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The Relationship and Interaction Process of Taiwanese Couples Having Undergone Assisted Reproductive Technology- A Systemic Perspective

Liu, Yu-Chieh

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The Relationship and Interaction Process of Taiwanese Couples Having Undergone Assisted Reproductive Technology- A Systemic Perspective

By

YU-CHIEH LIU

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I've arrived here, finally. There are many words I want to say and many people I want to thank, but I don't know where to start. Looking back four years ago, full of excitement and anticipation, I brought the entire family to the UK to study. However, we encountered the unprecedented COVID-19 pandemic and had to return to Taiwan. During this time, I often felt anxious, frustrated, and depressed, and thought about giving up. Fortunately, I always had the support and encouragement of my family, friends, and supervisors by my side.

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Author's Declaration

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Doctoral College Quality Sub-Committee.

Work submitted for this research degree at the University of Plymouth has not formed part of any other degree either at the University of Plymouth or at another establishment.

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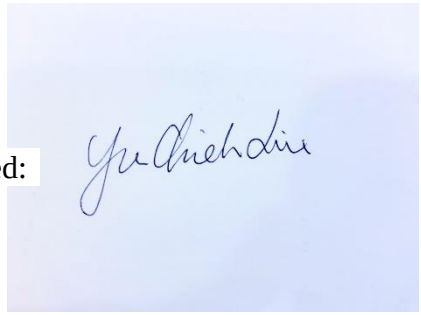
Signed: 

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Abstract

The Relationship and Interaction Process of Taiwanese Couples Having Undergone Assisted Reproductive Technology- A Systemic Perspective

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Approximately 10-15% of married couples in Taiwan encounter the challenge of infertility, which significantly impacts their lives and relationships. However, the nature and extent of this impact vary across different social and cultural contexts. Recognising the complex and wide-ranging nature of infertility issues, integrated interventions have emerged as a novel approach to assist infertile couples effectively. Drawing upon Helms et al.'s (2011) modified three-level model of marriage, Huston's model, and Bronfenbrenner's ecological systems theory (1986), a comprehensive framework is constructed within this thesis to explore various aspects of infertile couples' experiences in Taiwan as they are undergoing assisted reproductive technology (ART). This framework encompasses the couples' interpersonal relationships, their interactions with the medical system, and the influence of their family of origin and cultural systems. The study employs mixed methods, combining quantitative and qualitative approaches, to address the following research questions:1. What is the societal and cultural context in which Taiwanese infertile couples have

undergone assisted reproductive technology? 2. What does the medical system in Taiwan provide infertile couples with in terms of resources and assistance, how the infertile couples feel about the medical system, and how does the treatment process affect marital life and relationships? 3. Under the Taiwanese cultural context, how aware are the couples of other perspectives (original family system, interpersonal system) to infertility, and how do these perspectives influence them? 4. How do infertile couples cope with and face infertility within the Taiwanese cultural context?

Firstly, the findings reveal that Taiwanese infertile couples undergoing ART live within the societal context of traditional negative perceptions and modern rich information interactions. Secondly, the medical system focuses on providing physical assistance and professional equipment to infertile couples. However, the treatment process comes with great physical, psychological and spiritual difficulties that are not addressed. The Taiwanese infertile couples believe in medical professionals but are eager for more humanisation and supportive medical assistance. Thirdly, traditional cultural values pervade in general social contexts and emerge in family gatherings. The rising external pressure tests Taiwanese infertile couples' relationships and coping techniques. Lastly, infertile couples in Taiwan tend to be perfunctory and evasive in

maintaining interpersonal safety and harmony and use contextual strategies to protect their partners.

In summary, this study provides a systemic framework for investigating the contextual experiences of infertile couples across diverse cultural contexts. It offers valuable insights into the specific needs of Taiwanese infertile couples, enabling medical and mental health practitioners to design appropriate integrated psychosocial support programs.

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CHAPTER ONE

INTRODUCTION

1.1. Foreword

Helms (2013) cited the words of Berscheid (1999) to explore marital relationships in the 21st century:

"Some fragile relationships survive forever because they never encounter a relationship-toxic environment, but some very strong relationships dissolve-not because they were not close, or committed, or loving-but because of fate, or the partners' ignorance of the vulnerability of their relationships to external forces…（P244）". These words not only demonstrate how difficult it is to maintain a relationship but also that a marital relationship is a process that needs to be cared for and which faces many external challenges. Many couples will face the distinct challenge of infertility. For instance, approximately 10-15% of married couples in Taiwan experience infertility (Taiwan Health Promotion Administration, Ministry of Health and Welfare, 2019). Although heterosexual married infertile couples can now be treated via assisted reproductive

technology (ART) according to Taiwan's Assisted Reproduction Act[1], the entire process is costly, intricate, and invasive, with a low success rate depending on the age of the female partner, causing significant emotional distress and financial strain on couples (Chow et al., 2016; Center for Human Reproduction 2020). During the treatment period, couples will experience lifestyle changes, physical and psychological changes, changes in their marital relationships and various other stressors. These stressors contribute to high drop-out rates from treatment (Bovin & Gameiro, 2015; Van den Broeck et al., 2009). Besides the influence on personal life, increasing attention is being paid to the influence of the cultural context on infertility, especially the social stigma which significantly affects infertile couples (Nieuwenhuis et al., 2009). Greil, Slauson-Blevins, and McQuillan (2010) reviewed recent literature relating to infertility and argued that infertility is an issue of social construction that cannot be understood out of context. It is vital that the social and cultural contexts of infertility, as well as the impact of treatment on couples, is understood by healthcare professionals in order to provide tailored psychological support throughout the process. In this chapter, I will provide an overview of infertility literature in psychology and

[1] Same-sex married couples or couples who are not married still are restricted from using ART according to Taiwan's Assisted Reproduction Act.

discuss how the issue of infertility and the ART process impacts on couples. I will also interpret the context associated with Taiwanese culture. At the end of this chapter, I will outline the context of a Taiwanese infertile couple undergoing assisted reproductive technology (ART) from a systemic perspective and outline four research questions that dictated the course of investigation presented in the following chapters of this thesis.

1.2. Infertility with gender differences

According to the Assisted Reproductive Technology Summary 2020 National Report of Taiwan (2022) conducted by the Health Promotion Administration, Ministry of Health and Welfare in Taiwan, female infertility factors accounted for 53.8% of data, male factors accounted for 9.5%, multiple factors accounted for 32.3%, and 4.4% were unknown reasons when considering the causes for infertility. Although female factors account for a higher percentage of the data, researchers have claimed there are possibly more nuanced reasons for this and that the figures could be criticised from the perspective of gender politics (Wu, 2002). Whether the cause of infertility comes from females or males, this process greatly influences women's bodies, minds and spirits (Zhen, 2009). In addition to cultural influences, which will be discussed in the following section, some scholars tried to understand why

infertile women are willing to bear the multiple pressures of the ART process; the feminist perspective argues that based on the historical experience of mankind, our understanding of “motherhood” has been established almost entirely through a simplified logical model: “female” equals “mother”; “mother” equals “motherhood”, and thus “female” equals “motherhood” (Pan, 2005). During the socialisation process, this makes women think pregnancy (childbirth) is a natural function of women and that women carry the responsibility of bearing children (Yao et al., 2018). This might be part of why “infertility” has been identified as causing severe physical and mental health problems for women in many studies.

Infertile populations are a long-term neglected area in Taiwan; little research has been done on infertile people. The psychological aspects are not recognised or researched extensively, with only a small number of studies having been conducted within the last decade or longer. Lee et al. (2000) investigated a total of 140 Taiwanese infertile women who were asked to complete a structured questionnaire about psychosocial responses at different stages, such as when the decision to receive treatment was made, during the treatment period of embryo transfer, and when the women were initially aware of the fertility results. The results of the study showed that the mean scores of

self-image/esteem, guilt/blame, sexuality, and interpersonal relationship for all three stages ranged from middle to high (higher scores indicated higher levels of distress). Similarly, Hsu et al. (2013) collected a total of 534 responses of couples to the fertility quality of life (FertiQoL) questionnaires, and the results showed the male spouses had higher scores in emotional and mind/body domains. This means infertile women in Taiwan may be under greater emotional stress and have poorer physical health than males. Lin (2019) assessed infertility stigma, positive and negative emotions of a total of 170 Taiwanese infertile couples and indicated that women had higher levels of infertility stigma, negative emotions and poorer positive emotions. In addition, Chan (2009) conducted in-depth interviews with three Taiwanese infertile women and found that their infertility experiences affected their sense of self-worth and meaning of life, changed their relationship with their husband's family, caused interpersonal barriers and brought suspicion of side effects caused by the medical treatments. Also, infertile women had grieving reactions at the cognitive, emotional, behavioural, and spiritual levels (Chan, 2009). Generally, previous studies on fertile women in the Taiwan context were consistent with the literature review results in which Ying, Wu and Loke (2015) explored thirty-three studies from 2000 to 2014 on experiences with infertility. Women tended

to report more negative experiences than men, including lower levels of self-identity and self-esteem, higher levels of negative emotions, and stigma or shame due to biomedical differences, differences in socialisation processes, and gender-role expectations (Ying et al., 2015).

Men seemed to respond less negatively to infertility and treatment compared with women; Kuo (2000) surveyed 75 Taiwanese infertile male outpatients from one hospital and found that patients reported low anxiety levels and clinical worries (Kuo, 2000). Kuo said the result likely related to men's problem-solving approach and defence mechanisms to infertility.

However, a qualitative study reported different results; in the Taiwanese context, Yang (2016) interviewed three infertile men and organised the result into five themes: "feeling like a failure as a husband," "difficulty in enjoying intimacy," "difficulty in facing the fact of being an infertile man," "feeling imperceptibly yoked as a son," and the "unspeakable misery of not being able to tell my friends" from the different aspects of their life relationships. Correspondingly, one qualitative study interviewed nine Irish men and found their infertility had influences on their self-view, their relationships with society, and their relationships with their partners (Dooley, 2011). Another study also found that for men, infertility is a physically, mentally, and socially taxing

condition (Arya & Dibb, 2016). However, it is important to notice that the Taiwanese study reported that infertile men talked about their experiences surrounding the role of being a son; this was not mentioned in the other two UK studies, suggesting that cultural pressures may influence men's reactions to infertility.

Although men rarely receive attention and express their psychological distress compared to female infertility patients, there is clearly an impact on their well-being based on the data from these few qualitative studies. Some men may feel ashamed of bringing up their infertility condition due to their masculinity and to "save face" (Dolan, 2017; Yang, 2016), yet men's stress and a sense of having to remain silent are evident.

1.3. Infertile couple's relationships

Most previous research on infertile couples has focused on comparing the influences or pressures between male and female partners. The consensus is that women are affected and stressed more than men (Chen, 2019; Lin et al., 2004; Luk & Loke, 2015). However, if couples were viewed together as a connected unit, how do they cope with infertility or address the similarities and differences between one another when facing infertility?

While enduring high stress in the face of infertility, couples' mutual

support is, without a doubt, of utmost importance (Lee, et al., 2007). However, the “husband” and “wife” tend to cope with infertility differently, and their contrasting attitudes add tension to their marital relationship, deepening negative feelings when dealing with infertility (Peterson et al., 2012; Yeh, 2007). Due to their expectation of becoming a mother through the process of socialisation and the cause of physiological factors, women often detect possible infertility earlier than men (Lin, et al., 2004). Therefore, they tend to be involved in handling the infertility issue earlier (Lin et al., 2004; Peterson et al., 2012). When women have already begun dealing with infertility and describing the pain that comes with it, men may still be keeping an emotional distance from being infertile, taking longer to decide whether to seek advice (Peterson et al., 2012; Yeh, 2007). This inconsistency between the couple may easily give rise to conflicts. Additionally, both members of the couple may find it hard to cater to each other's needs due to the impact of infertility. Infertile couples often misunderstand each other and have conflicts due to differences between genders in dealing with emotions and coping with problems, which may damage a relationship (Peterson et al., 2012). Men may find having to manage women’s emotions troubling and avoid it as a result; they feel frustrated by wanting to protect their partner but are unable to do so (Peterson et al., 2012). Women in

turn report feeling frustrated due to their partner's avoidance and reluctance to share their thoughts and feelings (Peterson et al., 2012). Liu (2015) described the interplay between men and women as the 'pursuer' and the "withdrawer' with women tending to pursue conversations and share emotions and thoughts. In contrast, men tend to withdraw and suppress their feelings (Liu, 2015).

1.3.1 The effect of infertility on couples' relationships

Luk and Loke (2015) looked for twenty English-language studies published between 2000 and 2014 using MEDLINE, PsycINFO, and CINHAL Plus and found that couples' psychological health, sexual relationships, marital relationship and overall quality of life were all impacted by infertility. There was proof that infertility negatively impacts a couple's psychological health and sexual relationships, but there were conflicting data regarding the impact on married relationships and overall quality of life. In other words, infertility was directly related to sexuality, so previous research had reached a consensus on the negative impact of infertility on sexuality between couples. Furthermore, for couples hoping to have children, "infertility" had become a significant obstacle in life planning, and its direct influence on psychological well-being was foreseeable (Greil et al., 2018). However, the impact of infertility on marital relationships and the overall quality of life for couples, as mentioned earlier,

involved complex interaction processes between spouses and the resources and support within different social and cultural contexts, which made it difficult to generalise. Nevertheless, a trend could be observed from past literature; when discussing the effect of infertility on couples' relationships, early studies focused on the challenges associated with infertility (Greil, 1997), and more recent research highlighted the benefits (Schmidt, 2005; Peterson et al., 2011). Although there were very limited numbers of studies conducted on the effect of infertility on couples' relationships in Taiwan, findings were similar to the above studies: infertility affected couples' psychological well-being (Chen, 2019; Hsu et al., 2013; Lin, 2019) and A couple's quality and resilience in their relationship may be enhanced by infertility, which could also assist them in overcoming various obstacles in their future relationship (Lu, 2014). In conclusion, the effect of infertility on the various dimensions of a couple's relationship is both extensive and complex. There are numerous contextual factors in between that necessitate clarification and exploration. Therefore, a more structured and systematic research approach is warranted.

1.4. Medical system

Boivin and Gameiro（2015）compiled five key paradigm shifts that

illustrate the evolution of psychology and counselling in infertility (see **Table1.1** *Five key paradigm shifts illustrate the evolution of psychology and counselling in fertility.* below). They believe infertility counselling has reached the integration stage. In this stage, a friendly and patient-centred medical environment that provides extensive information and support should be included. Indeed, relevant studies have identified that when infertile couples begin to face the medical system, they face tremendous pressure from costly medical expenses, painful and invasive medical procedures, and cycling between hope and disappointment (Ying & Loke, 2015). Few couples can be spared from the stressors of the medical process, experiencing a sense of burnout and the pressure of time (Lu, 2002). The entire infertility treatment process usually takes a long period of time. Before receiving formal treatment, many infertile couples may have already undergone related checkups, including Basal body temperature (BBT), Chlamydia DNA, Transvaginal sonogram (TVS), Sperm analysis (SA), Antisperm Ab, Hysterosalpingography (HSG), Hormonal study, L-Scopy, and H-Scopy （Lai, 2007）. If they decide to undergo assisted reproduction, the couple may likely be confronted with In Vitro Fertilization, Gamete Intrafallopian Transfer, Zygote Intrafallopian Transfer/Tubal Embryo Transfer, Artificial Insemination Using Donor's Semen, Artificial Insemination

using the man's semen, and other artificial reproduction choices (Taiwan Health Promotion Administration, Ministry of Health and Welfare, 2022). The uncertainty of success coupled with physical and mental discomfort may leave the infertile couple feeling tormented physically and mentally, yet many continue to try because they still have hope and a strong desire for a baby.

Greil et al. (2014) found from Population-based studies and reports that in developed countries, 56% of infertile couples seek fertility treatment, while only 51% do so in less developed countries. Although there are different factors that affect their treatment-seeking, the treatment, as well as infertility, puts a heavy psychological strain on couple relationships (Greil et al., 2014).

Table1. 1 *Five key paradigm shifts illustrate the evolution of psychology and counselling in fertility.*

Section	Psychology and counselling in infertility
I. Psychosomatic concepts and psychogenic infertility	Psychosomatic concepts were causally introduced in obstetrics and gynaecology despite organic pathology.
II. Nurse advocacy and the psychological sequelae model of infertility	The nurse advocacy movement caused the investigation of the psychosocial consequences of infertility. Helping couples grieving childlessness is the main work for counselling.
III. IVF and the integration of mental health professionals in fertility clinics	With the advent of IVF, clinics demanded mental health professionals do the assessment about whether couples were suitable for having the new high-technology treatment and becoming parents.

IV. Evidence-based medicine and the quality of psychological support	Psychosocial interventions were extended because of the main value of the principles of evidence-based medicine.
V. Integrated approach to fertility care	An integrated approach helped to decrease the treatment burden arising from multiple reasons.

Note. Framework adapted from the Evolution of psychology and counseling in infertility, by J. Boivin & S. Gameiro, 2015, *Fertility and Sterility, 104*(2), 251-259.

Infertile couples are not only challenged by infertility issues and the treatment process but also the emphasis of medical interventions for infertility still involving a “problem-solving” approach focused on whether or not there will be a successful pregnancy in Taiwan. This is still a long way from the integrated approach identified as necessary by Boivin & Gameiro (2015). As a result, time-consuming, laborious, and troubling assisted reproduction is often regarded as the source of problems between a couple rather than the solution (Lamanna & Riedmann, 2000).

1.5. Family and cultural systems

Contrary to the relationship systems in the West, which attach importance to sexual relationships and love, in traditional Chinese society, including Taiwan, marriages are considered under the notion of a family tie (they

exist within and under existing wider family networks) (Li, 2005). Marriages place the greatest emphasis on family continuity, trying to maintain the existence and continuation of the family and not letting the family line end. This is one of the most important values of one's existence or the existence of a marriage in Chinese culture (Yang & Yeh, 2005). "Letting the family line end" is the greatest misfortune and fear for Chinese people (Li, 1988); To have "no descendants" is a serious verbal slur and curse for Chinese people. The emergence of the filial piety system in China serves the important purpose of family harmony, solidarity, and continuity. Therefore, the old proverb, "*There are three ways to be unfilial; having no sons is the worst*" has become the norm for every Chinese person (Yeh, 1998).

Taiwanese culture was greatly influenced by Chinese culture. Kuo (2000) conducted a series of studies on infertile women's mental health in the 1990s in Taiwan. They found that 'the traditional attitude toward childbirth' has been the key factor that affected infertile women's well-being. Following this, they designed 'Chinese Traditional Childbearing Attitude Questionnaire' (CTCA), in which six main themes were included to understand the correspondence with psychosocial responses during women's ART journey; ' a son is more important than a daughter,' 'raising children is insurance against the insecurity of old age,'

‘having more children means having more good fortune,’ ‘continuing the family line is a mandatory responsibility ’ and ‘having no heir is the gravest offence against filial piety,’ ‘five generations living together is desirable’ (Lee et al., 2000). The result showed that CTCA was significantly associated with infertile women’s body image/esteem during the whole ART process and the more potently they felt the pressure of continuing the family line as a mandatory responsibility, the stronger their experiences of depression (Lee et al., 2000). Lin (2009) interviewed twelve Taiwanese women to deeply explore the ambivalence about whether they wanted a baby; almost all interviewees expressed that Chinese tradition still tends to impose the obligation of reproduction on them. A similar result was seen in infertile men; the traditional perspectives influenced them to feel guilt toward their parents, partners and themselves (Yang, 2016) if they were unable to procreate.

Chinese traditional childbearing attitudes not only cause pressure on infertile couples but also constructs infertility stigma (Lin, 2019). Many couples view infertility as an enormous secret and refuse to reveal it to others due to this sense of stigma (Lu, 2002; Wu, 2002), and this also affects the limited support they receive (Ying & Loke, 2015).

Although the Taiwanese people’s view of marriage is changing due to the

profound influence of Western culture on the East, the idea of having a male heir once married in order to carry on the family name is imprinted in the hearts of most Taiwanese people, which causes tremendous stress on the part of infertile couples (Chu, 1996; Lin, 2009; Yang, 2016; Lee et al., 2000). Under the influence of such a cultural and social setting, once a man and a woman marry, “childbearing” becomes an issue of concern to all. Therefore, the issue of childbearing in Chinese culture is not between two people; instead, it concerns the entire family line (Li, 1988). The cultural context needs further exploration to understand how it influences infertile couples.

1.5.1 The movement of gender equality and how it affects Taiwanese people’s attitudes to infertility

The gender equality movement in Taiwan has seen significant momentum since the 1990s, coinciding with the increasing activism of the women's movement. The growing influence of feminism has gradually expanded, leading to increased interaction between the women's movement and the country. This interaction has opened up gender spaces within public political discourse, marking a significant period in the trajectory of gender equality advocacy. A series of amendments to gender equality laws and institutional initiatives have emerged in Taiwan, signalling the onset of a

concerted effort towards addressing gender disparities. Moreover, the Taiwanese government promoted the United Nations' "gender mainstreaming" policy from 2005 onwards, prompting governmental bodies at various levels to recognise the importance of gender equality (BBC, 2015). As gender issues increasingly garner attention in society, they have penetrated legislative agendas, leading to the incorporation of gender-related laws into national legal frameworks. Legislation such as the Gender Equality Education Act, the Gender Equality in Employment Act, the Sexual Harassment Prevention Act, and the Sexual Assault Crime Prevention Act have emerged as a result. Taiwan has further distinguished itself as the first Asian country to enact legislation addressing domestic violence prevention and civil protection orders (Ku, 2020). According to the “Gender at a Glance” reported by the Department of Gender Equality, Taiwan Executive Yuan on January 31st, 2023, Taiwan ranks first in Asia regarding gender equality performance based on the 2021 Gender Inequality Index (GII). The globalised idea of equal rights for same-sex couples was not the only inspiration for Taiwan's marriage equality movement. Rather, it redefined the concept of "equality" for sexual minorities to align with Taiwan's goal of achieving equal status as a nation-state in the international arena. As a result of the close relationship between the demands for LGBT rights and

Taiwan's sovereignty, the marriage equality movement gained significant national recognition and set Taiwan apart from mainland China (Jung, 2021).

Taiwanese culture has historically been deeply influenced by Chinese culture. However, with the progress of Taiwan's gender equality movement, Taiwanese society as a whole seems to be moving towards a more Western, liberal mindset regarding gender-related issues. Upon further analysis, however, generational differences appear to exist within this trend. Li (2020) conducted an analysis of gender-related obstacles using data from the Taiwan Social Change Survey in 2012, identifying five major impediments to gender equality: stereotypes about homosexuality, traditional family structures, conservative attitudes towards sexuality, motherhood roles, and gender division and attitudes of gender inequality. Li employed a factor analysis to predict participants' attitudes towards same-sex marriage. The study found that these obstacles varied by generation and gender; older generations and males tended to exhibit higher grades for these impediments compared to younger generations and females. In other words, older generations tended to hold more stereotypes about homosexuality, adhere to rigid family structures, emphasise traditional motherhood roles, exhibit stronger conservative attitudes towards sexuality, and oppose the rights of same-sex marriage compared to younger generations.

In the past, Taiwan has not been subjected to empirical research analysing how societal and cultural perspectives influence public attitudes toward infertility issues. Nonetheless, within the limited scope of relevant studies, it is evident that traditional Chinese values continue to significantly impact the fertility attitudes of Taiwanese society (Chen, 2019; Lu & Kao,2002; Lu, 2014; Yang, 2016). However, it appears that generational differences exist within this influence (Cheng, 2017; Yuan & Kung, 2022). Furthermore, the shift from traditional extended family structures to increasingly prevalent nuclear family setups seem to provide physical space that aids young infertile couples in coping with traditional pressures (Cheng, 2017). Nevertheless, compared to traditional Chinese society, Taiwan has been more influenced by Western gender equality ideologies and has undergone a wave of gender equality movements. Therefore, further investigation is warranted to understand the current attitudes towards infertility within Taiwanese society.

1.6. Summary

Given the literature above, an infertile couple's interpersonal relationship, their interactive experience with the medical system, and the impact of family culture are three critical dimensions that this current research programme aims

to explore. The researcher attempted to combine the adapted three-level model for viewing marriage, modified by Helms, Supple, and Proulx (2011), based on Huston's model and Bronfenbrenner's ecological systems theory (1986) to represent the situation of an infertile couple undergoing assisted reproductive technology (See **Figure 1. 1The** *situation of an infertile couple undergoing assisted reproductive technology.*). This helps to illustrate the perspective the researcher aims to explore.

Bronfenbrenner's ecological systems (**Figure 1. 2** *The Five Ecological Systems*) include five systems: microsystem, mesosystem, exosystem, macrosystem, and chronosystem, each representing different levels of environmental influences on an individual (Bronfenbrenner, 1986). This theory sees a person's problem as a result of a number of influences within interrelated environmental systems, which can range from the person's immediate surroundings—such as their family—to larger societal structures—such as culture. However, the theory lacks its focus on emphasising the relationships between each system; moreover, it can barely explain how a relationship can be properly examined under specific topics. Hence, another theory was combined in this study to build the conceptual model for viewing Taiwanese couples having undergone ART from a systemic perspective. Huston's three-

level model of marriage identifies three central elements to understanding marriage: marital behaviour, individual properties, and the macroenvironment (Huston, 2000). It sought to create more expansive, integrative frameworks to connect the lived experiences of married couples with both basic and applied research (Huston, 2000; Helms, 2013). Helms et al. (2011) adapted Huston's model, further dividing marital behaviour into microbehavioral and macrobehavioral to provide a more detailed and structural model to researchers

(

Figure 1. 3). In order to understand the relationship and interaction process of Taiwanese infertile couples undergoing ART comprehensively, the researcher combined Bronfenbrenner's ecological theory and the adapted three-level model of marriage to conduct the initial model in this study (Figure 1.1).

Figure 1. 1*The situation of an infertile couple undergoing assisted reproductive technology.*

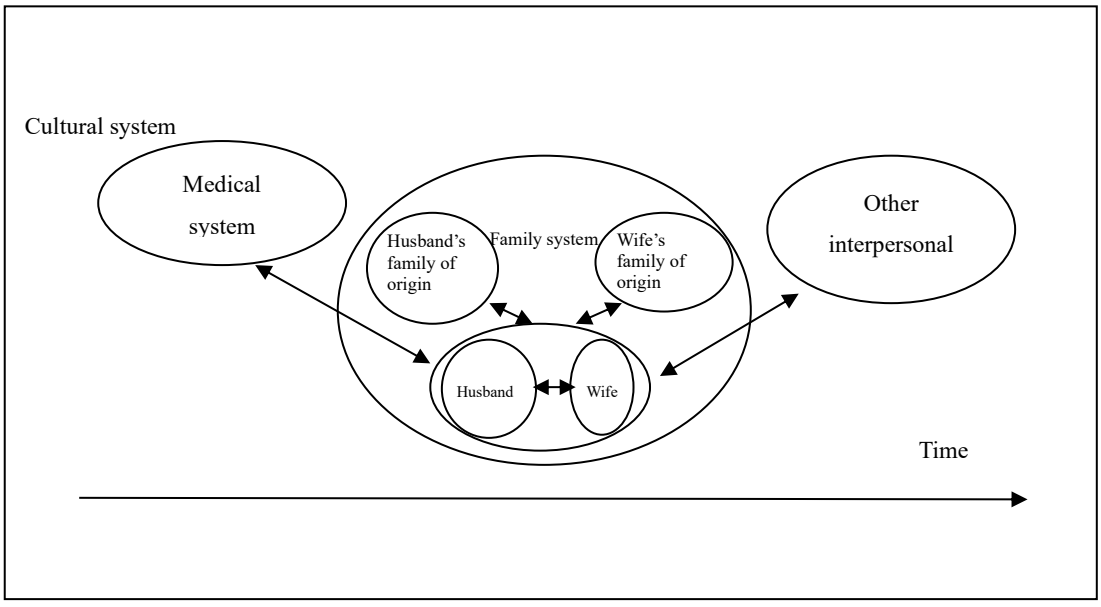
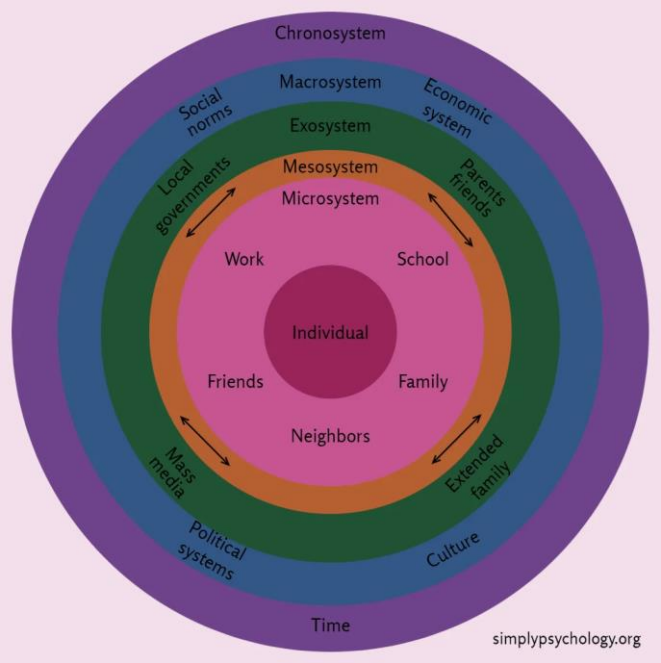
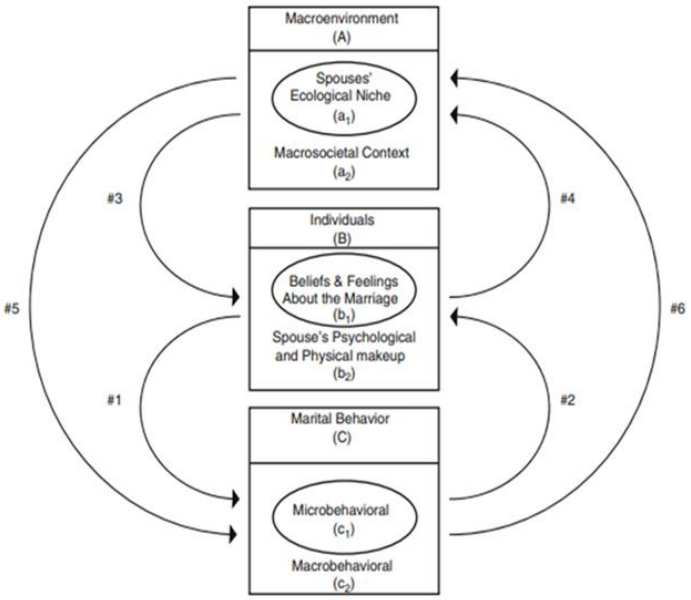


Figure 1. 2 *The Five Ecological Systems*



Note. Quoted from Guy-Evans (2024, 17, Jan.). Bronfenbrenner's Ecological Systems Theory. https://www.simplypsychology.org/bronfenbrenner.html

Figure 1. 3 Adapted three-level model for viewing marriage



Note. The figure was quoted from Helms, 2013. p240, which was Helms et al., 2011 adapted Huston's three-level model of marriage (2000, p,300).

The purpose of the study reported here was to understand the impact of undergoing ART on the relationship between couples and how the cultural system surrounding individuals affects their relationships and influences their ability to cope. Furthermore, the study hopes to provide healthcare professionals and psychologists with a better understanding to offer more appropriate assistance while working with infertile couples.

To summarise this thesis aims to address the following research questions:

1. What is the societal and cultural context in which Taiwanese infertile couples have undergone assisted reproductive technology?

2. What does the medical system in Taiwan provide infertile couples with in terms of resources and assistance, how the infertile couples feel about the medical system, and how does the treatment process affect marital life and relationships?
3. Under the Taiwanese cultural context, how aware are the couples of other perspectives (original family system, interpersonal system) to infertility, and how do these perspectives influence them?
4. How do infertile couples cope with and face infertility within the Taiwanese cultural context?

This programme of study combines quantitative and qualitative analyses. The quantitative data is used to understand the structure of different systems, outline the context in which Taiwanese infertile couples experience and address the “what” research questions. The qualitative data is used to understand the relationships and dynamics between couples and different systems, gain a deeper insight into the influence on couples and address the “how” research questions.

The works presented in this thesis address four research questions and will be detailed throughout the coming chapters. Chapter two provides an overview of the methodology and introduction of mixed methods research. The

study presented in chapter three used an in-depth interview approach to collect data. The conclusion of the analysis will be the foundation of this thesis and form the basis for designing a questionnaire to gather wider data. Chapter four outlines study II using a self-designed questionnaire to collect both quantitative and qualitative data. An experiential qualitative interview study is presented in chapter five. Conclusions, implications and future directions will be presented in chapter six.

CHAPTER TWO

METHODOLOGY

2.1. Preface

An overview of the mixed methods research is presented here to inform my design in the following empirical chapters of my thesis. In the beginning, I discuss the development of the mixed methods approach, philosophical basis and utility. Following this, I illustrate the effectiveness of using mixed methods research to develop my programme of study and provide a rationale for my chosen methodology to achieve the purpose of my thesis- more closely

understanding Taiwanese infertile couples.

2.2. Overview of methodology

Chapter three presented the study of two Taiwanese couples who took part in face-to-face joint interviews. The data from this in-depth, semi-structured qualitative interview informed the design of a questionnaire presented in chapter four. Thematic analysis was used to explore themes associated with the four systems (husband's family of origin, wife's family of origin, medical system, and wider interpersonal systems), in which the infertile couple's relationship and interaction were affected. The study presented in chapter four used a mixed methods questionnaire completed by 219 women. Numerical data and open-question responses, that were analysed using conventional content analysis, were combined in the study to provide a generalized understanding of the current context which Taiwanese infertile couples encounter and revealed significant factors that were associated with marital satisfaction in couples' ART journey. More detailed data regarding how couples maintain their relationship and interact with different systems were collected through the qualitative study outlined in chapter five. A total of 15 participants joined semi-structured interviews (one man, one couple and 12 women), of which 13 joined

online interviews and two joined email-based interviews. The data analysis was carried out by thematic analysis to assess constructs surrounding how the infertility challenges faced by couples affect them and how they cope with and face infertility within the Taiwanese cultural context.

2.2.1 Interviews, translations, and analyses

As mentioned earlier, this programme of my PhD study was divided into three parts: Study I to Study III, as presented in Chapter Three to Chapter Five.

In Study I, a face-to-face joint interview involving two couples from Taiwan was conducted in a private setting to minimise disruptions. Wives and husbands were interviewed separately after couples were interviewed collectively. Following the joint interview, each person participated in a follow-up individual interview with the goal of learning more about their own personal experiences and ideas surrounding infertility (Voltelen et al., 2018). The duration of the interviews was 90-120 minutes. Using non-confrontational techniques that promote equality and neutrality, the researcher carefully balanced the needs of the participants before, during, and after the joint interviews, giving each spouse her full attention (Voltelen et al., 2018). Because the participants were Taiwanese, the researcher used Mandarin in the interview; the all-digital recordings were then generated into transcripts. After this, the

researcher used the six stages of thematic analysis throughout the analysis process. The researcher then translated the Chinese findings into English and cross-checked the results with an English education master to ensure the accuracy of the translation.

The mixed method questionnaire in Study II was built on the findings from Study II; in the beginning, the questionnaire was conducted in Chinese by the researcher and was translated into English by a Psychology PhD, who is also Taiwanese but got her PhD degree in the UK to validity in different languages.

In Study III, interviews were done virtually during the COVID-19 pandemic because participants were from different parts of Taiwan. For the convenience of participants' schedules with their treatments and the impact of the COVID-19 pandemic, an email-based interview was offered as an alternative to an online interview. Ultimately, the total number of participants in the semi-structured interviews was one man, one couple, and twelve women, of which two took part in email-based interviews and thirteen participated in online interviews. The interview was also conducted in Mandarin by the researcher because the participants were all Taiwanese, and transcripts were created from the digital recordings. The analyses were conducted by the researcher and a female Gender Education master who also graduated with a

major in English education. The two analysers followed the six stages of thematic analysis separately before discussing for consensus. The results were then translated from Chinese into English, including the quoted transcripts by the researcher and cross-checked by the other analyser to ensure the validity of the study and the accuracy of the translation. The above-mentioned research process strictly adheres to research confidentiality principles and the ethical approval was obtained by the University of Plymouth, Faculty of Health and Human Sciences Ethics Committee before recruitment.

2.3. Mixed methods research

Researchers would choose research methods in the past according to their different rationales. Generally, researchers who endorse positivism would select quantitative research, whilst naturalists chose qualitative research (Halcomb & Hickman, 2015). However, with the increasing complexity of the social phenomenon, more and more calls have been made for the incorporation and integration of techniques to address research questions effectively (Hanson et al., 2005). Additionally, pragmatism has answered the paradigm-method fit issue (Hanson et al., 2005; Sung & Pan, 2010). More and more researchers, specifically in medicine, education, nursing, psychology and sociology, accept that "*the best paradigm is determined by the researcher and*

the research problem-not by the method" (Hanson et al., 2005, p. 226). In the application, increasing numbers of mixed methods textbooks have been published, and the Journal of Mixed Methods Research, which mainly studies the topic of mixed methodologies, was launched in 2007; these allowed researchers to enrich their ways of exploring professional fields more widely (Hanson et al., 2005; Sung & Pan, 2010). Hence, mixed methods research is considered "*the third movement of methodology*" (Doyle et al., 2009, p.175), and researchers have claimed that the age of mixed methods has come (Johnson & Onwuegbuzie, 2004).

