

then there's you, whom ive [sic] never met or seen. i [sic] don't know what you look like on a bad hair day, and i [sic] don't know if you prefer vanilla or chocolate, but you take time enough to reach out to me and leave a comforting thought, or words of support. they bouy [sic] me on the rough

days, help me to stay afloat as the waves crash around my head. (Blog #1)

You guys have been a great source of support for me -- thanks for being there and cheering me on. (Blog #2)

Sometimes even the fact that their blog was being read by others was enough to be seen as emotional support for the blogger.

it wasn't even a choice whether to come back and write. It [sic] was something i [sic] simply needed to do, and it has helped me immeasurably. If [sic] you read this here today, or any day, i [sic] want to thank you. writing [sic] about it is helping me work through my anguish. adding [sic] mine into the collective suckiness [sic] of so many stories is helping me to normalize, and accept the hand ive [sic] been dealt. The [sic] fact that others read and care is comforting and surprising, and encourages me to go on and work through this on most days when all i [sic] feel like doing is stuffing my head in a pillow and ignoring the world. (Blog #1)

The supportive comments were also seen by one blogger as the fuel for the blog itself.

And thank you to all of you. Truly. You've given us so much strength and hope throughout the last year. Your presence - and your comments and thoughts - keep this blog alive. (Blog #4)

**Using the blog to support others.** The caring and support shared amongst the IVF blog community was reciprocal in nature. Bloggers who received emotional support from others were also responsible for distributing it to others, most commonly by referring to other writers in the IVF blogosphere.

link is from a blog I [sic] just found of a writer who has had 7 miscarriages. 7. miscarriages. 7. ... i [sic] just wanted to hug her. especially [sic] when i [sic] read this. it's [sic] needless to say that im [sic] a subscriber now, and i [sic] think you should go on over and support her if you don't already. (Blog #1)

please throw some hugs and support towards [Blogger name]. she [sic] got a BFN [Big Fat Negative] today after her first IVF ... she was so hopeful and sure that she was pregnant and really, so was i [sic]. (Blog #3)

im [sic] thinking of [Blogger name] tonight...she hasn't updated since her fert [sic] report but i'm [sic] assuming her transfer should be tomorrow if my IVF timeline isn't off... if you have some time, mozy [sic] on over there and show her some love. (Blog #1)

This third excerpt demonstrates how some women within the community of IVF bloggers had become experts in providing emotional support to others. This blogger anticipated the need for extra emotional support from her fellow bloggers based on what time it was during her IVF cycle. Another blogger made connections to posts that she found particularly supportive and used this link to support others.

Also of note, I was really moved by [Blogger name] post today about Affirmations and thought that you might want to check it out, along with all the comments. Very encouraging. (Blog #7)

Support from within the community of IVF bloggers also seemed to be more meaningful as someone with similar experiences wrote it.

I want to give a special thanks to my lovely IF friends who leave me messages on my posts - your encouragement and inspiration mean the world to me. It makes such a difference to hear from ladies who have been there and know exactly what it's like to deal with infertility...please know that I think about all of you and include you in my prayers (Blog #3)

**Blog features.** Similar to the attributes of blogs that foster the creation of an IVF blog community, there were features of the blog itself that facilitated emotional support through blogging. The ability to leave comments and linking to other blogs within the body of a blog post are two features that aid emotional support. Based on the findings of this study community is created through

following one another's blogs and commenting is how the community communicates. The comment section provides a space for the reader to respond to the blogger's writing and provide emotional support. Linking is a way to share a blog with the community. Bloggers used this feature to introduce new blogs to the community and when needed send the support of the community to their pages.

**Effects of emotional support.** The effects of the emotional support received throughout the IVF blogging experience are evident throughout the writings of the bloggers. The positive impact that emotional support from the blogosphere has on the blogger's IVF experience is most seen in the language used by bloggers when describing this form of support.

Bloggers described the support received from other bloggers and blog readers as helping them "get through" or "buoy" them "on the rough days" and feel "not alone." They also called their IVF blog community a "cyber-shoulder to cry on." This blogger described the impact of the emotional support received following a miscarriage after IVF #4:

You may think that when you're the 128th, or the 209th, commenter that it doesn't matter if you leave a message, but it does. We read every single one. Many of them while I was waiting for surgery. And they helped. Each of them. All of them. So thank you. (Blog #4)

### **Blogging as Therapy**

Women bloggers saw blogging throughout the IVF experience as therapeutic. The motivation for some bloggers to begin writing was for the

perceived therapeutic value attained through the process of simply writing or sharing and receiving feedback and comments from others in the community.

How Did I End Up Here? I don't really have the answer to that. All I know is that I needed this space in order to collect my thoughts. I have been meaning to do this for so long now; I'm hoping that it will be therapeutic. (Blog #3)

Others discovered its therapeutic significance later in their blogging experience.

Discovering the blog world. This is certainly one of the best things that happened to me this year. Blogging has become an incredible, invaluable therapy for me through this infertility experience. (Blog #7)

Some bloggers did not directly comment on the blog's therapeutic consequence but their text provides indirect evidence that they engaged in therapeutic activities.

