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## Motherhood Desire as a Stimulant for Fertility Tourism Intention

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### Abstract

This paper investigates the relationship between participants' motherhood desire and travel intention and behaviour, through the mediating role of attitude, subjective norm and perceived behaviour control. The study adopted a questionnaire among a sample representative of females with fertility complications in Gulf Cooperation Council (GCC) countries in Egypt. In total, 138 questionnaires were gathered and tested using a partial least square structural equation modelling using WarpPLS 7.0. The findings support the proposed model and show that motherhood desire has a positive influence on attitude, subjective norm and perceived behaviour control. Also, we found that the positive effect of TPB dimensions on actual behaviour is subject to females' intention to visit Egypt for fertility tourism. Besides, the study revealed that attitude partially mediates the link between motherhood, tourists' revisit intention and tourists' actual behaviour. This suggests that the positive effect of motherhood desire on tourist revisit intention and actual behaviour is subject to attitude. Drawing on the theory of planned behaviour (TPB), we develop an integrative model exploring the relationship between three distinct TPB dimensions and their influence on travel behaviour for childbearing. Such findings hold important implications both for the research community and medical tourism practitioners.

**Keywords:** Fertility tourism; theory of planned behaviour; motherhood desire; Gulf Cooperation Council (GCC); Egypt.

## Introduction

Motherhood is an essential part of many females' lives, predominantly in societies where maternity is vital to social and cultural identity (Watts, Liamputtong & Mcmicheal, 2015). Yet, there is a shortage of studies investigating fertility travel, childbearing intention and fertility treatment (Hudson, Culley, Blyth, Norton, Rapport & Pacey, 2011). Indeed, conversations on cross-border reproductive travel have been limited to healthcare platforms (Culley & Hudson, 2009). The less than developed literature in this regard could be explained by inaccessible or unobtained data. Despite the global popularity of cross-border fertility treatment (Nygren, Adamson, Zegers-Hochschild, de Mouzon & International Committee Monitoring Assisted Reproductive Technologies, 2010), record keeping has been poor. The few exceptions are Hughes and DeJean's (2010) study on fertility tourists from Canada to the US, and Whittaker and Speier's (2010) record of Australians' voyage to Europe and Asia for the same purpose. Inhorn and Shrivastav (2010) also investigated fertility travel to and from the United Arab Emirates. By and large, these studies posit that there is an exponential growth in annual cross-border fertility travel mainly by tourists from France, Germany, Italy and the Netherlands (Pennings et al., 2009). Of particular interest to researchers are the consequences of this phenomenon on sectors, clinicians and fertility support groups (Blyth & Farrand, 2005). Other areas of interest are safety, quality of pre and post-pregnancy care, affordability and medical standards in the destination country.

New studies on fertility intention is key to developed countries' understanding of fertility and varied childbearing stimulants. In fact, demographers have shown increased interest in fertility intention and an examination of the fertility domain using TPB by linking attitude, subjective norms [social approval] and perceived behaviour control to respondents' intention and behaviour (Ajzen, 1991, 2005; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010). The questions arising in the body of work are: What is the effect of motherhood desire in explaining women's fertility travel intention and behaviour? What is the influence of travel intention on this behaviour?

Predicated on the theory of planned behaviour, and using data collected from GCC fertility tourists in Egypt, the present study attempts to answer the aforementioned questions by investigating the relationship between participants' motherhood desire and travel intention and behaviour, through the mediating role of attitude, subjective norm and perceived behaviour control. The contribution to the tourism and consumer behaviour literature are (1) highlighting the relationship between female behaviour (attitude, subjective norm and perceived behaviour control), travel intention and actual behaviour toward childbearing and (2) uncovering the role of motherhood concept in this relationship (Klobas, 2010; Watts et al., 2015). To this extent, the resulting findings will interest medical tourism professionals, barren tourists and leaders of travel agencies in Egypt, the Middle East and North Africa. It will also occasion and provoke new studies in cross-border reproductive travel and the understanding of women's motherhood intention and desire. The study is organised as follows: the next section appraises fertility treatment in Egypt and justifies empirical work in the sector and context. Thereafter, the theoretical framework and hypotheses are developed, followed by an overview of the research methods and findings. Then, the results are discussed and flanked with drawn conclusions. Finally, recommendations for researchers and policy makers are made to advance this area of study and the sector.