Although several debates exist around the definitions of mixed methods research, there is a level of agreement that mixed methods research is "mixing" the qualitative and quantitative elements at some stage across the research process, from the philosophical underpinnings, creation of research questions, data collection, analysis and interpretation phases (Halcomb & Hickman, 2015; Sung & Pan, 2010). In other words, it stresses combining the application and interpretation of quantitative and qualitative methods and results (Sung & Pan, 2010). Mixed methods research was suggested for use to (a) provide a more nuanced and full understanding of the research problem in which numerical data from qualitative and experiential data from quantitative elements are both

included; (b) find out factors that may be discovered subsequently via the use of existing methods or the design of new ones; (c) further expand the results of quantitative data via qualitative data to gain more rich detail; and (d) meet the needs of marginalised or underrepresented ones (Mertens,2003; Punch, 1998, as cited in Hanson et al., 2005). Additionally, Sung and Pan (2010) reviewed the literature and concluded four functions of mixed methods research:

(a) Triangulation: collecting the data from quantitative and qualitative and comparing the results can avoid bias, achieving triangulation and cross validation.

(b) Complementarity: taking advantage of the representativeness and generalizability of the quantitative approach and the depth and comprehensiveness of the qualitative approach can enrich and define the understanding of a phenomenon.

(c) Stepping-stone: Conducting quantitative and qualitative at different times, then using the first study's findings as a foundation to suggest or assist in making decisions for the second study.

(d) Clarification: While the quantitative and the qualitative are conducted at different times, the purpose of the second study is to clarify or illustrate the vague or unexpected part of the previous study.

This thesis employed a mixed methods approach incorporating semi-structured qualitative interviews, quantitative questionnaire data, and open-question survey data and aimed to capitalise on the functions of mixed method research (**Table 2. 1**). The objective of the thesis reported here was to explore the context in which Taiwanese infertile couples experience fertility issues, and how the different systems (original family system, interpersonal system and medical system) influence their relationships. To construct the context that currently Taiwanese infertile couples face, the representativeness and generalizability of findings are significant, and also more detailed exploration is needed to gain an in-depth and dynamic understanding of the combined influence between couples and different systems. Given these, the first qualitative study (Chapter Three) used in-depth interviews to identify general trends and act as a stepping-stone to understand some of the issues Taiwanese infertile couples may encounter for the development of a subsequent questionnaire. The self-designed questionnaire (Chapter Four) incorporates quantitative and qualitative data to outline the different systems on infertile couples' ART journey and also explore the factors within the different systems that correlate with couples' marital satisfaction. Quantitative and qualitative data can provide complementarity to address research questions

effectively and act as a further stepping-stone for the following study. Based on the findings from these two studies, the qualitative interviews study with couples having undergone ART (Chapter Five) was conducted to garner additional data and provide rich insights into how couples interact with different systems and maintain their relationships under the challenge of infertility.

Table 2. 1. *Summary of methods and functions.*

Study	Chapter	Method	Function
Study I	Chapter three	In-depth qualitative interviews	Stepping-stone
Study II	Chapter four	Self-designed questionnaire (quantitative questionnaire data and qualitative open-question data)	Complementarity, Stepping-stone
Study III	Chapter five	Semi-structured qualitative interviews	Complementarity, Clarification, Triangulation

CHAPTER THREE

3.1 Preface

As discussed in the previous chapter, in order to investigate the Taiwanese infertile couples' experiences and interactions with different systems, this programme of study used a mixed-methods approach. This *Study I* is an integral part of the whole thesis, forming a foundation and an initial first stage for subsequent studies. The findings from this in-depth, semi-structured qualitative interview informed the design of a questionnaire presented in chapter four.

The findings from *Study I* also afforded a deeper understanding of the experiences of infertile couples who have undergone ART in the Taiwanese

context and helped to draw the initial picture for this topic.

3.2. Introduction to Study I

Early studies claimed that the strain of protracted infertility causes relationship difficulties, dissatisfaction, and even dissolution (Greil, 1997), but more recent studies have shown that infertility could be a positive experience for couples to increase their intimacy (Schmidt et al., 2005; Peterson et al., 2011). Whether couples face infertility jointly and whether they share similar appraisals and coping strategies are believed to mediate the impact on their relationships (Greil et al., 2018; Pasch & Sullivan, 2017), However, studies have shown that it is still a challenge for couples to face infertility issues, especially for couples undergoing ART. This is often a result of men and women responding to infertility and treatment differently, which is related to social construction (Molgora et al., 2019; Pasch & Sullivan, 2017). Specifically, men and women perceive different meanings and expectations from society, and this affects their differing involvement in infertility experiences and subsequent treatment journeys (Molgora et al., 2019). This could be seen in the previous studies, where women were involved in dealing with infertility earlier and more actively and required more emotional support, but men distanced themselves from this issue and faced it passively (Lin et al., 2004; Peterson et al., 2012;

Yeh, 2007).

The social construction approach not only clearly explains the different attitudes of genders facing infertility issues but was also noticed by researchers in emphasising the vital role of shaping the lived experience of infertility (Greil et al., 2010). Tabong & Adongo (2013) conducted a qualitative study to understand infertile couples' experiences in Northern Ghana and found that both men and women are stigmatised in the local society. People with childlessness represented losing respect in the community, and this led to poor well-being both physically and spiritually (Tabong & Adongo, 2013). "Childbearing importance" in Chinese society was deeply explored by Yao et al. in 2017. The meanings of childbearing in Chinese society are considered to be maintaining a marriage, fulfilling filial piety, and feeling 'normal' in the family and social networks (Yao et al., 2018).

As mentioned in the previous chapter, there are only very limited numbers of studies either related to infertile couples' relationships or focused on stressors connected to infertile couples' relationships based in Taiwan. The commonly found discoveries in this limited literature were that infertility caused a greater influence on women than men in Taiwan, including emotional, physical, interpersonal, and social stigma (Chen, 2019; Hsu et al., 2013; Lin, 2019).

Women were reported to be more stressed by infertility than men (Chen, 2019), but also that Taiwanese infertile couples were used to adopting avoidance coping strategies, like avoiding family gatherings and disclosing infertility-related messages, to reduce the possibility of exploring childbearing topics. A qualitative study focusing exclusively on infertile women indicated that infertility affected their self-worth, meaning of life, relationships with their husband's family, interpersonal relationships, and also their worries about their health condition due to medical treatment (Chan, 2009). According to a qualitative study that only included infertile men, infertile men felt guilty about their roles as husband, male, and son and were embarrassed to tell their friends about their situation (Yang, 2016).

To conclude, in the Taiwanese context, women are often influenced more by infertility than men, and both infertile women and men have negative emotions accompanied by their important roles around childbearing in society. Moreover, infertile couples tend to use avoidance-coping strategies to reduce inquiries about infertility issues; that is, infertile couples in Taiwan are under severe pressure relating to infertility, and it is a common conversation topic they may encounter in their interpersonal interactions. The existing literature does not provide important information about the practical interactions that infertile

couples in Taiwan have, such as whether wives often deal with infertility more actively, as previous Western studies claimed, and whether the perspectives of others about infertility impact the coping strategies of couples. This current study aims to address these shortcomings in the research and aims to create an initial framework of experiences of infertile couples having ART in the Taiwanese context.

3.3. Method

3.3.1. Design

In-depth, semi-structured qualitative interviews were conducted in this study. The questions asked within the interview were devised based on the previous literature regarding the experiences of Taiwanese infertile couples who have undergone ART in couples' relationships, interactions with their family of origin, and external interpersonal relationships (see **Table 3. 1** below). The detailed questions are illustrated below. Prior to recruitment, ethical approval was obtained by the University of Plymouth, Faculty of Health and Human Sciences Ethics Committee (reference:19/20-1237).

Table 3. 1 The questions of the interview.

1.	How was the relationship between you and your partner before discovering that one of you (or both of you) is infertile?
2.	Who discovered their infertility condition first? What examinations had you gone through before the treatment (assisted reproduction)? How did you feel about the process?
3.	Which one of you decided to go through the treatment? What kind of medical interventions have you gone through? How did you feel about the process of the treatment? How did you handle and deal with the experience?
4.	When talking about infertility, what does your partner usually say or do? How does the reaction of your partner affect your feelings and thoughts?
5.	When you and your partner's parents (or other relatives) talk about infertility with you, what is their general attitude and point of view? How do you feel about them?
6.	How well do you and your partner's parents (or other relatives) know about your infertility issue? What is the experience like when you and your partner interact with them? How do you and your partner handle their questions or advice?
7.	What kind of perspectives do you think people have about you in regard to your infertility? What do they usually say or do to you? How do you feel about their opinions or reactions? Have people's opinions and reactions affected the relationship between you and your partner? If so, how?

3.3.2. Participants and Recruitment

Recruitment for Study I was aimed at infertile couples who were undergoing artificial reproduction or had this experience within the last two years in Taiwan. Participants were recruited using online forums and social media platforms (predominantly Twitter and Facebook community groups). Advertisements for this study appeared on social media groups once permission from the individual page administrators had been authorized.

Couples who expressed their interest in the study were contacted to arrange a date for an interview. The aim was to interview a small number of couples using a Thematic approach. Two Taiwanese couples took part in a face-to-face joint interview, which took place in a private environment in Taiwan to minimise interruption. Couples were interviewed together then wives and husbands[2] were interviewed separately. These follow-up individual interviews after the joint interview aimed to understand more deeply the personal feelings and thoughts of each individual relating to infertility (Voltelen et al., 2018). The interviews lasted between 90-120 minutes.

Before, during and after the joint interviews, the researcher gave

[2] In Taiwan, only married couples are allowed to have children through ART so were the only eligible participants in these studies.

dedicated attention to both husband and wife and created a delicate balance between the needs of the participants, using non-confrontational techniques that foster equality and neutrality (Voltelen et al., 2018).

3.3.3. Data Analysis

The type of analysis used for this study was Thematic Analysis (TA) which was selected because it is both rich and flexible (Braun & Clarke, 2006). This method is an accessible way of gaining meaningful and intricate details that are directly reflected in the participants' experience (Braun & Clarke, 2006).

The six phases of thematic analysis were used to analyse data. However, Terry et al., (2017) suggested that it was important that researchers keep flexible in the process. First, the transcripts were read thoroughly to familiarise the researcher with the couples' experiences. After reading several times, the researcher was able to immerse herself deeply in the data and could start to see similarities and patterns across the data. Different systems were divided into support and pressure, two aspects which tend to affect couples' relationships within the infertility context. Before moving from coding to constructing themes in the third phase, the researcher stayed focused on coding the entire dataset. In this phase, the research question acted as a guide for building initial themes, which provided the researcher with choices about

what data segments were relevant.

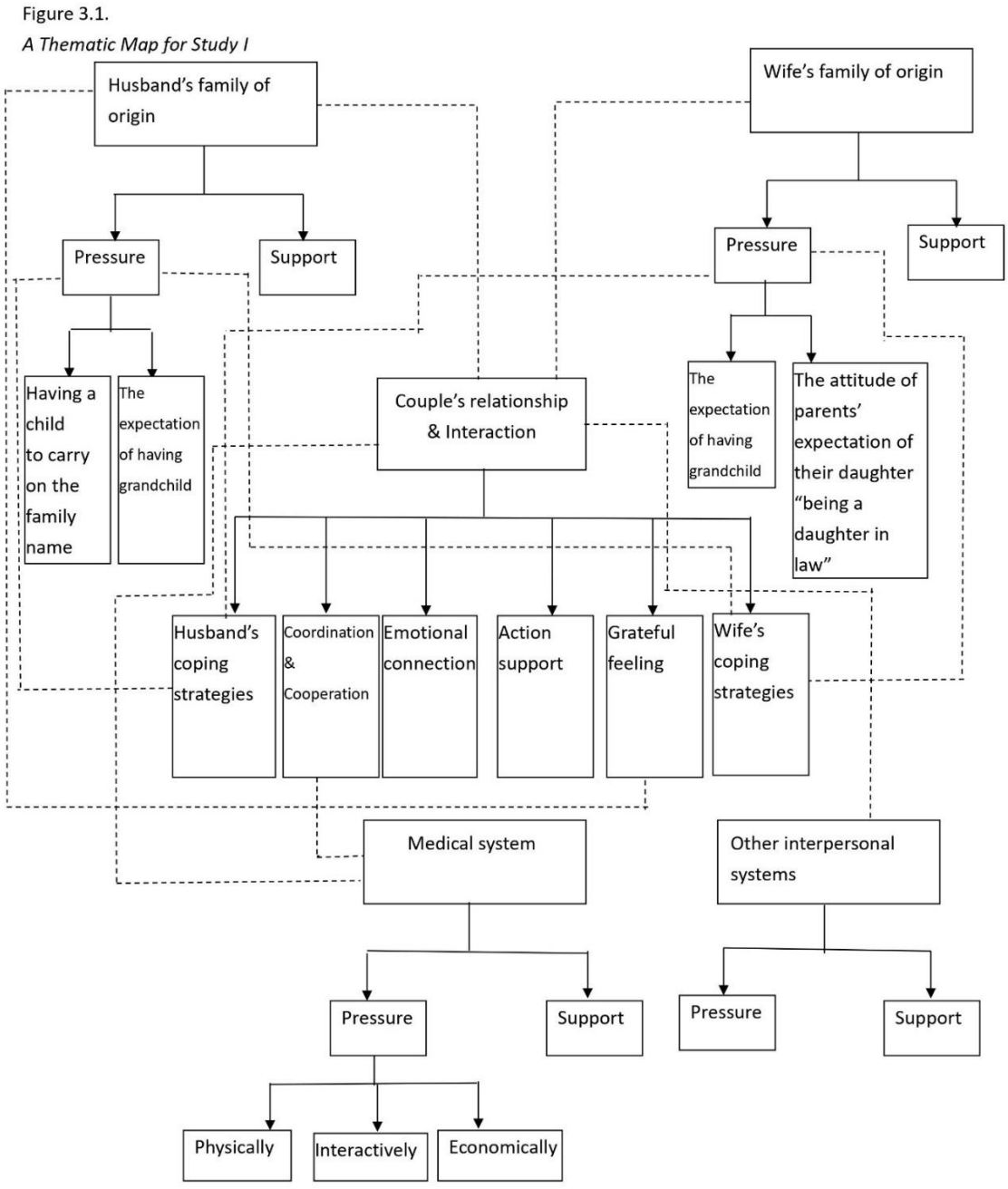
Candidate themes were developed in the fourth phase, and then the candidate themes were checked to see whether they captured the meaning in the collated coded data segments. A balance was made, which made sure the themes were distinct from each other and related to each other.

Finally, the themes were clearly named and defined to express the core idea and their meaning. The thematic map was produced by the researcher and verified by the supervisory team.

3.4. Results

Two categories were presented here: the first category was the "surrounding system." The analysis of the interviews revealed that the Taiwanese infertile couple’s relationships and interactions were affected by four systems: the husband’s family of origin, the wife’s family of origin, the medical system, and wider interpersonal systems. The different systems were divided into support and pressure. The second category was "Factors within a couple’s relationships and interactions"; six themes were produced to highlight the situation. **Figure 3. 1** outlines the thematic map of the themes that emerged from this study.

Figure 3. 1 *Thematic map of Study I*



3.4.1. Surrounding System

Theme 1: Husband's family of origin

Participants stated that they had felt pressure from the husband's family of origin.

> *" Yes, some pressure from my original family because I am the oldest son of my family." (C1H)*
> *"My family is conservative; my parents have much expectation of having a grandchild…"* (C2H)

The pressures from the husband's family were described by the couples as not just coming from parents directly but instead felt like an atmosphere of pressure that permeated the couples' surroundings.

> *"They (the family) had much expectation of their children getting married and having children." (C2W)*
> *"They may hear someone had delivered a baby." (C2H)*
> *"Everybody would ask, did your daughter–in–law have a pregnancy?" (C2W)*
> *"Relatives and friends would ask, especially since we lived in the countryside. They would ask whether you would plan to have a baby. That caused the intangible pressure." (C2H)*

Two subthemes were named here, one is "Having a child to carry on the family name", a prime perspective in Taiwanese families which could cause pressure on the couple, and the other is "The expectation of having a grandchild". The couples expressed that the husband's parents may express

their expectations in different ways.

Theme 2: Wife's family of origin

In a traditional Taiwanese family, women always feel more pressure from their original family, especially from their mother, due to both patriarchal culture and the perspective of "Having a child to carry on the family name". If married daughters have not borne the child, their parents will feel sorry for their relatives by marriage. Following this, a subtheme, "The attitude of parents' expectation of their daughter "being a daughter in law", was named.

> *"My mother is more traditional, if I have not borne the baby for my husband's family, she would care about it…" (C1W)*

In contrast with C1W, C2W felt more supportive of her original family.

> *"My mother is worried about me suffering a lot to have a baby, she always told me not to force myself too hard…" (C2W)*

Theme 3: Medical system

When talking about the whole medical intervention, couples thought it was a difficult process, and sometimes they felt exhausted.

> *" Both of us thought that was the last time because I thought she was very tired with injections and ovum pick-up..." (C2H)*
>
> *" Although I still want to have a baby, I felt terrible when thinking about the twice-abortion experiences. Then, I don't think I can bear it again…"*

(C2H)

Three main sub-themes were identified from the analysis; “Physically” “Economically”, and “Interactively”. These factors represent the physical, financial and interactions with health professionals. The first two of these aspects represent factors that caused pressures for couples, and the latter was seen as a potential source of stress for infertile couples in Taiwan.

Due to most of the medical interventions being targeted at women, they experienced more physical discomfort than their male partners. The partner’s reaction was viewed as very important and influenced the infertile couples’ relationship. This will be analysed and discussed further later in the results section.

Participants expressed their compliance and adherence to the information laid out by doctors because they thought they could not do anything except obey the doctors’ suggestions.

“The only thing you can do is believe the doctors when the medical interventions are required; you did not have too much… (C2H)

” You could not do anything by yourself. (C2W)

” There’s nothing you can do; the only thing you can do is when he (the doctor) said you need to have some medicine, then you eat. you should take a rest; then you lie down; every medical centre is similar..” (C2H)

However, when the couples felt pressure coming from the doctors, they

were inclined to change to another doctor.

> *"I think I didn't have yuanfen[3] with the first doctor due to feeling so pressured when seeing him. He would nag me about putting too much pressure on myself, so it's the last time…." (C2W)*
>
> *"I felt he blamed me, it was so difficult for me to have a baby; also, I need to bear the blame from the doctor, it's not possible to see him anymore." (C2W)*

In Taiwan, infertile couples need to pay a large amount of money for assisted reproduction treatment. These medical costs usually provide additional pressure on the couple.

> *"Knowing the IVF costs a lot, I would feel much pressure from finance, so I didn't want to get there…. Although two or three doctors had told me that the IVF was needed, I still hope I can have a baby naturally." (C1W)*
>
> *"She(wife) thought that the financial problem was the main problem and asked me, how about the financial problem….That's the way it is; if we can't be helped, the only way is borrowing…" (C1H)*

Theme 4: Wider interpersonal system

"Infertility" seems taboo in Taiwanese society, with couples finding it difficult to initiate conversations with others outside their relationship. This was especially true for male partners.

> *"Telling them (my friends) this is useless, I won't talk this with them actively…" (C2H)*

[3] A predetermined binding force between two people (or in any relationship).

If someone asked them about their plan for having a baby, they might use some mechanism to avoid such discussions.

> *" My friend or colleague asked me about the plan of having a first kid or second...I often retorted, how about you? You haven't got married; when will you want a baby?" (C1H)*

3.4.2. Factors within a Couple's Relationships & Interactions

The study aimed to explore how the infertile couple subsystem is influenced more widely by the larger societal and cultural system contexts. Therefore, six themes were produced to highlight this situation.

Theme 1: Husband's coping strategies

Infertile couples may feel huge pressure from other systems, especially from their parents' expectation of having grandchildren. The male partner often plays an important role in trying to avoid causing their female partner additional pressures. They are often entrusted with the responsibility of protecting their couple subsystem.

> *" Yes, I could resist them (parents and relatives)…they didn't have too many opinions if I had already said. Put another way, I can be a protective layer for my wife, stopping the opinions before conveying them to her." (C2H)*

If the female partner is affected emotionally by their partner's parents,

the male partner would try to solve it.

" I had received her (complaint)…..I would tell them (my parents) directly, I wouldn't beat around the bush…" (C1H)

Theme 2: Consensus, Coordination & Cooperation

Participants stated, before having ART (Assisted Reproduction Treatment), it is very important for couples to have a consensus on their desire to have a child.

"We have the same, strong consensus of this (having a child), that's why we can sustain for such a long period…" (C2W)
"I thought we had the same goal so that we would cooperate definitely.." (C2H)

Medical treatment is a long and difficult process. Lots of coordination and cooperation, including arranging a schedule, sex life etc., between couples are required.

"In terms of my working, if I know (the appointment of treatment) in advance, I would take time off for her.." (C1H)

Moreover, wives often play an active role in the physical treatment process, and their male partners tend to be followers.

" If I wanted to see the doctors, he wouldn't complain that it was too far, too

tired, costing time, or too expensive, he didn't complain at all. What kind of examinations which I wanted to do, what kind of things I wanted to do…he always supported me, he has never complained..." (C2W)

Theme 3: Emotional connection

When feeling frustrated, couples may want to feel an emotional connection with each other, especially female partners. However, if couples have a different ways of expressing their emotions and do not appreciate these differences, this can have a negative impact on their relationship.

"He didn't react to it, I felt his distance...he didn't say anything to comfort me. Sometimes, I want his comfort, but he didn't say anything after I told him…it ticked me off when he didn't react. Then, I felt it was better to say nothing." (C1W)

Theme 4: Action support

Besides emotional connections, male partners often engage in physical actions to show their support to their partners.

" I am not good at talking, but I would have some actions, like giving her hugs when she felt sad….or taking her outside for relaxation..." (C2H)
" After hardworking, I would do anything I can do at home…" (C1H)

Theme 5: Gratitude

The male participant thought their tolerance increased after seeing their partner suffering during the whole process of medical interventions. In other

terms, they had gratitude towards their partner for what they had endured for the sake of the couple having a baby.

> *" She suffered a lot and contributed a lot only because I had said I wanted a baby, she contributed so long and too much….If we argued, I would let her let off steam..." (C1H)*

Theme 6: Wife's coping strategies

Due to the married women's status in Taiwan, wives may struggle to resist the pressures from the family system by themselves directly. In contrast, they may expect their partner to be able to resolve this pressure for them.

> *" I had told him that it is inconvenient for me to talk to them sometimes since they are my parents-in-law. After all, it is different between a son and a daughter-in-law. Sometimes, I will expect that he can convey some things. Then, he will tell me, he will talk to his parents on his way. (C2W)*

3.4.3. Summary

Figure 3.1 shows a thematic map for this Study. The infertile couples having ART in the Taiwanese context were surrounded by four main systems: the husband's family of origin, the wife's family of origin, the medical system, and other interpersonal systems, and each system may affect couples by giving pressure or support. Six factors (husband's coping strategies, consensus,

coordination & cooperation, emotional connection, action support, grateful feeling, and wife's coping strategies) were identified to describe the couples' relationships and interactions.

3.5. Discussion

Study 1 is the initial study of the programme of my PhD study, and its function is the stepping-stone to describe the broad patterns of the systemic model. The following discussion is divided into three parts, with 3.5.1 addressing the first research question. It becomes apparent that Taiwanese infertile couples seem to be influenced by the reproductive views rooted in traditional Chinese culture, primarily transmitted through the family of origin. The discussion in 3.5.2 presents the emotional states and pressures expressed by the interviewed couples regarding their physical, financial, and interactions with the medical system during the treatment process. This section also provides an initial response to the researcher's concerns about the interaction between infertile couples and the medical system, as outlined in the second research question. Finally, in addressing research questions three and four, the discussion in 3.5.3 sheds light on how Taiwanese infertile couples, within this cultural context, navigate the impact of their internal systems on their partners and how they cope with external system pressures.

3.5.1. Influences on the Traditional Chinese Culture

Early research on social and cultural attitudes regarding infertility in Taiwan can be traced back to Kuo et al. (2000) and Lee et al. (2000). “To continue the family line” was the most common attitude influenced by the Chinese culture in infertile couples, and “do not produce an heir, which is the gravest offense” was followed (Kuo et al., 2000). Furthermore, the traditional Chinese childbearing attitude was closely related to infertile women’s well-being (Lee et al., 2000). However, very few studies exploring the social-cultural context were conducted during the following twenty years in Taiwan. Limited research focused on social stressors on infertile couples (Wang, 2017), the infertility stigma still in existence in Taiwan (Wu, 2017), and that these had a psychological impact on infertile couples (Lin, 2019). This current study revealed that infertile couples in Taiwan still placed importance on the traditional Chinese attitudes to infertility, especially “having a child to carry on the family name”, and the perceived pressure of this often comes from their family of origin. The study also highlighted that childbearing was a common topic for conversation within married couples’ interpersonal interactions with families. Whether this traditional value comes from both wives’ and husbands’ families

still needs to be addressed in further studies, as do the differences that may exist between the two families of origin. This current study also highlighted that the issue of infertility is often considered to be taboo in Taiwanese society, especially for men. This came from male participants' accounts of experiencing difficulty initiating conversations with others outside their relationship about infertility issues. Participants also mentioned that they would use some techniques to avoid experiencing people asking about this topic. The findings of the current study supported the previous studies that infertile couples perceived negative views about infertility in the Taiwanese social-cultural context (Wang, 2017; Wu, 2017), and this led to the use of avoidant coping strategies in addressing this issue (Chen, 2019; Yang, 2016).

3.5.2. Feeling Difficulties during the ART and Concerning Feelings with Interaction from the Medical System

Three sub-themes were identified within the main theme of –the 'medical system'. These were "physically", "interactively", and" economically". These relate to three aspects of difficulties experienced by infertile couples during different stages of the ART journey. For instance, feeling exhausted due to a

variety of examinations, experiencing traumatising processes due to miscarriages and hesitating in continuing or discontinuing treatments based on the physical and economic conditions. These findings were consistent with previous studies (Chen, 2019; Chow et al., 2016; Pasch & Christensen, 2000) that indicated the whole treatment process was filled with trials for infertile couples. Important points to note within these findings were that although most of the medical interventions were being targeted at women, the two male participants seemed able to understand the physical distress of their female partner. Such findings may account in part for the findings from previous studies that husbands were indirectly affected by the ART process due to their partner's emotions or their partner's satisfaction with their reaction (Chen, 2019; Lin,2019; Molgora et al.,2019). The details of the couples' interaction will be explored in more depth in the following studies. Another point was related to the interaction with health professionals. Most of the participants expressed that they respected and 'obeyed' the doctors' suggestions. However, if the doctors caused them to feel pressured or uncomfortable, they tended to cope with it by changing doctors. This reflects a strong importance amongst couples for a positive interaction with the medical system, but also that infertile couples may not express their feelings and needs directly to health professionals and may

instead engage in avoidant coping strategies to manage their distress.

3.5.3. Infertile Couples' Interactions Toward Internal and External the Systems

Six themes within the couple's relationships and Interactions were identified in the findings of this current study. Of them, four themes (consensus, coordination & cooperation, emotional connection, action support, grateful feeling) could be conceptualized as a cluster of interactions between the couples with their internal system, and the remaining two (husband's coping strategies and wife's coping strategies) related more to their coping strategies toward external systems.

"Infertility presents an ideal setting for examining how stress impacts couple relationships" (Pasch & Sullivan, 2017, p. 131). In previous studies, researchers emphasised how the prolonged process and the demands of infertility treatment caused challenges to couples' relationships, but more recently, studies were focused on how couples see and work themselves as a united front to face this issue within their married lives (Greil et al., 2018; Molgora et al., 2019; Pasch & Sullivan, 2017). Women's stress-related infertility

issues tend to be greater than that of men, and there is a significant gender difference in communication ability, but couples can still work through this issue by seeing it as a dyadic problem and using joint coping strategies (Molgora et al., 2019). This current study was in keeping with previous studies and highlighted that “consensus, coordination and cooperation” were important factors in facing the infertility-related stress of couples undergoing ART (Molgora et al., 2019; Pasch & Sullivan, 2017). As women are often more directly involved in ART, wives are usually the “starters” to express their needs during the process, and whether their husbands are able to “catch the ball” of communication plays a crucial role in the dynamics of their relationship (Molgora et al., 2019). The findings of this current study identified that creating and maintaining an emotional connection seemed to be more challenging for husbands compared to other strategies, such as support in the form of action and feelings of gratitude. However, this needs further exploration in subsequent studies.

The traditional perspective related to childbearing influenced by Chinese culture in Taiwan has been mentioned in the previous section (Wang, 2017; Wu, 2017). Some studies exploring the Taiwanese cultural context found that people tended to use avoidant coping strategies to evade being asked about this issue

(Chen, 2019; Yang, 2016). However, studies were lacking on how infertile couples work together to address this challenge. This current study revealed initial findings that husbands seemed to play an active and protective role in dealing with childbearing-related pressures coming from the family of origin, and wives also expected their husbands could help to reduce their exposure to stressful conditions, especially when facing their in-laws. The findings here will be further investigated on a larger sample of couples in Taiwan in the subsequent study.

3.6. Conclusion

This study is the first study in my PhD programme of studies. In the first study, I conducted in-depth, semi-structured qualitative interviews to collect data from two Taiwanese infertile couples who had undergone IVF within the previous two years and aimed to outline the general trends of couples' relationships and interactions with relevant systems. The analysis of the data was carried out through thematic analysis (TA). The results were divided into two categories (surrounding system and factors within a couple's relationships & interactions); four themes and six themes were identified for each respectively.

This initial study set the foundation for my PhD programme of studies

and was also vital material for designing the subsequent questionnaire. Whether the findings can be generalised to this target population or the dynamic influence on couples between systems will be addressed in the following studies.

Chapter Four

4.1. Preface

Following the retrospective Study I outlined in Chapter Three, it was clear that four systems surround infertile couples who have undergone Assistive Reproductive Therapy (ART) in the Taiwanese context. It also identified six factors that described couples' relationships and interactions within their system. This chapter presents data from Study II, an online survey that is based on the previous study. Both quantitative and qualitative accounts of couples' experiences when facing these different systems were included to collect more extensive data from a larger population to understand Taiwanese infertile couples' experiences and to capture important components within these different systems. The results of Study II afforded a deeper understanding of the experiences of infertile couples who had undergone ART in the Taiwanese cultural context and the contributions of both the predominant experiences of couples under the different systems and the crucial factors that affected them.

4.2. Introduction to Study II

Prior quantitative studies placed a strong emphasis on the use of generic

and tailored questionnaires to evaluate various facets of infertile couples' quality of life (Mousavi et al., 2016). The different factors were identified to understand couples' experiences relating to infertility; some were focused on the background-related causes of infertility, and some stressed the connections with mental health or gender differences (Mousavi et al., 2016). Although various studies shed light on different aspects of infertile couples' experiences, fewer studies explored infertile couples' experiences within different systems systemically. In order to put the current study in context, previous studies will be discussed in more detail below to understand what has already been investigated and where the gaps in knowledge still exist.

In the background-related studies, literature has shown that the duration of infertility (Choobforoushzade et al., 2011; Keramat et al., 2013; Ragni et al., 2011; Wang et al., 2007) and treatment history (Ragni et al., 2011; Wang et al., 2007) can have negative influences on infertile couples' quality of life, but there was still a claim that duration of infertility had no influence (Rashidi et al., 2008). Furthermore, educational levels were also found to correlate with infertile couples' quality of life (Chachamovich et al., 2007; Choobforoushzade et al., 2011; Keramat et al., 2013; Rashidi et al., 2008), and those with higher income were also more satisfied with their marital relationships (Keramat et al., 2013).

As mentioned earlier, researchers were interested in comparing the gender differences of infertility experiences in previous studies. Researchers agreed that infertile women experienced more distress than men, in terms of physical, psychological, and social aspects (Baghiani et al., 2011; Keramat et al., 2013; Rashidi et al., 2008; Ying et al., 2015). A quantitative study using a quality-of-life questionnaire (FertiQoL) in the Taiwanese context also showed that infertile women may experience poor status both in emotional stress and physical health (Hsu et al., 2013). Studies shown above identified important background-related factors of couples' infertile experiences; however, not all of them were conducted to investigate the link with infertile couples' relationships directly. This current study aimed to understand the related factors to infertile couples' relationships; these background-related factors will be included in the designed questionnaire in this current study to understand their role within the relationships of couples having ART in Taiwan.

As mentioned in chapter three, researchers often had different perspectives when discussing the influences of couples' relationships on treatment or infertility experience; early studies stressed the difficulties (Greil, 1997), while recent studies emphasised the positive aspects (Schmidt, 2005; Peterson et al., 2011). However, mediation, like couples' coping strategies, was

considered a crucial area to understand (Greil et al., 2018; Pasch & Sullivan, 2017). Interactional factors, both with internal and external systems, were highlighted in Study I, and these relevant factors will also be explored in this current study to identify if the findings from study I can be generalised to the Taiwanese population.

The results of Study I also revealed the importance of cultural contributions, which are affected by traditional social values, in shaping infertile couples' experiences in Taiwan. This supported the claim from Greil et al., 2010 that infertility issues should be understood under the knowledge of social construction. However, the findings from Study I only drew an initial picture that the shadows of social influences could be seen in societal views, infertile couples' interpersonal occasions, families of origin and could lead to their coping strategies. It remains important for the current study to investigate this in a larger sample of couples in Taiwan.

Studies have identified how assisted reproductive treatment causes pressure for infertile couples in many respects (Chow et al., 2016; Ying & Loke, 2015). Infertile couples not only have to endure physical distress from a variety of treatments but also accommodate within their schedules cumbersome treatment regimens (Ying & Loke, 2015). Different psychosocial or integrated

interventions were designed and discussed to try to meet the needs of local infertile couples in some countries (Boivin & Gameiro, 2015; Chow et al., 2016; Jafarzadeh-Kenarsari et al., 2015). However, the recommendations from these studies related to psychological interventions for couples having ART have remained largely unaddressed in Taiwan. In this decade, only one three-year project tracked the effectiveness for infertile women of a designed support website in Taiwan (Cheng, 2017). Therefore, there is an urgent need to study the experiences and needs of infertile couples undergoing ART in relation to the medical system. This is one of the main aims of this current study.

In conclusion, Study II built on the findings from Study I, and on relevant previous studies in order to gain a better understanding of the experiences of Taiwanese couples who have or are undergoing ART within the different systems.

4.3. Method

4.3.1. Design

This study was an online survey of couples' experiences of undergoing ART completed by participants who had this experience within the previous two years. The survey contained quantitative and qualitative accounts of their

experiences facing different systems. Before recruitment, ethical approval was obtained by the University of Plymouth, Faculty of Health and Human Sciences Ethics Committee (reference: 2021-2313-1931)

4.3.2. Participants and Recruitment

Participation in the present study was voluntary and required the fulfilment of the following inclusion criteria: (1) participants were Taiwanese; (2) they were over the age of 18 and (3) had ART in Taiwan within the last two years prior to completing the survey. Participants were recruited using online forums and social media platforms whereby group organisers and moderators had given consent for the adverts to be posted. The advertisement for this study was also posted on the investigator's personal page and was shared by others who were interested in this study. The study was advertised over a four-month period from July 2021 to October 2021.

A total of 311 participants consented to take part in the study, and from this sample, 239 participants completed the survey fully. Twenty participants who did not meet all inclusion criteria, such as three participants who reported their ART journeys were not in Taiwan, were excluded from the dataset. Of those who completed the survey in total, 17 participants were male. Given the

extensive differences between the samples of different gender (219 to 17), 17 male data were subsequently removed from the analysis. The final sample consisted of 219 Taiwanese women.

4.3.3. Measures

A Self-designed questionnaire was used, titled- 'The experiences of Taiwanese couples having undergone assisted reproductive technology: A Systemic Perspective'. As discussed previously, this study aimed to collect more comprehensive data about the experiences of Taiwanese infertile couples undergoing their ART journey and the impact of this experience on their marital relationship in the Taiwanese cultural context. The questionnaire was designed based on the analysis of the interview in Study I, which included five dimensions: (1) Background, (2) Relationship and Interaction with the partner, (3) Relationship and Interaction with the family, (4) Relationships and Interaction with the social system, (5) Relationship and Interaction with the medical system. Each dimension had 5 to 21 questions, and a total of 63 questions were included in the questionnaire. The whole questionnaire can be seen in Appendix I.

The following will provide a brief explanation of how the questionnaire for Study II was designed based on the research findings of Study I: The findings in Study I were presented in Figure 3.1 Thematic map of Study I. This showed that the infertile couples having ART in the Taiwanese context were surrounded by four main systems: the husband's family of origin, the wife's family of origin, the medical system, and other interpersonal systems. Furthermore, six themes (husband's coping strategies, consensus, coordination and cooperation, emotional connection, action support, grateful feeling, and wife's coping strategies) were analysed to describe the couples' relationships and interactions. The four main systems were condensed into three dimensions in this current study mentioned above (Relationship and Interaction with the family, Relationships and Interaction with the social system and Relationship and Interaction with the medical system). The findings of six themes in study I were the foundations for designing the content of dimension (2) Relationship and Interaction with the partner, and partly for dimension (3) Relationship and Interaction with the family. For instance, Q17 in dimension (2) in the questionnaire (How does your partner support you during this period? 1. Does chores 2. Talking through emotions. 3. Warm hugs 4. Comfort with empathy 5.Travelling together to relax 6.Deals with pressure from others 7.Provides

personal space for self-regulation 8. Others was based on the findings of six themes in Study I.