**Meeting a need.** One blogger reflected on blogging meeting a need or having experienced the need to write after the loss of her IVF twin pregnancy:

many times my posts have poured out of me after i [sic] sat stewing and overwhelmed. sometimes i'd [sic] open the computer and be weeping, feeling what i [sic] needed to say before the words appeared on the page. when i [sic] put the computer down after these times, i felt closer to my girls, relieved of a little bit of pain, and happy with how i remembered my babies. (Blog #1)

In a later post she also described needing to write but this time she also identified the need for the blog to be read:

even though i [sic] thought i [sic] was here because i [sic] needed to write out loud, i [sic] guess im [sic] also here because i [sic] needed someone to read it. (Blog #1)

**Therapeutic activities.** Bloggers also described engagement in other therapeutic activities such as working through decisions, seeking advice, and

venting emotions. Women used their blogs and their connection to the IVF blog community as a sounding board or place to just think out loud.

One thing I didn't mention in my last post is that my doctor brought up donor eggs as the 'quick fix' answer to our infertility. So that's been floating around my head a lot...It's definitely something that I'm open to, but I am having trouble reconciling myself to it. (Blog #4)

In this excerpt the blogger simply allowed the reader in on what was currently occupying her thoughts. This practice also allowed the writer to feel the relief that accompanied saying something out loud and clearing one's head as demonstrated in this statement, "Now, for the whining. I'm going to try to get this out for now so I can go about the day maybe a little more relaxed" (Blog #5).

Seeking advice from the blogosphere also has its therapeutic benefit. The IVF blogger community is seen as having experiential authority over all things IVF so when a blogger poses the question "any tips/advice for my hysterosonogram tomorrow?" any stress or anxiety can be dispelled by the blogosphere "experts". Similarly, bloggers can work through decisions with the added input of the IVF blogger community.

We're considering a bunch of options on how to move forward. You've read many of our thoughts on the matter since we lost our sixth pregnancy in November. We now have a new possibility we're strongly considering... But I have so many questions. I'm someone who does not take decisions like this lightly. I want to think through all the potential consequences. (Blog #4)

The expression of deep felt emotions was an activity common amongst all bloggers pointing to its benefit as a therapy. These posts represent emotionally

low times and often garnered the full emotional support of the blogosphere as discussed in the previous section.

So here's what I think of this "Fall seven times, stand up eight" proverb right now...I really don't feel like standing up again. Not one bit. What do I feel like? I feel like giving up. I feel broken. I feel incensed. I feel helpless. Why is it so hard to find our way out of this? (Blog #4)

we can't do this forever. and [sic] today i [sic] felt it. i [sic] felt what i [sic] never thought i [sic] would, and what i [sic] have struggled to understand when others speak of it. i [sic] had a fleeting perception of what it would be like to be done with treatments. to [sic] say no more, and im [sic] done and mean it, to put life and love and effort towards building our family in a different way.(Blog #1)

**Blog features that facilitate blogging as therapy.** Much like creating community and fostering emotional support, there are blog features that facilitate the therapeutic nature of blogging throughout the IVF experience. Blogs can be a safe place to express the raw emotions displayed above and share ones innermost thoughts. Based on an analysis of the discourse this safety is created through anonymity and community. Because many bloggers used pseudonyms and censored the amount or degree of personal information communicated, the content of the blog posts were often raw and uncensored compared to a real life conversation. One blogger posts a brutally honest opinion of why her sister shouldn't have a baby:

And, if you want to know a huge reason why I think she shouldn't have a baby, it's because whenever she's around babies or kids related or not and they cry or hurt themselves she tells them to "shut the fuck up" and has been abusive to one of my nephews to the point that she isn't allowed around him without close supervision. I mean, what kind of mother will she actually be? (Blog #5)

Others used the anonymity to share good news that was felt to be too early to tell family and friends in the real world.

Still trying to process this. All is well! Better than well! I am still shockingly pregnant! Good news!! Continued good news!!! Whoever would have thought? (Blog #4)

There was also an observed sense of safety created with membership in the blog community. Because of the shared attitudes and interests amongst the bloggers one could post without fear of judgment or ridicule, or if a negative comment or response were to arise it evoked the fury of the entire community.

i [sic] don't what kind of sick, sadistic people leave a comment on the blog of someone who has lost their babies to stillbirth asking for their funniest pregnancy story?! what [sic] a horrible and heartless thing to do, all to drum up business. you [sic] can all go fuck yourselves." ... if you'd like to join me in spamming the shit out of them, or share your thoughts, go here. feel [sic] free to use a fake email. (Blog #1)

**When the blog becomes non-therapeutic.** Evidence exists within the blog discourse to suggest that blogging can have the opposite of its desired therapeutic effect and actually become non-therapeutic. This was demonstrated when writers wrote about taking time away from their blog, the potentially addictive nature of blogging and the internet, and concerns about the blog no longer feeling safe.

Due to the accountability bloggers feel to their readers, a prolonged absence from posting is often explained in a blog post. Some describe just needing time off:

I've been away from the blog, burrowed down into myself, trying to remember what my life was like before we started trying to conceive, trying



to reconnect with my husband, trying to reconnect with my former, happy self. (Blog #4)

And this blogger describes not feeling part of the community during a time when she is not actively cycling:

Wow. I didn't realize I hadn't posted in over a month! Sorry about that... I've been pretty disconnected from the online IF community while prepping for this FET. (Blog #2)

Two bloggers also describe how blogging had stopped being a therapeutic activity or space.

there was a time when coming online and writing made me feel better but lately i [sic] push the idea out of my head as soon as it pops in... i [sic] can't be a good support right now, reading good news makes me so sad (sorry, but honest) and reading sad news makes me feel even worse. i [sic] just hurt so acutely. (Blog #1)

I've been quiet a lot longer than I intended to be. And I hope I haven't worried anyone. It's just been hard, so so [sic] hard over here. I've been kind of shut down around this whole infertility situation, honestly, because things just feel overwhelming in that department. Every time I think of our situation, I just feel hopeless and I want to go back to bed, avoid, and give up, which is such a change from the hard-driving person I've been around all of this for the past four years. (Blog #4)

In the first excerpt the blogger attributes the lack of therapeutic value to the blog community. Reading the stories of others caused her pain and she felt conflict around not being able to support others in the community during this time.