## Literature review

### *Fertility travel and tourism*

Medical tourism, in particular the fertility industry, is seen as an important growth sector with a market size in the range of \$1-2 billion in 2012 (Sarojini, Marwah & Sheno, 2011),

corroborating Nygren et al. (2010) that fertility tourism is a steadily growing market. Driving this growth, Shenfield, De Mouzon, Pennings, Ferraretti, Nyboe, Andersen, De Wert & ESHRE Taskforce on Cross Border Reproductive Care (2010) reported that 28% of UK fertility patients sought cross-border treatment for better quality of care. Similarly, more than 5% of Canadian fertility patients have accessed treatment in the US. However, in Asia, Middle East and Africa, there is a shortage of accessible nor accurate data on cross-border reproductive care (Connolly, 2011). This is in spite of India and Thailand being major hubs of assisted reproductive care serving patients the world over (Salama, Isachenko, Isachenko, Rahimi, Mallmann, Westphal & Patrizio, 2018). According to Storrow (2011) the cross-border reproductive treatment is influenced by a combination of factors including countries' medical infrastructure and expertise, availability and support of regulatory pillars and government policies, cost of treatment, visa availability, connectivity, translators, accommodation, access to food and medicine.

### ***Fertility tourism in Egypt***

Tourism is a major driver of economic growth in Egypt, an important source of foreign exchange and a direct and indirect generator of jobs (Elbaz, Salem, Elsetouhi & Abdelhamied, 2020; Shehawy, Elbaz & Agag, 2018; Elbaz & Abou-Shouk, 2016). Hence, the global tourism boom advanced Egypt's economic development, making the country an exemplar of the positive effects of tourism which outweigh the negative (Elbaz, Haddoud & Shehawy, 2018; Elsetouhi, Hammad, Nagm & Elbaz, 2018; Abdelhamied & Elbaz, 2018; Elbaz & Haddoud, 2017; Richter & Steiner, 2008). Hence, Egypt has sought to diversify its tourism receipts by offering new experiences such as reproductive care (Inhorn, 2016). Given the nature of infertility, diaspora communities in the MENA region first seek assistance and access to fertility services in their home countries. Egypt was one of the first countries to introduce in vitro fertilization [IVF] (Inhorn, 2016). Among the 48 Middle Eastern countries offering fertility treatment, Egypt is ranked 32nd (Adamson, 2009). In the initial period, according to Mansour and Abou-Setta (2005), there were 52 fertility centers operating in Egypt.

### **The theory of planned behaviour**

The Theory Planned Behaviour (TPB) is a model in psychology combining attitudes, subjective norms, perceived behavioural control and behaviour (Ajzen, 1991, 2005; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 2010). Recent studies in the fertility sphere have been predicated on TPB (Billari, Philipov & Testa, 2009; Ajzen & Klobas, 2013), and they have shown a direct effect of attitudes (perceived benefits), subjective norms (social approval) and perceived behavioural control on the fertility intention of participants. In fact, TPB has been analysed theoretically to determine its validity for examining fertility (Ajzen, 2011; Barber, 2011; Klobas, 2011; Liebroer, 2011; Miller, 2011; Morgan & Bachrach, 2011; Philipov, 2011), and also experimentally (Kuhnt & Trappe, 2013) to understand multi-factor paradigms in fertility intention and subsequent behaviour.