4.3.4. Procedure

The potential participants saw an advertisement about the study posted on social media. The link on the advertisement sent interested participants directly to the online questionnaire on the survey software, ‘Qualtrics’, where they could read the information sheet and clicked to provide informed consent. The survey was completed anonymously, and no personal, identifiable information was collected from participants. After taking approximately 20 minutes to complete the survey, the participants were sent to the final page of the survey that displayed the debrief form with the aims of the current study and contact information for mental health charities and resources.

At this stage of the study, participants were also given the opportunity to express interest in taking part in a follow-up interview to discuss further their experiences of infertility and treatment, the influence on their marital relationship, and the effectiveness of other systems. If participants were interested in taking part in the interview, they were invited to leave their email addresses so the researcher could contact them at a later stage, which ran from April 2022 to August 2022

4.3.5. Data analysis

A mixed-methods approach was used to analyse the data from the online questionnaire. The quantitative questions were analysed using descriptive statistics in the form of frequencies and percentages to summarise the participants' general experience in their ART journey. In addition, the T-Test statistic was also included to find if there were significant differences in responses between critical factors. Moreover, bivariate correlational analyses were used to assess the relationship between marital satisfaction and the influences of other factors. Following this, the researcher also chose stepwise multiple regression analyses to generate a model with inputted possible variables of ART experience to predict variance in marital satisfaction during this period.

The qualitative sections were then analysed using conventional content analysis (CCA) to better understand the free-text responses. CCA treats data as observed communications, which provides researchers with deeper understanding and insights into their participants' world (Krippendorff, 2018). Initially, data were analysed separately and then integrated using a triangulation approach (Hanson et al., 2005). The research did not employ any predesigned categories or create a deductive framework for analysis. Instead, the comments

were read and explored from bottom-up, interpretive perspective (Hsieh and Shannon, 2005). All responses were read through several times to derive codes that capture key concepts. The codes were then organized into categories and then into meaningful clusters that determined the main themes (Hsieh and Shannon, 2005). A validation analysis of the codes was conducted by another coder, who has been well trained in qualitative analysis, and a further validity check was undertaken through response checking against data provided from the interview questions (see Chapter 5).

4.4. Results

The results of the questionnaire are presented below. As the questionnaire included five sections to explore the couples' experience with different systems, the result outlined below are also divided into five sections: (1) Background, (2) Relationship and Interaction with the partner, (3) Relationship and Interaction with the family, (4) Relationships and Interaction with the social system, (5) Relationship and Interaction with the medical system.

4.4.1. Section I-Background

4.4.1.1 Descriptive statistics

The participants' background information is presented in **Table 4. 1** Over two-thirds of participants were between the ages of 30-39 years (69.7%), and only 4% were under 29 years. Nearly all the participants (95.9%) were married. For the most part, participants had medium-to-high education levels (58.4% graduated from university and 36.1% were masters or PhD) and identified themselves as of middle and upper socioeconomic status (see ***Figure 4. 1***). The data identified more female factors (41.1%) than male (11.9%) when considering the reasons for infertility. The majority of participants (82.5%) were undergoing ART within three years and had intrauterine insemination (IUI) (68.5%) or IVF (70.8%) under three times. A small proportion of participants (10.5%) had IVF over five times.

Figure 4. 1 *Rating of socio-economic status using the McCarthy ladder.*

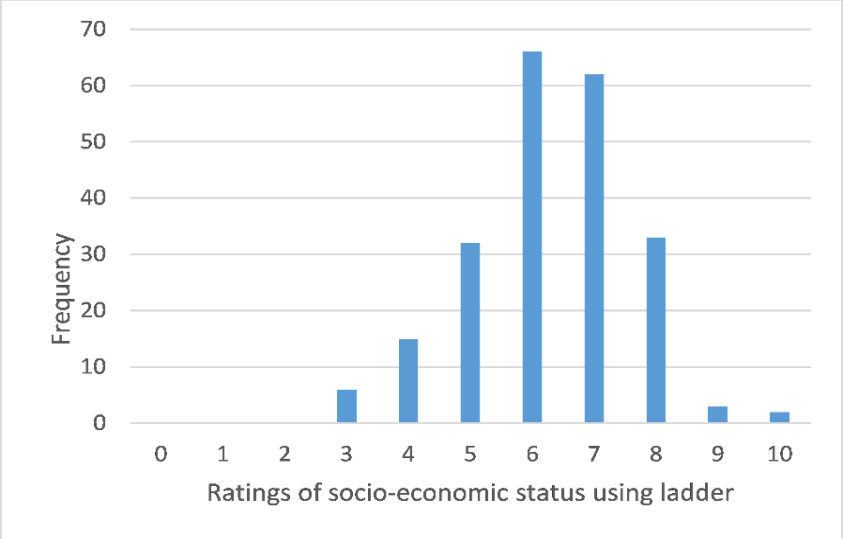


Table 4. 1 Participant background

Participant background	category	Frequency
Age (years)	<29	9(4%)
	30-34	46(20.7%)
	35-39	107(49%)
	>40	54(24.6%)
	Missing data	3(1.3%)
Relationship Status	In a relationship and living together	5(2.3%)
	Married	210(95.9%)
	Divorced	1(0.5%)
	Missing data	3(1.4%)
Ethnicity	Taiwanese	214(97.7%)
	Taiwanese indigenous	4(1.8%)
	New immigrant	1(0.4%)
Level of education	High school	11(5%)
	University	128(58.4%)
	Master or PhD	79(36.1%)
	Missing data	1(0.5%)
Years of marriage	0-5	105(47.9%)
	6-9	87(39.7%)
	>10	27(12.3%)
Number of children (excluding any current pregnancies)	0	71(32.4)
	1	73(33.3%)
	2	63(28.8%)
	3	10(4.6%)
	Missing data	2(0.9%)
Reason for infertility	Male factor	26(11.9%)
	Female factor	90(41.1%)
	Mixed factor	41(18.7%)
	Unknown fertility issue	61(27.9%)
	Missing data	1(0.5%)
Years of undergoing ART	0-1	107(48.8%)
	1-3	74(33.7%)
	3-5	23(10.5%)
	>5	12(5.4%)

	Missing data	3(1.3%)
Times of IUI	This will be the first time	80(36.5%)
	1	39(17.8%)
	2	21(9.6%)
	3	10(4.6%)
	4	8(3.7%)
	>5	8(3.7%)
	Missing data	53(24.2%)
Times of IVF	This will be the first time	74(33.8%)
	1	41(18.7%)
	2	30(13.7%)
	3	10(4.6%)
	4	16(7.3%)
	>5	23(10.5%)
	Missing data	25(11.4%)

4.4.1.2. Bivariate Correlational Analysis

Pearson bivariate correlation coefficients between marriage satisfaction and several critical background variables were undertaken and are displayed in **Table 4. 2** Marriage satisfaction was significantly negatively related to the level of education [$r(217)=-.14$, $p<.05$] and the number of children [$r(217)=-.28$, $p<.001$]. However, marriage satisfaction was significantly positively related to socioeconomic status [$r(217)=.16$, $p<.05$]. There were no correlations between marriage satisfaction and the lengths and times of any treatments.

Table 4. 2 *Pearson r correlations between marriage satisfaction and background factors (N=219)*

	Q31	Q16	Q20	Q22	Q23	Q24	Q25
Q31.Marriage satisfaction	_						
Q16 Level of education	-.14*	_					
Q20. Numbers of children	-.28***	-.01	_				
Q22. Years of ART treatment	-.02	.01	-.00	_			
Q23 Times of IUI	-.14	.04	.04	.31***	_		
Q24 Times of IVF	.00	-.06	-.24**	.20**	.05	_	
Q25. Socio-economic status	.16*	.30***	-.02	-.06	.02	.08	_

*P<.05 **P<.01 ***P<.001

4.4.2. Section II-Relationship and Interaction with the Partner

4.4.2.1 Decision-making Process and Satisfaction

As can be seen from **Table 4. 3**, wives (42.9%) were more likely to be the person within the relationship who instigated the process of trying for a baby, compared to husbands (17.8%). When asked who was the first one to decide to have the ART, women also accounted for 74% of responses, and men only

accounted for 16.4%. In response to marriage satisfaction, the majority of participants indicated that they were satisfied with their marriage both before (71.3%) and after (70.3%) their ART journey. Three-fourths (75.8%) of respondents expressed satisfaction with their attitude toward the ART process, and 64.4% were satisfied with their partners' attitude. A paired samples t-test was conducted to evaluate the correlation between their marriage satisfaction at different times. The T-test was significant, t (217) =3.97, p=.00, d=0.23; showing that participants stated lower marriage satisfaction (M=3.88, SD=0.81) after the ART process than before (M=4.06, SD=0.75). Wives expressed more satisfaction with their attitude toward the journey than their husbands' attitude [t (217) =2.42, p=.016, d=0.16].

Table 4. 3 *Decision-making process and satisfaction.*

Items	**Category**	**Frequency**
Who was the first one to want to have a baby?	Wife	94(42.9%)
	Husband	39(17.8%)
	Both	86(39.3%)
Who was the first one to decide to have ART?	Wife	162(74%)
	Husband	19(8.7%)
	Both	36(16.4%)
	Missing data	2(0.9%)
Marriage satisfaction before ART	Extremely dissatisfied	1(0.5%)

	Somewhat dissatisfied	2(0.9%)
	Neither satisfied nor dissatisfied	44(20.1%)
	Somewhat satisfied	107(48.9%)
	Extremely satisfied	65(29.7%)
Marriage satisfaction after ART	Extremely dissatisfied	2(0.9%)
	Somewhat dissatisfied	6(2.7%)
	Neither satisfied nor dissatisfied	57(26%)
	Somewhat satisfied	105(47.9%)
	Extremely satisfied	49(22.4%)
Satisfaction of self attitude towards ART	Extremely dissatisfied	1(0.5%)
	Somewhat dissatisfied	5(2.3%)
	Neither satisfied nor dissatisfied	47(21.5%)
	Somewhat satisfied	121(55.3%)
	Extremely satisfied	45(20.5%)
Satisfaction of partner's attitude towards ART	Extremely dissatisfied	1(0.5%)
	Somewhat dissatisfied	9(4.1%)
	Neither satisfied nor dissatisfied	67(30.6%)
	Somewhat satisfied	95(43.4%)
	Extremely satisfied	46(21%)

4.4.2.2 Couples' Reactions and Interaction

Table 4. 4 contains the results of the descriptive statistics on couples' attitudes and ways to relieve stress during the ART process. More than 90% of females expressed that they would adopt attitudes such as actively searching for information or arranging their schedule to fit the treatment during the treatment periods of their ART journey, whereas only 49% of the sample reported their husbands engaging in such behaviours. Husbands (44.4%) tended to take a more casual approach to treatment than their partners (4.6%).

As part of the survey, Q40 and Q41 involved asking how participants reacted to pressure throughout the treatment. Shifting attention (to other activities or distractions) was the main way for both wives (34.8%) and husbands (36.8%) to release their stress. However, talking through emotions with others was employed more commonly by women (34.8%) than men (10.3%).

Table 4. 4 *Attitude and Ways to Relieve Stress.*

Items	Category	Frequency
Attitude towards ART (Wife) *MCQs	Actively searching for information	156(40%)
	Arranging the schedule to fit the treatment	206(52.8%)
	Passive resistance	5(1.3%)
	Keep it casual	18(4.6%)
	Others	5(1.3%)
Attitude towards ART (Husband) *MCQs	Actively searching information	24(8.4%)
	Arranging the schedule to fit the treatment	116(40.6%)
	Passive resistance	13(4.5%)
	Keep it casual	127(44.4%)
	Others	6(2.1%)
Ways to relieve stress (Wife) *MCQs	Shifting attention	111(34.8%)
	Talking through emotions with others	111(34.8%)
	Taking exercise	50(15.7%)
	Others	47(14.7%)
Ways to relieve stress (Husband) *MCQs	Shifting attention	93(36.8%)
	Talking through emotions with others	26(10.3%)
	Taking exercise	52(20.6%)
	Others	82(32.4%)

Another significant aspect of how husbands managed their stress was analysed through the free-text responses. Thirty-two percent of participants chose the option “other” when responding to this question which sent them to a free-text option. Conventional Content Analysis (CCA) was employed to gain

a holistic understanding of their perspectives. **Table 4. 5** revealed four subthemes for aspects of husbands' other reactions to stress during the ART journey: No negative emotions; Not knowing their husband's techniques to reduce stress; Engaging in interests or entertainment, and passive reaction. Thirty-six of the responses contained a description that they did not think their partner had negative emotions during the ART journey, and fifteen participants reported that they had no idea about how their partner reduced stress during this period of time. The third most common theme was that husbands would spend their time on interests or entertainment. Finally, the last theme comprised of some passive reactions or coping strategies, such as drinking alcohol and avoiding anything relating to this topic, which husbands used to reduce the tension caused by the ART process.

Table 4. 5 *Content Analysis for free-text of Q41 (Husbands' other ways to relieve stress)*

Theme: Husbands' other reaction to stress	Supporting quotes
Subtheme: No negative emotion(36)	˙He did not feel sad or frustrated. P3 ˙I can not feel his sadness. P7 ˙He did not seem to feel frustrated. P19 ˙Did not feel frustrated. P22 ˙No sadness. P23 ˙No frustration. P58 ˙Without sadness. P63 ˙He did not have. P78 ˙He did not seem to have sadness. P79 ˙He was optimistic and had no sad time. P80 ˙I did not feel his bad mood. P111 ˙He has not expressed sad or frustrated emotions. P115 ˙He did not seem to have sorrow. P117
Subtheme: Not knowing their techniques to reduce stress(15)	˙I did not know. P59, P71, P74, P120, P243 ˙He would not let me know. P201 ˙I have no idea. P70, P127, P151, P222 ˙He did not say anything. P193
Subtheme: Engaging in interests or entertainment (9)	˙Playing online games. P11, P149, P160, P185, P240 ˙Riding motorcycle, ride to the mountain P20 ˙Traveling P87 ˙Traveling to relax P110 ˙Recreation and Entertainment P261
Subtheme: Passive reaction (6)	˙Drinking alcohol P10 ˙Avoiding it and did not talk. P104 ˙Attended social events, drank alcohol, and did not come home. P203 ˙Smoking P210 ˙Pretending this did not happen. P224

Note: Numbers in parentheses represent the number of times a theme was identified.

Above all, wives and husbands seemed to present different perceptions and behaviours on their challenges in their ART journey. When describing support between the couples, almost 80% of respondents rated the support they gained from their partner as being between 7 and 10 on a 10-point rating scale (see Table 4.8.). Yet, the ways in which wives and husbands gave their support to one another may have differences. **Table 4. 6** lists eight possible ways in which couples may support each other. Most factors were noted equally for the techniques employed by husbands to support wives, with talking through emotions being the most popular approach (18.4% of respondents). However, providing personal space for self-regulation (21.5%) was the most common supportive behavior offered by wives. Data from this table also shows that approximately half of the respondents wanted more emotional support from their partner.

Table 4. 6 *Support within the Interaction*

Items	Category	Frequency
Support from husband(0 is none at all, and 10 is a large amount)	0-3	8(3.7%)
	4-6	40(18.2%)
	7-10	171(78%)
Ways to support wife*MCQs	Does chores	90(10.6%)
	Talking through emotions	156(18.4%)
	Warm hugs	129(15.2%)
	Comfort with empathy	108(12.8%)
	Travelling together to relax	107(12.6%)
	Deals with pressure from others	99(11.7%)
	Provides personal space for self-regulation	141(16.7%)
	Others	16(1.9%)
Wishes to receive from partner *MCQs	Giving you more emotional support	137(49.8%)
	Giving you more practical support	48(17.5%)
	Taking care of himself	68(24.7%)
	Others	22(8%)
Ways to support husband*MCQs	Does chores	40(6.8%)
	Talking through emotions	92(15.7%)
	Warm hugs	98(16.7%)
	Comfort with empathy	86(14.7%)
	Traveling together to relax	85(14.5%)
	Deals with pressure from others	37(6.3%)
	Provides personal space for self-regulation	126(21.5%)
	Others	23(3.9%)

4.4.2.3. Influence and Difficulty

In this part of the survey, the influence of treatment and difficulties experienced during this treatment period were asked about in order to

understand how these played a role in couples' relationships. The results reflected in **Table 4. 7**. indicate that 31.5% of the participants agreed that the inconvenience of keeping to the treatment schedule affected their daily married life. In addition, about one-fourth reported the treatment had influences on their sex life or financial condition, and 13.9% thought they faced communication problems with their partner.

The biggest causes of pressure came from feeling physically uncomfortable (29.2%), economic and financial concerns (23.3%), interaction with the partner (12.8%), and opinions of family or friends (12.8%). CCA was also used to analyse the free-text responses, with 21.9% of participants choosing to provide such specific answers, as seen in **Table 4. 8**. The first theme related to anxiety with feeling uncertain about the treatment outcome (n=23). The second common theme pertained to a sense of failure surrounding the treatment process. The third theme for women was internalised pressure that they themselves placed upon treatment.

Table 4. 7 *Influence and difficulty*

Items	Category	Frequency
Influences on marriage*MCQs	Sex life	110(25.1%)
	Communication	61(13.9%)
	Time arrangement	138(31.5%)
	Financial condition	115(26.3%)
	Others	14(3.2%)
The biggest cause of pressure	The interaction with the partner	28(12.8%)
	The economy	51(23.3%)
	The opinions of family or friends	28(12.8%)
	Feeling physically uncomfortable	64(29.2%)
	Others	48(21.9%)
The most difficult part of the ART process	The number of examinations.	21(9.6%)
	The period of waiting for the conclusion about whether it has been successful.	142(64.8%)
	Feeling physically uncomfortable	36(16.5%)
	Others	20(9.1%)

Table 4. 8 *Content Analysis for free-text of Q47 (The biggest cause of pressure)*

Theme: Other biggest cause of pressure	Supporting quotes
Subtheme: Uncertainty about the result of the treatment(24)	˙I am not sure if I can have a baby or not. P2 ˙The pressure of whether it will be successful or not P4, P108, P193, P216 ˙Uncertainty about successful or not P11, P84, P109, P209 ˙Worries about the result. P25 ˙Expecting the treatment will be successful but also worried about it. P122 ˙The pressure from waiting for the result. P151, P183 ˙Pregnancy test results. P201 ˙Worries about the process of the treatment and the result. P215
Subtheme: Failure(10)	˙The failure of IVF. P7 ˙The pressure from failure. P12 ˙Failures again and again. P57 ˙Failure. P70 ˙The upset because of failure. P140 ˙The process of failure. P176 ˙Keep looking at friends around me who are expecting one after another, but I always fail, feeling sad. P191
Subtheme: Pressure from myself(6)	˙Pressure from my mind. P79, P102 ˙My mind. P82 ˙Pressure from myself. P181, P225, P231

Note: Numbers in parentheses represent the number of times a theme was identified.

4.4.2.4. Bivariate Correlational Analysis

The correlations between marriage satisfaction and other variables are shown in **Table 4. 9**. The couples' marriage satisfaction after their ART treatment was highly correlated to their previous level of satisfaction with the martial relationship [r(218)=-.62, p<.001], the level of agreement to have a baby [r(218)=-.34, p<.001], how satisfied the participants were with their partner's attitude toward the treatment process [r(218)=-.34, p<.001] and their partner's support [r(218)=-.46, p<.001].

Table 4. 9 *Pearson r correlations between marriage satisfaction and interaction*

	Q31	Q30	Q32	Q37	Q38	Q42
Q31 Marriage satisfaction after ART	_					
Q30 Marriage satisfaction before ART	.62***	_				
Q32 Agreement to have a baby	.34***	.26***	_			
Q37 Satisfaction of self attitude toward ART	.12	.13	.14*	_		
Q38 Satisfaction of partner's attitude towards ART	.34***	.31***	.24***	.51***	_	
Q42 Support from husband	.46***	.37***	.41***	.24***	.56***	_

*P<.05 **P<.01 ***P<.001

factors (N=219)

4.4.3. Section III-Relationship and Interaction with the Family

4.4.3.1 Relationship and Interaction with Partner's Family

Results from the women's data on their interactions with their husbands' families are presented in Table 4.9.3. Almost 90% of women reported they felt pressure from their parents-in-law's expectation of having a grandchild. Of these, 45.5% expressed that they were under a high degree of pressure from this expectation. Women were asked about the ways in which their husbands' parents expressed these expectations, with 42.5% of the sample stating that they felt the expectation in direct and indirect ways. More participants experienced indirect expressions (21.9%) from the expectation of their parents-in-law than direct expressions (12.8%). The most common reaction from wives to this expectation was ignoring it (33.1%), telling them the newest information about treatment progress (28.7%), and changing the subject (14.2%). From the free-text responses, sixteen participants stated they would ask their partner to deal with it, and thirteen reported they would avoid the topic or conceal the treatment entirely. Compared with the wives, the husbands seemed to use a more straightforward way of responding to their own parents. 35.7% of the participants stated their husbands would provide an update on the treatment to

their own parents. Nevertheless, 27.8% ignored it, and 22.6% changed the subject. As regards the reactions to the questions or advice from husbands' families, both wives and husbands presented similar ways of responding, with similar numbers of couples reporting each approach. These included listening and replying attentively, ignoring it, changing the subject, and refusing to answer directly. A more detailed understanding of the proportions of responses can be seen in **Table 4. 10** (below).

Table 4. 10 *Relationship and Interaction with partner's family.*

Items	Category	Frequency
Pressure on the expectation of having a grandchild from parents-in- law (0 is none at all and 10 is a large amount)	0	24(11.2%)
	1-3	43(20%)
	4-6	50(23.2%)
	7-9	64(29.7%)
	10	34(15.8%)
Ways to express their expectation	In a direct way	28(12.8%)
	In an indirect way	48(21.9%)
	Both direct and indirect way	93(42.5%)
	Others	50(22.8%)
Wives' ways of handling the expectation from the parents-in-law	Telling them the newest information about your treatment	73(28.7%)
	Changing the subject	36(14.2%)
	Ignoring it	84(33.1%)
	Others	61(24%)
Husbands' ways of handling the expectation from the parents	Telling them the newest information about your treatment	90(35.7%)
	Changing the subject	57(22.6%)
	Ignoring it	70(27.8%)
	Others	35(13.9%)
Wives' ways of handling the questions or advice from the parents in law	Listening and replying attentively	97(35.7%)
	Changing the subject	41(15.1%)
	Ignoring it	70(25.7%)
	Refusing to answer directly	18(6.6%)
	Others	46(16.9%)
Husbands' ways of handling the questions or advice from the parents	Listening and replying attentively	95(34.4%)
	Changing the subject	62(22.5%)
	Ignoring it	64(23.2%)
	Refusing to answer directly	18(6.5%)
	Others	37(13.4%)

4.4.3.2 Relationship and Interaction with Wives' Family

Table 4. 11 shows the result of wives' relationships and interactions with their original families. Only 15% of women said they did not perceive pressure

relating to the expectation of having a grandchild from their family of origin. Around 60% experienced a middle or high degree of pressure. In addition, the family tended to use direct ways (39.6%) to express their expectation more than indirect ways (15.7%), and about one-fourth of respondents received both direct and indirect expressions. In contrast to replying to the husbands' families, women were more likely to tell their own families about the progress of the treatment (58.7%). However, 28.2% still tended to respond indirectly. Similar data are seen for husbands' responses to the expectations from wives' families; 36.3% would tell them the newest information about their treatment, and 37.6% would respond in an indirect way (14.8% changing the subject, 22.8% ignoring it). In analysing the data from the free text responses, thirty-one participants reported their husbands did not need to face this issue, and ten said they would fulfil these responses by themselves. When asked about their reaction to handling questions or advice from their parents, over half of the respondents would listen and reply attentively. Nevertheless, about 25% avoided responding directly, and 7.5% refused to respond at all. Additionally, 45.3% of wives identified that their partners tended to listen and reply attentively when their parents asked questions or provided advice. A further 17.7% changed the subject and 16.5% ignored it.

Table 4. 11 *Relationship and interaction with wives' family.*

Items	Category	Frequency
Pressure on the expectation of having a grandchild from your parents (0 is none at all and 10 is a large amount)	0	31(15%)
	1-3	52(25.2%)
	4-6	44(21.4%)
	7-9	64(31.1%)
	10	15(7.3)
Ways to express their expectation	In a direct way	86(39.6%)
	In an indirect way	34(15.7%)
	Both direct and indirect way	54(24.9%)
	Others	43(19.8%)
Wives' ways of handling the expectation from the parents.	Telling them the newest information about your treatment	148(58.7%)
	Changing the subject	34(13.5%)
	Ignoring it	37(14.7%)
	Others	33(13.1%)
Husbands' ways of handling the expectation from the parents-in-law	Telling them the newest information about your treatment	86(36.3%)
	Changing the subject	35(14.8%)
	Ignoring it	54(22.8%)
	Others	62(26.2%)
Wives' ways of handling the questions or advice from the parents.	Listening and replying attentively	145(54.3%)
	Changing the subject	41(15.4%)
	Ignoring it	29(10.9%)
	Refusing to answer directly	20(7.5%)
	Others	32(12%)
Husbands' ways of handling the questions or advice from the parents-in-law.	Listening and replying attentively	110(45.3%)
	Changing the subject	43(17.7%)
	Ignoring it	40(16.5%)
	Refusing to answer directly	4(1.6%)
	Others	46(18.9)

4.4.3.3. Pressure and Influence

Participants were asked about their biggest source of pressure coming from the family system (see **Figure 4. 2**). Apart from 27.4% of participants who stated that they did not experience pressure from their family, 57 respondents thought their mothers were the most significant source of pressure when it came to the family system, and 56 reported that it was their mother-in-law. Furthermore, over 30% of respondents thought this source had a high degree of influence on their relationship with their partner (shown in **Table 4. 12**).

Figure 4. 2 *The biggest pressure from family system.*

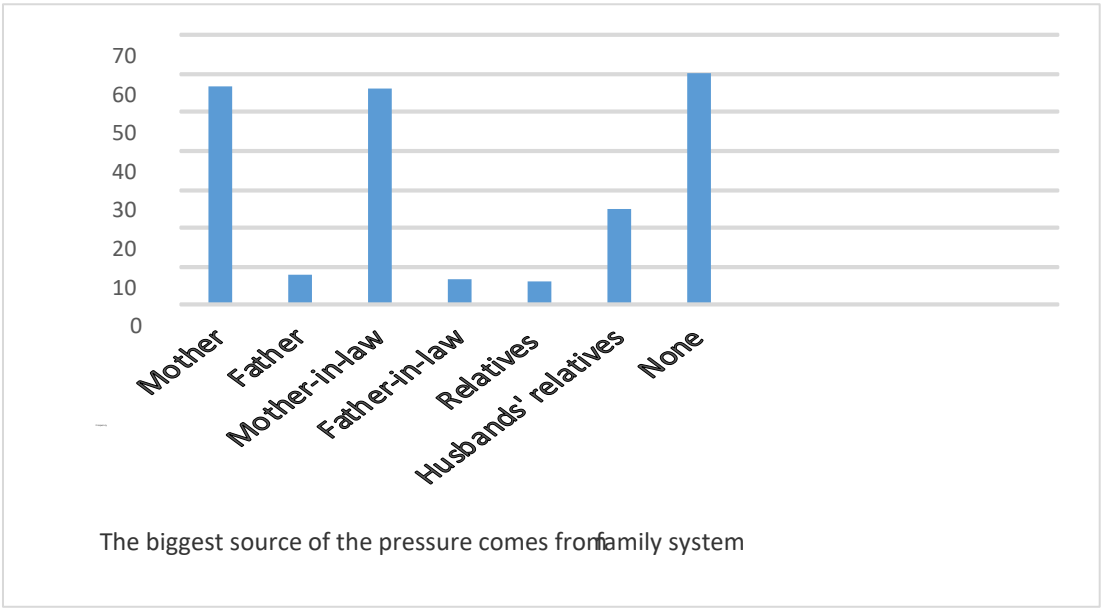


Table 4. 12 *Family pressure affected couples' relationship.*		
Items	**Category**	**Frequency**
Rating the amount of influence of above pressure has on the relationship. (0 is none at all and 10 is a large amount)	0	55 (25.8%)
	1-3	45 (21.2%)
	4-6	46 (21.7%)
	7-9	52 (24.4%)
	10	15 (7%)

4.4.3.4. T-Test and Bivariate Correlational Analysis

A paired sample t-test was used to examine the differences between the means on the pressure of expectation of having grandchildren from each of the family systems. The result indicated a significant difference between the pressure the wives received from their parents and the pressure they received from their parents-in-law, with more pressure being experienced by women from their parents-in-law with regards to having a baby [t(201)=2.42, p=.016, d=0.2]. Nevertheless, the correlations between marriage satisfaction and family systems factors were shown not to be significantly related. Because of length limitations, it will not be presented in this part.

4.4.4. Section VI-Relationships and Interaction with the Social System

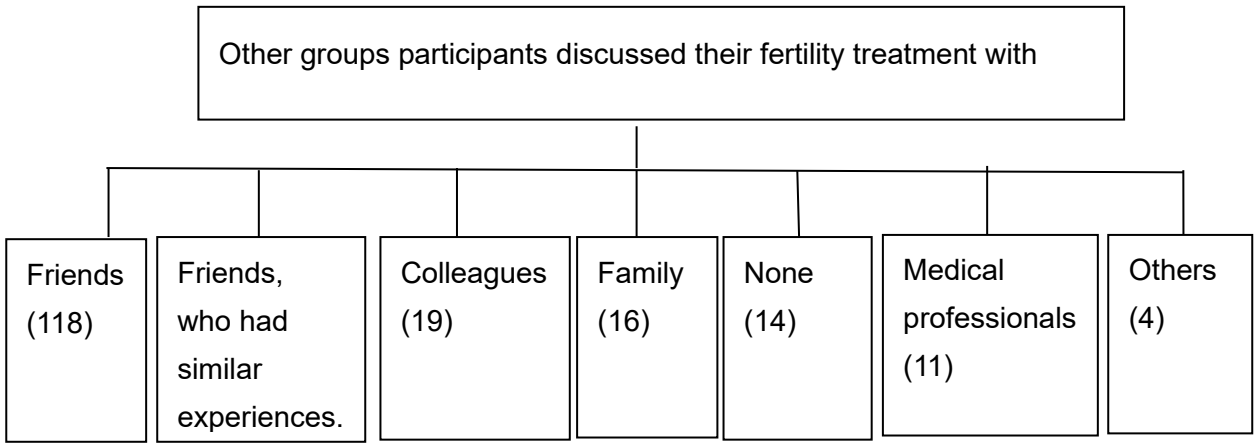
4.4.4.1. Interpersonal system

Participants were asked about whom they felt they could talk to about their experiences of fertility treatment. As shown in **Figure 4. 3** illustrating the results of responses analysed by CCA; ‘Friends’ were the most common group that respondents would talk with. The second was ‘Friends with similar experiences’, highlighting that many of the participants were making contact with others who had experienced fertility treatment, often through online contact.

> *“The friend, who is undergoing ART or who has undergone the ART, or internet friends.”*
>
> [Participant 127. ‘The group who I usually talk with’]

The third common group noted was colleagues (19) and then family. It is worth noting that fourteen participants reported they had never talked to others except their husbands and family, and only eleven said they would usually talk with medical professionals.

Figure 4. 3 *Other groups' participants discussed their fertility treatment with*



Note: Numbers in parentheses represent the number of times the object was identified.

When stating the purpose of talking about their ART experiences, 41.3% of the participants agreed that this expression could help them talk through emotions, and 31.8% thought sharing experiences was their main reason when talking about this issue. Of the sample, 24.1% of respondents identified that they discussed this issue for the purpose of sharing information (**Table 4. 13**).

Table 4. 13 *Purpose of talking about this issue.*

Items	Category	Frequency
Purpose of talking about this issue	Sharing information	102 (24.1%)
	Sharing experience	135 (31.8%)
	Helping talk through emotions	175 (41.3%)
	Others	12 (2.8%)

4.4.4.2. Relationships and Interactions with Wider Society

In this part of the questionnaire, data relating to the factors surrounding Taiwanese society's view of fertility problems and treatments were collected. Overall, 70.3% of the respondents did not think the issue of infertility was taboo in Taiwan, however, 29.7% did think that it remained so. CCA was employed here to gain a holistic understanding (**Figure 4. 4**).

Of those in the sample who thought the issue of infertility was not taboo in Taiwan, 104 respondents reported feeling that infertility happened to many couples and that the prevalence in Taiwan was relatively high. These reasons were given for why the subject was not viewed as taboo in Taiwan. The second common reason was they could obtain relevant information easily. A further eleven participants attributed infertility to various causes and felt these were openly discussed in Taiwanese society. Finally, seven respondents considered infertility to be a 'civilized' or acceptable condition, and this perception made them view infertility as not being taboo in Taiwanese society (see **Table 4. 14**. for more details).

Figure 4. 4 *Framework of themes derived from content analysis of free-text comments on reasons for social taboo or not in Taiwan.*

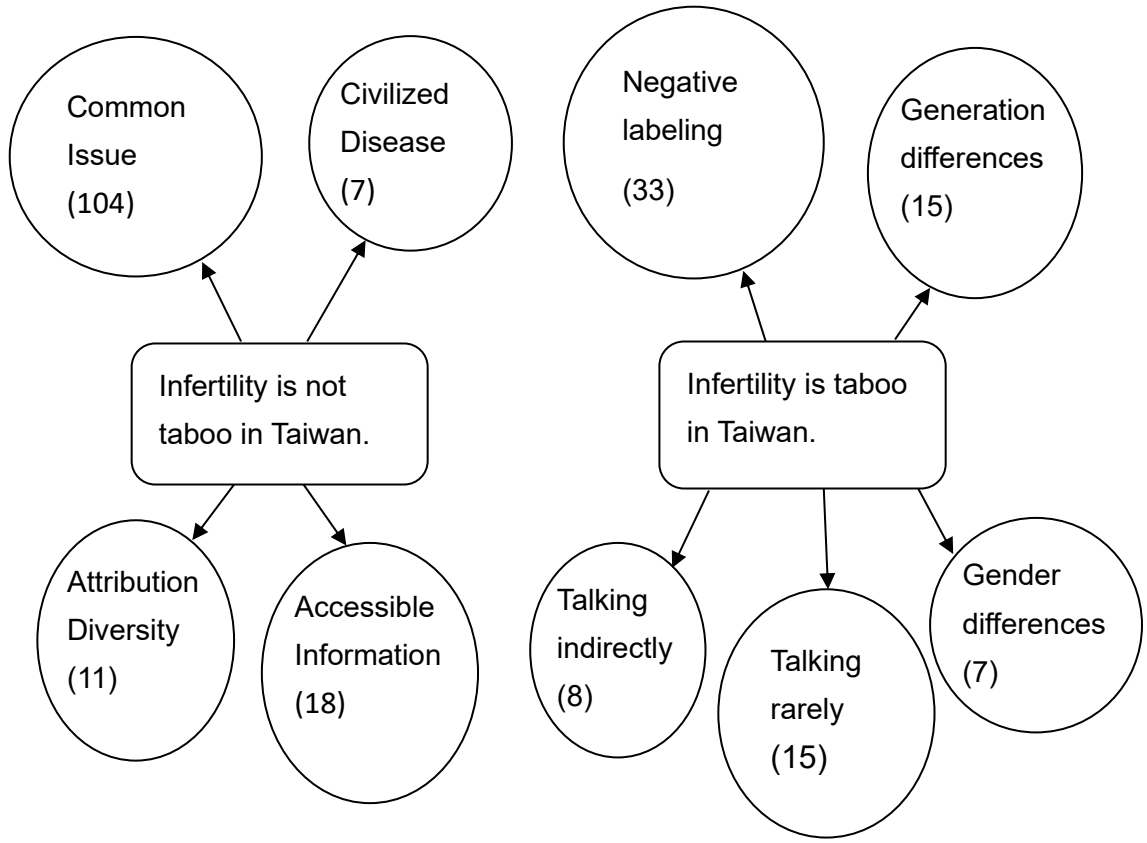


Table 4. 14 *Content analysis for free-text of Q65 (Reasons for considering the issue of infertility is not taboo in Taiwan.)*

Theme: Infertility is not a taboo topic	Supporting quotes
Subtheme: Common Issue (104)	*There are a lot of people around me having infertility problems. P10 *More and more people are infertile. P13 *Lots of people have this situation. P15 *So many people have the same problem. P25 *Infertility is very common to people who are busy getting married late and giving birth late in modern days. P29 *It's very common. P37 *ART is very common in the modern days. P41 *Many friends around me had ART, and there are more and more fertility clinics. P57 *The proportion of infertility is higher and higher. P60 *It happens very often. P76 *So many people had IVF in these years. P81 *So many people are, only because they don't talk. P151 *I think it's very common and usual. P234
Subtheme: Accessible Information (18)	*It's very common these years; a lot of information relating to ART and IVF. P14 *More and more discussion and treatments relating to infertility. P62 *Social networks sharing and discussing information can be found. P181 *The development of the network let me know I am not black sheep, it just happened by chance, and I could have open-minded discussions and receive a lot of responses. P199 *Diverse information and many social networks can be discussed openly. P228

	*It's not just a few people anymore; media and celebrities share relevant information and experiences. P6
Subtheme: Attribution Diversity (11)	*Too many reasons result in infertility. P85 *People get married late very often. P53 *Many people happen this; under big work pressure, the environment affects their physical condition. P119 *It has become a trend to get married and give birth late. Given this, their function of reproduction is not as good as young women. P185 *Too many external influences, such as plasticizers and result in infertility. It is likely to succeed if you can find the problem and have the treatment earlier. P220
Subtheme: Civilized Disease (7)	*It is a civilized disease to modern people. P101 *This has been a sort of civilized disease. P117 *It's a common civilized issue; medical professionals make much progress. 137 *Infertility is not taboo, and it's a civilized disease. P180 *It has become a civilized disease. P203
Note: Numbers in parentheses represent the number of times a theme was identified.	