The second excerpt demonstrates how the blog is a reminder of the “whole infertility situation” and being “around all this” for the blogger was overwhelming.

Blogging often crossed the line from therapeutic to non-therapeutic when it led to addictive behaviors.

Okay, so I have literally spent the last three days combing the world wide web, looking for articles and postings on successful gonadotropin-releasing hormone agonist (GnRH-a) cycles. My eyes are crossed. Can other gals dealing with IVF relate to this? The unyielding need to know every single thing there is to know about a condition/drug/procedure? How many google terms can you possibly come up with about one topic? (Blog #3)

I have to admit, it hasn't helped for me to maniacally read various posts on internet forums from other women about the low numbers they have and their subsequent disappointments. (Blog #3)

While it would be difficult to ascertain true addictive behaviors from a handful of blog posts these excerpts, especially language like “manically” and “unyielding,” highlight the potentially negative or non-therapeutic side of blogging and being part of the IVF blogger community.

One blogger felt that her public blog was no longer a safe place to continue posting and a new, invitation only, password protected space was created. Going private allowed the blogger to continue the therapeutic act of blogging while maintaining some control over the community aspect.

im [sic] sorry it has come to this. i [sic] am sorry that i [sic] may not be able to invite all of you, for fear of letting a wolf in sheep's clothing in the mix ... again i [sic] am feeling the need for privacy, especially after some questionable search terms in my stats this week ... i [sic]knew this was a possibility all along. naturally [sic] if you put your business in the street someone you know might come along and see it. oh well. still hurts. (Blog #1)

### **Creation of an IVF resource**

IVF blogs document the personal IVF experience of women extensively, thus creating a permanently archived resource for anyone who may find it of value. This creation of an IVF resource is evidenced in the way that bloggers wrote with two distinct audiences outside of the IVF blogger community in mind,

the “next infertile” and the outsider. Similar to the previous claims there are also blog features that support the blog becoming a resource.

**The “next infertile.”** Whether helping others was the intent of a woman’s IVF blog at its conception is debatable, however, as bloggers wrote and became part of the IVF blog community they felt a duty to leave something for the ones that would come after them.

I know the risks are low, but my nerves are getting the better of me. So I am thinking that hearing your experiences will help. Your shared stories will then be out there for the next infertile googling [sic] for info on this procedure, helping her to feel a little less afraid. (Blog #4)

Phew. I think that's it. Time to step off the soapbox. But I do hope that it helps someone who may stumble upon my humble little blog, seeking answers. Know that I wish every woman out there, struggling the way that I did, the very, very best. (Blog #3)

[Blogger name] & I decided to do a "joint post" (see her blog) to answer all the questions we asked last week in our IVF teachings. We both attended IVF classes last week, and thought this might be helpful in answering many of the questions we all have about IVF. (Blog #7)

These excerpts demonstrate how the blogger wrote with this “next infertile” in mind. In excerpt one, the blogger posed a specific question in her post and solicited the experiential knowledge of the blogosphere. Excerpt three does not specifically reference those that will find the post helpful in the future but the archived nature of the blog will do this automatically. Others were more passive about creating this resource but, like in excerpt two, they also wrote with others struggling with infertility in mind. Another blogger found the “next infertile” to be motivation to continue blogging even when considering making the blog private.

i have been tempted to make this blog private. actually, i [sic] did, then i [sic] changed my mind. as [husband] said, i [sic] could possibly be for someone else what many of you were for me. i [sic] could be the person with the story that makes them realize they aren't alone ... it meant everything to me to find some of the most wonderful people's blogs. people [sic] that helped me realize that i [sic] wasn't alone. (Blog #1)

**Blogging for outsiders.** Based on the analysis of the discourse the outsider or someone external to the IVF community (present and future) cannot be ignored as one of the audiences to whom women blogging about their IVF experiences are writing. Bloggers occasionally addressed these outsiders directly, for example Blog #1 “and for you non-IF types, PUPO is a term used by IF people. it [sic] means 'pregnant until proven otherwise’”. Other times a definition or plain language explanation was given to assist the reader not versed in infertility terminology

i have stage IV endometriosis. it is an insidious condition where menstrual blood finds its way out of the uterus into the abdominal cavity, collects into blood tumors, (endometrioma) lays on otherwise healthy organs, (lesions) and sticks stuff together that shouldn't be stuck (adhesions.) (Blog #1)

A sonohystogram is an ultrasound procedure which uses no radiation. It is used to better visualize the inside of the uterus and endometrium. Most often it is used to view fibroids and polyps, or any other abnormalities of the uterine cavity that could interfere with pregnancy. (Blog #6)

Bloggers also seemed to provide a form of sensitivity training to anyone from the outside world that would perhaps stumble upon the blog. Healthcare professionals were frequent targets of these “teaching moments:”