In this research, we argue that motherhood desire strongly influences female intention and actual behaviour (or goal attainment) for cross-border reproductive travel to Egypt. According to TPB, individual intentions are affected by three factors: attitude, subjective norms and perceived behaviour control. Firstly, attitude underscores individuals' internal capacity to achieve a desired goal. Secondly, subjective norms represent individuals' perception (psychological support exerted by social circle) to attain a personal goal. Lastly, perceived behavioural control refers to individuals' perception of difficulty in goal attainment. Moreover, there are several demographic factors acting as determinant variables in TPB studies since they constitute the cognitive structures leading to specific decisions (Ajzen, 2005). TPB classifies

external variables into two types: (1) individual factors such as education, which may affect the attitude, subjective norms and perceived behavioural control influencing individual intention and behaviour, and (2) the environment which features as a controlling factor. The presence of external factors moderates the intention and may impact positively or negatively on perceived behavioural control. Negative effects may act as a barrier to intention formation and, consequently, prevent individuals from developing clear intentions. Furthermore, Billari et al. (2009) have previously studied female fertility intention using TPB. Similarly, Miller and Pasta (1995) analysed the effect of childbearing timing and the number of children on the behaviour of married people predicated on TPB. Then, Fishbein and Ajzen (2010) studied the stability of intentions using TPB and found that long intervals between intention formation and behaviour performance results in changing intentions.

### **Hypothesis development**

According to the TPB construct, intention informs individuals' subsequent behaviour. In the fertility domain, a number of TPB underpinned studies support the intention-behaviour correlation using experimental and empirical evidence (Billari et al., 2009; Ajzen, 2010). Other studies have also explored TPB to clarify fertility and related behaviours (Ajzen & Klobas, 2013). Indeed, maternity intention has been investigated in terms of behaviour and it is understood that childbirth is the result of behavioural action (Creanga, Odhiambo, Odera, Odhiambo, Desai, Goodwin & Goldberg, 2016). Ultimately, Ajzen and Klobas (2013) affirm that TPB and its interrelated factors can be used as an instrument to understand the fertility decision-making process.

#### ***Motherhood desire, attitude, subjective norms, and perceived behaviour control***

Once more, according to TPB, a change in intentions and behaviour is based on personal attitude, subjective norms and perceived behavioural control (Ajzen, 2002). TPB educates that powerful agents can foster a readiness to change intentions, promote new beliefs or alter existing ones. Galpin (1996) contends that through persuasive information and discussion change can be initiated at all levels. Thus, regular, timely and accurate information exchange develop beliefs about positive change which in turn impact on attitude, create social pressure and normative expectation (subjective norm), and develops personal control that facilitates performance/travel (perceived behavioural control) to fulfill motherhood desire. Moreover, Montgomery, Green, Maher, Tipton, O' Bannon, Murphy and Hatmaker-Flanigan (2010) confirm that family attitudes, especially those of husbands, have a significant impact on females' desire to conceive. This compounds mothers' own childbearing desire (Shandra, Hogan & Short, 2014). Montgomery et al. (2010) add that this subjective value directly contributes to childbearing attitude. Thus, the following hypothesis is proposed:

**Hypothesis 1.** Motherhood desire has a positive impact on female attitude toward having children.

According to Ajzen and Klobas (2013), social support for childbearing influences the subjective norm for the same. Precisely, TPB assumes that the belief derived from social support is an important measure of the subjective norm of childbearing. Furthermore, normative childbearing beliefs (Cialdini, Reno & Kallgren, 1990; Fishbein & Ajzen, 2010) are inferred as social referents for having a child. Therefore, we propose the following:

**Hypothesis 2.** Motherhood desire has a positive impact on the subjective norm of having children.

The expectancy-value model can also be used to explain the relationship between the desire for having a child and perceived behavioural control among individuals seeking children (Ajzen & Klobas, 2013). Fetscherin and Stephano (2016) argued that the more a health tourism destination offer what health tourists desire, the greater its impact on the fertility treatment decision. In other words, on the premise that health tourists can access appropriate and effective fertility care in Egypt, we hypothesise the following:

**Hypothesis 3.** Motherhood desire has a positive impact on females' perceived behaviour control toward having children.