Conversely, about 30% of respondents regarded the issue of infertility as taboo in Taiwan. **Table 4. 15** presents the results analysed by CCA. Thirty-three of the responses contained a description of the negative labeling of infertility, such as ‘unmentionable illness’, ‘incurable disease’, and ‘impairment’. Fifteen participants felt there was a negative societal atmosphere towards fertility treatment, resulting in them talking less openly about this issue. Additionally, fifteen respondents mentioned the situation of generational differences where elders took more traditional perspectives and tended to view infertility as more taboo than younger generations. The fourth reason given by respondents was a sense of people always talking about this issue only indirectly rather than being explicit about it in conversation (n=8). Finally, seven participants’ accounts identified infertility as taboo in Taiwan, resulting from their awareness of gender differences; four participants mentioned that people tended to assume that infertility was a female problem only with pressure on women to bear children and three perceived that it was more difficult to talk if infertility had happened to their husband.

Table 4. 15 *Content analysis for free-text of Q65 (Reasons for considering the issue of infertility is taboo in Taiwan.)*

Theme: Infertility is a taboo topic	Supporting quotes
Subtheme: Negative labeling (33)	*Most people don't view this positively. P24 *People would feel sympathy for you. P77 *I'm not afraid to talk, but people still think, what's wrong with you? P79 *I think infertility is a label..Many old generations care about having a child to carry on the family name. Not every woman can encounter progressive parents-in-law or parents. P87 *It seems that you have some problems with your body or an unmentionable illness and then medical assistance was needed. P95 *Most people still view this as personal impairment. P107 *Can't give birth is losing face. P110 *People view this as unfriendly. P121 *It seems I got the incurable disease when families and friends knew I had IVF because of infertility. P143 *Don't want to admit my failure and helplessness. P204 *It seems to view this as impairment and become gossip. P209 *Will feel the pitying gaze of others. P235 *Care about people stuck with the label of 'infertility'. P244
Subtheme: Talking rarely (15)	*Most people don't say their needs, although I don't think it is a big deal. P1 *People don't want to talk more. P2 *Don't want to talk. People who didn't have this experience don't understand and be an armchair critic. P28 *It's hard to be said in public. P72 *Don't want to talk. P187

	*Few people share their experiences. P202 *Can't express the fact of infertility bravely and talk above board P226
Subtheme: Generation differences (15)	*The old generation is difficult to accept it. P11 *The younger generation won't think so, but it is in the family. It is a common perspective among elders that you should have a baby after getting married. If couples 'making a plan to have a baby or don't want to have a baby', then they would be labeled with infertility silently. Elders care about if infertility comes from their child. Although infertility is common now, infertility is stigmatized by the attitude of elders. P17 *Although it is common now, elders don't think so. They think it must be something wrong and need to adjust (taking medicine, exercising, or preying). P44 *The elders think so. They think it isn't necessary to push it; on the other hand, they want you can have a baby. P103 *The middle-old generation's perspective is very traditional in Taiwan. P142
Subtheme: Talking indirectly (8)	*It is like a bone in the throat to talk about this. P195 *People tend to talk about it using suggestive words. P23 *Everyone is afraid of discussing this; my mother-in-law doesn't want people to know that I had IVF. P26 *It is privacy. P250 *People still said sorry to me and discussed it in an indirect way, even though I had said it in public and not felt embarrassed. P113
Subtheme: Gender differences (7)	*Most people still keep the old perspective that they think it must be the women's problem when it comes to infertility. P147 *Most women are under pressure when it comes to infertility in Taiwanese society. P211

	*I’m not afraid of speaking out if the problem is because of me, but if it is my husband, I am afraid to say it. P223 *Put pressure on women. P256 *It seems to be a disgrace to infertile men. P172

Note: Numbers in parentheses represent the number of times a theme was identified.

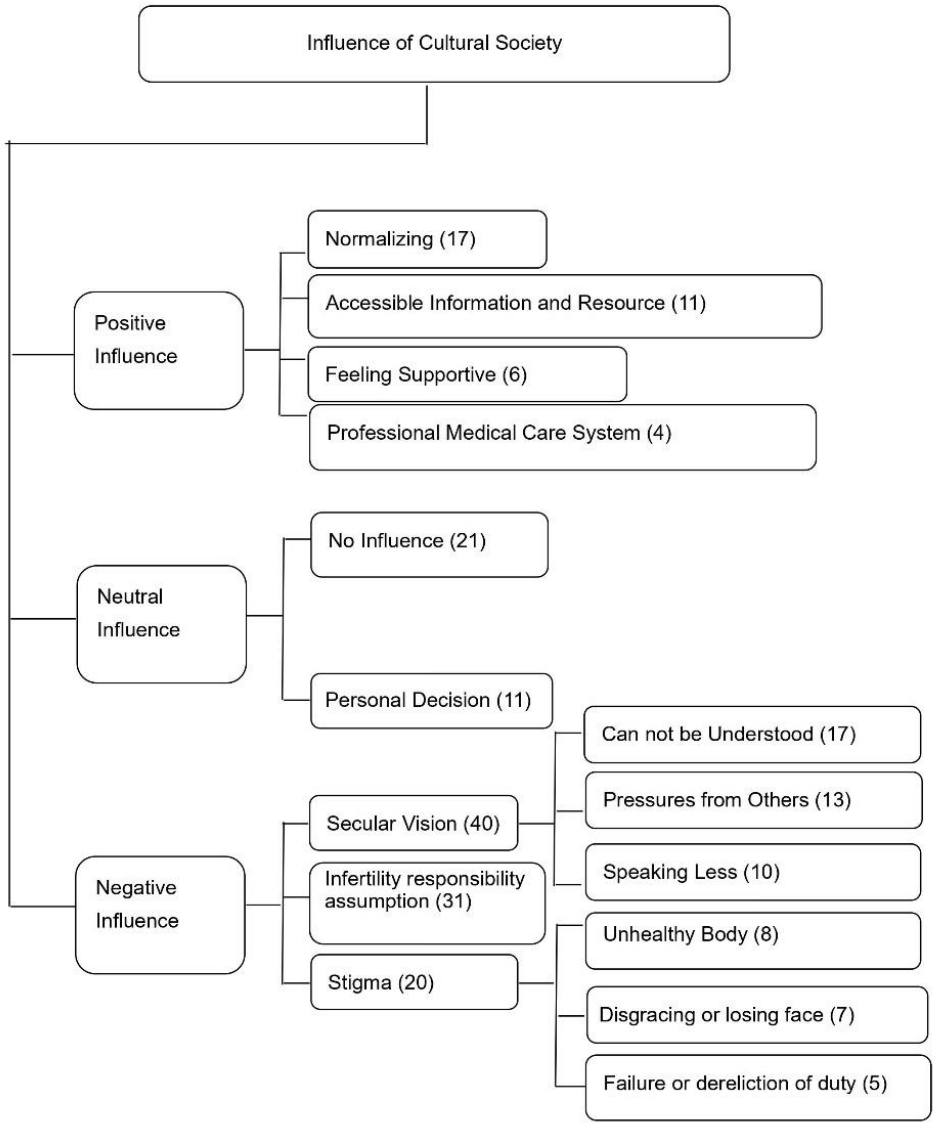
4.4.4.3. Influence of Culture

In the questionnaire, participants were invited to respond using free-text boxes about their views relating to the influence of Taiwanese culture on infertility and fertility treatment. A framework with all themes and corresponding subthemes is presented in **Figure 4. 5**.

Figure 4. 5 *The framework of themes derived from content analysis of free-text comments on the influence of cultural society.*

Figure 4.5.

The framework of themes derived from content analysis of free-text comments on the influence of cultural society.



Note: Numbers in parentheses represent the number of times a theme was identified.

4.4.4.3.1 Positive Influence

Respondents' accounts about the positive influences of culture were categorised separately into four themes. The most common theme surrounded the perspective of the norm. Respondents perceived that more and more couples faced the same situation as them, and therefore, people's acceptance was repeatedly mentioned by respondents (n=17). Eleven participants thought they could easily get the information and the increasing resources, such as government subsidies for ART, which affected them positively during the journey. Furthermore, six participants reported feeling supported when speaking up about the difficulty of reproduction. Four participants reported the professional medical care system in their account for the positive influence of living in Taiwan.

" People are commonly accepted and won't look at you differently."

[Participant 29. 'Normalizing']

" It's friendly; information can easily be got. "

[Participant 84. 'Accessible Information and Resource']

4.4.4.3.2. Neutral Influence

Some participants reported they were not affected by culture (n=21) or

regarded ART as just a personal decision (n=11); these accounts were categorised into two themes and classified as ‘Neutral Influence’.

4.4.4.3.3. Negative Influence

The data relating to negative influences were comprised of three themes, 1. Secular vision 2. Asked to be accountable for, and 3. Stigma.

Theme one: Secular vision

The first theme, ‘Secular vision,’ comprised comments of participants’ feelings or behaviours relating to infertility which were affected by others’ views; ‘Cannot be Understood’, ‘Pressures from others’ and ‘Speaking less’, were three included subthemes.

Seventeen of the respondents reported a lack of understanding from others. This was in the context of many people viewing women’s ability to bear children and give birth as simple. Additionally, there were misunderstandings about ART from the general population.

> *“ Some people misunderstood ART and thought we could have boy-girl twins or choose the sex easily. They didn’t know it’s not easy for us, even giving birth.”*
>
> [Participant 189. ‘Cannot be Understood’]

The second subtheme pertaining to secular vision comprised descriptions of pressures from others. Thirteen participants reported feelings of

pressure from others caused by regular and open questioning about their plans for having a baby.

> *"Having a baby after getting married is a common view in most Taiwanese families. People tend to see you as unusual if you don't have a baby and keep high expectations so that it would be under much pressure with infertility."*
>
> [Participant 196. 'Pressures from Others']

The final subtheme relates to the participants' behaviour affected by secular vision. Ten respondents mentioned 'speaking less' to others about their accounts of facing infertility or ART issues.

> *"It happened very often that having a bone in the throat."*
>
> [Participant 88. 'Speaking less']

Theme two: Infertility responsibility assumption

The most common theme relating to negative influence from Taiwanese cultural society surrounded women who were assumed to be responsible for infertility. This was in the context of participants feeling it was unfair when people assumed that they, rather than their husbands, must be the reason for infertility.

> *"Having a baby after getting married. Women must be accountable for having a child to carry the family name. If you don't, they think it's your problem."*
>
> [Participant 149. 'Speaking less']

Theme three: Stigma

The last negative influences pertained to descriptions of stigma. These accounts were categorised separately into three subthemes: ‘Unhealthy Body’, ‘Disgracing or losing face’, and ‘Failure’.

Eight women reported people easily associated infertility and an unhealthy body or impairment together, which was a negative influence coming from society.

> *“Infertility is physical incompletion.”*
>
> [Participant 121. ‘Unhealthy body’]

Seven respondents expressed they felt infertility was a disgrace or made their family lose face, especially in facing the older generation.

> *“My husband’s family seemed to think that infertility was something losing face.”*
>
> [Participant 26. ‘Disgracing or losing face’]

The third subtheme related to the accounts of the connection between infertility and feelings of failure, including failing in life (n=2), failing to be a wife (n=1), or failing to be responsible for some roles (n=2). This was in the context of many people viewing it as a dereliction of duty to women if they could not give birth.

“It’s a dereliction of duty to be a daughter-in-law.”

[Participant 204. ‘Failure or dereliction of duty’]

“I made every effort to have a baby to fulfill everyone's expectations.”

[Participant 224. ‘Failure or dereliction of duty’]

4.4.5. Section V-Relationship and Interaction with the Medical System

4.4.5.1 Background Information and Satisfaction with Medical System

As can be seen from **Table 4. 16**, the majority of the sample (78.4%) had seen more than one doctor during the ART journey. Of these, 17.4% of the participants had seen five or more different doctors. Sixty-six percent of the respondents reported the treatment cost them over 200,000 TWD (about £5000), and 10.5% have spent over 1000,000 TWD (about £25,000).

When asked about their satisfaction with the medical system, the majority of the participants were satisfied with the doctors (76.6%) and healthcare professionals (67.6%) they had seen.

Table 4. 16 *Background information and satisfaction towards the medical system.*

Items	Category	Frequency
Numbers of doctors have even seen	One	47(21.6%)
	Two	68(31.2%)
	Three	46(21.1%)
	Four	19(8.7%)
	Five and above	38(17.4%)
Treatment cost so far	Less than 100000TWD(£2500)	32(14.6%)
	100000-200000TWD(£2500-5000)	41(18.7%)
	200000-500000TWD(£5000-12500)	82(37.4%)
	500000-1000000TWD(£12500-25000)	41(18.7%)
	Over1000000TWD(Over £25000)	23(10.5%)
Satisfaction of the interaction with doctors	Extremely dissatisfied	3(1.4%)
	Somewhat dissatisfied	5(2.3%)
	Neutral	43(19.7%)
	Somewhat satisfied	99(45.4%)
	Extremely satisfied	68(31.2%)
Satisfaction of the interaction with health care professionals	Extremely dissatisfied	2(0.9%)
	Somewhat dissatisfied	5(2.3%)
	Neutral	64 (29.2%)
	Somewhat satisfied	114(52.1%)
	Extremely satisfied	34(15.5%)

4.4.5.2 Received Services and Improvement Advice for the Medical System

Overall, 43.6% of the participants agreed the health professionals in Taiwan provided adequate medical information, and 40.2% thought they offered good and appropriate equipment (see **Table 4. 17**). A small proportion of participants (13.5%) agreed they received support with emotions. When asked a further question about ways in which treatment and care could be improved during the ART journey in Taiwan, 44.7% of respondents wanted more support

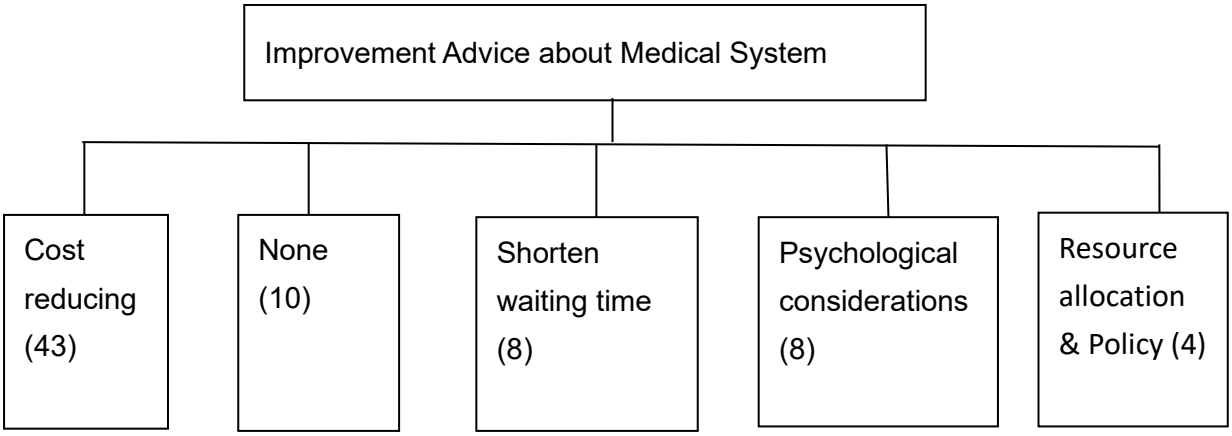
with managing their emotions around infertility and treatment.

Table 4. 17 *Received services and improvement advice for the medical system.*

Items	Category	Frequency
Resources of health professionals provided *MCQs	Adequate medical information	204(43.6%)
	Support with emotions	63(13.5%)
	Good and appropriate equipment	188(40.2%)
	Other s	13(2.8%)
Improvement advice about treatment and care *MCQs	Adequate medical information	47(16.7%)
	Support with emotions	126(44.7%)
	Good and appropriate equipment	29(10.3&)
	Others	80(28.4%)

Additionally, **Figure 4. 6** presents the results analysed using CCA from the free-text responses. Forty-three participants stated that they felt the treatment fee should be lower. Eight responses were related to the need to reduce the waiting times for treatments. 'Psychological considerations' was also mentioned by eight respondents. This was in the context of hoping for more empathy (n=4), providing counselling service (n=2), and caring more about the patient's privacy during the treatments. Two respondents advised a more balanced allocation of medical and health resources in urban areas, and two felt the policy could be improved, such as allowing surrogate mothers.

Figure 4. 6 *Improvement Advice about Medical System.*



Note: Numbers in parentheses represent the number of times the object was identified.

4.4.5.3. Correlational Analysis

A series of correlation analyses were performed on marriage satisfaction against various aspects of medical care asked about in the questionnaire. None of these variables were found to correlate significantly with marital satisfaction.

4.4.6. Multiple Regression Analysis

A stepwise linear regression was used to identify possible predictors of marriage satisfaction after ART out of the following candidate variables: Q16, Q17, Q18, Q20, Q22, Q30, Q37, Q38, Q42, Q48, Q54, Q61, Q67, Q68, Q71, Q72 (see Appendix I -Questionnaire for more details). At each step, variables were added based on p-values, and a p-value threshold of 0.1 was used to set

a limit on the total number of variables included in the final model.

Starting with eighteen of the variables above that might theoretically be good predictors of marriage satisfaction after ART, a forward stepwise logistic regression model was used to reduce them to four, which were: Q30 (Marriage satisfaction before ART), Q42 (Support from husband), Q71 (Satisfaction of the interaction with doctors) as positive factors from marriage satisfaction after ART, and Q20 (Number of children) as a negative factor, to be explored in further studies.

The details of the results from the regression are presented in **Table 4. 18** The first model illustrated 'Marriage satisfaction before ART' independently explained 40.1% of the marriage satisfaction before ART ($F_{(1,191)}$=127.948, p=.000). The second model accounted for 45.8% variance in marriage satisfaction after ART (R^2=.458, $F_{(2,190)}$=80.178, p=.000). The third model improved 3.8% on model two (R^2=.496, $F_{(3,189)}$=61.916, p=.000). Finally, four variables significantly contributed to the model 4, R^2=.508, $F_{(4,188)}$=48.588, p=.000.

Table 4. 18 *Summary of stepwise regression analysis on couples' ART journey marriage satisfaction (N=192)*

Model		*b*	*SE b*	*St.*β	ρ	95% CI	
						lower	upper
1	(Constant)	1.300	.239		.000	.829	1.771
	Marriage satisfaction before ART	.649	.057	.633	.000	.536	.763
2	(Constant)	.942	.242		.001	.465	1.418
	Marriage satisfaction before ART	.554	.059	.540	.000	.438	.670
	Support from husband	.093	.021	.255	.000	.052	.134
3	(Constant)	1.334	.256		.000	.830	1.839
	Marriage satisfaction before ART	.546	.057	.533	.000	.434	.658
	Support from husband	.089	.020	.246	.000	.049	1.29
	Number of children	-.163	.043	-.195	.000	-.249	-.078
4	(Constant)	1.033	.288		.000	.465	1.601
	Marriage satisfaction before ART	.536	.057	.523	.000	.425	.648
	Support from husband	.085	.020	.235	.000	.046	.125
	Number of children	-.178	.043	-.212	.000	-.263	-.092
	Satisfaction of the interaction with doctors	.099	.045	.115	.029	.010	.188

Note. Model 1:R^2*=.401, Adj.*R^2*=.398, F(1,191)=127.948, p=.000*; Model 2:R^2*=.458, Adj.*R^2*=.452, F(2,190)=80.178, p=.000*; Model 3:R^2*=.496, Adj.*R^2*=.488, F(3,189)=61.916, p=.000*; Model 4:R^2*=.508, Adj.*R^2*=.498, F(4,188)=48.588, p=.000*

4.4.7. Summary

Figure 4. 7 presents the summary of the results. The number of children, the wife's level of education and socio-economic status were identified as the background factors which were significantly related to marriage satisfaction; the number of children and the wife's level of education were related negatively,

and socioeconomic status was positively related.

The Taiwanese infertile couples' relationships and interactions with the family of origin show the following four predominant experiences: (1) The expectation of having a grandchild coming from the husband's family was significantly more commonly reported than the wife's family. (2) 88.8% of wives felt pressure from their husband's family's expectation of having a grandchild. (3) "Mother" is a significant source of pressure when it comes to the family system, which means the pressure is often transferred by females within the family context. (4) 74.2% of wives thought this pressure influenced their relationship with their partner. Furthermore, both wives and their husbands tended to use indirect ways to respond to expectations and advice regarding childbearing from the husbands' families of origin, whereas wives were likely to respond to their own families in more direct ways.

In the section on couples' systems, more than 90% of females expressed that they adopted an active role (actively searching for information or arranging their schedule to fit the treatment) during the treatment periods of their ART journey; however, only 49% of the sample reported their husbands engaging in such behaviours. About half of the wives also reported they wanted more emotional support from their partner. Additionally, the report of multiple

regression analysis in 4.3.6. indicated four variances significantly contributed to the model; “Marital satisfaction before ART”, "Support from the husband," "the number of children," and "satisfaction of the interaction with doctors" presented in order of influence.

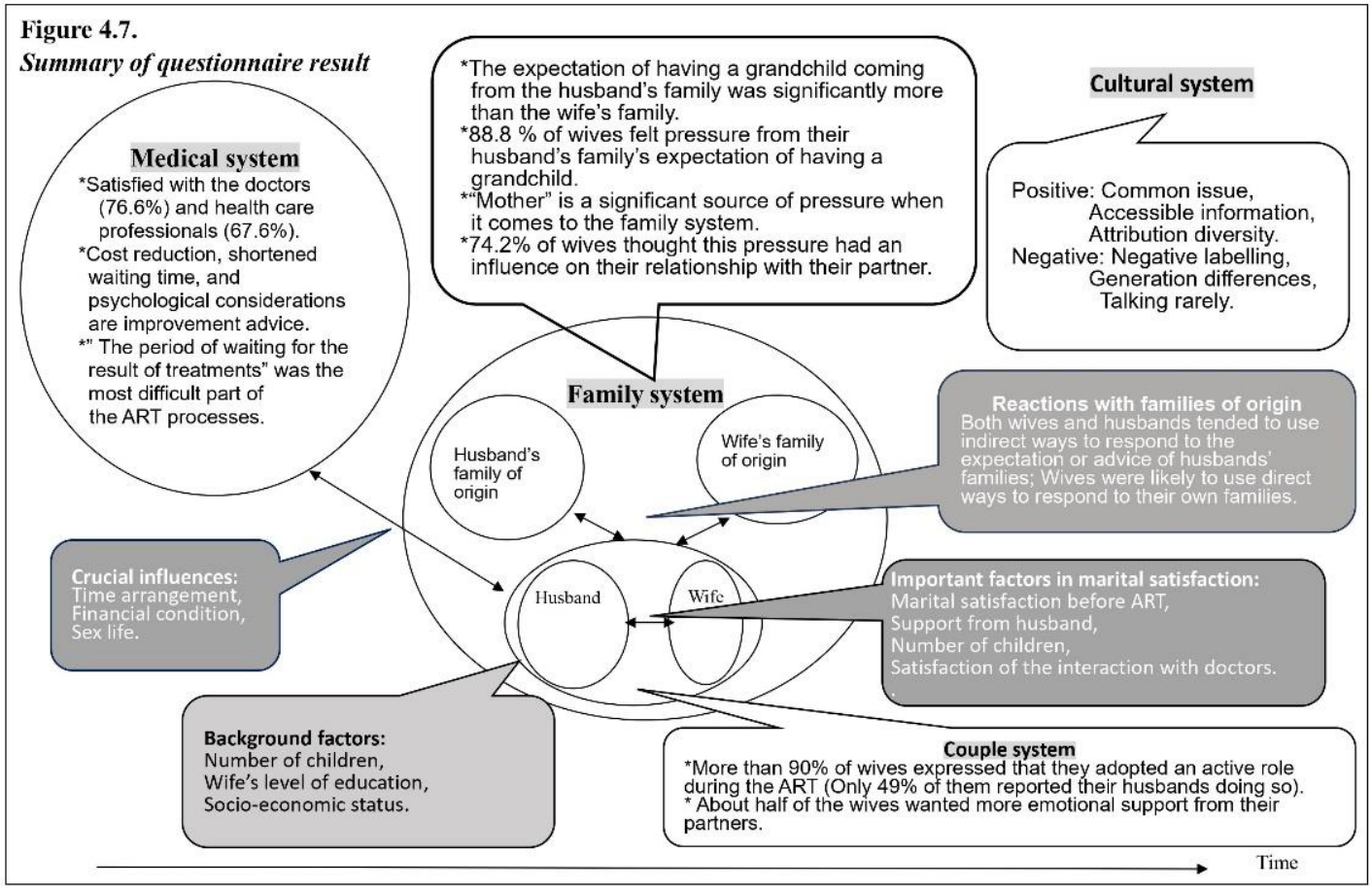
In terms of the medical system, most infertile couples were satisfied with doctors (76.6%) and health care professionals (67.6%) in Taiwan. However, cost reduction, shortened waiting time and psychological considerations were the main areas where they provided improved advice. Additionally, infertile couples perceived time arrangements, financial conditions and their sex life as affecting their marriage the most after entering the treatment. Also, the period of waiting for news of a successful outcome from infertility treatments was the most difficult part of the ART process.

When talking about the cultural system, the results showed that participants had different appraisals of the attitudes regarding infertility in Taiwanese society, varying depending on their experiences and perspectives. Feeling it is a common issue in Taiwanese society, with accessible information and attribution of diversity in infertility were their positive perceptions, whereas labelling, experiencing generational differences with older generations having a more negative attitude towards infertility and people not talking about the

issue openly were their negative perceptions relating to the issue of infertility in the Taiwanese sociocultural context.

Further discussion about the Taiwanese infertile couples' experiences of relationships and interactions with different systems will be presented in the following section.

Figure 4. 7 *Summary of questionnaire result.*



4.5 Discussion

Study II aimed to gain a further understanding of infertile couples who had undergone ART in the Taiwanese cultural context and also capture the typical experiences of couples under the various systems and the critical factors that affected them. Following this, some important results of this current study will be discussed in this section.

Study II mainly used quantitative research to further explore the generalizability of the model with the systemic perspective view of infertile couples in Taiwan, which was established in Study I. Discussion on how background-related factors affect infertile couples' marital satisfaction is presented in 4.5.1, this section partly addresses Research Question 2: how does the treatment process affect marital life and relationships? Section 4.5.2, which will delve into the discussion of the interaction among infertile couples, provides a more comprehensive understanding of Research Question 2 in this study, allowing for a preliminary response to Research Question 4: How do infertile couples cope with and face infertility within the Taiwanese cultural context? Discussion on socio-cultural context and family systems will be in 4.5.3; this addresses Research Questions 1 and 3, further exploring the societal and

cultural context in which Taiwanese infertile couples have undergone ART, how aware the couples are of other perspectives (original family system, interpersonal system) to infertility and how these perspectives influence them. The discussion regarding the third research question will be presented in Section 4.5.4.

4.5.1. Background-related Factors with Infertile Couples' Marital Satisfaction

This current study mainly focused on collecting quantitative data; seven important background-related factors (level of education, the number of children, years of ART treatment, times of IVF, times of IUI and social-economic status) were collected to better understand Taiwanese infertile couples' marital relationships during their ART period. The results revealed that marital satisfaction was significantly negatively related to the wives' level of education. Although previous studies showed that educational levels were considered to correlate with infertile couples' quality of life (Chachamovich et al., 2007; Choobforoushzade et al., 2011; Keramat et al., 2013; Rashidi et al., 2008), where higher educational levels correlated to a higher quality of life for couples. The findings here, however, go against the previous studies. There are two

possible explanations for this difference in the findings; one is that all of the participants were having or had ART to meet the study criteria, and due to the high cost of ART in Taiwan, the sample might not represent the normal distribution of those experiencing infertility difficulties in the general population with the level of education being higher than in the general population in Taiwan. Additionally, possible meditations may affect this result. As mentioned previously, this programme of study aimed to use the framework of social construction to understand Taiwanese infertile couples; individual attitudes towards infertility may be shaped by cultural society (Greil et al., 2010). Taiwanese society was considered to have traditional and modern characteristics; married women with more modern characteristics tended to have more marital power, and the higher marital power was negatively correlated with marital satisfaction (Lu & Kao, 2002; Huang, 2018). Whether this provides a possible reason for this result in the current study still needs further exploration. Another factor negatively related to marital satisfaction was the number of children the couples had, this result was in line with previous studies that parenting stress decreased marital satisfaction in Taiwan, especially with preschoolers (Chiang, 2020; Wu, 2018). The last significant background factor related to marital satisfaction was couples' social-economic

status, this factor was positively related to it. It was reasonable that infertile couples were often under high economic pressure when undergoing ART in Taiwan, and higher social-economic status effectively helped them reduce treatment stress and increase marital satisfaction due to increased financial stability (Keramat et al., 2013). Finally, the findings reflected that there were no correlations between marriage satisfaction and the lengths and times of any treatments. This may highlight that the infertile journey seems to be a dynamic process of couples' marital relationships; couples may adjust their relationship depending on the changes they have encountered during the treatment process, which can affect their relationships positively or negatively (Moura-Ramos, 2016; Peterson et al., 2011; Schmidt, 2005). This also reminds us that understanding infertile couples' experiences of the treatment process is important, and this will be researched further in the following section of my programme of studies.

4.5.2. Couples' Interactions and Causes to Relationships during the ART Process

Both the results of Study I and previous references mentioned that women played active roles in the treatment process and tended to address the

infertility issue earlier and were the main individuals in charge of the treatment journey due to the expectation of becoming a mother from the socialisation processes and physiological factors (Lin et al., 2004; Peterson et al., 2012). The present study supports the findings with reports of active attitudes (actively searching for information or arranging their schedule to fit the treatment during the treatment periods of their ART journey) towards ART from over 90% of females, whereas only 49% of the sample reported their husbands engaging in such behaviours.

Furthermore, the findings also showed that about half of the wives wanted their partners to provide them with more emotional support. These results are consistent with those reported in Study I and confirm that this is a common interaction between Taiwanese infertile couples. As noted previously, women often play a more active role in treatment, including commencing treatment. Whether the male partner can catch the proverbial ball thrown by their wife may be the crucial attribution that leads to the direction of their marital relationship (Molgora et al., 2019).

Findings in this current study also revealed that four important factors contributed to infertile couples' marital satisfaction during ART. According to the results, couples' marriage satisfaction before ART contributed the most to their

current relationships. This re-confirmed that infertile couples' relationships are affected by multiple variables, not only one single factor, and also highlighted that the foundation of couples' relationships, which may have effective dyadic interaction patterns, plays an important role during their treatment journey (Molgora et al., 2019; Pasch & Sullivan, 2017). Explorations of how these patterns work within different systems in the Taiwanese sociocultural context will be discussed in Study III. "Support from the husband," "number of children," and "satisfaction of the interaction with doctors" were the other three factors that contributed to couples' current marriage satisfaction. Previous studies agreed on the importance of partners' support for infertile women (Chen, 2019; Matsubayashi et al., 2004; Ying & Loke, 2015). Women usually have more stressful infertility experiences than their partners and are the main participants involved in the treatments, so they are more sensitive to their partner's support (Greil et al., 2018; Molgora et al., 2019; Ying et al., 2015).

"The number of children" has been discussed as a background-related factor in infertile couples' marriage satisfaction. This study identified similar; that parenting adds great stress for infertile couples during their ART period and influences their relationships negatively. The fourth variable was "satisfaction of the interaction with doctors", identifying the importance of the interactions with

professionals in mediating the perception of treatment and the impact of treatment on marital relationships.

4.5.3. Socio-Cultural Context and Family Systems

Taiwan, due to its unique geographical location and cultural distinctiveness, has been of interest to social psychologists in terms of how the society was influenced by both developments of substantial social and economic changes and the retainment of Chinese core traditional collectivist orientations in the past thirty years (Lu & Kao, 2002; Kao & Yang, 2011). Research related to traditional and modern characteristics has encompassed various aspects, including workplace relationships, parent-child relationships, and marital satisfaction (Chang, 2010 Huang, 2018; Li, 2011). Although Chinese traditional collectivist orientations continue to exert a strong influence, generation differences were clearly found (Chen, 2002; Li, 2011; Lu & Kao, 2002). This phenomenon likewise appears in the findings of this current study and also reveals, in detail, that infertile couples' experiences varied based on the individuals and situations and contexts the partners were exposed to. For instance, if Taiwanese infertile couples are exposed to new knowledge, medical information, and crowded fertility centres, they perceive the openness and

attitudes of acceptance related to infertility in the sociocultural context. In contrast, if they were exposed to a traditional socio-cultural atmosphere and perceived the negative labelling of infertility or generation differences, they would feel that infertility-related stigmas still existed.

The findings from couples' experiences with their family of origin highlighted that infertile couples in Taiwan are still under great expectations of childbearing influenced by the traditional Chinese culture (Wang, 2017; Wu, 2017), and this expectation was transferred by the patriarchal structure (Lee et al., 2013). Since most participants in this study reported that they felt pressure from their husband's family's expectation of having a grandchild, and the pressure coming from the husband's family was significantly more than the wife's family. Another point worth noting was that "mother" was the main source of childbearing pressure; this highlighted that the concept of male lineage inheritance being reinforced through the patriarchal structure, consolidating the notion of carrying on the family lineage and the value of "the mother's status rises as her son grows in importance" is still present in Taiwanese society (Lee et al., 2013). In terms of the results of participants' responses to their family of origin, both wives and husbands tended to use indirect ways to respond to either expectations or advice coming from their husbands' families. Ying and

Loke (2015) found that due to feelings of guilt over adding to their parents' burden, Chinese infertile couples felt ambivalent about receiving social support, especially from their parents. Slade et al., (2007) showed that stigmatization perceptions were correlated with low social support. Whether Taiwanese infertile couples respond indirectly to the husband's family regarding the topic of childbearing may be related to their feelings of guilt towards their parents, perceived stigma within their own family, or other sociocultural contextual factors (Slade et al., 2007; Ying & Loke,2015). These aspects may require further exploration in the upcoming qualitative study focusing on Taiwanese infertile couples. Moreover, the findings in this current study also revealed that most Taiwanese infertile couples' relationships were influenced by the pressure coming from the family of origin. How this pressure affects couples' relationships and how couples react to it will also explore in the following qualitative study.

4.5.4. Medical System and Infertile Couples

Infertile couples experienced significant pressure from the ART process regarding time commitment, financial strain, and day-to-day life management, as was evident in previous studies (Chow et al., 2016; Ying & Loke, 2015).

Because of various compliance obstacles that could be linked to the patient, the medical procedure itself, and the clinical setting, infertile couples may find it difficult to continue infertility treatments (Boivin & Gameiro, 2015). However, in 2020, a total of 38,289 cycles of ART treatments (including cycles in which egg retrieval or embryo transfer was skipped) were conducted in Taiwan, according to "Taiwan's Assisted Reproductive Technology, Summary National Report of Taiwan." investigated by Health Promotion Administration, Ministry of Health and Welfare, Taiwan. As mentioned in the previous section, although a study in Taiwan pointed out that the pressure of examinations and treatments was the main stressor for infertile couples who had undergone ART, there is still a lack of exploration of studies relating to considerations of infertile couples' well-being and needs during their treatment journey (Chen, 2019). Providing healthcare professionals and psychologists with a better understanding of how to offer more appropriate assistance while working with infertile couples was an important motivation for this programme of study. The findings in Study II emphasised that influences on their relationships when infertile couples having ART were surrounded by "time arrangements," "financial condition," and "sex life." Following this, they provided improvement advice relating to "cost reduction," "shortened waiting times," and "psychological considerations." The

findings correspond with the previous studies that the demands of the treatment, such as treatment appointments, examinations and injections, can significantly disrupt couples' daily activities and also their sexual life (Pasch & Christensen, 2000; Widge, 2005). It should be noted here that the Taiwanese Ministry of Health and Welfare has expanded the eligibility for the infertility treatments subsidy from low-income and middle-low-income households to include all infertile couples from July 1, 2021, whether this can reduce infertile couples' financial burden effectively in Taiwan need to track in future studies.

It has been highlighted in previous research that infertile couples in Taiwan had requirements for psychological assistance, but they were not familiar with the resources, such as what kind of help would be provided to them or how to access the relevant resources (Chen, 2019). Similarly, participants in this current study reported their needs relating to psychological considerations. They also considered "the period of waiting for the result of treatments" as the most difficult part of the ART process. Ying et al.,(2015) interviewed infertile couples undergoing IVF (In Vitro Fertilization) in China and found that couples may need various aspects of psychological support according to the timing of their experiences during the treatment, such as waiting for the results of the IVF procedures and the announcement of a negative pregnancy test. This not only

revealed the complicated challenges that infertile couples would encounter during the treatment journey but also reminded us that it is necessary to better understand the details of infertile couples' experiences when undergoing ART, and then the provision of effectively designed psychological support could be accessed on time. This also provides guidance for the following study.

Chapter Five

5.1. Preface

The findings from Study II revealed that wives were usually responsible for starting the process of Assisted Reproductive Therapy (ART) and for managing adjustments within the couple's marriage. Infertile couples in Taiwan remained under tremendous pressure of childbearing, especially from the husbands' families. The findings also identified that couples had psychological support requirements during their treatment journey. The current study forms the third study of my PhD programme, aiming to build on the initial qualitative study and the questionnaire study to explore an in-depth and dynamic understanding of the influence between couples and different systems, such as how couples negotiate or cooperate with the challenge of wives instigating their treatment journey, how Taiwanese couples experience or are affected by the childbearing pressure coming from family of origin and how they cope with it as a connected unit, or what "on-time" supports could be provided to them from medical systems during their treatment process.