She then thumbed through my records. "So your first cycle was a success but your second was not." I gazed at her and said, "Our first cycle was also unsuccessful. " The fellow looked down at her notes for a minute and then back at me for a minute and then seemed to decide not to say

anything more. I knew what she was getting at with her comment, but I couldn't let the teaching moment go. Note to fellow: a baby with double aneuploidy who dies in the first trimester is not exactly what I would classify as a "success." Certainly not the kind of success that we're looking for. (Blog #4)

they said if i [sic] have not started [my cycle] as of today give them a call. i [sic] finally got a call back and she said the doctor wants me to take a home pregnancy test... REALLY!?!? That is so not funny! So i [sic] asked nicely, um I thought you could not get pregnant when you have no tubes at all. (Blog #6)

Well, we were sitting there trying to make the most of the clinic waiting room this morning (which is a challenge in and of itself) when in walks a couple with an INFANT!! Apparently, even the reproductive endocrinologist's office isn't safe anymore! The mother sat there and fed her infant with a bottle while the rest of us looked on, incredulous. (Blog #7)

This blogger wrote a plea to the world:

Don't ask me if I'm pregnant, or speculate with others. This hurts me more than you could ever know. Plus, it makes me feel fat. When the time comes, I'll share the blessed news. But being asked all the time if I am pregnant is a constant reminder that I am NOT. Don't feel compelled to share the latest "get pregnant" trick. Believe me, we've tried them all. Putting my feet up. Simultaneous orgasms. Drinking raspberry leaf tea. OPK sticks. Fertility monitors. Pineapple juice. Vitamin B. Acupuncture. Chinese herbs. Cutting out caffeine. Going on a vacation. If I had a dollar for every trick we've tried... (Blog #3)

**Blog features.** Two main features make a blog accessible as an IVF resource, categorizing posts by topic and indexing within major search engines. Bloggers often organized their posts by topic and displayed an index on their page to easy access all posts belonging to a certain category (see Figure 4).

Figure 4: Blog posts indexed by topic as displayed on blog page



Screenshot from Blog #4, June 1, 2013

Blogs are also indexed for search in major search engines such as Google thus making blog posts about certain topics easy for readers to find. One blogger described how one of her blog post made it high up on the Google search results for that topic.

my Vegas post got to #14 on Google for a search on "vegas ivf", although it's currently at #16 and will likely sink from there. Hee! Thanks for all the nice comments on it - I'm glad it's helpful for folks. (Blog #2)

### **Summary**

The preceding analysis serves as evidence to support four claims about what is being done by the discourse created by women blogging about their IVF experience and how this is accomplished. These claims are 1) blogging throughout the IVF experience connects the writer to other IVF bloggers and as bloggers connect to one another a community is formed; 2) a woman's blog and connection to the blogosphere is a source of emotional support during the IVF experience; 3) women see blogging throughout the IVF experience as therapeutic; and 4) IVF blogs document the personal IVF experience of women extensively, thus creating a permanently archived resource for anyone who may find it of value.

## CHAPTER 4: DISCUSSION

The purpose of this study was to describe the blogging practices of women undergoing IVF for treatment of infertility with particular attention paid to what blogging accomplishes and the impact it has on the IVF experience. The results of the analysis of the IVF blog discourse described in Chapter 3 highlight what blogging throughout the IVF experience accomplishes, including: 1) creation of and connection to a community, 2) emotional support, 3) blogging as therapy, and 4) creation of an IVF resource. The following discussion of the results and relevant literature will serve to address the question of the impact blogging has on the IVF experience. The results also indicate that blogging, when looked at in the context of providing sensitive, empathic, and holistic care to women undergoing IVF, can have a positive impact on the psychosocial consequences of infertility by helping meet the common needs identified by those seeking psychosocial support during infertility treatment. This chapter will also include a discussion of the unique methodological considerations made when using blogs as a data source for qualitative research.

### **IVF blogging-Meeting the social and psychological needs of women undergoing IVF**

#### **Need for connection to others with similar experiences and access to peer support**

The findings of this study revealed that through their blogs, women undergoing IVF developed a deep connection with other women in infertility



treatment resulting in the creation of an online community centered on this shared experience. When studying psychosocial services for couples in infertility treatment, Read and colleagues (2013) found that contact with others in the same situation was a form of psychosocial support that was missing and couples undergoing infertility treatment wanted to share experiences and understanding with others facing a similar struggle. Participants in their study also suggested peer support as a method to fulfill needs for coping, sharing experiences and receiving guidance through the treatment process (Read et al.).

Peer support as an intervention for providing education, information or different forms of social support is well documented in the health literature. In a qualitative synthesis of the perceived impact and experience of participation in peer support interventions for individuals with chronic disease, researchers found participants' experiences of support to be largely positive (Embuldeniya et al., 2013). Various forms of peer support were also found to be effective in the immediate postpartum period with women at risk for postpartum depression (Dennis, 2010), for women with gynecological cancer (Pistrang, Jay, Gessler, & Barker, 2012), and for reducing symptoms of depression (Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011).