#### *Attitude and intention to visit*

Attitude is a significant antecedent that reflects a person's positive and negative beliefs vis-à-vis the intention to perform a certain action. Researchers have highlighted the significance of attitude as a predictor of intention towards particular behaviour (Marcinkowski & Reid, 2019; Moyo & Tichaawa, 2017; Tichaawa & Mhlanga, 2015). Attitudes are a key construct in psychology and in the study of social change. It is a key determinant of intentions. According to Ajzen (1991), an attitude is 'the degree to which a person has a favourable or unfavorable evaluation of their behaviour'. Attitude is also considered to be a key construct in the socio-psychological process of decision-making. Miller and Pasta (1993, 1994, 1995) maintained that 'childbearing motivations' had a positive impact on women's desire, intention and behaviour to undergo appropriate fertility treatment. Thus, this attitude can have a positive impact on females' intention to remedy infertility (Liefbroer, 2005). Therefore, we propose the following hypothesis:

**Hypothesis 4.** Attitude toward having children has a positive impact on revisit intention.

#### **Subjective norm and revisit Intention**

Subjective norms also play an important role as a function of intention and belief to perform a certain behaviour. A study by Salleh and Albion (2004) shows that attitude and subjective norms are significant antecedents of intention. Moreover, beliefs triggering subjective norms are considered normative. Intended behaviours are contingent on others' perception of acceptable/expected practice. For example, spouse, close friends and family feel that the individual should bear children. Important others affect people's judgment; otherwise certain behaviour may not be performed by the individual. Therefore, 'subjective norms' are perceived as normative beliefs of reference held by social groups exerting pressure on individuals to perform a certain behaviour, for example: to have a child. In addition, researchers have examined the different contexts and influences of social norms. Reher (1998) and Dalla (2001) have reported the significance of social links in Europe where strong family ties shape choices. As Micheli (2000) showed that social networks influence individuals' decision, Philipov, Speder and Billari (2006) assessed the influence of social resources on fertility intention in different countries (including Hungary and Bulgaria). Subjective norms reflect perceived expectations predetermining the adoption of a behaviour by a person or group based on individual acceptance (Ries, Hein, Pihu & Armenta, 2012). Consequently, the following hypothesis is proposed:

**Hypothesis 5.** Subjective norms toward having children has a positive impact on revisit intention.



### **Perceived behavioural control, revisit intention and actual behaviour**

According to Czerniak, Lumpe, Haney and Beck (1999), subjective norms and perceived behavioural control are fundamental to behavioural intention. Perceived behavioural control can have a direct or indirect impact on individual behaviour through intentions. Determinants of consistent beliefs about hindrances and resources such as income, wealth and education facilitate or interfere with the ability to have a child in the perception of behavioural control (Billari et al., 2009). The degree of each control factor contributes to perceived behavioural control to enable or hinder directly the behavioural performance of an individual (Ajzen, 2010). Based on this discussion, the following hypotheses are proposed:

**Hypothesis 6.** Perceived behavioural control toward having children has a positive impact on female revisit intention.

**Hypothesis 7.** Perceived behavioural control toward having children has a positive impact on females' actual behaviour.

### **Revisit intention and actual behaviour**

Previous studies have found that TPB significantly correlates with actual behaviour (Perkins, Jensen, Jaccard, Gollwitzer, Oettingen, Pappadopulos & Hoagwood, 2007; Eccles, Hrisos, Francis, Kaner, Dickinson, Beyer & Johnston, 2006). In this vein, Naa, Onn and Meng (2016) and Tichaawa (2017) recognise the growth of travel intentions among tourists for medical treatment. They also indicate that the stronger the attitude, subjective norms and perceived behaviour control held by tourists, the stronger the influence on their travel intention to visit a destination. Al-Ziadat (2015) determined that revisit intention is positively related to actual visit behaviour. Similarly, the above is consistent with Martin, Ramamonjiarivelo and Martin (2011), Reddy, York and Brannon (2010) and Yu and Ko (2011). These studies investigated intentions and behaviour toward medical tourism and concluded that tourists' fertility visit intention positively influences their actual visit behaviour. Thus, we propose:

**Hypothesis 8.** Females' revisit intention has a positive impact on actual childbearing behaviour.

### **The mediating role of attitude, subjective norm and perceived behavior control**

Combining the discussions of H1 to H6 the paper suggests that attitude, subjective norm and perceived behavior control act as an ideal mediator of the association between motherhood desire and female revisit intention. This hypothesis is built on the idea that motherhood desire stimulates females to visit Egypt in pursuit of fertility treatment through the mediating role of attitude, subjective norm and perceived behavior control. Therefore:

**Hypothesis 9:** Attitude *mediates the link between Motherhood desire and female revisit intention.*

**Hypothesis 10:** Subjective norm *mediates the link between Motherhood desire and female revisit intention.*

**Hypothesis 11:** Perceived behavior control *mediates the link between Motherhood desire and female revisit intention.*



## Method

This inquiry focuses on cross border travel to Egypt. It analyses fertility behaviour using the TPB framework among desiring mothering. For this purpose, a specific questionnaire has been designed to capture relevant TPB dimensions and related fertility behaviours culminating into the travel decision. A non-probability convenience sampling of 138 medical tourists visiting Egyptian clinics for fertility treatment constitutes the data for this study. Paper-based questionnaires were distributed in July and August 2018 with the support of two research assistants. Notwithstanding generalisation concerns linked with convenience sampling, it remains prevalent in contemporary studies where it is difficult to access the population (Jager, Putnick & Bornstein, 2017). Coviello and Jones (2004) also contend that non-probability sampling can provide quality data when decent participation levels are achieved. Hence, non-probability convenience sampling is adopted in the current study due to the intrinsic characteristics of medical tourists and the pragmatism needed to entice their participation (Reynolds, Simintiras & Diamantopoulos, 2003). Added to this is challenge is the restrained cultural context of GCC countries.

In 2018, the Egyptian Annual Tourism handbook indicated that approximately 89,567 medical tourists visited Egypt (Tourism in Figures, 2018). Saunders et al.'s (2016) guideline suggests a sample of 370-384 (5% error margin) for populations of this size. Thus, 300 questionnaires were distributed among health tourists, estimating a 35% return (Saunders et al., 2016). Although 144 questionnaires were returned, with 138 and 6 were deemed valid and invalid respectively.

The characteristics of the sample show that female health tourists are mainly in the 36 - 45 age bracket (55.1%) as shown in table 1, followed by the 26 – 35 group (18.8%). In addition, just under a third of the respondents hold at least a college degree or its equivalent (30.4%), while others hold a bachelor's degree (27.5%). A vast majority of the sample are employed (85.5%). Lastly, representation of specific GCC countries in the study is as follows: almost half of the participants were from the Sultanate of Oman (49.1%), followed by the Kingdom of Saudi Arabia at 35%. 8.7% and 6.3% were nationals of the United Arab Emirates and Bahrain respectively. There were no participants from Qatar in the sample.

**Table 1: Sample characteristics**

Characteristics	Percentage
<b>Age group</b>	
18-25 Years	7.2
26-35 Years	18.8
36-45 Years	55.1
46-55 Years	17.4
More than 55 Years	1.4
<b>Educational level</b>	
Junior high school or lower	10.1
Senior high school	23.2
College or equivalent	30.4
Bachelor degree	27.5
Master's degree or higher	8.7
<b>Occupation</b>	
Full time student	1.4
Unemployed	31.9
Employed	52.2
Retired	7.2
Others	7.2
<b>GCC Countries</b>	
Saudi Arabia	35.1
United Arab Emirates	8.7
Oman	49.9





Qatar	0.0
Bahrain	6.3

### Measures

The current paper investigates six factors including motherhood desire, tourists’ attitude, subjective norms, perceived behaviour, revisit intention and actual behaviour. All latent variables are measured using multiple questions on a 5-point Likert scale of 1 (strongly disagree) to 5 (strongly agree). In this manner, to confirm the paper’s content validity, the indicators have been adopted from previous studies. For instance, to measure the motherhood variable, 4 items are usurped from Greil, McQuillan, Benjamins, Johnson and Heinz (2010). For subjective norms, the eight-item five-point scale are adopted from Ramamonjiarivelo et al. (2015), while measures for perceived behaviour control and attitude echo Lee, Han and Lockyer (2012). Finally, items for revisit intention and actual visit behaviour are extracted from Al Ziadat (2015).