5.2. Introduction to Study III

One of the most stressful infertility treatments has been regarded to be ART. Studies report that the use of these techniques leads to emotional and physical strain, anxiety, depression, and stress, which in turn causes more mistrust and patient dropout from these treatments (Dancet et al., 2011; Hammerli et al., 2010; Van Empel et al., 2010). Ataollah & Mojtaba (2014) considered the psychological burden and lack of empathy of medical staff were the main reasons for the dropout of patients from the treatment journey. Boivin & Gameiro (2015) stated that the barriers related to the patients, the medical treatment itself, and the clinical environment which led to the discontinuation of treatments. The studies highlight that the process of dealing with infertility issues and treatment is very complicated for infertile couples. Couples may try to find the balance between different conditions and systems, from internal couples' resources to external challenges relating to medical systems. This systemic study aims to take the perspective of infertile couples and delve into the considerations that influence their decisions to either discontinue or continue with treatment. In the future, practical psychological assistance can be provided at appropriate times to infertile couples in the Taiwanese sociocultural context (Ying & Loke, 2015).

The previous study revealed that infertile couples had congruence

around the need for parenthood, which has been identified as an important factor prior to undergoing infertility treatment (Peterson et al., 2003). The recent study emphasised the congruence in couples' appraisals of infertility-related stress and their coping strategies (Pasch & Sullivan, 2017). Study II outlined that wives usually played a more active and initiating role in infertile couples' treatment journeys, and perceptions of support from their husbands contributed to better marriage satisfaction. How couples shape their congruence and support each other, especially for husbands, and whether they can reply effectively to their wives who need to commence treatment may be crucial to a stronger marital relationship (Greil et al., 2018). This is one of the main themes that this current study aims to explore.

Infertile couples having ART in Taiwan seem not only challenged by various decisions they need to make and how to support each other during the struggling process but also need to make efforts to deal with the pressure related to social stigma and traditional cultural childbearing pressure from external systems (Yao et al., 2017). Findings in Study II revealed that infertile couples in Taiwan continue to experience high expectations for having children from their family of origin and perceived infertility-related social stigma. Studies showed that perceptions of social stigma reduced the likelihood of accessing

social support; moreover, infertile couples may feel ambivalent about receiving social support in the Chinese culture-influenced sociocultural context (Slade et al., 2007; Ying & Loke, 2015). Infertile couples in Taiwan tended to use indirect reactions to face childbearing-related concerns from external systems, as previously identified in Study II. However, how couples jointly experience or defend against this pressure and the impact it has on their relationship remains to be answered qualitatively in this current study.

Although most participants in Study II reported they were satisfied with medical professionals in Taiwan, they also stated suggestions for improvement regarding psychological considerations. Furthermore, the qualitative study (Study I) in chapter three indicated that infertile couples in Taiwan tended to switch doctors as a coping mechanism when the doctors made them feel pressured or uneasy instead of providing direct feedback. Therefore, there is still a need for a detailed understanding of the practical interactions of infertile couples with the medical system.

To conclude, this study, followed on from the previous study and focused on a more qualitative approach, gaining deep insights into couples' perceptions relating to experiences with different systems and aims to provide a clearer picture of the dynamic interactions and influences of infertile couples with

internal and external systems in the Taiwanese sociocultural context.

5.3. Method

5.3.1. Design

The full programme of studies within the thesis took a mixed-methods approach, combining data from open-ended surveys, quantitative questionnaires, and semi-structured qualitative interviews in an effort to maximise the benefits of mixed-method research. The current study presented in this chapter follows directly from Study II and provides a more in-depth account of experiences through qualitative data collection methods.

Participants came from various regions of Taiwan, so interviews were conducted online during the pandemic of COVID-19. Participants were given a choice to take part in an email-based interview as an alternative to an online interview for the convenience of participants' schedules with their treatments and the influence of the pandemic of COVID-19.

5.3.2. Participants and Recruitment

Recruitment for the study was aimed at infertile couples who were undergoing assisted reproduction or had this experience within the last two

years.

Within the survey study completed in Chapter Four, respondents were given the opportunity to sign up to take part in a further qualitative study by leaving their email addresses if they were interested in taking part. In the current study, the researcher contacted these individuals to ask them if they would be prepared to be interviewed. The previous stage had already received ethical approval (Review Reference: 2021-2313-1931).

One hundred and thirteen participants left their email addresses in the survey study reported in Study II to express their interest in joining this current study. The researcher contacted 75 of them, inviting them to join this further qualitative study. Finally, one man, one couple, and twelve women comprised the total number of participants in the semi-structured interviews, of which 13 participated in online interviews and two in email-based interviews.

Table 5. 1 presents demographic information and treatment background for all participants in the current study. This study was completed from May 2022 to September 2022. One of the participants, S11 (Tracy), had a husband who was not Taiwanese. Given this, for the consideration of analysis consistency, her data was analysed and reported separately from other data. The comparison report is presented in the discussion section of chapter six.

Table 5. 1 *Sample characteristics from demographic information (N=15)*

Pseudonym	Sex	Age	Treatment Duration (yr)	Infertility Factor	Treatment Success
S1 Gill	Female	45	4	Female	Yes
S2 May	Female	38	0.5	Female	Yes
S3 John	Male	38	5	Unknown	Yes
S4 Husband: Jack	Male	45	8	Female	No
S4 Wife: Chris	Female	41	8	Female	No
S5 Amy	Female	41	6	Male	No
S6 Anne	Female	36	1	Female	Yes
S7 Tina	Female	37	0.5	Both	Yes
S8 Minnie	Female	43	1	Female	Yes
S9 Cathy	Female	38	1	Female	Yes
S10 Lisa	Female	38	1	Female	Yes
S11 Tracy	Female	41	1.5	Female	Yes
S12 Sara	Female	32	2	Male	Yes
S13 Wendy	Female	44	3	Female	No
S14 Vicky	Female	35	1	Both	Yes

5.3.3. Procedure

This current study employed a qualitative approach using email-based and online interviews with 15 Taiwanese who were going through or had been through fertility treatment within the two years prior to the commencement of data collection for the study outlined in Chapter 4. Participants who joined the email-based interviews received some open-ended questions designed to

prompt information that allowed them to share their stories further (see **Table 5. 2** below). These initial questions were based on those asked within the questionnaire completed at the previous research stage. After receiving their responses, the researcher replied with some further questions relating specifically to the narratives that the participants sent in the first email exchanged and focused on the key research questions. This data collection was repeated 1-3 times until the participants' experiences had been known deeply and clearly. Participants who joined the online interviews were contacted via email or telephone to arrange dates for an online video or phone-based interview. Couples were interviewed separately, with each lasting between 50-60 minutes.

Table 5. 2 *Example of initial questions (email-based interviews)*

1.	Please state the extent to which the questionnaire adequately reflects the issues you have identified.
2.	Which part impressed you the most while answering the online questionnaire? Why?
3.	When it comes to the interaction with others during this period, which part do you want to talk about more?
4.	When considering your interactions with others, please share with me an example of an interaction.

5.3.4. Data Analysis

The data from the study were analysed using thematic analysis to gain a deeper understanding of how infertility challenges affect couples and how they deal with it in the context of Taiwanese culture. The six stages of thematic analysis were used and remain adaptable during the analysis process (Braun & Clarke, 2006; Terry et al., 2017). To get a better understanding of the experiences of the couples, the researcher first carefully read the transcripts. After reading the material several times, the researcher was better able to immerse herself in the data and could begin to detect some patterns and similarities. Then the researcher focused on coding the entire dataset before shifting from coding to theme construction in the third phase. The research question served as a roadmap for developing initial themes in this stage, giving the researcher options regarding which data segments were pertinent. The fourth phase involved developing potential themes, which were then examined to see if they adequately reflected the meaning of the coded data segments that had been collected. The themes were balanced to ensure that they were distinct from one another and had some connection. In order to express the main idea and its meaning, the themes were finally given clear names and definitions.

5.4. Results

5.4.1 Theme 1: Couple's Decision-Making and Consensus-Shaping in their Childbearing Journey

For most couples, it seems a natural thing to get married and then bear a baby. However, the process is more complicated for infertile couples.

> *I had always been facing this issue, which was stuck for those few years and also affected my relationship with my partner. I tended to contemplate my situation and wonder whether I should try again. I also had to consider whether I was willing and prepared to do it again. How did I view our relationship? When should I choose to do it? And when should I decide not to do it anymore? These were all the questions that I asked myself all the time. (Chris, S4W055)*

Most respondents agreed that shaping the consensus between couples during the childbearing process was crucial.

> *I believe that reaching a consensus with my partner on both big and small matters during the treatment is important. Whether it is setting a budget limit, deciding how much to disclose to both sets of parents, calculating lost wages due to time off work, dealing with physical discomfort and limitations during the treatment, having a shared understanding will prevent additional stress that could have been avoided during the treatment journey. (May, S2W103-1)*

The beginning, pause and end of the treatment

For infertile couples, it is a trial of making repeated decisions and

reaching a consensus from the moment they become aware of their infertility situation to discussing whether to start treatment or not and negotiating and making arrangements for different aspects of their lives after entering the treatment.

Some of the participants expressed their worries and fears before deciding to enter into treatment.

> *I felt afraid due to not knowing the process. (John, S3H028-3)*

> *The discussion we had at that time revolved around whether or not to proceed with the treatment. We wondered if we should ask for a child since we were not blessed with one naturally, but we also worried about the health of the child that we might conceive. (Lisa, S10W027)*

> *As a healthcare worker, my main responsibility is taking care of sick children, and I have seen many children with health issues. Because of this, I felt that we should not force the issue of having a child, as I was afraid that it might not turn out well. However, I also felt pressure from my elders, and this caused me to feel conflicted. (Sara, S12W009)*

After dealing with their worries and concerns, couples may begin to find commonality and agreement with one another.

> *I would communicate with my husband about this matter. He is the type who is willing to listen, but he needs time to understand, so I would take a slower pace and wait for him to comprehend. Once he understood, we could take action. (Anne, S6W020-2)*

> *To be honest, before this, he would feel that it's okay not to have children and that being just the two of us was good enough. But I felt that I wanted to actively try at least once. If it doesn't work out, then we can just let nature take its course in the future. (Tina,*

S7W025-2)

However, shaping the consensus was not always easy for couples due to their different situations. For instance, participant ‘Wendy’ got married to her fifty-six-year-old husband when she was forty.

> *He mentioned in the middle that having a child was optional for him, but he thought having a child might be able to accompany me in the future because we have quite a big age difference. Initially, he was not very interested in having a child and wasn't very enthusiastic about it. When we went for our first consultation, we were already about to start treatment, but he said he wanted to think about it, and we withdrew from the hospital temporarily, leaving the doctor hanging. There was another time later on... Initially, he used the reason that one of his friends who had undergone treatment became very weak, and their hair turned white overnight. So, we were already outside the consultation room, ready to go in, but he said he wanted to think about it again, and we left. (Wendy, S13W024)*

For infertile couples, it's not enough to form a consensus through a single discussion. As they enter treatment, the physical and general burdens increase, and both partners are constantly faced with the process of making decisions again.

> *There would be disagreements. For example, he would say, 'Let's just give up. It's too hard and painful.' But we still had to see the doctor because we needed to keep going through the process, which meant frequent doctor visits, sometimes once or twice a week. He would still take me, but it would become...I would feel conflicting emotions. I didn't know if he was unwilling to come or if he was only doing it because I was pressuring him to accompany me. (Tina, S7W031)*

> *We couldn't see any sperm despite trying for almost a year, and my frozen eggs were*

about to expire after being stored for a year. So we wanted to discuss with the doctor what to do next. I felt like he couldn't move on mentally although time was passing by, so I felt like we couldn't just keep going like this. (Sara, S12W013-3)

The feeling was not good; I had to endure injections and go back and forth to the hospital frequently. I longed for rest every time after undergoing treatment because I was exhausted. The physical burden and the pressure were also significant. (Chris, S4W015)

Couples may also suspend or stop the treatment due to a variety of reasons.

At that time, due to my wife's cancer, which was caused by melanoma, we had once hoped that my wife could be healthy and it wouldn't matter if we didn't have children. So, we were basically giving up. (John, S3H028-4)

There was a time when our child's heartbeat stopped in the womb after three months. It was around 2011. We had a successful pregnancy, but then it didn't work out. After that, we went silent for about two years and tried to process it in our own way. It was around 2013 or 2014 when we started again. (Jack, S4H030)

If infertile couples have been continuously unsuccessful in giving birth and are unable to effectively reach an agreement, they may become stuck in their relationship due to this issue.

Actually, each time we discussed it, it might end up unresolved or filled with emotions, and we couldn't have a proper conversation in the end. So, we started avoiding talking about it with each other, but we both knew that it was a lingering issue between us. However, every time we tried to talk about it, we couldn't seem to reach a conclusion, and it just made both of us feel bad. Therefore, I felt that this issue had been stuck between us as a couple. (Chris, S4W035)

The majority of participants also mentioned how they decided on their" stop-loss point", which means when they would stop or suspend the treatment,

and financial conditions came off as the first priority.

> *After entering the IVF process, it is not guaranteed that trying will lead to success. Therefore, we set a financial range and conducted the attempts. Our stop-loss point was reaching a certain threshold, regardless of whether it involved medication, surgery, or other methods. If we didn't succeed, we gave up. That was our approach at the time. (Anne, S6W016-2)*

> *We had discussed it from the beginning, even before starting the IVF treatment. We talked about his budget and asked the doctor about the estimated cost of the treatment before we started. He evaluated it himself and said that with the money he had at the time, he could only afford one cycle. He also had to consider the education expenses and other costs after having a child. He had set aside around 500,000 NT, which meant that if we were successful during the treatment, we would continue, but if we weren't successful, we would stop. (Minnie, S8W062-1)*

> *Later, we discussed it and decided to try it out. We set a stop-loss point at around 400,000 NT, which meant we would try two cycles with that amount. (Lisa, S10W029-3)*

Those couples who have undergone long-term treatment without success also considered their age or physical condition as a stop-loss point.

> *I also felt sorry for my wife. After undergoing a few procedures, her appearance and weight were not the same as before. So I thought it's better to give up because it actually caused a lot of harm to her body. (Jack, S4H013)*

> *Before the last attempt... I thought I was already getting older; I am 41 now, so I must have been 38 or 39 at that time. I thought it would be the last try, just to see. I felt like I needed to give my husband and myself one last chance. I told him that if it didn't work this time, I wouldn't do it again. So, after the attempt, which was unsuccessful, I didn't do it again. (Chris, S4W038-1)*

> *Probably around forty-five, just in the past year or two. I am already 44 years old this*

year, and next year I will be about 45 years old, so it's almost there. If I get older, my body won't be able to handle it, and I also don't have that much money. (Wendy, S13W052)

We are just... we save a lot of money to prepare for this, so I just want to say that since I have the money, I will keep trying until I no longer have any eggs.
Amy, S5W017)

However, apart from Jack and Chris, who are the couple whose jobs relate to children's care and chose the option of adopting a child, most Taiwanese participants seem to consider consanguineous relations regarding adoption.

And then it comes to the issue similar to borrowing eggs; I really don't have the confidence that I can give a child who is not biologically related to me enough love and patience in the current situation. Honestly, I don't have that much confidence. (Wendy, S13W055)

No, we don't plan to adopt. Because it's not our own child, I don't know if I can truly treat them with sincerity, so we don't have that plan. If we are not successful, we will just live our own lives, just the two of us; that's all we can do.(Cathy, S9W131)

My husband said if you're afraid, we can adopt, and then I told him... Adoption is even less viable for me because I would already get angry at someone who came out of my own belly, let alone someone who didn't. (Lisa, S10W029-2)

Finding balance and rearranging jobs and lives

For most infertile couples, the process of ART treatment is costly in terms of money, energy, and time. They need to find a balance between their jobs and

lives in order to face the challenges of this journey.

> *Because I am still working, it's actually quite a struggle to coordinate the blood tests and follow-up appointments in between the treatment process. It has to be done at specific times, and even a slight delay can affect the accuracy of the treatment. (Wendy, S13W034)*

Lisa stated how she made the decision between work, the treatment process, and the need for her partner to accompany her.

> *Many times, in order to undergo this IVF examination, the doctor needs to check certain indicators in your blood on the same day. So sometimes, I would go to work early in the morning, around 7 o'clock, then go for blood tests at 7:30. After the blood test, I would go back to work and stay until noon before going back to see the doctor, waiting for the blood test results. But you have to think, if I brought him with me, I would have to leave home at 6 am, and he would also have to leave at 6 am, and he would be waiting endlessly during the whole process. He would be there all day, unable to do anything, and I wouldn't have time to pay attention to him at work. I could only let him use a computer and say, "Use the computer here!" So... the whole process was that he would only appear when I needed him to sign something, or the doctor required his presence. (Lisa, S10W059)*

Since Sara and her husband had their own independent treatment, they could only decide to see the doctors separately.

> *The frequency of his follow-up appointments was too high, and it's difficult for us to take time off from work, so we each went separately. (Sara, S12W050)*

Amy and her spouse seemed to be luckier compared to other interviewees, as they own their own company, which provided them with more

flexibility in terms of time.

> *That's right; we run a factory, so we have more flexibility with our own time. (Amy, S5W024)*

Furthermore, some infertile couples decided to give up their work if they could afford the financial burden.

> *We have looked into how my life would change if I did IVF. The doctor said that I would need to frequently return for check-ups and to control the growth of my eggs. It would depend on my condition, and I might need to take time off work. Some companies might not allow frequent absences, so I might need to work as a part-time job or stop working entirely to rest. Currently, I haven't worked since I started the IVF treatment because I am focusing on having a child, and my priority is my child. Therefore, the economic pressure is all on my husband. (Minnie, S8W025)*

> *I quit my job because my mother-in-law suggested that I do so, and my husband also thought it would be better for me not to work. After the first miscarriage, I still went to work, but when we decided to undergo a second attempt, my husband asked me to quit my job. (Vicky, S14W109)*

Position and Response to the Public

Infertile couples not only need to find consensus between them as mentioned above, but some participants also had accounts of the importance of communication when managing the concerns of their partner regarding their childbearing plan.

Actually, there is something I think is quite important. I believe that it's best, to be honest and tell each other about the feelings of both families because sometimes partners may be afraid to speak up and say what their mother or mother-in-law thinks. If nobody talks about it, it's hard to know how to solve the problem. But if everyone speaks up, they can work together to find a solution. I think that would be better. (John, S3H025)

Regarding dealing with family members, I also told my husband directly that I didn't want to explain too much about the treatment to our elders. So my husband treated it as if it didn't happen and didn't mention it to our elders. (May, S2W202-1)

My husband would tell everyone that it was his issue, but in reality, we later checked and found out that I had some complicated problems as well. We also received some immunological treatments. This way, people wouldn't gossip and would stop talking about it, instead of going on and on about it. (Cathy, S9W052)

If we face outsiders, we mostly wouldn't say too much, and my husband would just say that we're trying our best. Yes, that's it. (Sars, S12W025-2)

5.4.2 Theme 2: Challenges and Adjustments between Couples during the ART Journey

Following the beginning of their ART journey, infertile couples also encounter various challenges and adjustments, including understanding and accompanying each other, disclosing self-conditions and change interactions, and coping with potential feelings of loss and trauma during the treatment.

Understanding and accompanying

Both Gill and Chris expressed their difficulties and loneliness when

undergoing treatments.

> *It's really tough to go through all this alone. Feeling the pressure of success or failure, the actual cost in terms of money, time, and physical effort, it's all on you. In order to have a child, I spent two million over four years, gained 30 kilograms, went through three rounds of IUI and nine rounds of IVF, had two miscarriages and one ectopic pregnancy, underwent two hysteroscopic surgeries to remove uterine polyps, one laparoscopic surgery for tubal obstruction, and bilateral tubal removal surgery for ectopic pregnancy. During my last pregnancy, I had eight episodes of heavy bleeding in the early stages and had to stay in bed for five months to prevent miscarriage. I had to take medication and injections every day, and the whole process was very difficult. (Gill, S1W102)*

> *I remember the first time I had a medical implant procedure, the doctor required that a family member accompany me because I needed to go into the operating room. So it was necessary to have a family member present. However, my husband couldn't accompany me that time, so I asked a friend to come with me. But my friend didn't show up on time, so I felt a bit uneasy. After the procedure, the doctor told me that I couldn't go home alone, drive or ride a scooter because it was dangerous due to the effects of the anaesthesia. However, my friend had to go to work, and I didn't want to trouble her, so I ended up going home alone. That whole process made me feel like I was on my own. (Chris, S4W026-1)*

Furthermore, Lisa shared her negative emotions due to the hard work in the treatment.

> *I also had to take a medication called Heparin, I don't know if you've heard of it? It's for people with immune problems. And I had to inject it into my belly, which was extremely painful, like excruciating pain. I had to do it for three months. During those three months, I knew my emotions were very bad. Whenever it was time for me to take the injection, I would start getting angry and throwing tantrums. I would pick on my husband for every little thing, complaining that he didn't take care of this or that, or asking why he didn't bring me the needle yet. (Lisa,* S10W123-1)

It is clear from the data that the process of treatment was a considerable challenge for infertile couples due to the negative feelings coming from physical and psychological difficulties. In cases where the fertility issues are due to female causes, there appeared to be greater differences in experience due to the greater level of involvement of women in the treatment process compared to men.

> *There were many steps involved in the process, such as checking the data and visiting the doctor, but he may not have been involved in any of them. Additionally, he didn't experience the feeling of having to inject the medication into himself. Whether it was an injection, taking pills or drawing blood, all of it fell on the woman. For men, it was difficult to feel the same level of experience. The only moment they had to actively participate was when they provided their sperm. (Wendy, S*13W039)

> *Usually, men don't have much to do. it's the women who have to do things like getting blood drawn, undergoing various examinations, and so on. It ends up being just me doing all these things. Plus, at that time, my body wasn't feeling very well. Before the egg retrieval, I had to take ovulation-inducing injections that made my stomach feel bloated and uncomfortable, and my whole body swelled up. I gained weight and became bloated. The physical and psychological stress was a lot to handle, and it made my body feel uncomfortable. (Cathy,* S9W084)

> *The whole process was about women getting checked, women getting injections, women having their eggs retrieved, and women taking medication. Men didn't have to do anything, and I just felt... you were just driving me to see the doctor, and the whole time on the road, you kept saying, "Just forget about it! Let's give up! You're working so hard." I wanted to hear something else instead. (Tina, S7W030)*

> *I felt like most of the process was done by the women themselves, so men didn't really have a sense of participation. (Tina, S7W124)*

Hence, most of the female interviewees who were the primary medical subjects discussed the need to increase their husband's involvement in the process.

> *I feel that it's important to have the husband participate in the process because pregnancy is not just the woman's responsibility. The woman has to bear a lot of pressure and deal with the side effects of injections. So, I think it's important for both of them to participate together, rather than just one person being involved. (Vicky, S14W162)*

> *Initially, I went to the hospital alone because it required frequent visits and long waiting times, sometimes just a few days apart. So, the first time I did it alone, and my husband only showed up when he needed to. Otherwise, he might be working or unable to take time off. I told him that I could do it alone, but later on, I felt exhausted doing it alone, and I realized that this wasn't just my own thing. It should be something we both do together. (Chris, S4W023)*

> *I used to go alone before, but later I found it too tiring, so I asked him to come with me. However, I found that his willingness was not very high. But I still insisted on asking him to come, so that we could have a sense of joint participation. (Wendy, S13W032)*

Indeed, Cathy, Vicky and Tina emphasised the importance for them of their partners accompanying them during the treatment process.

> *He would accompany me, for example, when I went to the fertility centre, he would accompany me almost every time. He would take time off and be willing to do so. (Cathy, S9W042)*

> *He went to the hospital every time! He never missed a single one. He would even attend meetings on his phone to ensure he could be there. (Vicky, S14W119)*

> *I feel that he gradually came to understand, and because we always went to see the*

doctor together, he has never missed a single appointment. So I think through the frequency of going to the doctor together, like waiting together there and going to see the doctor every week or every other week, and sometimes having to wake up early or wait for a long time, in that process, sometimes we communicated slowly, and sometimes we observed other couples, and he gradually understood the feeling that I wanted. (Tina, S7W092)

Apart from the accompaniment during the treatment process, some participants would use other ways to increase their partner's involvement in order to help them to better understand the difficulties they faced during the journey.

My husband needed to give me injections. I told him he has to take responsibility for injecting me; otherwise, I won't do the treatment because I'm afraid to inject myself. At the beginning, I was injecting into the stomach for ovulation, but for egg retrieval, I had to inject into the buttocks. There was a health educator there teaching us how to do it, and we had to do it every day during ovulation. I remember we did it for seven consecutive days, and that was when I had to inject the most into the stomach. My husband would get very nervous whenever he saw any bleeding because he was afraid, he had done something wrong. (Minnie, S8W043)

At that time, I also helped him join the IVF support group. Don't just take my word for it, how could he believe it? Because... no one around him had done IVF, I brought him in to see what people were sharing about IVF online and encouraged him to learn more. It's not like I always went to the doctor's appointments alone, while he focused only on work. (Minnie, S8W068)

He could understand, he could really understand, because, during the treatment, I had to get injections and take medicine. I didn't ask him for help with the injections, because I knew that whether I did it myself or he did it, it would hurt. But if he caused me pain while giving me the injections, I would get angry, so I did it myself. Yes, I did it myself... but he could still empathise with the process. He knew that it was difficult for me…because sometimes I would intentionally inject myself in front of him and show

how much it hurt... (Lisa, S10W047)

Sometimes when I returned from the doctor, I would have a lot of medicine with me. Then my husband would ask, 'Do you really need to take all of this?' And sometimes, when it was time for me to take my medicine at night, I would ask him to help me get the right amount of pills from each bag. The little dish would be filled with pills, and he would be surprised and ask, 'Why do you have to take so much medicine?' I would just tell him, 'Ask the doctor!' So he knew that the process was difficult for me. (Lisa, S10W048)

However, some participants would feel the understanding and support from their partners in other aspects of daily life.

Because at that time I was feeling unwell, I couldn't do many household chores and anything else, and could only lie in bed. But my partner took care of everything without any complaints. (Vicky, S14W115)

At that time, I was undergoing injections and had my eggs harvested, so my stomach became very bloated, and I felt very unwell. Also, the medicine and injections were very uncomfortable, and some side effects emerged. However, he took care of me throughout the process. (Vicky, S14W117)

If he had said anything comforting to me, I would have been very happy, but it's okay even if he didn't because I feel he is always good to me. I have no complaints about him; whatever I asked him to do, he did it willingly. So, I think he is 100%. (Amy, S5W085)

In cases where the infertility issues was a male factor, infertile couples were better able to understand each other's suffering during the process than in cases where the infertility was a female factor.

My husband is someone who is very afraid of pain. Because we want to have a child,

he has to take injections every week! I feel that our level of medical intervention is on par, but I don't know if he has more or I have more, because, during my treatment, I have to take many injections at once, while he takes them on a regular basis every week. So, I only take a lot of injections during my treatment, but he takes them regularly. Therefore, his medical intervention is also considered significant. (Amy, S5W093)

I feel like I'm a bit lucky that it's my husband's issue because he's also gone through similar interventions, so he's also struggled. He might also have to take injections and such, so he can somewhat understand that we women have to go through so many procedures and discomforts. So he's still quite considerate towards me now, but I feel that if it's a unilateral female infertility issue and the man is normal, then maybe the husband won't be as considerate because I think the support of the other half is quite important. (Sara, S12W080)

Communications and changes

Facing a long-term treatment journey, it took time for infertile couples to find the best way to support each other. Most of the participants described the process of going through an adjustment period.

I remember at that time, it was probably December or January, it was very cold and raining all the time. After I finished my treatment, I had to take the bus back home by myself, which might take another hour. I was so upset that day, and this drove me crazy, so I told him, it was not right. I spend all this time every week on this thing and make myself very flustered. It takes up a lot of time. Of course, my husband, I didn't mention this to him before, because he also works in another county and commutes every day. He might come back home around 7 or 8 pm. But after that incident, if he knows I have to wait for the doctor that night, he will come directly to the clinic and wait with me until 10 pm, and then we will go home together. Yes, it was that time, I told him I was unhappy and maybe cried. After that, he remembered that if I needed to see the doctor, he would say, how about I finish here and go there to find you, then we go back home together. Yes, that's right, it's something like that. (Anne, S6W065)

I would tell him that I don't want to hear him say we should just give up. What I want is for him to comfort me and say, 'Let's work on this together'. I would also tell him how unwell I was feeling, so he could better understand what I was going through. (Tina, S7W032-3)

Later on, for example, he would help me with injections. And when it came time to take medication, sometimes I would feel really tired... like the medication was making me uncomfortable. So he would prepare my medication and then prepare a dessert to go with it. He would put them together on a plate. Because I had to take a lot of medication, he would use a small dish to portion them out and then put a dessert or a cake on a small dish next to it. (Tina, S7W038)

Then when I discussed it with him, he would say "It's up to you" and "I'll go along with whatever you decide." Actually, when he said that, I would get a bit angry because I felt that if I had to make the decision by myself, it wouldn't be so troublesome. But I think this is something we have to deal with together. He would say, "Don't be upset," because I would get upset and wonder what he meant by that. He would say, "You're the boss now! If you want to have a baby, go ahead; if you don't want to, nobody can force you." That's how he talked to me initially, and I felt more at ease when he said that. So I thought, okay, I'm the boss. But he actually cooperated quite well later on. However, I didn't ask him to come with me often. I would tell him that I needed to take the eggs out the next day and take a day off, or that I needed to stay in the hospital for a few days and to take a day off. Then he would cooperate. (Lisa, S10W054)

Jack also described the issue of having children caused relationship tensions for a long time. The couples began to get anxious when the topic was likely to come up.

Everything else can be discussed except for this matter (having children).... When it comes to this matter, it seems to imply that, oh... stimulus is coming... This matter is a kind of stimulus for us. (Jack, S4H016)

After being stuck for a long time, the couple Jack and Chris, began to understand each other better after Chris deeply revealed her feelings to Jack.

> *She had never said that she thought she is not a good woman due to the lack of the role of being a mother; this is the thought she has had. After she revealed it to me, I would pay more attention to my words of saying that who has become pregnant or given a birth during dinner time. I would think that other people's pregnancy is not my business more often.(Jack, S4H014-3)*

> *It was like the last time, when she said, "you didn't understand my feelings. During these few times, I was also very upset and hurt, and I wondered if I am not a good mother." It was a state of self-doubt, like a feeling of not being a woman. It was like a spark that set off the gunpowder. Actually, there was some understanding each time, but that time I felt it was quite powerful...(Jack, S4H017)*

Sara, whose reason for infertility was due to a medical problem with her husband, also experienced testing times within the marriage due to her husband's hobby of drinking alcohol.

> *I really dislike him drinking, so we used to argue a lot before. Because at that time, we argued quite seriously, I felt that if you couldn't stop or overcome this matter, why should I work so hard for you. (Sara, S12W029)*

> *After the blow from that incident in January, he began to change his diet, at least in part because I requested it. However, sometimes he still tells me that he feels abnormal because he can't drink, and drinking is very important to him! He feels that it's a way for him to relieve stress. (Sara, S12W028-2)*

Losses and traumas

Besides facing the difficult challenges of treatment, some couples

dealing with infertility also have to face the hurdle of disappointment and losses that arise during the treatment process.

> *After the miscarriage, he felt very sad and wondered why it had happened. At that time, I was also very sad, but when I saw my husband grieving, I thought to myself, two people couldn't be grieving at the same time, could they? Because... well, actually, we didn't let many people know about what had happened. We only told our families, so we felt like our families couldn't comfort us. So I felt like when he was sad, I should at least be strong and face it first.(Vicky, S14W042)*

> *He wouldn't comfort me, I can't describe it, but basically I cried on my own. I didn't necessarily need him to comfort me, because I know he's not very good with words and I understand he's not good at comforting others either. I also felt like he must have been very sad as well.(Amy, S5W084-1)*

> *I couldn't believe it and had a hard time accepting that there was still nothing, because I thought I was prepared. It was a huge blow. When we went back for a check-up, the doctor had no other solution but to continue with medication and sperm tests. Although it was disappointing to see no sperm, the impact of that experience made me not want to give up so easily. Otherwise, I would have been very sad and depressed for a long time. I had to slowly communicate with my husband because at first, he was also very sad and didn't talk much about it. But no matter what, he always wanted to keep trying. I'm more of a rational person and believe that we have to keep trying, but we can't keep going on like this forever. (Sara, S12W013)*

Moreover, it may cause infertile couples' traumas because of the uncertain process that they can face. For instance, Jack and Chris suffered from the process of their child's heart-stopping and the induction of labour.

> *We once successfully got pregnant, but after three months, there was no heartbeat, and then we just...went back home. We just went back home directly. We needed to settle our own emotions and each other's emotions. I think that process was really...we*

spent so much time on it. It took us two or three years after that incident to try again. (Jack, S4H008-2)

After the failed attempt, I was very disappointed and felt very down. At one point, we even thought about giving up because my husband was also there during the process of miscarrying at home, and he had seen how scary it was. He also said that we shouldn't do it anymore. It was a terrifying experience for both of us. So, we took a break for several years before trying again. (Chris, S4W027-2)

The thing about the baby not having a heartbeat, actually the process of miscarriage and induction of labour afterwards was not a good experience for me. I felt that it was a dual physical and mental trauma. (Chris, S4W022-3)

5.4.3 Theme 3: The Influences of the Family of Origin System and the Reactions of Infertile Couples

This overarching theme discussed explorations in the context of traditional values that Taiwanese infertile couples face, how these values affect the couple systems, and how the couples react to these.

Pressures from traditional values

The majority of infertile couples felt the expectation regarding having a baby from their families of origin, which came from traditional values like “You should have a baby after getting married”, and “Raising children is insurance against the insecurity of old age”.

They may be quite traditional and think having children is necessary after getting married. (Amy, S5W048)

My mother and her generation hold more conservative views and believe having children is necessary after marriage.(Minnie, S8W076-1)

They are more traditional and believe that having a child is expected after getting married. (Cathy, S9W059)

Because my family has all girls and my parents are a bit traditional, they often say there won't be anyone to worship them in the future, and they hope everyone will have children. (Sara, S12W022-1)

Because my mother also mentioned, what will happen when you get old? When I got sick, at least there were some children who could cooperate with each other to take care of me. But when you get old, who will take care of you? For the elderly, without children around, it really means no completeness. This traditional belief still exists, that having children makes a family complete.
(Jack, S4H012-2)

Some interviewees experienced pressure from their parents' expectation of wanting to provide assistance in taking care of their grandchildren while they were still physically capable.

She (my mother) doesn't want me to have a baby so late, I think that's her way of thinking. So she will think that you should hurry up... If you really want to have a baby, you should have it quickly, solve this matter as soon as possible, at least so that they... when they need to help take care of the child, they still have the physical stamina. (Tina, S7W060-1)

If we have a baby, she can help us care for him/her. She said she still has the stamina to help us, but if we wait a few more years, she may be unable to handle it and we'll have to rely on ourselves. (Minnie, S8W038-1)

Furthermore, some participants believed that women feel a stronger pressure than men to continue the family lineage, based on traditional values.

> *In fact, in Taiwan, basically 99% of the time, if there's difficulty conceiving, people tend to blame the daughter-in-law or wife first. (John, S3H016-1)*

> *And sometimes he (husband) would say, "Do I need to talk to my parents (about the treatment)?" referring to my father-in-law and mother-in-law, but actually it's another pressure for me, although he seems unaware of it. (Anne, S6W029-2)*

Because women may fulfil the mission of continuing the family line for the husband's family, Minnie's mother noticed that she may not wish to marry her boyfriend (currently husband) if she did not want to have a baby..

> *My mother said, "If you don't want to have children with him, then don't get married. If you don't want to have children with him, you should tell the guy. After all, he also feels pressure because he's the eldest son." (Minnie, S8W077)*

Sara's parents felt relieved while they realised the infertility reason was Sara's husband.

> *They were worried that we wouldn't be able to have children for them, that we had problems. But after finding out the cause, my parents privately breathed a sigh of relief. (Sara, S12W022-2)*

Vicky felt relaxed when she knew that her husband's report regarding infertility was not so good.

At that time, I also wondered why it was like this... and because I was afraid, I was worried that my in-laws might say something. But it turned out that my husband's report was not very good. Ha, so my mood changed at that time and became better. (Vicky, S12W145-2)

Moreover, John mentioned that his mother-in-law always apologised to his mother for her daughter not giving birth.

My mother-in-law is a very traditional woman. She believes that when a woman marries into our family, she must be able to have children. However, because my wife has not been able to have a child after so many years, every time my mother and my mother-in-law have dinner together, my mother-in-law apologises to my mother and says it's all her daughter's fault. (John, S3H027-1)

However, the value of "carrying on the family line" doesn't seem to only exist in the husband's family. Before getting married, Lisa had already reached a consensus with her parents that if they were to have a second child, the child would take her family's surname. Therefore, before having a second child, she felt a greater expectation from her original family.

I think the pressure from my original family might be a bit greater! Because I feel that they may want a child with the same surname as me, regardless of whether it's a boy or a girl.(Lisa, S10W071)
My mom would ask, 'When will you have a second child?' The frequency of her asking is much, much higher than my in-laws. (Lisa, S10W075-2)

I felt that if I have a second child, it would mainly be for my firstborn to have a sibling, and secondarily, to fulfill my parents' expectations. (Lisa, S10W088)

Most infertile couples also indicated that the pressure to have children from traditional values might vary in degree depending on different family circumstances, such as the husband's position in the family and the age at marriage.