Technological developments have created new opportunities for individuals to provide or receive peer support through the use of the Internet and social media. One in four Internet users living with a chronic condition reported going online to connect with others with similar health concerns (Fox, 2011). A

qualitative study exploring mothers' experiences of online peer support through an Internet discussion group following the death of a child described very similar results to those presented in this study and included emotional support, informational support, and support through communality (Aho, Paavilainen, & Kaunonen, 2012). Coulson, Buchanan, and Aubeeluck (2007) performed a content analysis of communication within a Huntington's disease online support group and found that group members most frequently offered informational (e.g., referral to experts, advice, education about the disease and other resources) and emotional support (virtual affection, sympathy, prayer, or encouragement) to one another. Loss of a child, having a rare disease, and pursuing infertility treatment are all examples of relatively uncommon or isolating conditions or experiences. The Internet has become a medium that provides opportunities to connect with others with similar experiences regardless of location. The result is a dramatic increase in the size of the social network available to people (Hinton, Kurinczuk, & Ziebland, 2010). In this study, blogging was able to facilitate this connection between women in very similar circumstances and the connections resulted in a form of peer support. Bloggers supported one another emotionally through words of encouragement or supportive comments written on each other's blogs. Blogging that is perceived to be a resource to others could be considered a form of informational support. Those looking for a real-life account of the IVF experience valued blogs for their detailed and honest approach to describing the experience.

Researchers caution that while the Internet is a place where people can find others with whom to share experiences and draw support, negative consequences may occur. Epstein, Rosenberg, Venet Grant, and Hemenway (2002) found that individuals whose only outlets for talking about infertility were Internet forums were more depressed and got less real-world support. Similarly, Hinton and colleagues (2010) warned that the isolation often felt during infertility might be compounded by use of the Internet for community and support if it appears to undermine real world social connections and support. Findings of the current study also suggest that blogging can have the opposite of its desired supportive and therapeutic effect, for example, when the blog community no longer felt like a safe space due to privacy concerns or malicious comments on blog posts.

### **Need for practical and experiential information about infertility and its treatment**

According to Read and colleagues (2013), the other type of psychosocial support viewed by couples seeking infertility treatment as scarcely available was practical information about infertility treatment. One study participant highlighted the importance of experiential knowledge in the following quote about what support she would find significant, "a little guidebook that explains all the terms and abbreviations, as well as more subjective things like emotions" (Read et al., p. 4). Analysis of the IVF blog discourse revealed that blogs are a valuable source of these kinds of information. Perhaps this is why bloggers in this study

viewed their own experiential knowledge and the experiential knowledge of others as an esteemed information source as evidenced by their need to leave a record of their experiences as a reference for others.

Thirty-four percent of Internet users in the United States have read someone else's commentary or experience about health or medical issues on an online news group, website, or blog (Fox, 2011). Ziebland and Wyke (2012) described the potential for both positive and negative health effects from seeing and sharing experiences online. They described how other people's experiences of illness could provide valuable information to readers. Experiences of others can boost confidence or calm fears, make information about different treatments and outcomes more relevant, offer practical tips or coping strategies, and aid decision making with information that is both social and emotional (Ziebland & Wyke). The Internet's unregulated nature means that all information sources might be seen as equivalent, regardless of their trustworthiness, which serves as a caution for those using or recommending blogs or online health narratives as a source of knowledge (Ziebland & Wyke). However, the experiential knowledge of others, while valued by Internet health information seekers, is mostly seen as complementary and does not replace medical expertise (Armstrong & Powell, 2009; Kivitis, 2004).

### **Need for alternatives or supplements to traditional therapy**

Findings of this study revealed that women bloggers saw blogging throughout the IVF experience as therapeutic. This claim was supported by the

discourse when women described their blogging as meeting a need or when bloggers were engaging in therapeutic activities such as seeking advice or venting emotions. Research shows that women often do not seek help for the emotional and psychological distress experienced during infertility and IVF (Boivin, Scanlan, & Walker, 1999) despite the well-documented psychosocial consequences associated with infertility and its treatment (Hinton, et al., 2010; Griel, 1997, Mazure, Takefman, Milki, & Lake Polan, 1992; Metwally & Ledger, 2011). In a study of 143 infertile patients attending an infertility clinic, only 18-21% of infertility patients offered psychosocial counseling decided to attend individual or couple sessions (Boivin et al.).

Instead, both men and women most frequently utilized informal sources of support. These sources included family, friends, and information on the emotional aspects of infertility obtained through the clinic and other media sources. Less than 11% percent of patients used formal sources of support such as counselors or support groups (Boivin et al., 1999). Factors contributing to the low uptake of psychosocial counseling were also studied and patients described three main factors that prevented them from making an appointment: comfort level (e.g., too shy, awkward); coping resources (e.g., don't feel the need); and practical concerns (e.g., cost of session)(Boivin et al.). They explained why patients did not feel the need for psychosocial counseling using the hierarchical-compensatory model of seeking social support. The model proposes that individuals consult a professional only when they cannot find support among their

own network of family or friends (Cantor, 1979). They also recommended that alternative methods of meeting the goal of providing psychosocial services to infertile patients need to be identified. Boivin and colleagues performed their research before the advent of the blog, but based on the results of the current study, blogs can be an effective resource for coping and eliminate the need to seek professional help, especially in those experiencing low or manageable levels of distress. Curtrona and Russell's (1990) theory of optimal matching provides a similar explanation for why blogs may provide the kind of psychosocial support needed by women in infertility treatment. The theory proposes that certain types of support are most beneficial when matched to particular types of stress. In the current study, IVF bloggers were actively involved in giving and receiving emotional support through their blogs, which could be a more appropriate match for the level of support needed to facilitate effective coping, thus eliminating or decreasing the need for other forms of support. It is possible that women were also engaging in therapeutic activities that would typically be included in a counseling or psychosocial intervention such as telling ones story, working through decisions, and venting emotions.