### Analysis and results

Due to its efficacy in the validation and reliability of questionnaire items, this study uses the analysis of variance-based structural equations modelling. This technique is particularly useful when deploying an existing survey instrument in new contexts (Mekawy & Elbaz, 2020). Thus, we followed Kock’s (2017) WarpPLS 6.0 protocol to examine the reliability and validity of the study’s instruments.

### Reliability and Validity

The internal reliability and convergent validity of the instruments are measured using composite reliability (CR), Cronbach’s alpha coefficient and the average variance extracted (AVE). In this vein, Table 2 reveals that all the three gauges [i.e. CR, Cronbach’s alpha and AVE] return indices greater than the cut-off thresholds of 0.7 and 0.5 for constructs’ reliability and validity respectively (Hair, Mathews, Mathews & Sarstedt, 2016).

**Table 2: Reliability and Validity (convergent) of Measures**

Constructs	Composite Reliability	Cronbach’s Alpha	AVE	VIF
Motherhood (MD)	0.908	0.847	0.766	1.354
Attitude (AT)	0.926	0.881	0.807	2.035
Subjective Norms (SN)	0.936	0.920	0.677	1.388
Perceived Behaviour Control (PBC)	0.887	0.830	0.663	1.861
Revisit Intention (RV)	0.892	0.838	0.674	1.561
Actual Behaviour (AVB)	0.851	0.767	0.589	1.497

The study also uses the square roots of AVE to test the instruments’ discriminant validity. According to Fornell and Larcker (1981), for discriminant validity to be established, it is the square root of each AVE instrument should not be larger than the correlations with the remaining instruments. Table 3 confirms this requirement.

**Table 3: The square roots of the AVEs**

Constructs	1	2	3	4	5	6
1. Motherhood (MD)	(0.875)					
2. Attitude (AT)	0.399	(0.814)				
3. Subjective Norms (SN)	0.243	0.403	(0.823)			
4. Perceived Behaviour Control (PBC)	0.381	0.644	0.435	(0.898)		
5. Revisit Intention (RV)	0.412	0.383	0.405	0.485	(0.821)	
6. Actual Behaviour (AVB)	0.378	0.418	0.397	0.457	0.450	(0.767)

Furthermore, multicollinearity and common method bias were checked through the variance inflation factor (VIF) and the Harman’s single factor test (Kock, 2015). The VIF for all latent

variables are lower than the threshold of 5, indicating no serious collinearity issues. Moreover, Harman’s test showed that the single factor is below 50% of the total variance. This implies that there is no major indication of common method bias.

### Structural model

In this section, the current model (see Figure 1), path coefficients ( $\beta$ ), p values and the  $R^2$  values are illustrated. Accordingly, the findings indicate that motherhood desire has a positive effect on attitude ( $\beta = 0.44$  and  $p < .01$ ), subjective norms ( $\beta = 0.34$  and  $p < .01$ ) and perceived behaviour control ( $\beta = 0.47$  and  $p < .01$ ). Hence hypotheses 1, 2 and 3 are all supported. From Figure 2, it is clear that attitude has a moderate significant influence on tourists’ revisit intention ( $\beta = 0.30$  and  $p < .01$ ); meaning hypothesis 4 is supported. Subjective norms also have a positive impact on tourist revisit intention ( $\beta = 0.20$  and  $p = .04$ ). Similarly, perceived behaviour control positively impact both tourists’ revisit intention ( $\beta = 0.21$  and  $p = .03$ ) and actual behaviour to visit Egypt for fertility treatment ( $\beta = 0.35$  and  $p < .01$ ). Thus, hypotheses 5, 6 and 7 are supported. Finally, tourist revisit intention is found to have a positive significant effect on actual behaviour intention ( $\beta = 0.31$  and  $p < .01$ ); inferring that hypothesis 8 is supported. Therefore, it can be concluded that motherhood desire is explained 20% by attitude, 12% by subjective norms and 22% by perceived behaviour control. For the rest, tourist revisit intention and perceived behaviour control explain 33% of tourists’ actual behaviour to access fertility treatment in Egypt. Consistent with Hair et al. (2017), a blindfolding technique with an omission distance of 7 is employed to measure the models’ predictive relevance. This resulted in redundancy cross validation (Q2 Stone-Geisser) standards for the endogenous latent variables above zero (attitude = 0.20, subjective norm = 13, perceived behaviour control = 21, tourist revisit intention = 33 and tourist actual behaviour = 34), proving the predictive power of the model in the current paper.