> *When my husband and I got married, he was already quite old (almost 40 years old), so maybe my in-laws thought that at least he was married, and having children could come later. Additionally, I personally feel that the most important thing is that my in-laws already have a "grandson", who lives nearby, and a large part of their life revolves around caring for and looking after my husband's nephew. (May, S2W303)*

> *My wife's side is okay, they said it's fine whether we have children or not. But for me, as the eldest son in the family, I also like children very much, and there is some traditional pressure on me.(Jack, S4H009)*

> *Because his (husband's) older brother already has two children, and my mother-in-law is taking care of them, she doesn't have much time to ask us about having a baby or not. Also, my mother-in-law has her own religious belief, which is in Guan Yin Bodhisattva, and her faith requires her to go to the temple, so she is very busy.(Amy, S5W038)*

> *Because my mother-in-law is in her 70s and none of her three children have settled down yet, she might hope that if we have a child, she can help take care of him/her. (Minnie, S8W038-2)*

> *Since my husband got married at a late age, his mother probably thought it was already a great blessing that he could get married! A person who gets married at the age of 56 will certainly not be asked to have a child. (Wendy, S13W060)*

Minnie’s mother-in-law also reduced her pressure on urging her second son to get married after Minnie and her husband successfully had children.

His younger brother also has a girlfriend who he's been dating longer than us. They've known each other for two to three years before we got married, but he also didn't have the intention to get married. So after my mother-in-law saw our two little babies, she wouldn't force him to get married either. (Minnie, S8W082)

Most infertile couples in Taiwan felt pressure from their families' expectations about the types of treatment that would be appropriate for infertility, and this pressure was conveyed to them in various forms.

My mother-in-law had a rather outdated way of thinking. She would often say things like 'so-and-so tried it and it worked, let me take you there' whenever it came to seeking guidance from deities, taking Chinese medicine or consuming specific foods. Every time we visited my husband's family, these things would come up, like going to a temple or doing this or that...and you just could feel the pressure. She talked to both me and my husband about it.
(Chris, S4W031)

What you can sense invisibly is his anticipation for this. My father would directly give me supplements, and my in-laws would give me supplements that are more likely to be commonly eaten, such as adding a vegetable or giving you something like chicken soup. However, my father would directly give me something like Chinese medicine. (Anne, S6W048)

They would express their expectations, like they want a grandchild held during Lunar New Year and to give a red envelope to the baby. When eating, they would specifically pay attention to what you are eating. (Sara, S12W017)

Anne also mentioned that her mother-in-law once had a dream about the pregnancy and thought that Anne and her husband would have a baby, but it turned out to be her daughter's, which was somewhat disappointing for her.

As it happened, my husband's...my sister-in-law had a baby before that, yes. So, I felt like, at that time, her dream might have made her think that the baby was ours, but it was actually my sister-in-law's. When she was talking about it, I had a feeling that they were a bit disappointed that it wasn't ours but my sister-in-law's.(Anne, S6W050)

Apart from the expectations that both parents would express visibly or invisibly, some participants described the pressures coming from their relatives.

During Lunar New Year, we go back to have dinner with his uncle and aunt, and they would say things like "Why don't you have a baby yet? Have one soon," "You're still young, have a few more." I feel a lot of pressure from those comments. I think having a baby is our own decision... besides, our parents haven't urged us to have one, but hearing those comments from them feels...
(Vicky, S14W138)

There are also some elders, who are your relatives and friends, who would say things like "Hurry up and have a child", "How many children do you have now?", "How long have you been married?", "Why haven't you had a child yet?", and so on... It's also a kind of pressure that we face, and I think it's a common pressure that most people experience. (Chris, S4W053)

We would be asked by relatives during holiday gatherings. (Sara, S12W018)

The influences and reactions in the couple system

Under the Taiwanese cultural context, it is clear that infertile couples feel expectations and pressures to some extent related to childbearing. This section will present how family pressures affect the couple's system and their reactions.

Some interviewees used concealment or evasion to avoid expectations

and pressure from their family of origin.

I tended to keep my IUI and IVF in low-profile and avoid the additional pressure of concern and potential failure. I tended to only share good news and keep bad news to ourselves.(Gill, S1W203)

I know my mother is worried and cares about me, but what comes out of her mouth are piercing comments like the news of a mature celebrity giving birth or the successful IVF of her classmate's daughter on the first try. It seems like she's blaming me for not being proactive enough or for not having results. After that, I tried my best to avoid bringing up these kinds of topics with her.
(Gill, S1W104)

Actually, we didn't tell my parents that we were going to do IVF, but my in-laws knew about it. We were afraid that if they paid too much attention to this matter, it would create excessive expectations. We knew that there would also be excessive expectations in the medical aspect, and we had experienced excessive expectations before, which resulted in greater disappointment and trauma. (Jack, S4H011)

They often ask about it. As I said earlier, I feel that the pressure they give is greater than the pressure from my in-laws, so I don't want to go back to my parents' house during the Lunar New Year. I didn't go back last year or this year because of the pandemic, which provided a convenient excuse.(Amy S5W046)

I felt embarrassed to talk about the details of how we prepared for conception, like buying ovulation test strips before seeing the doctor. I found it annoying to discuss these details, but I had been trying very hard and hadn't succeeded. I also felt afraid to talk to my mother about it. (Lisa, S10W075-2)

Furthermore, John expressed the issue of childbearing causing tension and alienation between his wife and his wife's family of origin.

Because her mother has said many hurtful things before, like calling infertile hens, or similar comments, my wife has had a hard time understanding her mother and hasn't

been willing to share her parenting experiences and details with her mother. This has been the case until now. (John, S3H019)

Actually, I could feel from my wife's family of origin that she didn't like going back home because there was no consensus, only doubts. They kept asking why why why instead of telling us what to do. Since there were only doubts and accusations when she went back, and no substantive help could be provided, my wife became more and more reluctant to bring up this issue, and even to face it when she went back. (John, S3H042-2)

Because women tend to be the main subject for family stress, some husbands would avoid the pressure from their own family by protecting their wives.

He (the husband) would communicate on his own and not bring the pressure from his family to me. He also wouldn't tell me what his parents said. (Cathy, S9W056)

I felt like my husband was always willing to help me... He would step up and address these issues for me, so my in-laws wouldn't have to ask me directly. (Vicky, S14W057-2)

Apart from that, factors related to infertility also seemed to affect the family stress level. After Sara's in-laws found out that the reason for infertility was due to her husband, the parents-in-law, who used to be concerned about the matter of having a child, became less willing to bring it up.

My husband’s parents became hesitant to talk to me about this matter. They used to talk about it when they didn't know, but they talked about it less afterward. (Sara, S12W016)

Tina and her husband are affected by both male and female factors causing infertility. However, the husband acknowledged that he had directed the focus more onto himself to prevent putting pressure on his wife.

> *The elders used to ask, asking where you were in the process? Who has the problem? My husband would say, "It was found that his physical condition was not very good" or something like that, and it was not my problem. Then he would tell his parents that his body was not very good, so the doctor asked us to do this. He wouldn't let his parents think it was my problem, so we had to go see a doctor or something. When his parents asked about the progress, he would answer them, so I wouldn't directly face his parents asking me how I was doing. (Tina, S7W042-2)*

John also reported using a similar strategy.

> *Of course, to me, in fact, during those six years, if it was unsuccessful, the best reason you could give was that it was your own problem. Because once you said it was your own problem, usually the pressure on my wife would be smaller, and my parents would be more relieved because it was my problem, not my wife's. And because, really, upon examination, my wife also had no problem, so if you said it was your own problem, I think it was easy for everyone to understand, both for each other and for my wife's parents, because it was my problem, and that was the simplest explanation. (John, S3H015-2)*

> *When I used to say that it was all my problem, my mother would naturally direct the problem to me. She would then cook shrimp for me to eat, urge me to drink clam essence, and ask me to do a lot of things. This way, the focus was not on my wife, and this trick was quite effective. As for the result, only my spouse and I knew. Actually, my wife didn't have to be forced to drink strange potions or charms, or go to pray to the gods. If there was anything to be caught, it was me who would be caught, so I didn't really care. Yeah, it was very useful. I sincerely recommend it. (John, S3H016-3)*

Sometimes the pressure from the family still affected the relationship

between the infertile couples. Tina said that she would get angry with her husband because she was constantly questioned by her mother.

> *Because my mother kept asking me, it put me in a bad mood. When I was in a bad mood, I kept taking it out on him, which made him feel bad. My bad mood led to me being irritable with him and my emotions just escalated. (Tina, S7W062)*

Jack and Chris also faced a challenge in their martial relationship due to the differences of role and positions in the family. Jack shared he was stuck in a dilemma between his parents and his wife.

> *For me, I felt like I was stuck in the middle, like a sandwich cookie. On one hand, I wanted to please and soothe both sides. For me, maybe I felt sorry for my wife going through that process, because that was not what she wanted, and nobody wanted that kind of situation. But I also felt like my parents had that expectation in their generation, a kind of inherited expectation. (Jack, S4H012-1)*

Chris also shared this view.

> *I actually resisted it because I was very aware of my own physical condition. I knew that it was not something that could be solved by praying to gods or eating certain things, and that it was not something that would just happen by worshiping a certain deity. In fact, I felt like the whole process was not being supported enough because my husband always said "just do it as the elders say" and it made my mother-in-law feel more at ease. But I really didn't want to do it, and that's what made me very uncomfortable. However, he could not understand me and told me to just go along with it or pretend. But even if I tried to cooperate or pretend, I still could not just do things the way the elders said. (Chris, S4W033)*

Chris expressed using her own approach to prevent the pressure from

her husband's family, but also felt this issue caused conflict in their relationship as a couple.

> *So actually, my behavior wasn't really cooperative. I clearly told my mother-in-law that I didn't want to eat this or go worship at certain places, or even said that I wouldn't come again after worshiping. Because I had a clear refusal, I directly told my mother-in-law, since my husband wouldn't say it. (Chris, S4W034-1)*

> *I thought this matter was... as a son, he wouldn't have wanted to defy his mother and would have been more obedient, yes. He naturally had his own way of dealing with and facing those pressures, but it wasn't my way, so I chose to handle it my way. And of course, because our ways and attitudes were different, it became an invisible pressure between us as a couple. (Chris, S4W034-2)*

> *I felt like, after so many years, why was it still like that... He seemed unable to empathize with me or understand me or stand by my side and tell his mother not to do this or say that, to stop demanding that we have a child. I also had emotions... I didn't feel like he could understand me, understand my choices, and support me. He as a husband, I felt like I also needed to be cherished, but I didn't feel that way. Actually, I also got emotional about this part. (Chris, S4W039)*

In addition to Jack and Chris' story, Sara, whose husband was the cause of their infertility, also faced "disturbances from three families" as their relatives questioned the issue of having children. This arose from a family gathering where Sara's husband's relatives expressed concern about Sara's childbearing and made her feel pressured, but her husband's parents, who knew that the cause of infertility was Sara's husband, did not comment on it.

> *Relatives had opinions about my childbearing, and I felt uncomfortable when my*

parents-in-law were present but remained silent about it. (Sara, S12W041)

However, Sara turned to complain with her husband but did not feel understood and supported.

I would talk to him and complain, saying, "Why are people from your family like this?" He would feel that every family has its own difficulties, and if the roles were reversed, my parents might be the same. But I don't think my parents are like that. Since I can't change those things and I don't want to speak up either, I feel like I can only endure it. (Sara, S12W042)

However, it was Sara's drunken father who spoke up for her after she complained to her family of origin.

Because my father drank alcohol and he tended to speak recklessly when drunk, my husband felt more pressured. However, my father also felt sorry for me because I was being misunderstood by relatives, and he wondered why I had to suffer from being misunderstood like that. Sometimes, I told them about it, so my father may have accidentally said some unpleasant things when he was drunk, which added to my husband's stress. After a few times, there was one time where my husband was hurt by my father's words and my father never dared to bring it up again. (Sara, S12W023).

5.4.4 Theme 4: The Role of Social Networks and Influences

This overarching theme surrounding three sub-themes, social media, real-life and interpersonal relationships, and workplace, aimed to discover the role and influence of social networks in infertile couples' lives.

Social media

Many interviewees mentioned that they were not willing or did not know whom they could talk to when they realised their infertility in the beginning. They also thought friends around them may not understand and therefore, could not discuss issues with them due to a lack of similar experiences.

> *In fact, when it comes to infertility, you basically won't discuss it with anyone except your partner and doctor. Before I succeeded, I didn't say anything; I didn't even tell my parents. (Lisa, S10W015-1)*

> *Their pregnancies were very smooth, so... although I wanted to discuss it with my friends before, they couldn't understand. They couldn't comprehend why we needed to do those tests or why I had to take so much medication and injections. They just didn't understand why I had to go through all of this. Sometimes, when I talked about it, I felt like I was just complaining, and they didn't know what I was going through. (Tina, S7W072)*

> *Because at that time, no one around me was going through this, either I didn't know anyone or everyone just kept quiet about it, so I had no one to discuss with. But I might vent out... like telling my family directly about what I did today or talking to my sister. But I felt like I couldn't really discuss it with them because they had never gone through it themselves. (Cathy, S9W090)*

> *I wanted to talk about it, but I didn't know who to talk to. Maybe someone I didn't know or my own family, but they would just listen and wouldn't be able to offer any help. Umm, they couldn't understand. (Cathy, S9W109)*

Most participants mentioned that they would search for a relevant group online to find an echo chamber to communicate and share related information.

I found that group myself by searching on Google. I just googled 'IVF diary' and the correct name came up. It is a private group. (Minnie, S8W071)

I would see others... to see the process and results of what they are doing, to see how they discuss it. I would go on platforms like PTT[4] to search for information. Well.. I would look for people's reactions and also search for information from strangers who have had similar experiences, not people I know. (Cathy, S9W092)

At that time, I would read some infertility forums to see what problems people would encounter during their preparation, and if there were anyone with a similar condition as mine, since my infertility was caused by blocked fallopian tubes. I wanted to find an echo chamber and see how others were doing. (Lisa, S10W015-1)

I would see some questions in the (FB) group, and I would also PM some friends to ask them about related processes or things like that. (Wendy, S13W119)

I would join Facebook groups to see people share their experiences and see if they apply to myself. (Vicky, S14W100)

At that time, I was constantly browsing the internet for information about azoospermia. I read other people's experiences and came across an article by a patient in the central region who recommended an authoritative urologist at Taipei Veterans General Hospital for this issue. (Sara, S12W012-2)

Compared to the resources available for female infertility or IVF, Sara, whose infertility was due to her husband, specifically mentioned that there seemed to be fewer resources available for male infertility. Men may also be more passive in facing the issue due to concerns about embarrassment.

Then I think there should be more development in the area of male infertility. Because

[4] PTT Bulletin Board System is Taiwan's most extensive terminal-based bulletin board system (BBS).

I believe there are many people facing this issue, and it should be more widely known. Some people may be aware of it but are afraid to seek help or give up quickly, and if you really want a child, you should make more effort. Clinics usually focus on women, and there are fewer resources available for men. I don't think everyone can easily find the resources they need, unlike women. (Sara, S12W077)

I feel men may care more about saving face, and they may be afraid to seek help again or feel discouraged and think that they are just stuck and not motivated to keep trying. (Sara, S12W079)

John also shared the experience of his wife's male cousin.

Just like the example I mentioned earlier, look at her male cousin who had azoospermia. It took him about three to four years before he was willing to get checked and found out about his condition. Actually, if he had checked earlier, he would have known from the beginning and could have avoided wasting three to four years. (John, S3H016-1)

Amy whose husband is infertile, also expressed they spent many years finding this current doctor, and she joined the related group afterwards as well.

I think if there was someone who could have helped me like this in the beginning, I wouldn't have wasted so much time. We wasted so many years, and we didn't even know about Dr Huang. Otherwise, maybe I would have a child now. You know, the age gap for IVF is significant. (Amy, S5W107-2)

We are all the same, with infertility issues on our husbands' side. It seems that at the beginning, someone pulled a few people into this group, and then others shared it on the internet. Also, when I went to the hospital to see a doctor, there was a person next to me who was also in this group. She asked me if I wanted to join, and that's how I got into this group. (Amy, S5W068)

Interviewees highlighted that social media groups not only provide opportunities for exchanging and sharing experiences but also provided a way

to compare their experiences to those of others.

> *Sometimes (feelings) can become very complicated. Because after you look at it and realise "Huh? Someone succeeded!", you feel quite discouraged...Yes, means feeling down, like taking an exam with two people, and one person passes while the other doesn't... (Wendy, S13W121)*

> *I felt like maybe I just had bad luck. I saw many people whose (situation) was even worse than ours, and they even had twins. But she was younger than me, and many others were like that, too, getting pregnant quickly. I didn't know when it would be my turn...you were all pregnant; when would it be my turn? Hehe. (Amy, S5W112)*

> *He (my husband) is quite considerate because we joined that IVF support group, and after seeing it, my husband seems to be pretty good and excellent。 (Minnie, S8W055)*

Real-life and interpersonal relationship

Besides the online world which participants mentioned above, they also shared their experiences in their daily real lives. The result is consistent with the questionnaire data in the previous chapter; some interviewees also discussed they felt the generational differences when it came to the issue of infertility in Taiwanese society.

> *Our previous generation, they were mostly...probably didn't experience it, so they wouldn't think...like I talked to the neighbour last time. she said in Taiwanese, "Can't you just hop over?" Yeah...they would feel like, "What's the difficulty with that?" Back then, they could easily have a bunch of children. It's not like us now...trying to have children but can't and having to go see doctors. Even after seeing the doctors, it's not just taking some medicine and being fine; you have to keep going back to see the doctors. What's wrong with you? They might think like this. (Tina, S7W104-2)*

Nowadays, more and more people of our generation are likely to experience this, so they can empathise more, but the older generation may not be able to understand this feeling. Sometimes, the elders may ask questions more directly or without considering the feelings of those who are seeking medical treatment. Umm, sometimes it is like that, which makes us feel hurt by the words of the elders. (Tina, S7W107)

The older generation still expresses surprise. For example, my aunties would still say things like, "Huh? Are you going for IVF? Like a robot?" She may talk like this! (Lisa, S10W110)

I feel that at our current age, for example, in our thirties or forties, talking about certain topics with friends is generally okay. But I think there is still some distance when it comes to talking about these topics with the older generation. (Anne, S6W059)

Some of the participants experienced that they realised their friends had similar experiences when they or someone they knew started or unintentionally spoke out about undergoing ART.

Later, I found out that when I started to share my issue with others, I would realise that there were one or two friends or colleagues around me who were actually undergoing the same treatment. Yeah, they were. It's just that after I was willing to speak out, they would say that they were too. If I didn't speak out, it would be like a toothache; no one would know I had a toothache. (Wendy, S13W116)

When I was talking with my friend, I didn't remember what we were talking about. Suddenly, she said that she had undergone ART. That's when I found out that, oh! You also had undergone it. Yes, otherwise, no one would talk about it. It's really amazing. But it's because of this shared experience that she told me what I could eat or where I could see a doctor, or where I could go to put my body in a better condition. However, this kind of information seems to be underground.
(Anne, S6W075)

According to the respondents', if people with similar experiences in real life can communicate and discuss, it should have a positive impact on facing

infertility treatment.

> *Because we were successful on our first attempt, that's why I am willing to share if anyone asks us or wants me to recommend or tell them how much it costs. The reason is that if we had known earlier, we wouldn't have wasted six years like this. (John, S3H013-3)*

> *Later, I had a sister-in-law who underwent the treatment after me, and she felt it was really helpful. If she asked me, for example, what the current treatment was or what discomfort she might be experiencing, I could empathise more and tell her what she could try to relieve it or what to expect. Because she and I had the same experience, we knew where the discomfort would be, what medicine to take, and what kind of side effects might occur. So, if she talked to me, I could empathise with her and feel better. (Cathy, S9W107)*

> *If they can find someone with similar conditions and provide support to each other, it would be better. (Jack, S4H036-2)*

Furthermore, Vicky mentioned that she and her husband had friends with similar experiences who they could talk with and provide assistance; this may be because the infertility issue may not be taboo in their fields of occupation.

> *Several of my husband's colleagues have undergone IVF treatment, and they introduced us to their clinic. They are engineers [5] and they don't seem to avoid talking about this topic. (Vicky, S14W051)*

> *My husband's colleagues also had many experiences with IVF, so they knew about our situation (miscarriage) and helped comfort my husband. (Vicky, S14W048-1)*

> *When my colleagues needed to undergo IVF treatment, they would take time off from work so we had a general idea of what was going on...they would talk about what they*

[5] People tend to consider the issue of infertility to be part of the technology industry in Taiwan.

were going to do, and they didn't have any taboos about it. I think maybe because we were medical professionals...we thought that when you have a medical condition, you should see a doctor and not hesitate.
(Vicky, S14W146)

At that time, when I found out that I was infertile, I felt like...how could I be so different from others in terms of implantation period. Later, I found out that several of my colleagues were doing IVF. Then, because one of my colleagues, who is the same age as me, told me that she also felt the same way, thinking "why me?" at that time. She had a previous surgery in her gynaecology, which made her unable to conceive naturally, so she had to do IVF. She told me that if I wanted to, it would be better to do IVF earlier while I was still young, because the quality of eggs would be better. She said that when she went to see the doctor, the clinic was always full of people, so she never felt alone. She has told me this before. (Vicky, S14W145-1)

To infertile couples, it may be helpful to have friends with similar experiences to communicate and share within their real lives. However, if they are asked about their plans for having children at social events, this may cause huge pressures and burdens for infertile couples.

For example, you might be attending a wedding banquet where your tablemates are all classmates or people you know. Some of them may have children and they might ask you, "How long have you been married?" or say things like "It's great that you don't have kids yet" or "We have so much pressure now that we have kids." For couples who are struggling with infertility, these types of comments can be hurtful. It's like they assume that we don't want kids or that we're happy just being a couple. Of course, they might say that you're doing well, but it can be frustrating to hear these comments. We might feel annoyed, it's not appropriate to bring up such personal matters at events like this. (Chris, S4W052)

Don't keep asking and prying, some people find it hard to open up and share so much with you. I think societal pressure and unnecessary concern like this can really affect a couple's relationship. (Chris, S4W051-1)

I think culturally, we tend to start asking questions like, "You're married now, do you want to have kids? How many years have you been married? How many kids do you want to have?" and so on. I feel like there is still cultural pressure around this topic, so maybe it should be included in our education or public health campaigns. We should learn to respect other people's choices about whether or not to have children. (Chris, S4W050)

For me, I would say let nature take its course. But some people might say, "Why haven't you had kids yet?" and I might think, "I really want to, but I already told you letting things happen naturally." Others might say, "Not having kids is the best, you'll have more freedom." There were always some voices coming from me at that time. Umm, I still feel anxious about other people's attention and opinions. (Jack, S4H024)

Workplaces

As mentioned in the first overarching theme, some interviewees may quit their jobs to arrange the treatment and focus on ART journey, or some may have flexible work time or run their own business, so they could arrange the treatment easily. However, there were also interviewees who struggled to balance work and the frequent treatment that required them to take time off. May told about their pressure and worries due to the frequency of their work absences.

During the treatment process, frequent time off is required to coordinate with physiological and doctor's schedule. Therefore, the support and assistance of colleagues and supervisors in the workplace are crucial. On the one hand, I felt guilty for causing inconvenience to my colleagues, and on the other hand, I was worried about the impact on my performance evaluation and salary. (May, S2W102)

Wendy struggled to be honest at work about the reasons for her absences and felt reluctant to reveal the reason for needing time off to her supervisor.

> *I felt that the workplace was unfriendly. During the treatment, I often had to take time off for appointments. It is visible if someone is pregnant because others might see her physical changes, but it was not my case. People would often question why I still needed to go to the appointments and assume that it was unnecessary. However, everyone's situation is different, and taking time off was necessary for me. It was also a source of pressure to speak out the reason for my leave. Because you are essentially exposing your personal situation entirely. (Wendy, S13W078)*

> *He (the supervisor) may have a faster tempo, and therefore it was difficult for him to accept that I had to take frequent leaves, such as taking time off during weekdays or going to appointments for blood tests. Because he was not a very friendly supervisor, I was forced to let him know. However, I didn't really want to share this personal private matter with him. At that time, I felt quite pressured. (Wendy, S13W081)*

Wendy discussed how even when supervisors are women, they might have different attitudes toward ART.

> *Some female supervisors are very understanding, but others may think that giving birth is easy and question why you need to take so much time off for infertility treatment. Even female supervisors may have different opinions. (Wendy, S13W085)*

5.4.5 Theme 5: Assistance or Obstruction of Medical Professionals

The medical system plays a crucial role in the process of undergoing ART for infertile couples; this section will present the data connected with two sub-

themes of assistance and obstruction.

Obstruction

As mentioned in previous chapters, infertile couples face huge challenges physically, psychologically and relationally because of the cumbersome and lengthy processes of ART. The significant expenses and long waiting times are the main sources of stress repeatedly mentioned by interviewees.

> *I went through four rounds of IUI and four rounds of IVF, which cost me almost a million NT dollars. I worked hard to earn money for paying it. (Jack, S4H005)*
>
> *We probably spent almost five million NT dollars. (Amy, S5W020)*
>
> *During the treatment process, I felt that the most frustrating part was the long waiting time. The entire waiting process at the reproductive centre was nerve-wracking. I never knew how long I would have to wait and I was worried about missing my number being called. Therefore, I couldn't focus on doing anything and felt distracted during the one or two hours of waiting. (May, S2W203)*

Although the Taiwanese government started subsidising the cost of ART treatments for infertile couples in 2021, Wendy mentioned, *"I heard that after the Department of Health started providing subsidies, the overall cost of the treatment increased. It's like having a discount...although you get a 20% off, the price was increased by 20%, so the total cost remains the same." (Wendy,*

S13W107)

Apart from investing a significant amount of time and money, some of the interviewees also mentioned a standardised and impersonal healthcare experience with a lack of warmth.

> *Regarding the medical aspect, to be honest, I believe they must have encountered many couples in similar situations, like when we first entered this treatment, I felt like it was just a normal thing for them, but it was not at all normal for us. I think if they encounter patients like us, they should be more empathetic and careful... I felt that the first time was still a bit lacking in warmth.*
> *(Jack, S4H007-1)*

> *In Taiwan, is this thing a bit commercialised, meaning IUI and IVF? Because when I went to the clinic, I had a feeling like they were treating me as a patient or a customer? I didn't know if other people had a similar feeling, but at the time, I didn't know if the nurse had seen too many patients or what, but she seemed to think that it's just like this - you come when it's time, and you leave when it's time. Whether you succeed or not, that's just how it is. (Anne, S6W082)*

> *It was more like a very standardised process, and we didn't feel like we were being treated as people. We came in, laid down on the examination table, and then there was the internal examination. The nurse didn't say much like " how many have seen so far" or anything like that...and then we left. When a different doctor came to see us, they just said, " wait a few more days." It was a very standardised process, and it felt like we were all animals. (Tina, S7W082)*

Suffering from the difficulties of treatment, couples expressed a need for greater warmth and more empathy and support when facing traumas, like miscarriages, during the treatment. Both Chris and Vicky mentioned their

negative experiences due to a miscarriage.

> *In the beginning, the doctor originally said that he would prescribe medication for me to take at home and naturally miscarry, so my husband was present during that process, and he could feel the part where it naturally occurred. However, because I didn't completely miscarry, the doctor had to perform a surgical procedure on me again, which meant I had to go into the operating room again... Anyway, I feel like it was a very terrible experience. I didn't even think to myself, "Oh, I went to see the doctor and the doctor immediately said to go into the operating room to clean me up." I didn't expect the doctor to ask me to go into the operating room so quickly, so I went in alone that day. And my husband couldn't come over temporarily. (Chris, S4W024)*

> *After the miscarriage, the doctor said it was my fault. At the beginning, the pregnancy was successful, meaning the embryo had implanted and the baby had a heartbeat. The doctor said things like "This is great! It's like I told you, the success rate for PGS is over 80%". Later on, I found out that PGS wasn't necessarily required because it increased the cost and the damage to the fertilized eggs. After the miscarriage, the doctor said it was my fault for miscarrying. I just felt...my mood was already very bad at that time, and then the doctor spoke to me like that. (Vicky, S14W155)*

Assistance

Going to a fertility clinic and undergoing a physical examination can be nerve-wracking and anxiety-inducing for couples struggling with infertility. Tina likened the experience to taking an important exam.

> *When I used to go to the hospital, sometimes I would feel a lot of pressure. It was like every time I went, the doctor checked my score, and if I wasn't doing well, they prescribed more medicine to adjust my condition. It felt like I only went to the hospital to look at test results, like taking an exam and checking my grades every time I went. (Tina, S7W086)*

It would be a great relief to infertile couples if the doctor encouraged or supported them in this process filled with stress and anxiety.

> *Although the famous doctor's influence usually means a long wait, the one or two extra sentences they add can significantly ease my mind. During my second treatment, I made a mistake in the number of pills to take during the endometrial phase. When I went back for a check-up on my uterus, the endometrium was not thick enough, and the implantation date had to be postponed. I was beginning to feel anxious and blame myself for not paying enough attention to things in my daily life besides taking medication. However, the doctor suddenly said, "The thickness is due to the medication; everything else is normal." This greatly alleviated my worries and allowed me to focus better on listening to the doctor's explanation of the follow-up matters that needed attention. (May, S2W104)*

> *This doctor is good at saying a lot of encouraging words. At the time when I was experiencing bleeding during the initial period and had to receive an injection every day, he said to me, "It's hard to receive injections, isn't it? It hurts... It's really tough." This was the first time I felt that someone understood how I felt. At that time, I told him that as long as the baby was safe, it didn't matter how difficult it was for me. However, he replied, "No, you also need to take care of your own body." Later on, when I had severe morning sickness, he said, "Morning sickness is tough. Why don't you come and receive an IV first?" (Vicky, S14W158-1)*

Lisa specifically mentioned that the doctor's private message made her feel supported and cared for.

> *When I was almost three months pregnant, I had heavy bleeding and had to go to the emergency room twice! Then my fertility doctor found out and contacted me on 'Line'[6] to comfort me. He said that it was still early in the pregnancy and not much could be done, so I should just take my medication, rest more, and not need to be on strict bed*

[6] "Line" is the most popular social media in Taiwan, which people use to connect to each other, its function is like "whatapp".

rest. If he had not contacted me on Line, I might have thought that he only cared about his success and ignored me. I might have felt a lack of emotional support, but now I feel that he truly cares about his patients. (Lisa, S10W098)

Tina expressed her anticipation for the refinement of the medical process, which could allow her husband to have more involvement.

It's about allowing men to participate in the process of that examination together because sometimes, when the husband sits outside waiting, they don't know what we're checking inside. And then it's always a group of women sitting in a circle, one by one called in and out, taking turns like that. It's really a very impersonal feeling. If medical treatment could be more meticulous and humane, making the medical process feel more emotional and warmer, it would be more like the husband and wife dealing with this matter together, not just the woman giving birth. (Tina, S7W115)

Anne experienced that the doctor expected her husband to be present during the introduction of the treatment process and also discussed and answered questions with her husband. This made Anne feel good as it created a helpful feeling of being together to face the issue.

The second doctor would ask me where my husband was. For example, if I went into the examination room first, he would ask, "Where is your husband?" and then say, "Otherwise, let's wait for your husband to come in" before beginning the consultation. It was at that point that my husband became more aware that he needed to accompany me every time rather than it being optional. It was a form of education given by the doctor to some extent. (Anne, S6W070)

Because my husband used to do experiments before, sometimes he used some of the words they used in their experiments and asked the doctor questions. The doctor could answer him because I didn't understand, so I could only trust that when the doctor said A, it was A, and when the doctor said B, it was B. But I thought if two people with

scientific or experimental experience discussed this, as long as they could convince each other, then I felt like we could try it. (Anne, S6W087)

Overall, most interviewees expressed their anticipation for more refinement concerning caring psychologically, not only physical assistance, when undergoing the ART journey.

As we are also doing psychological work, we feel that if there can be more warmth, it can actually help ease some of our psychological states, allowing us to settle ourselves more. (Jack, S4H008-1)

I feel that many people need this kind of information. If some of this information can be provided openly to couples who are getting married or preparing to have a baby, it can help them prepare well in their minds as they are going to face changes in their relationships. They can have discussions before the process and come to a consensus on how much they are willing to pay for this. I think this is very important; otherwise, everyone has to figure it out for themselves, and nobody provides guidance. In short, I feel that the reproductive medical system in Taiwan still only focuses on the physical aspect. However, there are many aspects related to relationships and well-being that nobody cares about, especially for couples. (Chris, S4W057)

I don't know why, but it seems that in Taiwan, the focus of mental health is only on prenatal or postpartum depression in pregnant women. However, it seems that nobody pays attention to the issue of undergoing such treatment. But I believe that many people have broken down several times in between. (Anne, S6W073)

Personally, I think that if doctors can provide a bit more psychological support during the process, it would make patients feel more comfortable. For example, having someone to ask questions or to facilitate communication between couples would help reduce friction during the treatment process (Tina, S7W112)

For instance, I know someone who underwent treatment and was expecting twins. However, the babies did not come to terms at
around eight to twelve weeks, and as a result, the couple ended up getting a divorce. It

would be helpful to provide more support and counselling systems to assist couples in their relationships, particularly with regard to their mental health. (Wendy, S13W114)

Even if the doctor is very skilled, if you don't receive psychological support, I think it can be very stressful and not good for you. This can also be detrimental to your preparation for conception. (Vicky, S14W161)

5.5 Discussion

Study III, using qualitative research, tried to explain in detail the model for understanding infertile couples from a systemic perspective, as outlined throughout the thesis. The first research question, “What is the societal and cultural context in which Taiwanese infertile couples have undergone assisted reproductive technology?” has been addressed in the previous two studies. This current study aims to gain a deeper understanding of how infertile couples were affected and how they responded in this sociocultural context. Discussion 5.5.1 further replied to part of the second research question, how the treatment process affected their marital life and relationships. Discussion 5.5.4 addressed another part of the second research question; how infertile couples feel about the medical system. 5.5.2 and 5.5.3 addressed Research Questions 3 and 4, respectively.

5.5.1. Shaping Consensus in the Dynamic Treatment Process

The findings from this study identified the importance of couples’

consensus during the treatment process. However, due to the wide-reaching challenges afforded by treatment followed by the dynamic changes in couples' physical and economic conditions, couples' consensus may not be reached at the same time; they need to keep discussing and disclosing updates of individual situations to each other during the process (CHR's clinical, 2020; Chen, 2019; Chow et al., 2016; Pasch & Christensen, 2000). The study (Peterson et al., 2003) highlighted the importance of infertile couples achieving consensus on the need for parenthood before their first treatment cycle. This current study confirmed this previous finding and further indicated that couples' values of the importance of parenthood may differ in their age, gender, and expectations relating to childbearing from their family of origin. For instance, participant "Wendy" married her husband who was fifty-six years old when she was forty. Wendy mentioned that her husband did not think having children was necessary at his age, so he behaved passively during their ART journey. This current study also revealed that couples' practical conditions, such as treatment cost and physical burdens, were their key considerations when evaluating the continuation or discontinuation of the treatment process. This consideration differed by individual, with some choosing to leave employment to devote themselves to the treatment, while others found that the landscape shifted

during the treatment journey as practical situations changed, like couples using up their financial resources before they had succeeded in pregnancy. To conclude, it is clear that while consensus in an important foundation for parenthood, the consensus-shaping process is dynamic and fluctuates over the course of treatment due to practical conditions and the couples' need for critical appraisals and reappraisals of their situation.

5.5.2. Interactions between Internal Infertility Couples during the Treatment Process

It is inevitable that during treatment, women are the primary recipients of medical services for infertility issues, with the majority of interventions. After starting the ART process, women are under a lot of physical and emotional pressure and are more sensitive to dyadic support from their partner (Bayley et al., 2009; Davidovà and Pechovà, 2014; Gourounti, 2012; Molgora, 2019). Findings in this study emphasised that women may need two dimensions of support from their partners: one is understanding the physical pressures they are experiencing as a result of the treatment and intervention process, and the other is perceiving their sociocultural devotions. The findings showed that wives often felt lonely because they were the primary subject of the treatment; facing

physical distress and accommodating the consultation schedule alone may lead to increased dissatisfaction with their married relationships. Findings also revealed that if the cause of infertility was a male factor, wives perceived a better understanding of their physical challenges from their husbands; this seems to indicate that wives were congruent in their appraisals of the stress of infertility (Pasch & Sullivan, 2017). In the cases where wives were the main focus for treatment due to infertility caused by a female factor, husbands would need to express their support in a timely fashion, such as by accompanying wives during the treatment process, preparing some treats after the examinations, or helping with the injections, to present a more unified front as they take on the difficulty of treatment (Pasch & Sullivan, 2017).

Wu (2002) stressed the concept of gendered stigma to explain that because women are the child bearers and therefore the greater focus for interventions and treatments, men frequently succeeded in distancing themselves from the stigmatising information they receive from such protective cycles and avoid undergoing hospital appointments for infertility treatment. Hence, this frequently results in the stigma being passed solely to the women. This concept also seems to explain that, in the social-cultural context of Taiwan, women are often considered to take responsibility for infertility due to this

unconscious bias. The findings from this study highlight that if husbands could perceive this imbalance, they could provide better sociocultural support to wives by understanding the sociocultural pressure they are experiencing and standing in a protective role towards systems of the family of origin. This act was perceived by wives as an important element in receiving support from their husbands and strengthening their relationships during the ART process (Pasch & Sullivan, 2017; Ying et al., 2015). However, the analysis from this study also highlighted the guilt of being unable to continue the family line, which was influenced by the Chinese filial piety culture and seemed to impede husbands' provision of sociocultural support to their wives and challenge Taiwanese infertility couples' relationships (Ying & Loke, 2015; Yao et al., 2017; Yang, 2015).