It is not being suggested that blogging replaces the expertise of professionals (counselors, social workers, therapists, or other practitioners providing psychological or mental health support), especially when the level of distress is no longer an appropriate match for the level of support offered through blogging and reading others' blogs. However, blogging can be an activity used to

supplement more traditional therapeutic activities. Two bloggers in this study blogged about their experiences seeking psychiatric help and group counseling while also engaging in the therapeutic benefits of blogging.

When blogging, women are engaging in an act often used as an aide to traditional psychotherapy - writing or telling one's story. Psychotherapy frequently involves putting together a story that will explain and organize major life events causing distress, assuming that this act of constructing stories helps individuals to understand their experiences allowing for better management of the emotional effects (Pennebaker & Seagal, 1999). In a review of the literature, Pennebaker and Seagal outlined results of more than two dozen studies describing the benefits of writing, with impact seen on mood, personality, and immune function across a variety of populations. van Emmerik, Reijntjes, and Kamphuis (2012) performed a meta-analysis of studies evaluating writing therapy in posttraumatic stress conditions and found that individuals participating in writing therapy demonstrated significant and substantial short-term reductions in posttraumatic stress when compared with waiting-list controls. They also suggested that Internet adaptations of writing therapy might be useful for trauma survivors in remote areas or for those who prefer to remain anonymous. Research into the therapeutic benefit of writing a blog is starting to emerge, as discussed in chapter one of this thesis. Women blogging throughout the IVF experience, as the analysis of the blog discourse revealed, are engaging in therapeutic practices such as working through decisions, seeking advice, and

venting emotions with the safety provided by the blog community and a concealed identity

In this study, the impact that blogging has on the IVF experience was observed through the influence it had on the psychosocial needs of women. The findings suggest that blogging meets the need for connection to others with similar experiences and the desire for peer support during infertility treatment; it meets the need for practical and experiential information about infertility and its treatment; and it is an alternative or aid to traditional therapeutic effort aimed at easing the social and psychological distress experience by women in infertility treatment.

### **Using blogs in qualitative research**

While the purpose of this study was to understand the blogging practices of women undergoing IVF, a secondary result of the study is its contribution to qualitative research methods in using blogs as a data source for health research. Blogs have been in existence for only 15 years; consequently researchers using this relatively new data source can be considered leaders in the field with the accompanied ups and downs that being an innovator entails. Of note, this study provides direction for effective sampling and data management strategies and contributes to the ongoing debate of how to ethically use blogs in qualitative research.



### **Sampling considerations**

The literature describing the use of blogs for qualitative research consulted at the outset of this study often discussed the relative ease of sampling from blogs and this understanding guided the research protocol for this project. The use of blog-specific search engines has been cited as valuable for searching large numbers of blogs held on multiple blog content management systems for use in qualitative research (Hookway, 2008; Thelwall & Hasler, 2006; Kim, 2009). For this study, even the blog-specific search engines were not sensitive enough to yield a manageable number of results to then apply predetermined inclusion criteria. On reflection, other studies citing this method often sought an exhaustive list of blogs for content analysis or used a research method that required a larger sample of blogs or even individual blog posts (West et al., 2011; Dahlen & Homer, 2013; Kim). Therefore, for this study the blog-specific search engines served only as a starting point for a much more fruitful snowball sampling.

Snowball sampling in this study was originally intended to allow for inclusion of cases that did not appear in the initial blog search, however, it proved to be more successful at finding information-rich cases that met the inclusion criteria. This could have been foreseen if the researcher at the outset of the study knew the strength and connectedness of the IVF blog community but instead it became a lesson learned. Other researchers who have also used a primarily snowball technique to effectively sample blog data for qualitative research either knew a prominent blog in the area of interest and used it as a

starting point or wanted to locate a community of interconnected bloggers rather than individuals (Neal & McKenzie, 2011; Lynch, 2010). In this study, snowball sampling was the most effective strategy for finding blogs that both met inclusion criteria and provided the richest amount of data. This was contrary to the belief at the outset of the study that blog search engines would be the most effective and efficient sampling strategy.

### **Ethical considerations**

Blogs, as discussed in chapter 2, have attracted the attention of researchers because of the richness of their qualitative data and insight into the everyday experiences of human beings. Blogs and other forms of Internet research have also attracted the attention of those trying to create consistent standards of ethical conduct in this rapidly changing medium. Heilferty (2011), in a review of the different ethical approaches to Internet communication during illness, identified that the main approach used by researchers was the human subjects approach. The human subjects approach is based on the modern model for ethical conduct in research involving humans with informed consent as its central core tenant (Heilferty). However, in the studies reviewed there was little consensus about if and when informed consent was necessary, and how to obtain informed consent over the Internet was debated. At the center of this approach is the researcher's duty to justice and respect for persons.

The ethical approach for this study would fall into the human subjects category, with the overall goal to not exploit the online content used for the

discourse analysis of IVF blogs. While other qualitative studies have not sought informed consent from the writer of online content, stating that these data were considered to be within the public domain (Clarke & van Amerom, 2008; Clarke & Lang, 2012; Fleischmann & Fleischmann, 2012; Malik & Coulson, 2010; Shah & Robinson, 2011), an extra level of protection for the participants in this study was added - an evaluation of privacy intention (proposed by Eastham, 2011 and described in chapter 2).