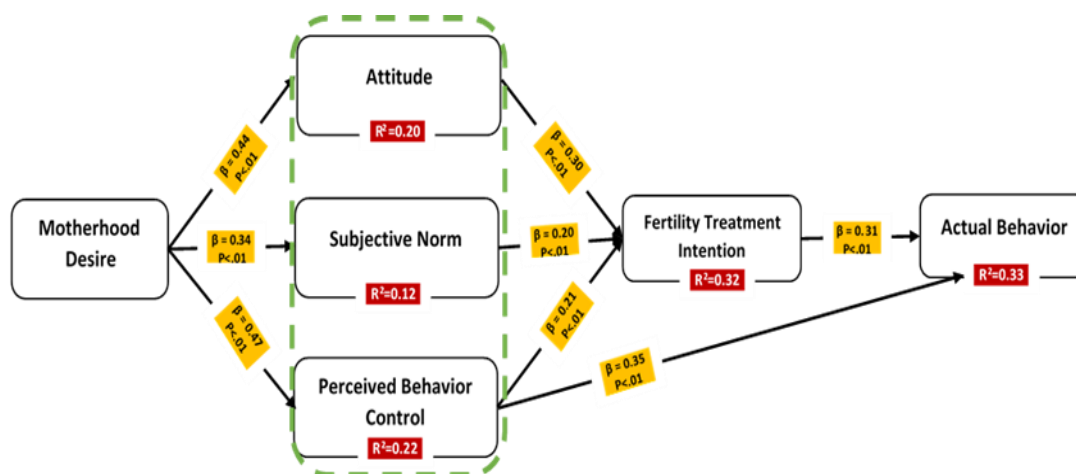


Figure 1. The path coefficients and p values

As shown in Table 4, an intervening relationship analysis was explored the mediating role of attitude, subjective norms and perceived behaviour control in the connection between motherhood desire and tourist revisit intention behaviour. The study finds that attitude partially mediates the link between motherhood, tourists’ revisit intention and tourists’ actual behaviour. This suggests that the positive effect of motherhood desire on tourist revisit intention and actual behaviour is subject to attitude. Thus, the study supports hypothesis 9 and hypothesis 10.



**Table 4:** Indirect Effects Results

Paths	Significance		Confidence Intervals' level used		Outcome
	Direct Effect	Indirect Effect	(range: 0.5 to 0.99)		
Motherhood on tourist revisit intention via attitude	$p < 0.001$	$p = 0.02$	0.240	0.648	Partial Mediation
Motherhood on tourist revisit intention via subjective norms	$p < 0.001$	$p = 0.122$	0.118	0.542	No Mediation
Motherhood on tourist revisit intention via perceived behaviour	$p < 0.001$	$p = 0.06$	0.263	0.668	No Mediation

## Discussion

Esousing TPB, this paper has investigated the impact of motherhood desire on females' actual childbearing behaviour through the intervening role of female revisit intention. The findings of the present study provide an important understanding of how motherhood desire stimulates demand for fertility treatment in Egypt. The findings show that motherhood desire has a strong positive influence on female childbearing (hypothesis 1). This result signifies that motherhood desire stimulates the attitude of females to visit Egypt in pursuit of fertility treatment and is consistent with Ajzen and Klobas (2013). To be sure, this means that reproductive beliefs affect females' reproductive attitude and, hence, develops their intention to travel for fertility treatment. Similarly, motherhood desire is found to have a strong and positive influence on females' subjective norms (hypothesis 2) and perceived behaviour control (hypothesis 3). This supports Cialdini, Reno and Kallgren (1990) and Fishbein and Ajzen's (2010) argument that motherhood desire has a positive impact on female subjective norms and perceived behavioural control toward childbearing. This means that having children is important to females' feeling and family, relatives and friends encourage them to solicit fertility treatment in Egypt.