The third sub-theme describing couples' interactions during treatment was "losses and traumas". It highlighted that the significant influence on infertility couples' relationships came from negative results of ART, such as miscarriage. Miscarriage during the ART process might interrupt infertility treatment for couples for several years; this indicates that couples may need several years to process the emotional impact of miscarriage and the negative influence on their relationships. A previous study has shown that, compared to

women who conceive naturally, infertile women who use assisted reproduction run a higher risk of miscarriage, especially when older (Agenor & Bhattacharya, 2015). Reproductive trauma is the term used to describe infertility and perinatal loss together, which up to 15% of women experience. Psychiatric symptoms or disorders frequently accompany it, and it can also cause grief, depression, anxiety, and post-traumatic stress disorder (PTSD) (Bhat & Byatt, 2016). Although husbands may report less distress than their wives, this may be because men grieve differently than women, preferring to talk less, appear agitated, and employ coping strategies such as drinking more alcohol (Bhat & Byatt, 2016; Klier et al., 2002). This may require more attention when considering the challenges faced by infertile couples undergoing ART, as couples may need professional psychological assistance to deal with it to reduce the risks of difficulties leading to severe psychiatric symptoms or disorders (Bhat & Byatt, 2016).

5.5.3. Finding Social Support and Helpful Information for Infertile Couples in the Taiwanese Sociocultural Context

Perceiving social stigma related to infertility may reduce infertile couples'

access to social support (Slade et al., 2007). Findings from Study II and this current study highlighted that the traditional values regarding childbearing are still present in current Taiwanese society. Given this, infertile couples jointly used evasion or wife-protective approaches to cope with the pressure coming from outside the couple's systems. This stigma seems to have reduced with the progress of technology such as the internet and a shift in sociocultural attitudes compared to findings from twenty years ago (Slade et al., 2007). Infertile couples extensively relied on the online network to find effective information and social support, as found in this present study. Even though this is the case, wives still play an active role in seeking out the relevant resources, and their husbands are often more passive and receive "second-hand information" from their wives even in cases where the cause of infertility is a male factor (Wu, 2002). These results seem to suggest that infertile men are likely continuing to experience significant stigma in Taiwanese culture. The use of the internet for support was often identified as a positive in this study but requires future investigation in the future due to the dangers of social comparisons that were also identified in this study.

5.5.4. Being Sensitive with Interactions with Medical Professionals and

Needing More Empathy and Support

The findings in the previous chapter highlighted the significance of medical-professional interactions in mediating treatment perception and supporting infertile couples' psychological needs and the effects of treatment on marital relationships. This study's analysis further identified the practical experience of Taiwanese infertile couples' interaction with medical professionals and the role that medical professionals play in couples facing infertility issues. Medical procedures and the clinical setting were believed to be significantly related to compliance for infertile couples (Boivin & Gameiro, 2015). Moreover, Zargham-Boroujeni et al. (2014) pointed out that the medical staff's lack of empathy was the second most important factor after the psychological burden that influenced infertility patients' dropout from the treatment journeys. The findings in this current study confirmed the importance of the influence of infertile couples' interactions with medical professionals. Taiwanese people were likely to view medical doctors as having an authority role and tended to seek care, affirmation, and approval from authority figures based on the Chinese authoritarian orientation (Chien & Huang, 2015). With the sensitivity experienced by infertile couples, it is clear how doctors' words and expressed feelings within the fertility centres have a key influence on

infertile couples (Molgora et al., 2019). Specifically, this present study highlighted that medical professionals could prove to be stressors to infertile couples through thoughtless words given at emotionally challenging times, such as after miscarriage. Equally, medical professionals could also support marital relationships by applying external pressure to encourage husbands to have more involvement in the treatment process and help infertile couples increase their marriage satisfaction indirectly.

5.5.5. Conclusion

To conclude, this present study highlighted the importance of shaping the consensus that infertile couples have about the ART process, but this is not a one-time decision; it is fluid and it may need infertile couples to continue communicating and disclosing their self-conditions during the dynamic treatment process. Moreover, this study also revealed the importance of husbands in the Taiwanese context valuing their wives' hard work in relation to the female's physical stressors and socio-cultural role and the impact these can have on infertile couples' interactions. Negative results during the treatment process also need to be noted and addressed more closely because often

couples may not realise the influences of reproductive trauma they are experiencing (Bhat & Byatt, 2016). Finally, the roles of online networks and medical professionals were also discussed in this section to contribute to designing appropriate psychosocial support programmes for infertile couples undergoing reproductive treatments in the future.

Chapter Six

6.1. Preface

In this chapter, a comprehensive analysis will be presented in the first section to answer the research questions described below (6.2.1 to discuss and answer the first question, 6.2.2, 6.2.3 and 6.2.4 to address the second question, 6.2.5 and 6.2.6 to address the third and 6.2.7 and 6.2.8 to answer the last question). Discussions and comparisons with the literature exploring the phenomena more clearly of Taiwanese couples' experiences of relationships and interactions during the ART journey will be presented in the second section. The limitations of the programme of study will be identified in the third section. Finally, the chapter will conclude with the possible implications and suggestions for practice and future research from this programme of study.

Research questions:

1. What is the societal and cultural context in which Taiwanese infertile couples have undergone assisted reproductive technology?
2. What does the medical system in Taiwan provide infertile couples with in terms of resources and assistance, how the infertile couples feel about the medical system, and how does the treatment process affect marital life and relationships?

3. Under the Taiwanese cultural context, how aware are the couples of other perspectives (original family system, interpersonal system) to infertility, and how do these perspectives influence them?
4. How do infertile couples cope with and face infertility within the Taiwanese cultural context?

6.2. Comprehensive analysis

In this section, the findings from the quantitative research in chapter four and the qualitative research in chapter five will be integrated to answer the research questions. The summary findings from the quantitative and qualitative research are presented in **Figure 4. 7** and **Table 5. 3** below.

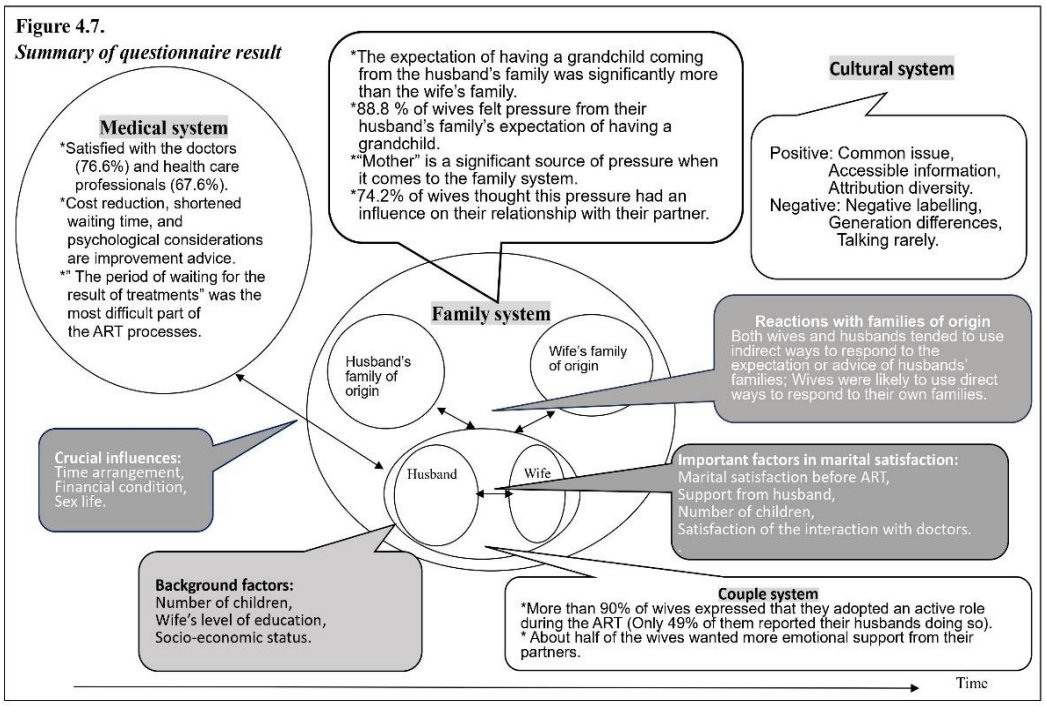


Table 5. 3 *Themes and subthemes for Taiwanese infertile couples' experiences.*

Theme	
Overarching theme	Subtheme
Theme one: Couple's decision-making and consensus-shaping in their childbearing journey	The beginning, pause and end of the treatment
	Finding balance and rearranging jobs and lives
	Position and response to the public
Theme two: Challenges and adjustments between couples during the ART journey	Understanding and accompanying
	Communications and changes
	Losses and traumas
Theme three: The influences of the family of origin system and the reactions of infertile couples	Pressures from traditional values
	The influences and reactions in the couple system
Theme four:	Social media

The role of social networks and influences	Real-life and interpersonal relationship
	Workplaces
Theme five: Assistance or obstruction of medical professionals	Obstruction
	Assistance

6.2.1. In the Societal context of traditional negative perceptions and modern rich information interactions

Around 70% of the participants did not consider infertility a taboo subject in Taiwan. Upon exploring their rationale, the majority of respondents conveyed the perception that infertility is a prevalent issue in Taiwan, substantiated by the increasing discussions on social media, the crowdedness of infertility centres, and the ease of access to pertinent information. However, almost 30% of them still considered infertility a taboo subject in Taiwan due to their feelings of negative labelling, few discussions between individuals on the topic and perceived differences in generational views. Similar findings were identified in the qualitative data; most of the infertile couples would search for relevant information when they became aware of their infertility issue in the beginning and also gained information and shared experiences on some online communities. However, in real life, the situation depended upon whom they encountered; if the person had more knowledge and similar experiences, the infertile couples would gain more understanding and support; in contrast, the

person may bring challenges and pressures for the couples' relationship. In short, Taiwanese infertile couples, when undergoing an ART process, are caught within the societal context of traditional negative perceptions and modern rich information interactions; to face this interlaced social context, most of the infertile couples seemed to remain more conservative in their attitudes in the beginning. As Anne described, the relevant information about IVF seemed hidden under the table, and Wendy used toothache as a metaphor.

> *But it's because of this shared experience that she told me what I could eat or where I could see a doctor, or where I could go to put my body in a better condition. However, this kind of information seems to be underground. (Anne, S6W075)*

> *If I didn't speak out, it would be like a toothache; no one would know I had a toothache. (Wendy, S13W116)*

6.2.2. Medical system focusing on providing physical assistance and professional equipment.

Of the participants who joined the quantitative research, 43.6% agreed that they received adequate medical information when undergoing ART in Taiwan. In addition, 40.2% of participants agreed that they received good and appropriate equipment. However, only 13.5% of respondents felt they received appropriate support for managing their emotions. As expressed by the

interviewee, Chris, mentioned before, the reproductive medical system in Taiwan seems to emphasise physical assistance by providing physical suggestions and professional equipment, with few considerations for infertile couples' psychological well-being and relationships.

6.2.3. They trust medical professionals but are even more eager for humanised and supportive medical assistance.

Most participants expressed their satisfaction with doctors (76.6%) and medical professionals (67.6%). However, both quantitative and qualitative data showed that Taiwanese infertile couples' long for a warmer and more considerate process that includes care for the couples' psychological well-being.

44.7% of respondents felt they needed more emotional support during the treatment process. Likewise, several interviewees also mentioned the importance of doctor's care and encouragement for them during the ART journey in the result of qualitative data. Furthermore, interviewees also mentioned possible psychological support needs at different stages, including psychological preparations before the treatment, assistance in reaching a treatment consensus between the couple, healing and support for losses and traumas, emotional support and support with decision-making at different

treatment stages.

> *I feel that many people need this kind of information. If some of this information can be provided openly to couples who are getting married or preparing to have a baby, it can help them prepare well in their minds as they are going to face changes in their relationships. They can have discussions before the process and come to a consensus on how much they are willing to pay for this. I think this is very important; otherwise, everyone has to figure it out for themselves, and nobody provides guidance. In short, I feel that the reproductive medical system in Taiwan still only focuses on the physical aspect. However, there are many aspects related to relationships and well-being that nobody cares about, especially for couples. (Chris, S4W057)*

> *I don't know why, but it seems that in Taiwan, the focus on mental health is only on prenatal or postpartum depression in pregnant women. However, it seems that nobody pays attention to the issue of undergoing such treatment. But I believe that many people have broken down several times in between. (Anne, S6W073)*

6.2.4. In the treatment process of great physical, psychological and spiritual difficulties, couples face lives with continued negotiation and integration of treatment within their relationship while searching for support.

The treatment timing and the arranged time needed for it influenced the impact of ART on 31.5% of participants and their partners. Of the respondents,

26.5% thought that ART influenced their financial situation. Furthermore, regarding the biggest cause of pressure, 29.2% mentioned feeling physically uncomfortable, and 23.3% reported the pressure of their financial situation. These pressures led to a negative psychological impact of ART on participants. Additionally, up to 64.8% of respondents agreed that waiting for the conclusion about whether the treatment was successful or not was the most difficult part of the ART process. In the treatment process where couples face great physical, psychological, and spiritual difficulties, infertile couples need to keep negotiating and integrating with their partners regarding living arrangements, including work, time, and money, and provide comfort and support to their partner when they still have energy. As the qualitative data showed, it is impossible for infertile couples to achieve integration and balance overnight as they need to make various decisions and reach a consensus at different stages while facing challenges and adjustments to their relationship in the changing process.

> *We have looked into how my life would change if I did IVF. The doctor said that I would need to frequently return for check-ups and to control the growth of my eggs. It would depend on my condition, and I might need to take time off work. Some companies might not allow frequent absences, so I might need to work as a part-time job or stop working entirely to rest. Currently, I haven't worked since I started the IVF treatment because I am focusing on having a child, and*

my priority is my child. Therefore, the economic pressure is all on my husband. (Minnie, S8W025)

Actually, each time we discussed it, it might end up unresolved or filled with emotions, and we couldn't have a proper conversation in the end. So, we started avoiding talking about it with each other, but we both knew that it was a lingering issue between us. However, every time we tried to talk about it, we couldn't seem to reach a conclusion, and it just made both of us feel bad. Therefore, I felt that this issue had been stuck between us as a couple. (Chris, S4W035)

6.2.5 Cultural traditional values pervade in general social contexts and emerge in family gatherings.

Chinese traditional childbearing attitudes and the culture of filial piety construct infertility stigma (Yao et al., 2018; Lin,2019). The Chinese traditional patriarchy also causes heavy childbearing pressure on married women. The results from the “Influences in the social culture” section of the questionnaire identified that ninety-one respondents expressed negative influences by society, forty of them expressed the feeling of being affected by secular vision, thirty-one of them felt unfairness due to feeling be responsible for infertility, and twenty of them mentioned the stigma to infertility in the society. Additionally, almost 90% of questionnaire participants expressed that they felt pressure from their parents-in-law’s expectation of having a grandchild, and 85% felt pressure

from their family of origin. This shows that the Chinese cultural traditional value of “giving birth after getting married” still pervades in Taiwanese society. A similar result could also be found in the qualitative data.

> *I think culturally, we tend to start asking questions like, "You're married now, do you want to have kids? How many years have you been married? How many kids do you want to have?" and so on. I feel like there is still cultural pressure around this topic, so maybe it should be included in our education or public health campaigns. We should learn to respect other people's choices about whether or not to have children. (Chris, S4W050)*

Moreover, due to the traditional fertility concept in the culture of continuing the family line, the majority of married couples feel pressure from their parents regarding having children after marriage.

> *My mother-in-law had a rather outdated way of thinking. She would often say things like 'so-and-so tried it, and it worked, let me take you there' whenever it came to seeking guidance from deities, taking Chinese medicine or consuming specific foods. Every time we visited my husband’s family, these things would come up, like going to a temple or doing this or that...and you just could feel the pressure. She talked to both my husband and me about it. (Chris, S4W031)*

> *What you can sense invisibly is his anticipation for this. My father would directly give me Chinese herbal supplements, and my in-laws would give me supplements that are more likely to be commonly eaten, such as adding a vegetable or giving you something like chicken soup. However, my father would directly give me something like Chinese medicine. (Anne, S6W048)*

During family gatherings on holidays and special occasions, couples must face even more attention and concern from relatives of the family.

During Lunar New Year, we go back to have dinner with his uncle and aunt, and they would say things like, "Why don't you have a baby yet? Have one soon," "You're still young, have a few more." I feel a lot of pressure from those comments. I think having a baby is our own decision... besides, our parents haven't urged us to have one, but hearing those comments from them feels... (Vicky, S14W138)

There are also some elders, who are your relatives and friends, who would say things like "Hurry up and have a child", "How many children do you have now?", "How long have you been married?", "Why haven't you had a child yet?", and so on... It's also a kind of pressure that we face, and I think it's a common pressure that most people experience. (Chris, S4W053)

We would be asked by relatives during holiday gatherings. (Sara, S12W018)

According to the quantitative results, the pressure from the husband's family was greater than from the wife's family. Participants were also asked about their biggest source of pressure coming from the family system; fifty-seven women reported it was their mother, and fifty-six thought it was their mother-in-law. This is highlighted in John's discussion of his wife having an alienated relationship with her mother due to the childbearing issue, and Amy also felt relieved that she didn't need to be gathering with her family during the Lunar New Year because having the excuse of a pandemic.

Because her mother has said many hurtful things before, like calling infertile hens, or similar comments, my wife has had a hard time understanding her mother and hasn't been willing to share her parenting experiences and details with her mother. This has been the case until now. (John, S3H019)

They often ask about it. As I said earlier, I feel that the pressure they give is greater than the pressure from my in-laws, so I don't want to go back to my parent's house during the Lunar New Year. I didn't go back last year or this year because of the pandemic, which provided a convenient excuse. So good. (Amy S5W046)

6.2.6. The rising external pressure from traditional values tests Taiwanese infertile couples' relationships and coping techniques.

As we mentioned earlier, the traditional Chinese concept of infertility continues to influence the lives of every couple. Consequently, this external pressure seems to challenge further infertile couples who are already dealing with significant physical and psychological pressures due to treatment. The interview data indicate that Jack and Chris had been continuously being troubled by this situation for several years during their treatment journey. Jack, the eldest son in his family, understood his wife's difficulty due to the treatment while also facing great expectations from his family of origin. Chris felt saddened as she did not feel supported by her husband on this issue.

For me, I felt like I was stuck in the middle, like a sandwich cookie. On one hand, I wanted to please and soothe both sides. For me, maybe I felt sorry for my wife going through that process because that was not what she wanted, and nobody wanted that kind of situation. But I also felt like my parents had that expectation in their generation, a kind of inherited expectation. (Jack,

S4H012-1)

> *I felt like, after so many years, why was it still like that... He seemed unable to empathize with me or understand me, or stand by my side and tell his mother not to do this or say that, to stop demanding that we have a child. I also had emotions... I didn't feel like he could understand me, understand my choices, and support me. He as a husband, I felt like I also needed to be cherished, but I didn't feel that way. Actually, I also got emotional about this part. (Chris, S4W039)*

Perhaps, as John mentioned in the interview, within the cultural context of the traditional Chinese concept of fertility, the pressure to have a child from the family of origin seems to have some degree of influence on infertile couples, testing each couple's relationship and coping strategies.

> *Actually, I feel that in Taiwan... Many couples may divorce due to the absence or presence of children, and I think it's not entirely a matter of the couples themselves. The support from their families of origin plays a significant role as well.(John, S3H042-1)*

However, not all of the infertile couples were like Jack and Chris, who were stuck in the marriage for several years due to pressure from their family of origin. As presented in the qualitative data in chapter five, this pressure from the family of origin may vary in degree depending on different family conditions or the husband's positionwithin the family, and the age of marriage. Furthermore, it may relate to infertile couples' coping strategies. It will be analysed and discussed afterwards.

6.2.7. Being perfunctory and evading to maintain interpersonal safety and harmony.

As outlined in the results of qualitative data in chapter five, Taiwanese couples rely on the online world to search for information and resources when they first realise their infertility issues. Moreover, facing the pressure of childbearing in the cultural context, most of the interviewees reported adopting a more evasive approach to answer questions about their infertility, and aimed to keep a low profile. Couples adopted the strategy of a more conservative evade and kept a low profile to talk less about related questions.

> *I haven't discussed it with anyone else except my husband. My family only talks about it when they ask; otherwise, I don't want to talk to them about it. I feel like I would receive too much attention, and that would create more pressure for me. (Vicky, S14W106)*

> *IVF is very common, but I am a bit afraid of people asking about the reason. I don't want to talk about the reason, so I would rather not say anything at first. I also don't want to report my husband's condition to people I am not familiar with." (Sara, S12W072)*

If questioned by others, they would find ways to evade the topic, just like the "let nature take its course" strategy mentioned by Jack.

For me, I would say let nature take its course. But some people might say, "Why haven't you had kids yet?" and I might think, "I really want to, but I already told you to let things happen naturally."
…. In this way, he won't think if there is anything wrong with you. (Jacky, S4H024)

Facing the pressure of childbearing from a traditional cultural context, being perfunctory and evading seems to be a safe and harmonious strategy which Taiwanese infertile couples could apply in the interpersonal context. However, this may be less effective in cases where the pressure was felt more intensely, such as that coming from the family of origin. How the infertile couples face and cope with this will be discussed in the next section.

6.2.8. Contextual use of strategies to protect the partner.

The result of quantitative data in chapter four identified multiple ways of handling the expectations of grandchildren from the husband's family; 35.7% of husbands would adopt a direct way to reply (telling them the newest information about the treatment), but 50.4% of husbands would adapt indirect strategies (22.6% would change the subject, 27.8% ignored it); 28.74% of wives adopted direct way of managing their family of origin, and 47.3% would also use the indirect way (14.2% would change the subject, 33.1% ignored it). When asked about the way in which they handled questions or advice from the parents, 34.4% of husbands would listen and reply attentively, 45.7% would also use

indirect ways to reply (22.5% would change the subject, 23.2% ignored it); 35.7% of wives would listen and reply attentively, 40.8% would also use indirect ways to reply (15.1% would change the subject, 25.7% ignored it).

Compared to the husband's family, infertile couples seem to be able to reply to the wife's family more directly; 58.7% of wives would adopt a direct way to reply (telling them the newest information about the treatment), 28.2% of wives would adapt indirect ways (13.5% would change the subject, 14.7% ignored it) ; This is in comparison to 36.3% of husbands who adopted direct ways, and 37.6% who adopted indirect ways(14.8% would change the subject, 22.8% ignored it).

When asked about their approaches to handling questions or advice from the wife's parents, 54.3% of wives would listen and reply attentively, 26.3% would also use indirect ways to reply (15.4% would change the subject, 10.9% ignored it); 45.3% of husbands would listen and reply attentively, 34.2% would also use indirect ways to reply (17.7% would change the subject, 16.5% ignored it).

The data identified that infertile couples also have a tendency to use perfunctory and evasive approaches when replying to others' concerns about their childbearing plans. Additionally, the qualitative results in chapter five also

presented that some infertile couples adopt a low tone and evasive manner to avoid excessive attention and pressure from the family.

> *I tended to keep my IUI and IVF in low-profile and avoid the additional pressure of concern and potential failure. I tended to only share good news and keep bad news to them.(Gill, S1W203)*

> *I only told my mom after I was sure I was going to retrieve my eggs. Actually, I had been seeing the doctor for almost half a year before that, but I didn't tell my mom. I just didn't feel like telling her... What if it failed? What if we ultimately decided not to do it? (Lisa, S10W015-2)*

When it comes to the impact of the wider society and culture, analysis showed that thirty-one participants felt that in the Taiwanese cultural context, women were usually assumed to be responsible for infertility. This result was also reflected in the interview data presented in chapter five.

> *In fact, in Taiwan, basically, 99% of the time, if there's difficulty conceiving, people tend to blame the daughter-in-law or wife first. (John, S3H016-1)*

As a result, some husbands would resist the pressure from their own family of origin to prevent the pressure affecting their wives.

> *He (my husband) would communicate on his own and not bring the pressure from his family on me. He also wouldn't tell me what his parents said. (Cathy, S9W056)*

> *When it came to communicating with my mother, I always took the initiative to communicate, whether it was about my own issues or about what we were*

doing, and I relayed the information. Since my mother was already aware of the situation, she didn't need to ask my wife for any details. So basically, my wife was protected by me in my family, and when we were at her family's place, we just ignored them and didn't respond. (John, S3H024-5)

Interestingly, using the stigma of male infertility seemed to be used as an effective strategy to resist external pressure for infertile couples.

The elders used to ask, asking where you were in the process? Who has the problem? My husband would say, "It was found that his physical condition was not very good" or something like that, and it was not my problem. Then he would tell his parents that his body was not very good, so the doctor asked us to do this. He wouldn't let his parents think it was my problem, so we had to go see a doctor or something. When his parents asked about the progress, he would answer them, so I wouldn't directly face his parents asking me how I was doing. (Tina, S7W042-2)

When I used to say that it was all my problem, my mother would naturally direct the problem to me. She would then cook shrimp for me to eat, urge me to drink clam essence, and ask me to do a lot of things. This way, the focus was not on my wife, and this trick was quite effective. As for the result, only my spouse and I knew. Actually, my wife didn't have to be forced to drink strange potions or charms, or go to pray to the gods. If there was anything to be caught, it was me who would be caught, so I didn't really care. Yeah, it was very useful. I sincerely recommend it. (John, S3H016-3)

In cases where the cause of infertility was due to the husband, the response among couples was different, with the woman acted more evasive with her family of origin instead.

Because they (my parents) don't know anything, and I haven't told them. I don't know if they know or not because we occasionally discuss it...sometimes it comes up in conversation, but I don't speak too clearly about it. I don't know if they have connected it to my husband, but I haven't told them it's my husband's issue. I only told them that I couldn't have children because I'm too old. I don't want them to know it's my husband's problem. (Amy, 5W043)

I'm a bit afraid when people ask for the reason. I don't want to talk about it, so I'd rather not say anything first. I also don't want to report my husband's condition to strangers. I feel like it might affect their face! (Sara, 12W074)

6.3. Discussion

This programme of study aims to combine quantitative and qualitative approaches via questionnaires and interviews to understand infertile couples' experiences of relationships and interactions having undergone ART within the Taiwanese cultural context. Two main parts will be discussed below: The infertility picture and couples' coping strategies under the Taiwanese cultural context and the influences of the ART process on Taiwanese infertile couples.

6.3.1. The infertility picture and couples' coping strategies in the Taiwanese cultural context

Greil, Slauson-Blevins and McQuillan (2010) reviewed relevant references regarding the experience of infertility and described two entirely

different types of attitudes and approaches between developed and developing societies when facing the issue of infertility; because developed societies tend to view childbearing as optional for couples, the societies are likely to presume infertile couples to be voluntarily childfree, they bear less stigma and manage to use western medical approaches to address infertility issues. However, developing societies tend to connect motherhood tightly with marriage, meaning infertile couples are under more social stigma, and traditional solutions and medicines are often considered the more important approaches to address the infertility conditions. According to the review by Greil et al. (2010), Taiwanese society seems to be in a middle ground between these two worlds, which precisely explains the social situation faced by infertile couples in Taiwan and creates a challenge for infertile couples in Taiwan responding to manage the issues of infertility together.

Examining the connotations of these two worlds in more detail, in the context of Taiwan's culture, infertility in the ‘old’ world can be represented by the view of reproduction that values kinship and the continuity of the family's lineage, which has been inherited from traditional Chinese culture. Under this concept, having children is not only fulfilling the family's mission but also a demonstration of filial piety (Yao et al., 2018). However, due to the influence of

education, media, and modern scientific civilisation, Western society's emphasis on intimacy and autonomy between couples and the advocacy of facing infertility issues scientifically have become emerging values that many Taiwanese couples believe in (Kao & Lu, 2006).

This study found that the Taiwanese cultural context regarding infertility shaped by traditional and modern values affected many infertile couples in Taiwan and affected how they respond and interact with others; furthermore, it also indirectly affected their marriage. The findings from this study highlighted the infertile couples' experience needed to be captured in a sociocultural context and provided with appropriate psychological assistance (Greil et al, 2010).

According to the results of this study, most infertile couples in Taiwan felt pressure to have children after marriage, and this pressure is particularly high from the patrilineal family, which is responsible for continuing the family line. Wives are expected to fulfil this mission for their husband's families, and failure to do so often leads to feelings of anxiety and guilt (Wu, 2017), which can also bring shame to their family of origin. Therefore, it is clear why both quantitative and qualitative data in this study reported that the source of childbearing pressure came from "the mothers" despite being the same sex as the female

participants. It is also understandable that some female participants expressed they and their parents felt relieved when they knew the cause of infertility was their husbands.

Compared to the traditional extended family structure, the more modern structure of a nuclear family predominates in current Taiwanese society. This type of family structure creates some distance between infertile couples and their extended families, allowing them a chance to catch their breath (Cheng, 2017). However, during holiday gatherings, the pressure on infertile couples is likely to increase again.

Most of the previous Western studies agreed with the importance of social support to infertile couples, especially to women (Greil et al., 2018). Nevertheless, some different results were found in the study of Chinese infertile couples having IVF published by Ying and Loke (2015). They found that Chinese infertile couples felt ambivalent towards social support, especially from their parents, due to feelings of guilt of adding to their parents' burden. The present study found similar results as those of Ying and Loke (2015); most infertile couples did not tell their parents about their treatment journey directly and openly, and they also tended to report only the good news but not the bad when the parents asked about their childbearing plans. This was reported to be

due to two main reasons; firstly, to avoid pressure, and secondly, to prevent their parents from worrying about them. Whether or not this is due to the influence of filial piety in Chinese culture (Yao et al., 2018), further research is needed to investigate why infertile couples may hesitate to accept parental assistance during ART.

It is worth noting that one interviewee was not included in the report of Chapter five since her husband was Spanish, not Taiwanese. However, after analysing her data, it was found that she was the only one who stated almost positive experiences when undergoing IVF. Particularly important was her account of the crucial role of assistance and support provided by her family of origin. Whether this means that infertile couples can receive more effective assistance and support from their families of origin when the traditional cultural values of passing down the family line are loosened, remains to be further studied.

> *I felt pretty good overall because the hospital we chose was very close to our home…and this was also the place where I grew up, so I could be independent in many ways, and my family's home was nearby, so if my husband couldn't help, my family was still there, so the support of the whole family was actually sufficient. (Tracy, R1P11W21)*

> *At that time, because...of course, I was very nervous. The process of waiting*

> *for the result was very stressful, so talking to my mum and my sister about it was really helpful. Because they...after each treatment, they would help me with food delivery. Even when I went to retrieve my eggs, my sister or my mum would come along because it was nearby my home, so they would come to see me.*
> *(Tracy, R1P11W58)*

Moreover, to cope with the pressure coming from the family of origin, which is influenced greatly by traditional culture, Taiwanese infertile couples developed, apart from the perfunctory and evading strategy of limited or no communication with the family of origin, contextual coping strategies; this is because some husbands understand that wives bear more pressures regarding childbearing from the family of origin within the traditional cultural context, so they took the more active initiative to resist the pressure of childbearing coming from their family of origin impacting upon their wives.

It has to be stressed here that this protective strategy is an important aspect of understanding and support that wives in the Taiwanese culture receive from their husbands during the infertility journey. This contextual coping strategy for how couples face infertility has been less explored in previous studies (Musa et al., 2014; Cunha et al., 2016). This study also found that while husbands experience childbearing pressure coming from the importance of continuing the family line in the traditional cultural context coupled with the

influence of traditional Chinese filial piety culture, these pressures can cause some of them to resist the pressure from the family of origin persistently and strongly, and this seems to cause increased tension in the couple's relationship, leading to distress and loneliness for both individuals within the marriage.

In previous studies on the impact of infertility stigma on Taiwanese infertile couples, some studies found that husbands seem to be less affected by infertility issues (Wu, 2017; Lin, 2019). Upon closer examination, this may be because some studies did not separate the causes of infertility (Wu, 2017), or there was an unconscious bias towards women being the cause of infertility (Wu, 2002). However, via valuable qualitative studies on infertile men in Taiwan, the impact of infertility stigma on men has become more obvious. The pain that traditional cultural constraints caused men could also be glimpsed (Yang, 2016).

This finding indicated that some husbands would adopt the strategy of placing the blame for infertility upon themselves in the context of female infertility due to the stigma existing in the cultural context. They did this to protect their wives from pressure coming from the family of origin. Paradoxically, the couple would instead be very careful to keep this secret, fearing that it might accidentally be revealed to others who inquired about their situation. Some interviewees clearly stated that this was a way to save their husband's "face".

The couples were often not the only ones to keep this secret, this study also found that some families of origin would keep this secret together. As reported in Chapter five, this can cause significant turmoil within the three families (the husband's family, the wife's family, and the couple themselves). It is clear from these findings that within the cultural context of Taiwan, infertile men are likely to bear a great stigma. Male infertility factors seem to cause different experiences and dynamics within the marital relationship compared to female infertility. Unfortunately, to date there is still only limited research being undertaken with couples where male infertility is the problem, and more follow-up studies are needed.

While participants felt infertility was not a taboo in Taiwan, due to the increasing numbers of infertility, as discussed before, Taiwanese society happens to be a place where the attitude to infertility was reciprocally influenced by new and old generations. This meant that many couples found the online environment a safe way of searching for resources and information. Accessing the internet really helped couples to find relevant resources and information and even provided access to psychological assistance. Taiwanese scholar Cheng (2017) conducted a three-year project aimed at improving the quality of life for women with infertility by developing a support website. The project found

it met the infertile women's needs and suggested that more support projects should be developed to enhance the quality of life of women with infertility and include health promotion for their spouses as well. The results of this study resonate with Cheng's suggestion and highlight that as well as focusing on women with infertility, more accurate, diverse, and detailed information and support should be provided to couples as a dyad. In addition to the positive role of the Internet, this study also noted the impact of social comparison on the emotions of infertile couples on the Internet. Due to the emotional sensitivity of infertile couples during treatment, attention should also be paid to the impact of social comparisons via internet support to provide more appropriate psychological assistance.

6.3.2. The influences of undergoing ART process on Taiwanese infertile couples

The ART process caused significant pressure on infertile couples in terms of time, financial burden, and daily life management, not only observed in the present study but also clearly seen in previous studies (Chow et al., 2016; Ying & Loke, 2015). These wide-reaching challenges associated with ART need an improved model for supporting couples. This new paradigm has been

promoted by Western psychologists and aims to meet the individual well-being needs of couples more comprehensively (Boivin& Gameiro, 2015). Similarly, it was not a coincidence that such patient-centred infertility healthcare provision, in addition to the active advocacy of Western psychology, was also being sought by non-Western countries to find suitable local interventions to provide the most appropriate psychological support and care for individuals (Ying & Loke, 2015; Jafarzadeh-Kenarsari et al., 2015; Asazawa, 2015).

Since women are the primary medical service users in infertility issues, with most interventions targeted at women, there is a great physical and psychological pressure on women that comes after entering the ART process (Bayley et al., 2009; Davidovà and Pechovà, 2014; Gourounti, 2012;). Additionally, this distress also led to an increase in tension indirectly between couples (Lin, 2004; Moura-Ramos et al., 2016). The findings of the current study identified that if the cause of infertility resided with the husband, wives expressed feeling that their husbands were able to understand their physical distress due to the medical interventions and felt the couples functioned as a unit psychologically to face the treatment together. In comparison, those whose infertility cause was internal were more likely to report feelings of loneliness when facing the long-term period of treatment. They expressed needing to

strive to gain their husband's understanding, support, and physical presence at appointments. It also can be seen in this study that some wives may not have been aware of the challenges they would face after entering the treatment, choosing to face the treatment alone at first. However, many then realised their solitary struggle during the process and sent out a signal for help to their partners. Fortunately, some husbands were able to receive and respond to the signal in time, and they successfully overcame the challenges of the treatment. Some couples were also able to face the lengthy treatment process together because doctors consciously reminded them that the treatment process required both spouses to face it together. However, not all infertile couples had this same experience and not all doctors gave timely reminders. The integrated approach to fertility care outlined by Boivin et al. (2015), stated that the new integrated approach required collaborative work among mental health and medical professionals to create effective psychosocial support programmes for service users. The present study echoes Boivin et al. 's claim (2015). The treatment of ART is predominantly focused on women, therefore limiting the experiences and involvement of men to some extent. However, providing better systems that allow couples to participate together in the treatment context can increase opportunities for men to understand the treatment process from a

female perspective. This is believed to be necessary for designing effective integrated psychosocial care models in the future (Boivin & Gameiro, 2015).

Previous studies mentioned that the waiting period for the treatment results and the frustration of facing failure were the most stressful times for infertile couples during the whole ART process (Ying & Loke, 2015; Milazzo et al., 2016). If they were under the social context of extreme pressure about childbearing, they may suffer more sense of loss and distress (Tabong & Adongo, 2013; Yao et al., 2018). The results of this study supported the findings of these previous studies in that most infertile couples expressed their torment regarding the period of waiting for the results. Furthermore, some couples even described their “trauma experiences” about successful pregnancy and then miscarriage.