The evaluation of privacy intention using Eastham's framework addressed the issue of when informed consent was potentially necessary; use of the framework, however, raised another ethical issue related to justice. Inclusion of only those blogs that were determined to support public intent would violate a researchers obligation to treat people fairly and equitably (Canadian Institutes of Health Research, 2010). This dilemma existed when the privacy intention was most likely private or when the individual may have intended some level of privacy, and contact with the blogger was not always possible for traditional informed consent. This study was able to resolve this dilemma with the creation of a decision tree that built upon Eastham's framework (see discussion in chapter 2 and Figure 2), which resulted in both respect for persons and justice for research participants. Due to the ever-changing nature of technology, concrete ethical standards may never exist to guide researchers' conduct in the online world. Maczewski, Storey and Hoskins (2003) put the responsibility of future ethical research on the researchers themselves "to ensure that technologically-

mediated qualitative research is conducted in ethical ways, research practices will continually need to be critically evaluated within their unique contexts" (p. 75).

### **Recommendations for Practice, Education, and Future Research**

In understanding the blogging practices of women undergoing IVF within the context of providing sensitive, empathic, and holistic care to women in infertility treatment, the following recommendations can be made for healthcare professionals working with women undergoing IVF, health researchers, and educational institutions responsible for training healthcare professionals and health researchers, such as nurses.

#### **Recommendations for healthcare professionals**

Based on the results of this study, women undergoing IVF could benefit from the emotional and peer support provided by connection to the IVF blog community. Blogging can also be used as an alternative or aide to traditional counseling or psychotherapy. For women who are unable to access more traditional psychosocial supports due to financial, geographic or other perceived barriers, blogging can be recommended by healthcare providers as an alternative strategy for support. Counselors and therapists providing care to women undergoing IVF can use blogging as a strategy within their practice to support and perhaps enhance the therapeutic effect of more traditional methods. As blogging is not without its possible negative effects, women should be screened for ineffective coping and referred to professional services when necessary.

Healthcare professionals should be made aware of the importance of information based on the personal experiences of others and incorporate this type of information into their care of women undergoing IVF. Infertility patients want practical and experiential information about infertility (Read, et al., 2013). Reference to specific bloggers or blog posts by healthcare providers could be an effective way to provide women with the practical and experiential knowledge they desire. This experiential information could also be seen as valuable for family members who have a loved one experiencing infertility and its treatment and healthcare providers could again provide reference to blogs as a valuable source for understanding the IVF experience.

Nurses and healthcare professionals need to be aware that women are going online to find practical and experiential information about infertility and its treatment. Instead of viewing this practice negatively, clinicians can use this knowledge as part of their routine care by having open dialogue with their patients about what resources are being accessed online. This open communication then provides the nurse or other healthcare provider the opportunity to appraise online content, respond to questions, and provide clarification where necessary – thus eliminating some of the potentially harmful consequences of seeking and obtaining information online.

### **Recommendations for schools of nursing**

Based on the methodological findings of this study, those responsible for educating nursing and other health researchers should include blogs and other

online and social media content as potential data sources in research methods curricula. These educational institutions should also support research and development of literature that contributes to a clear consensus about how to ethically sample blogs for research. Research ethics boards at these educational institutions should equip themselves to provide guidance to and governance over researchers using new and rapidly evolving online research methods.

### **Recommendations for health researchers**

While this study was able to draw inferential conclusions about the impact of blogging on the IVF experience, studies evaluating the effect of blogging throughout the IVF experience on women's overall mental health and coping using quantitative measurement tools could strengthen the claims made in this study. Blogging as an intentional intervention for this population as a means to support women's psychosocial needs throughout infertility treatment remains an area to be explored. The FertiQOL is an infertility specific quality of life measurement tool that is a reliable measure of the impact of fertility problems and its treatments (Boivin, Takefman & Braverman, 2011). Tools such as the FertiQOL could also be used to evaluate blogging-related interventions in infertility treatment and its impact on women's quality of life.

Researchers could also take advantage of the archived nature of blogs, using this feature to track when the blog is most utilized for therapeutic or supportive activities. The data would allow healthcare professionals to

understand which aspects or occasions during the IVF process are most distressing, allowing for targeted interventions at these times.

Results of studies, such as this one, need to be disseminated to frontline healthcare professionals working with women undergoing IVF to highlight the value of blogs as a source of information and support. Access to this information will allow caregivers to incorporate relevant blog attributes into their care.

### **Study strengths and limitations**

My use of blogs as the primary qualitative data source in this study is one of its main strengths. Blogs offer rich descriptions of peoples' everyday experiences and provide great insight into a range of phenomena with unprecedented accessibility to researchers. What is most interesting about blog data is that they are free from researcher influence, thus minimizing many of the weaknesses and biases of other forms of data collections (Jones & Alony, 2008).

Strict adherence to discourse analysis methodology, specifically from the field of social psychology, is another strength of this study. From the research questions posed, to how the findings of the analysis were presented, discourse analysis techniques were used. With nursing literature that has received criticism in the past for blending different discourse analysis traditions, this study tried to remain pure in its approach.

This study ensured ethically admissible results by building upon a pre-existing framework to guide the informed consent process. While other studies included only blogs that were within the public domain, this study guaranteed that

even bloggers that appeared to expect some level of privacy were given the chance to have their blogs included in analysis.