Moreover, the results demonstrate that subjective norms and perceived behaviour control have a significant and positive effect on female revisit intention to Egypt for fertility treatment (hypotheses 4, 5 and 6). Perceived behaviour control also positively affects females' actual behaviour to visit Egypt for fertility treatment (hypothesis 7). This aligns with findings from Czerniak et al. (1999), Ajzen (2010) and Ries et.al. (2012). In addition, the significance is that females' attitude, subjective norms and perceived behavioural control toward childbearing stimulate repeat and frequent visits to Egypt for fertility care (hypothesis 8). This corresponds with Al-Ziadat (2015) and Naa et al. (2016) who found that female revisit intention has a positive and strong effect on women with infertility seeking medical redress in Egypt.

Finally, the intervening role of attitude, subjective norms and perceived behaviour control with regard to the relationship between motherhood desire and female revisit intention (hypotheses 9, 10 and 11) and actual behaviour (hypotheses 12, 13 and 14) has been examined and partially supported. It means that the positive influence of motherhood desire on female intention and actual behaviour to access fertility treatment in Egypt is subject to the role of female attitude. This finding chimes with Liefbroer (2005) who argues the females' childbearing attitude positively influences intention and actual behaviour in reproductive treatment.

## Implications and conclusion

The results of this study pose major implications for scholars and practitioners in tourism. It contributes to the literature by extending existing literature on TPB and medical tourism. It explores the effect of motherhood desire of female tourists' stimulation, revisit intention and actual childbearing behaviour

The results show that motherhood desire has a positive impact on females' attitude, subjective norms and perceived behaviour control toward childbearing. In this vein, practitioners in Egypt's fertility treatment sector require cross-cultural competence. As the current findings reflect cultural characteristics of the Arab context, we encourage further studies to explore in-depth the mediating influence of culture on the relationship between motherhood desires, females' travel intention and actual childbearing behaviour. For example, relevant stakeholders should simplify visa procedures for some nationalities in order to expand encourage and expand the fertility treatment market. Moreover, the linguistic skills and transparency of staff while interacting with clients can also be an attraction to Egypt as a fertility destination. Hence, it is crucial for staff to develop communication proficiency with clients using available promotional tools.

This research goes on to highlight critical insights into how motherhood desire combines with social behavioural factors to enhance fertility decision making. At the same time, it opens opportunities for further studies to examine multiple perspectives on the constructs and the cognitive factors that affect motherhood desire. This study also touches on existing debates in the multidisciplinary areas of socio-cognitive behaviour and health sciences. Additionally, this study adds understanding to the therapeutic potential of the healthcare environment and how it may enhance the experience of fertility treatment (Greil et al., 2010), especially in Egypt. This bears the possibility of linking the traditional tourism industry (e.g. cultural tourism, heritage tourism, and recreational tourism) to therapeutic tourism represented by the fertility sector, which may attract women and their families to visit Egypt.

Sector wise, this inquiry empirically contributes to the medical tourism industry and the rise of Egypt as a destination for international patients seeking fertility care. It informs the work of policymakers, healthcare providers, tourism-marketing agents and institutions. In addition, it addresses various economic, ethical, cultural, legal, and social issues related to fertility treatment and the burgeoning medical tourism practice emerging in the global marketplace. Furthermore, other studies can equally investigate cross-border fertility healthcare and childbearing decisions in emerging markets.

High cost of fertility treatment is the main barrier preventing females from accessing care in order to satisfy childbearing desires. Thus, policymakers should consider affordability in planning this type of tourism to meet demand at a reasonable cost. We call future research to investigate the moderating role of fertility treatment cost in such relationship.

In terms of limitations, we acknowledge the following: First, the current study has only observed GCC countries which may undermine the generalisation of the results. Therefore, we ask future investigations to test the present conceptual framework in different contexts. Second, the sample size maybe deemed relatively small in spite of access difficulty to the overall population. A larger sample will also support the generalisation of the results.

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