Leaving aside the sorrow and pain caused by miscarriage for couples who conceive naturally (Van den Akker, 2011; Hiefner, 2020), one can only imagine the immense emotional impact and distress that infertile couples who have undergone lengthy and arduous ART treatment to conceive finally, only to suffer a miscarriage, must endure. Some previous Taiwanese studies found that most infertile couples felt unfamiliar with seeking psychological support and assistance; this was not because they did not need it but did not know where

they could find the resources (Chen, 2019). The present study was in accord with this previous research; most infertile couples in Taiwan who have undergone ART have received assistance primarily focusing on physical care and medical equipment, but only a few have received varying degrees of psychological support and assistance. Moreover, one participant expressed that she had experienced “secondary trauma” after her miscarriage which was a result of the doctor’s words to her at that time. Therefore, there is an urgent need to assist infertile couples in understanding the resources for obtaining psychological support or counselling. Medical fertility clinic staff involved in such assistance should also enhance their understanding of the psychological state of infertile couples and receive relevant training in empathy skills (Garcia et al., 2013) to become an important part of maintaining the mental health of infertile couples.

The research findings mentioned above revealed that infertile couples need professional psychological assistance during the treatment process due to the anxiety and distress caused by waiting for results, the frustrations of facing failed outcomes, and the trauma of miscarriage. Moreover, this study found that infertile couples face decisions and challenges of varying degrees during the treatment process. As Taiwanese society is currently at the

intersection of old and new attitudes regarding infertility, apart from information and communication opportunities available in the online world, infertile couples obtain very little in the way of social support, and this is dependent on their opportunities and different personal circumstances. The study found that infertile couples expressed the importance of sharing and communicating with others who have had similar experiences to help them face the challenges of the treatment process. Similar implications have been reported in an earlier study (Chow et al., 2016). Hence, how to help infertile couples find communities with similar experiences and provide each other with psychological support seems to be a consideration for comprehensive psychosocial assistance programmes in the future.

6.4. Strengths & Limitations

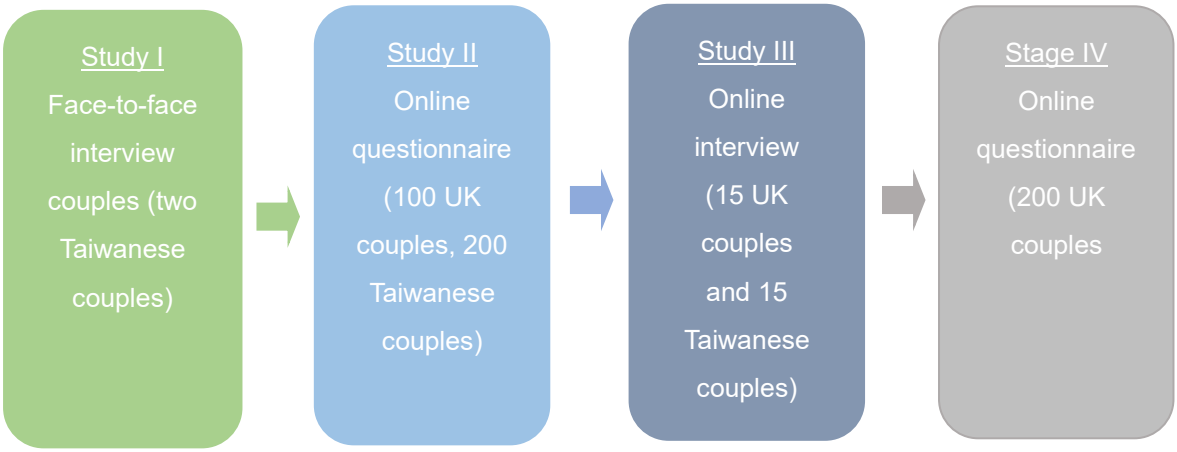
6.4.1 Influences during Covid-19 Pandemic

Greil et al. (2010) stated that "how sufferers are seen by others and how they come to see themselves are both products of processes of social definition." (Greil et al., p. 140, 2010) to remind researchers to view infertility issues in the social context and use social scientific frameworks to explore this phenomenon. This reminder influenced the beginning motivation of my PhD

research. I wanted to highlight the importance of cultural factors, so my initial PhD programme of study aimed to deeply understand the experiences of infertile couples who have undergone ART in different societies (see **Figure 6. 1**). This was a cross-cultural study, and both Taiwanese and UK samples would be included. However, the outbreak of COVID-19 influenced this plan greatly. I came back to Taiwan in order to interview couples in March 2020, and that was the time that the UK started to lock down. After designing the questionnaire based on the analysis of interview data and trying to collect quantitative data, the COVID-19 variants still tightened their grip on the UK. The medical system bore a heavy burden from the pandemic, and infertile couples changed their plans regarding treatments. I also stayed in Taiwan due to the restrictions. Hence, the recruitment of Study II met a grand challenge; the number in the UK sample was relatively small, and I could not help but give up on recruitment within the UK. The aim of my PhD study was changed to focus on the Taiwanese population since that time.

The pandemic was continuing, and some restrictions still existed both in Taiwanese and British societies. For the sake of providing more flexibility for participants in Study III during this challenging period, either online interviews or email interviews were arranged to collect data.

Figure 6. 1 *The initial programme of study.*



By informing audiences of my PhD research process mentioned above, audiences can not only know parts of the limitations of this current programme of study, but it also led to implications and suggestions for further research, which will be illustrated in detail in 6.5.

6.4.2 Challenges in Different Languages

Language has always been the biggest challenge for me during the research process, as I am not a native English speaker. In the course of writing my thesis, I distinctly remember a day when I shared this process with a close friend. In response, she likened my journey to ascending two towering mountains—one representing the challenges of research and the other the complexities of language. This really reflected my condition, where the difficulties inherent in both realms left me feeling overwhelmed and constantly

confronted by challenges and fatigue.

However, my original intention in researching infertility in couples was to approach it systematically and contextually. Therefore, even after the linguistic translation, I aimed to convey a more precise understanding of the experiences of infertile couples within the cultural context of Taiwan for English-speaking audiences. Throughout the research process, in addition to the three studies mentioned in Chapter Two, where I sought advice and assistance from friends majoring in English education or those with expertise in both Chinese and English, I also invested time in searching for information online and consulting friends proficient in English within the framework of research ethics confidentiality principles to ensure a translation that better aligns with the respondents' original expressions. For example, the following two passages were from discussions on my personal Facebook page, where I hoped to convey the interviewees' experiences through more accurate translations.

The first post aims to elucidate the role expectations placed on married daughters by mothers influenced by traditional Chinese culture. This includes the notion that a married woman must fulfil the responsibility of leaving descendants for her husband's family to complete her role as a daughter-in-law.

The second post explores how, under the influence of the patrilineal

culture in traditional Chinese society, many infertile married women feel compelled to undergo assisted treatments to help secure progeny for their husband's family. In this context, these women hope their husbands can understand the sacrifices and hardships they endure. Consequently, if the husband fails to comprehend their struggles, the women experience a reduction in the perceived protection and love from their husbands, leading to increased feelings of loss and sorrow.

娘家媽媽對於自己女兒成為別人家媳婦角色的期待

“The attitude of a mother’s expectation of her daughter being a part of husband’s family.”

“The expectations of a birth mom on her girl as a qualified daughter-in-law.”

“A mother expects that her daughter could be a capable housewife after married, which is a general requirement to a daughter-in-law in Chinese tradition.”

(Retrieved September 09, 2020, from Private Facebook)

我感覺不到先生在這過程的疼惜

“I cannot feel he had been there for me.”

“I can’t catch my husband has ever gonna with me in the process.”

“I don’t feel he understands what I’ve been through.”

(Retrieved January 11, 2023, from Private Facebook)

Although this process was challenging, I stocked the difficulties during the translation of the two languages many times. The outcome is still valuable to me, and I hope this could provide a systemic and contextual model for viewing infertile couples in a specific social context.

6.4.3 Mixed Methods and Joint Interviews

In this section, I outline two commendable attempts that I aim to highlight from this thesis. One is the conducting of mixed methods. In the process of selecting a research methodology, I consistently pondered how to identify an approach that aligns with the objectives of this programme of study: a contextual and systematic exploration of the relational experiences of infertile couples in Taiwan. Moreover, empirical research on Taiwanese infertile couples over the past two to three decades has been notably scarce, resulting in a paucity of available literature. The discovery of mixed methods was particularly exhilarating in light of these circumstances. It emphasises applying and interpreting data using both quantitative and qualitative methods and also

integrates the strengths of both approaches, providing researchers with the ability to tailor their studies to address specific research questions, thereby enhancing the flexibility and practicality of research design (Hanson et al., 2005; Sung & Pan, 2010). Hence, Study I and III were qualitative studies, Study II combined both quantitative and qualitative to design the questionnaire. Such a design allowed for the interactive utilisation of the four functions, including Triangulation, Complementarity, Stepping-stone and Clarification, mentioned in chapter two's discussion on mixed methods. This enhanced the comprehensiveness and richness of this programme of my PhD studies, proving valuable for constructing a systemic understanding of the relational experiences of infertile couples within the cultural context of Taiwan. It contributed to the development of the systemic model that elucidated these experiences.

The other attempt that I want to draw attention to in this thesis was joint interviews, which I carried out in Study I. Several advantages of joint interviews have been reported by scholars, including one partner bringing up the other's memories, and couples- particularly men may feel more at ease and inclined to disclose personal feelings in relationships (Gerrits, 2018). The most important is that joint interviews can shed light on how couples communicate about the

subject and make decisions because they might behave similarly in the interview setting than they do in their everyday lives (Gerrits, 2018). Due to the advantages listed, I established the intention to utilise both joint and individual interviews for the collection of qualitative data and the purpose of the individual interviews following the joint interview was to gain a deeper understanding of each person's personal thoughts and feelings regarding infertility. However, despite the advantages of joint interviews, the challenges associated with factors such as gender dynamics, power struggles and the different ways of expression with genders, have further heightened the complexity of conducting joint interviews (Gerrits, 2018; Voltelen et al., 2018; Zarhin, 2018). Therefore, there is a need for researchers to adopt “a sensitive approach” (Voltelen et al., 2018, p524). Although serious power struggles did not happen when I conducted joint interviews in Study I, one participant dominated or shared more experiences that often happened, particularly married men who usually talked less and their wives shared more. it is crucial for researchers to be cognisant of this imbalance and make appropriate adjustments. Typically, subsequent to the wife sharing her experiences, a direct inquiry would be made to the husband. An illustrative instance is as follows: Following an extensive discussion by the wife concerning her unfavourable experiences within her husband's family and

outlining her reactions; my attention was redirected to the husband to avoid imbalance.

Wife0084: If I did not feel good when I was in his family……..……

……

……..

……

……

Researcher123: You would complain to him?

Wife0085: Yes, I would. Just when I was angry.

Researcher124: Was that so? When she complained to you, how did you feel or what did you do?

Furthermore, researchers must vigilantly attend to the states and dynamics of both partners during joint interviews. Another aspect requiring particular attention prior to joint interviews is the ethical consideration of informed consent rights. It is imperative that participants receive comprehensive information before their joint interview regarding the study,

process, and its possible outcomes, particularly regarding their relationship (Voltelen et al., 2018). For instance, clear information about the study was given in Study I; in particular, a personal follow-up interview would be conducted after the couple's joint interview. This could assist them in deciding what details they would like to provide when they interview together.

To summarise, mixed-method and joint interviews are two admirable attempts in this thesis; mixed-method helped to rich data comprehensively and established the systemic model about viewing infertile couples' relationships in specific social-cultural contact; joint interviews can understand how spoused discuss infertility issues and reach decisions together, this help to comprehend what their experiences would be when infertile couples were viewed together as a connected unit. However, although the joint interviews could not be carried out in Study III due to difficulties in recruitment, their effectiveness is still valuable and worth highlighting in this thesis.

6.4.4 Other Research Limitations

Several further limitations were present within this programme of study are highlighted in this section. One of the major concerns related to the quantitative survey is outlined in Chapter four. The questionnaire used was extensive. While this enabled the researcher to gather detailed information from

participants, the length may have caused some respondents to feel fatigued and answer cursorily. Narrow sampling issues also exist, particularly the scarcity of male samples in both the quantitative and qualitative data. The focus of this thesis was meant to be jointly on couples, meaning the researcher was keen to hear male perspectives as well as female ones. However, due to the significant differences between the samples by gender (219 females to 17 males), male data were not included in the report of the quantitative study. Additionally, because recruitment for the interviewees was accompanied by the questionnaire, similar limitations occurred in the interview samples. Only two males participated in the interviews compared to female participants, which could have influenced the presentation of husbands' experiences and voices in this study.

Fifteen participants joined the interviews, and eight of them achieved a successful pregnancy. Although all of them were asked to share their experience based on the research questions, the interview data may have been biased due to the unequal distribution between couples who ultimately succeeded compared to those who did not.

A major limitation also recognised in the study is of the socioeconomic makeup of participants. The study reflects the needs and opinions of individuals

within higher socioeconomic backgrounds with limited numbers of individuals coming from poorer socioeconomic populations. This reflects the fact that ART has a high financial cost, and only a limited numbers of infertile couples are likely to be able to access treatment for free in Taiwan. The consequence of this is that the study failed to reach and hear the story of couples who may be experiencing distress because of infertility issues but are unable to afford to try the process of ART. This requires further attention in future studies.

6.5. Implications and suggestions for practice and future research

Despite the above limitations, this programme of study provides a cultural and contextual understanding of couples' experiences associated with infertility. The findings from this study emphasize that infertile couples in Taiwan face different difficulties and challenges before, during, and after ART. Furthermore, couples need to grapple with the pressures of their extended families and social stigmas. The findings from this study also clearly identified that support, particularly around aspects of mental health, is still lacking within the ART process in Taiwan. Taiwan, a country with extremely low fertility, requires the promotion of a supportive environment for infertile couples through health

professionals and policymakers, and through raised public awareness among members of this society.

It is important for fertility centres to provide culturally sensitive and anticipatory guidance to couples undergoing IVF. This can help couples prepare for and adapt psychologically to the process. Creating couple-based clinical contexts can also help husbands in the ART process to better understand the needs of their female partners and for both members of the couple to understand each other's needs and perspectives.

During the ART process, an integral part of providing information and support is through psychological counselling, especially when couples experience negative outcomes such as a failed pregnancy or miscarriage. Psychological counsellors are likely to be better placed to help couples navigate the pressures they may feel from their family of origin, support and understand the couples' pressure coming from cultural settings, and encourage them to loosen any perceived constraints around treatment or communicating about their treatment.

The relevant medical staff needs to be trained in increasing sensitivity and empathic skills to understand patients psychologically (Bovin & Gameiro, 2015.) Psychosocial interventions can be provided to infertile couples as dyads,

including both husbands and wives. Group formats may also be helpful, as they allow people in similar situations to share their feelings and support each other (Chow et al., 2016).

To promote a fertility-friendly environment, it is crucial for authorities to promote correct infertility knowledge and promote attitudes that respect couples' childbearing plans since the societal view is still influenced by traditional values, which leads to infertility stigma, reduces people’s ability to rely on social support when seeking fertility treatment, and affects their well-being.

Additionally, all the information on interventions mentioned above could be provided in various forms, especially online, making it easier for infertile couples to reach out and effectively assist them. Such organisations include the Society for Assisted Reproductive Technology (SART) which have applied internet technology to greatly assist ART populations and clinics in the United States (Toner et al., 2016), and an online app named myFertiCare, which provides web-based guidance for helping ART individuals in the Netherlands (Sparidaens et al., 2023). These services were both found to be effective in providing fertility care for the communities in the studies noted above.

For further research, this current study highlights the vital challenge that

exists with the relationships of infertile couples: husbands do not always necessarily understand exactly how their wives go through the fertility treatment process, and men also struggle to manage the infertility stigma associated with ART. However, there were very few men's voices captured in this programme of study. Further studies should be undertaken to understand men's experiences, both in relation to their difficulties when accompanying their wives through ART, and how they manage the infertility stigma. This further study would enable improvements to be made to treatment pathways and support to ensure services models more appropriately meet the needs of men. As noted earlier, the original intention for this thesis was to take a cross-cultural approach. A cross-cultural study is a direct method to compare the perspectives regarding infertility issues in different regions, and it is able to identify similar experiences and unique psychosocial difficulties influenced by the cultural context (Batool & de Visser, 2016). While this present study provides a clear picture of the experiences of infertile couples within the context of Taiwanese society, there is still a need for a cross-cultural perspective to provide reflection and examination of the way current services are organized and how they may be adapted to better serve the needs of different cultural groups (Sexty et al., 2016).

To conclude, this study provides a systemic framework to explore infertile

couples' contextual experiences culturally and hopes to shed light on the needs of infertile couples for medical or mental health practitioners to design appropriate integrated fertility psychosocial support projects. Implications and suggestions for authorities and practice, including promoting a fertility-friendly environment, integrated mental health care projects, and appropriate forms, are outlined in this section. Finally, male-focused or husband-focused studies, as well as cross-cultural research, were suggested for further studies.

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Appendix 1

Questionnaire

題號	中文版 Chinese	英文翻譯 English	Note
	研究介紹 Research information		
	是否確認知後同意?	Do you fully understand the conditions as stated above and wish to consent?	
	建立專屬的參與者帳號	Please enter your unique participant number. You will need this code if you wish to withdraw your data at a later date.	
PART1 背景資料 BACKGROUND			
Q1	性別 1.男性 2.女性 3.非二元性別/第三性 4.保留不說	Sex 1.male 2. Female 3. Other 4. Prefer not to say	
Q2	你的出生年月日? 西元　　年　　月　　日(例如西元 1986 年 3 月 16 日，請填寫"19860316")	What is your date of birth?	
Q3	你的另一半的出生年月日? 西元　　年　　月　　日(例如西元 1986 年 3 月 16 日，請填寫"19860316")	What is your partner's date of birth?	
Q4	目前的關係狀態?1.交往未同居也未婚 2.同居 3.已婚 4.已離婚	What is your relationship status?1.In a relationship but not living together2.In a relationship and living together3.Married4.Divorced	
Q5	族群 1.本國籍非原住民 2.本國籍原住民族 3.新住民 4.其他(請說明)	What is your ethnicity? 1.Taiwanese 2.Taiwanese indigenous 3.new immigrant 4.other	
Q6	您目前的主要居住地為?1.英國 2.台灣 3.其他國家	What is your current living? 1.UK 2.Taiwan 3.other country	

	(請說明)		
Q7	學歷 1.國小以下 2.國中 3.高中職 4.專科/大學 5.研究所以上	What is your highest level of education? Elementary school or under2.Junior high school 3.High school 4.University 5.Master or PhD	
Q8	請問您和另一半在一起幾年?(包含交往與結婚，請說明大概的時間並以"年"為單位填入數字)	How many years have you been together? (Please state a number of years)	
Q9	請問您和另一半結婚多久?(請以"年"為單位填入數字)	If you are married, how long have you been married?	
Q10	您當初結婚的原因是?(複選題)1.想要給彼此承諾 2.來自自己原生家庭的壓力 3.來自另一半家庭的壓力 4.想要有小孩 5.覺得時間到了 6.其他原因(請說明)	What was your reason for getting married? (Multiple selections accepted)1.Want to make a commitment to each other 2.Pressures from my own family 3.Pressures from my partner's family 4.Desire to have children 5.It's time to get married 6.Other reasons(please specify)	MS= multiple selection
Q11	您目前有幾名子女(不包含懷孕未出生之胎兒)(1)0,(2)1,(3)2,(4)3,(5)4 個以上	How many children do you and your partner have, excluding any current pregnancies? 1.0 2.one 3.two 4.Three 5. Four or more	
Q12	請問您決定做人工生殖醫療的原因?1.不孕症(男性因素)2.不孕症(女性因素)3.不孕症(雙方因素)4.不孕症(不明因素)	What's the reason that you have decided to take the infertility treatment？1.Infertility (Male factor)2.Infertility (Female factor)3.Infertility (Mixed factor)4.Unknown fertility issue	
Q13	請問您接受人工生殖技術(包含人工受孕與試管嬰	How long have you undergone the infertility treatment？	

	兒)的時間多長? (?年?月)	(Please state in years and months "*y*m"))	
Q14	請問您已接受幾次的人工受孕?(1)即將接受第一次(2)1 次(3)2 次(4)3 次(5)4 次(6)5 次或 5 次以上	How many times have you undergone Intrauterine Insemination (IUI)?1.This will be the first time2.once 3.twice4.three times 5. Four times 6.five times and above	
Q15	請問您已接受幾次的試管嬰兒?(1)即將接受第一次(2)1 次(3)2 次(4)3 次(5)4 次(6)5 次或 5 次以上	How many times have you undergone IVF?1. This will be the first time2.once 3.twice 4.three times 5. Four times 6.five times and above	
Q16	以下的數字代表一個您覺得自己的社會位置；(10)表示是「最好的狀況」(有最多的錢、最好的教育和工作)；相反的，(1)則代表「最糟的狀態」(有最少的錢、不足的教育和最無聲望的工作)。請圈出您覺得最適合代表自己的位置 - 請圈出您的位置	Imagine that the scale below is a ladder with 10 rungs. It represents where people stand in society. At the top (10) are the people who are considered the 'best off', those who have the most money, most education, and the best jobs. At the bottom of the ladder (1) are the people who are considered the 'worst off', those who have the least money, least education, the least prestigious jobs, or no job. Please click on the rung that best represents where you think you stand on the ladder.	
Q17	請問您的宗教信仰?(若無，則填寫"無")	What is your religion (please state none if you are not religious)?	
PART2 與另一半的關係 Relationship and Interaction with your partner			
Q1	請問您計畫有小孩多久了?(請填寫?年?月)	How long have you planned to have a baby? (Please state in years and months "*y*m")	
Q2	請問您想要有小孩的原因為?(可複選)1.本身喜歡小	What’s the reason that you have decided to have a baby?	MS

	孩 2.來自原生家庭的壓力 3.來自對方家庭的壓力 4.另一半喜歡小孩 5.覺得時間到自然的想要有小孩 6.其他原因(請說明)	(Multiple selections accepted) 1.I love children2.Pressures from my own family3.Pressures from my partner's family4.My partner loves children5.natural time to have a baby6.Other reasons	
Q3	呈上題，請排序您認為影響您最想要有小孩的原因，1 是影響最大的原因，2 為次要因素，以此類推，5 為影響程度最小。(請直接將箭頭放到各因素上來移動排序)	Please rank the following statements from 1-5 with 1 as the most important reason and 5 as the least one.(Please hold the item and move directly)	
Q4	在開始進行人工生殖技術治療之前您對婚姻滿意度如何?1.非常滿意 2.滿意 3.中等 4.不滿意 5.非常不滿意	How satisfied were you with your partner in your relationship before having the fertility treatment?1. Extremely satisfied2.Somewhat satisfied3.Neither satisfied nor dissatisfied4.Somewhat dissatisfied5.Extremely dissatisfied	
Q5	請問您目前對婚姻滿意度如何?1.非常滿意 2.滿意 3.中等 4.不滿意 5.非常不滿意	How satisfied are you with your partner in your relationship now?1. Extremely satisfied2.Somewhat satisfied3.Neither satisfied nor dissatisfied4.Somewhat dissatisfied5.Extremely dissatisfied	
Q6	請問您與另一半對於想要有小孩的共識程度如何?(數字越大表示共識度越高)	To what extent do you and your partner agree on having a baby from 1 to not at all to 10 in complete agreement?	
Q7	一開始是誰先想要有小孩?1.自己本身 2.另一半 3.雙方	Who was the first one to want to have a baby? 1. You 2.Your partner 3. Both	
Q8	一開始是誰先想要開始進行人工生殖技術治療?1.自己本身 2.另一半 3.雙方	Who was the first one to decide to have the fertility treatment? 1.You 2.Your partner3.joint decision	

Q9	您對於進行人工生殖技術的過程之態度為何?(可複選)1.積極尋找相關資訊(花很多時間找尋資訊)2.盡力調整自己的行程來配合醫療過程(以配合醫療為最優先)3.消極面對(不太想討論此事)4.順其自然(配合另一半的安排)5.其他(請說明)	What is your general attitude towards the process of the fertility treatment?1.Actively sea rching information (spending a lot of time finding information) 2.Arranging schedule to fit the treatment (giving the treatment high priority)3.Passive resistance (don't want to talk or discuss it)4.Keep it casual (just following partner's arrangement)5.Others (Please specify)	MS
Q10	您的另一半對於進行人工生殖技術的過程之態度為何?(可複選)1.積極尋找相關資訊(花很多時間找尋資訊)2.盡力調整自己的行程來配合醫療過程(以配合醫療為最優先)3.消極面對(不太想討論此事)4.順其自然(配合另一半的安排)5.其他(請說明)	What is your partner's general attitude towards the process of the fertility treatment? 1.Actively searching information (spending a lot of time finding information)2.Arranging schedule to fit the treatment (giving the treatment high priority)3.Passive resistance (don't want to talk or discuss it)4.Keep it casual (just following partner's arrangement)5.Others (Please specify)	MS
Q11	10.您對於自己在面對人工生殖技術過程的態度滿意度為?1.非常滿意 2.滿意 3.中等 4.不滿意 5.非常不滿意	How satisfied are you with your attitude towards facing the process of the fertility treatment? 1.Extremely satisfied2.Somewhat satisfied3.Neither satisfied nor dissatisfied4.Somewhat dissatisfied5.Extremely dissatisfied	
Q12	11.您對於另一半在面對人工生殖技術過程的態度滿意度為?1.非常滿意 2.滿意 3.中等 4.不滿意 5.非常不滿意	How satisfied are you with your partner's attitude towards the process of the fertility treatment? 1.Extremely satisfied 2.Somewhat satisfied 3.Neither satisfied nor dissatisfied 4.Somewhat dissatisfied 5.Extremely dissatisfied	

Q13	當想到整個醫療過程，您覺得最痛苦的部份是?1.無數次的檢查 2.等待結果(受孕成功與否)的期間 3.過程中生理上的不舒服 4.其他(請說明)	What has been the most difficult part for you when considering the whole medical process? 1.The number of examinations2.The period of waiting for the conclusion about whether it has been successful or not. 3.Feeling physically uncomfortable4.Others (Please specify)	
Q14	在這段期間，若您覺得難過或挫折時您會做什麼?(可複選)1.轉移注意力到...(請說明)2.和(　　)傾吐心情(請說明) 3.做運動 4.其他(請說明)	What do you do when you feel sad or frustrated during this time? (Multiple selections accepted) - 1.Shifting attention to (Please specify)2.Talking through emotions with (Please specify)3.Taking exercise4.Others (Please specify)	MS
Q15	在這段期間，若您的另一半覺得難過或挫折時，他會做什麼?(可複選)1.轉移注意力到...(請說明)2.和(　　)傾吐心情(請說明) 3.做運動 4.其他(請說明)	What does your partner do when he/she feels sad or frustrated during this time? (Multiple selections accepted)1.Shifting attention to (Please specify)2.Talking through emotions with (Please specify)3.Taking exercise4.Others (Please specify)	MS
Q16	在此過程中，您覺得自己從另一半那裡得到的支持有多少?	Please rate how much support you feel from your partner, where 0 is none at all and 10 is a large amount	
Q17	在此過程中您的另一半如何給予您支持?1.做家事 2.給予情緒支持 3.溫暖的擁抱 4.給予同理 5.一起旅行放鬆 6.抵擋來自外在的壓力 7.給予您自我調適的空間 8 其他	How does your partner support you during this period? (Multiple selections accepted) 1.Does chores2.Talking through emotions3.Warm hugs4.Comfort with empathy5.Traveling together to relax6.Deals with pressure from others7.Provides personal space for self-regulation8.Others (Please specify)	MS

Q18	這段期間您會希望您的另一半可以多做些什麼? (可複選)1.給予更多的情緒支持 2.給予更多實際的支持，例如...(請說明)3.他/她可以多自我照顧自己 4.其他(請說明)	What kind of thing would you like your partner to do during this period? (Multiple selections accepted) - 1.Giving you more emotional support2.Giving you more practical support, such as...(Please specify)3.Taking care of himself/ herself4.Others (Please specify)	MS
Q19	您在這段期間如何給予另一半支持? (可複選)1.做家事 2.給予情緒支持 3.溫暖的擁抱 4.給予同理 5.一起旅行放鬆 6.抵擋來自外在的壓力 7.給予您自我調適的空間 8 其他	How do you support your partner during this period? (Multiple selections accepted) 1.Does chores2.Talking through emotions3.Warm hugs4.Comfort with empathy5.Traveling together to relax6.Deals with pressure from others7.Provides personal space for self-regulation8.Others (Please specify)	MS
Q20	人工生殖技術的過程對您和另一半在哪些方面造成影響?(可複選)1.性生活 2.溝通互動 3.時間的安排 4.經濟狀況 5.其他(請說明)	How does the process of the fertility treatment affect your relationship with your partner? (Multiple selections accepted) 1.Sex life2.Communication3.Time arrangement4.Financial condition5.Others (Please specify)	MS
Q21	您覺得在這過程中最大的壓力來源是什麼?(單選)1.和另一半的互動 2.經濟狀況 3.家人或朋友的意見 4.生理上的不適 5.其他(請說明)	Where do you think the biggest pressure comes from during this period? -1. The interaction with your partner2.The economy3.The opinions of family or friends4.Feeling physically uncomfortable5.Others (Please specify)	
PART3 家庭的關係與互動:與另一半家庭的關係 Relationship and Interaction with the family (Your partner's family)			
Q1	另一半的雙親對於有孫兒的期待帶給您的壓力程度有多少?(0 代表完全沒有 10 代表程度最高)	Please rate how much pressure you feel the expectation of having a grandchild from your partner's parents? where 0 is	

		none at all and 10 is a large amount	
Q2	承上題，他們如何表達他們的期待?1.直接表達他們的期待 2.間接表達他們的期待(例如:提供關於生子的相關資訊)3.直接和間接的方式都有 4.其他(請描述)	How do they express their expectation of having a grandchild? 1.Expressing their expectation directly2.Expressing their expectation indirectly (such as providing the information of how to have baby)3.Both direct and indirect way4.Others (Please describe)	
Q3	您如何面對另一半雙親的期待?(可複選)1.向他們說明目前進行人工生殖技術的狀況 2.轉移話題 3.忽略 4.其他(請說明)	How do you handle their expectations? (Multiple selections accepted) 1.Telling them the newest information about your treatment2.Changing the subject3.Ignoring it4.Others (Please describe)	MS
Q4	您的另一半如何面對他/她雙親的期待?1.向他們說明目前進行人工生殖技術的狀況 2.轉移話題 3.忽略 4.其他(請說明)	How does your partner handle their expectation? (Multiple selections accepted) 1.Telling them the newest information about your treatment2.Changing the subject3.Ignoring it4.Others (Please describe)	MS
Q5	您如何處理另一半雙親的疑問或建議?(可複選)1.專心聆聽和回應 2.轉移話題 3.忽略 4.直接拒絕回答 5.其他(請說明)	How do you handle their questions or advice? (Multiple selections accepted) 1.Listening and replying attentively2.Changing the subject3.Ignoring it4.Refusing to answer directly5.Others (Please describe)	MS
Q6	您的另一半如何處理他/她雙親的疑問或建議?(可複選)1.專心聆聽和回應 2.轉移話題 3.忽略 4.直接拒絕回答 5.其他(請說明)	How does your partner handle their questions or advice? (Multiple selections accepted) 1.Listening and replying attentively2.Changing the subject3.Ignoring it4.Refusing to answer directly5.Others (Please describe)	MS

PART3 家庭的關係與互動:與自己原生家庭的關係 Relationship and Interaction with the family (Your family)			
Q7	您的原生家庭父母對於孫兒的期待帶給您的壓力程度有多少?(0 代表完全沒有 10 代表程度最高)	Please rate how much pressure you feel the expectation of having a grandchild from your parents? , where 0 is none at all and 10 is a large amount	
Q8	承上題，他們如何表達他們的期待?1.直接表達他們的期待 2.間接表達他們的期待(例如:提供關於生子的相關資訊)3.直接和間接的方式都有 4.其他(請描述)	How do they express their expectation of having a grandchild? 1.Expressing their expectation directly2.Expressing their expectation indirectly (such as providing the information of how to have baby)3.Both direct and indirect way4.Others (Please describe)	
Q9	您如何面對自己雙親的期待?(可複選)1.向他們說明目前進行人工生殖技術的狀況 2.轉移話題 3.忽略 4.其他(請說明)	How do you handle their expectation? (Multiple selections accepted) - 1.Telling them the newest information about your treatment2.Changing the subject3.Ignoring it4.Others (Please describe)	MS
Q10	您的另一半如何面對您雙親的期待?(可複選)1.向他們說明目前進行人工生殖技術的狀況 2.轉移話題 3.忽略 4.其他(請說明)	How does your partner handle their expectation? (Multiple selections accepted) 1.Telling them the newest information about your treatment2.Changing the subject3.Ignoring it4.Others (Please describe)	MS
Q11	您如何處理自己雙親的疑問或建議?(可複選)1.專心聆聽和回應 2.轉移話題 3.忽略 4.直接拒絕回答 5.其他(請說明)	How do you handle their questions or advice?(Multiple selections accepted)1.Listening and replying attentively2.Changing the subject3.Ignoring it4.Refusing to answer directly5.Others (Please describe)	MS
Q12	您的另一半如何處理您雙親的疑問或建議?1.專心	How does your partner handle their questions or	MS

	聆聽和回應 2.轉移話題 3.忽略 4.直接拒絕回答 5.其他(請說明)	advice?(Multiple selections accepted)1.Listening and replying attentively2.Changing the subject3.Ignoring it4.Refusing to answer directly5.Others (Please describe)	
Q13	當想到家庭的系統時，您覺得您感受最大的(生子)壓力源來自於?1.您自己的媽媽 2.您自己的爸爸 3.另一半的媽媽 4.另一半的爸爸 5.自己的親戚 6.對方的親戚 7.都沒有	When it comes to the family system, where does the biggest source of your pressure come from? 1.Mother2.Father3.Mother in law4.Father in law5.Other relatives of yourselves6.Partner's other relatives7.None	
Q14	承上題，您覺得這個壓力對您和另一半關係的影響程度為?(0 為沒有影響 10 為程度最高)	Thinking about the question above, please rate the amount of influence this pressure has on your relationship?, where 0 is none at all and 10 is a large amount	
PART4 與其他系統的關係與互動 Others relationship and interaction			
Q1	在這過程中您通常最常和誰討論人工生殖這個議題?(除了家人和您的另一半)	Who do you usually talk about this issue (IVF) with? (excluding your partner and family)	
Q2	當您和別人討論此議題時通常目的是?(複選題)1.分享資訊 2.分享經驗 3.紓解情緒 4.其他	When talking about this issue, what do you think your purpose is? (Multiple selections accepted) 1.Sharing information2.Sharing experience3.Helping talk through emotions4.Others (Please describe)	MS
Q3	您覺得「不孕」在臺灣的社會是禁忌話題嗎?1.是 2.不是	When it comes to the issue of infertility, do you think it is a taboo in today's society? 1.Yes2.No	
Q4	承上題，請問您選擇「是」或「不是」的理由是.....(請簡單敘述)	Thinking about the question above, please describe why.	
Q5	您覺得在臺灣的社會文化如何影響您對於不孕和人	How does the cultural society you are living in influence your	

	工生殖議題的看法?(請簡單敘述)	view of IVF and fertility?	
PART5 與醫療系統的關係與互動 Relationship and interaction with the medical system			
Q1	在治療的這段期間您總共看了幾個醫生?1.2.3.4.5 以上	How many doctors have you seen during this period?	
Q2	到目前為止您花在人工生殖上的費用有多少?1.無 2.10 萬以內 3.10-20 萬 4.20-50 萬 5.50-100 萬 6.100 萬以上	How much has the fertility treatment cost so far? 1.No cost 2.Less than 100000TWD(2500£) 3.100000-200000TWD(2500-5000£) 4.200000-500000TWD(5000-12500£)5.500000-1000000TWD(12500-25000£) 6.Over1000000TWD(Over 25000£)	
Q3	您覺得臺灣醫療系統在人工生殖方面提供您的協助有?1.適當的醫療資訊 2.情緒的支持 3.好的和合適的設備 4.其他	What do you think the health professionals have provided to you? (Multiple selections accepted) 1.Adequate medical information2.Support with emotions3.Good and appropriate equipment4.Others	MS
Q4	您覺得臺灣醫療系統在人工生殖方面可以再改進的是?(複選題)1.適當的醫療資訊 2.情緒的支持 3.好的和合適的設備 4.其他	What do you think needs to improve in terms of your treatment and care? (Multiple selections accepted) 1.Adequate medical information 2.Support with emotions3.Good and appropriate equipment4.Others	MS
Q5	整體來說，對於和醫生的互動您的滿意度是?原因是?1.非常不滿意 2.不滿意 3.中等 4.滿意 5.非常滿意	How satisfied are you with your interaction with the doctor? (Please describe why) 1.Very dissatisfied2.Dissatisfied3.Neutral4.Satisfied5.Very satisfied	
Q6	整體來說，對於和臺灣醫療系統的互動您的滿意度是?原因是?1.非常不滿意 2.不滿意 3.中等 4.滿意 5.	How satisfied are you with the health care professionals? (Please describe why) 1.Very	

	非常滿意	dissatisfied2.Dissatisfied3.Neutral4.Satisfied5.Very satisfied	
	聯絡資訊 contact information		
	另外，為了更完整的瞭解這個議題，本研究採用質性與量化合併的資料蒐集方式，若您願意分享更多個人與此主題相關的深入經驗與故事，歡迎留下 E-mail，後續研究者將與您聯繫，進一步採用文字書寫的方式傾聽您的故事。 若您不方便進一步分享也沒關係，依然可以留下您的 E-mail 資料，參加 500 元禮券抽獎(為了感謝研究參與者，待資料搜集結束將抽出 7 份 500 元禮卷。)	In order to understand this issue completely, both quantitative and qualitative data will be collected in this study. I was wondering if you are interested in sharing a more personal and qualitative account of your experience.1.YES2.NO	