Limited contact with the bloggers in the study eliminated the opportunity for member checking that was originally planned in the proposal phase of this study. Member checking is a strategy used to increase rigour in qualitative research that solicits the participants' views of the credibility of the study findings (Creswell, 2007). In this study, bloggers were unable to provide feedback related to the accuracy of the researcher's analysis of their text, and therefore readers must judge the credibility of the findings based on other measures of trustworthiness. Consequently, rigour was maintained by presenting the analysis in such a way that the analytic steps taken were clear for each excerpt presented and claim made.

Limited contact with the bloggers also affected the demographic data available for the purposes of describing the sample. Describing the research participants is important to highlight the research context and aids the reader in determining whether the findings can be transferred to other situations (Krefting, 1991). Rigour was maintained in this case by collecting as much information about the blogger as possible from the text of their blog. This method actually proved to be almost equivalent to the blogger completing a demographic questionnaire; however, some bloggers provided more detail in their blog than others.



A source of bias impossible to control for when using blog data in research is the inherent bias due to the medium (Jones & Alony, 2008). Bloggers need access to a computer and the Internet, and those less technically savvy may be underrepresented in samples of bloggers. As this study examined the act of blogging itself, the issue of representativeness is less problematic; however, caution should be used when applying the findings to others contexts.

## **Conclusion**

The experience of infertility and its associated treatments, including IVF, can have a profound impact on the emotional health and well-being of women desiring to become mothers. While researchers have measured the impact of infertility or described the lived experiences and processes related to infertility and its treatment, what remained to be described and explored was a virtually pre-packaged collection of rich descriptions of the IVF experience as captured in women's blogs. Analysis of the IVF blog discourse led to a greater understanding of what blogging throughout the IVF process accomplishes and the impact blogging has on the IVF experience. Women are using their blogs to connect to others with similar experiences and in doing so create a community focused on emotional support and information sharing. Women blogging throughout their IVF experience are also, whether intentionally or not, benefitting from writing on a therapeutic level. The results of this study revealed that the social and psychological support needs identified by women in fertility treatment are being met by blogging. While the findings of this study provide insight into the IVF blogging phenomenon by way of describing its function and possible impact, future research is needed to quantitatively measure its impact and evaluate blogging's utility in the care provided to women undergoing fertility treatment.

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APPENDICES

**Appendix A: Literature Review Search Results**

LITERATURE REVIEW SEARCH RESULTS		
Database	Search Terms	Results (N)
Search 1		
CINAHL	Blogs and IVF or infertility	3
MEDLINE	Blogging and IVF or infertility	4
Web of Science	Blog* and IVF or infertility	4
Search 2		
CINAHL	“blogs” or blog* Limited to References available, English Language and 2000-2013 publication years	284
MEDLINE	“blogs” or blog* title search Limited to English Language and 2000-2013 publication years	64
Web of Science	Blog* and Practice* or Motiv* Limited to Journal article and English Language	375
PsychINFO	As above	315
CommAbs	As above	202



## Appendix B: Email To Recruit Bloggers

Dear (name of blogger),

I am a graduate student in the School of Nursing at McMaster University in Hamilton, Ontario and I am conducting a research study on the *blogging practices of women undergoing IVF for treatment of infertility*.

While we know that women such as yourself are blogging about their infertility and IVF experiences, we know very little about why this is and what blogging accomplishes for women. You and your blog can provide valuable information that will help health professionals understand the IVF experience more completely leading to the provision of more sensitive, empathic and holistic care for women undergoing IVF.

- Please take a moment to read the attached information sheet and consider participation in this study.

If you choose to participate in the study, you will be asked to give me permission to read your blog and use it's content to help answer the research question and to complete a background questionnaire to tell me a little bit about yourself and your IVF experience.

If you have any questions about the research or are interested in participating, please contact me, Elizabeth Orr, at [trusseer@mcmaster.ca](mailto:trusseer@mcmaster.ca)  
Sincerely,

Elizabeth Orr  
RN, BScN

## Appendix C: Passive Consent Emails

### Passive Consent Email 1

Dear (name of blogger),

I am a graduate student in the School of Nursing at McMaster University in Hamilton, Ontario and I am conducting a research study on the *blogging practices of women undergoing IVF for treatment of infertility*.

While we know that women such as yourself are blogging about their infertility and IVF experiences, we know very little about why this is and what blogging accomplishes for women.

Your blog has been selected because it can provide valuable information that will help health professionals understand the IVF experience more completely leading to the provision of more sensitive, empathic and holistic care for women undergoing IVF.

If you would not like you blog to be included in this study or if you have any questions about the research and are interested in your blog being included, please contact me, Elizabeth Orr, at [trusseer@mcmaster.ca](mailto:trusseer@mcmaster.ca)

Sincerely,

Elizabeth Orr  
RN, BScN

### Passive Consent Email 2

Dear (name of blogger),

I am a graduate student in the School of Nursing at McMaster University in Hamilton, Ontario. I contacted you about a week ago regarding a study I am conducting on the *blogging practices of women undergoing IVF for treatment of infertility*.

Your blog has been selected because it can provide valuable information that will help health professionals understand the IVF experience more completely leading to the provision of more sensitive, empathic and holistic care for women undergoing IVF.

If you would not like you blog to be included in this study or if you have any questions about the research and are interested in your blog being included, please contact me, Elizabeth Orr, at [trusseer@mcmaster.ca](mailto:trusseer@mcmaster.ca)

Sincerely,

Elizabeth Orr  
RN, BScN