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Universidade Portucalense Infante D. Henrique

Dissertação

Infertility-related Stress and Quality of Life: The Role of Experiential Avoidance

Stress Relacionado com a Infertilidade e Qualidade de Vida: O Papel do Evitamento Experiencial

Carolina Morais Barbosa, 38639

Psicologia Clínica e da Saúde

2º ano de Mestrado

Ano letivo 2022/2023

Orientação: Prof.ª Doutora Susana Santos

Coorientação: Doutora Juliana Pedro

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Dissertação de Mestrado
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Prof.ª Doutora Susana Santos

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Assinatura.....

À minha Avozinha

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“se um dia eu não chegar a ser mãe, não serei menos mulher.

se ter filhos é transformador, não os ter, será também. e todas as mulheres sem filhos porque não podem, porque não conseguem, porque tentam mas não resulta, porque não vão a tempo, porque o pai nunca chegou, porque a outra mãe nunca chegou, porque têm de adiar, porque a vida complicou ou porque, simplesmente, não querem, todas essas mulheres sem filhos são igualmente capazes, igualmente ricas, igualmente doces, igualmente plenas, igualmente completas, igualmente mulheres e, reparem, podem ser igualmente felizes. e espante-se, igualmente maternais.

de colo e abraços de mãe sem ser. de amor por muitos filhos sem ter.

é só mudar as medidas, mantendo-lhes a grandeza. se um dia não chegarem a ser mães, não serão menos mulheres.”

(“Se um dia eu não chegar a ser mãe” de Diana Rodrigues Bicho, 2020)

Resumo

A infertilidade é uma doença com impacto na vida dos indivíduos e que pode ser entendida como uma experiência indutora de *stress*. Níveis mais elevados de *stress* relacionado com a infertilidade têm sido associados a níveis mais baixos de qualidade de vida. O objetivo deste estudo foi examinar o evitamento experiencial como um caminho através do qual o *stress* relacionado com a infertilidade está associado à qualidade de vida em mulheres com problemas de fertilidade. Adicionalmente, como objetivo exploratório, foi examinada a relação entre grupos etários no que concerne o *stress* relacionado com a infertilidade, o evitamento experiencial e a qualidade de vida. Foi realizado um estudo transversal com uma amostra de 285 mulheres portuguesas (*M* = 35.61; *DP* = 4.80) que preencheram uma ficha de dados sociodemográficos e clínicos e medidas de autorrelato sobre o *stress* relacionado com a infertilidade, evitamento experiencial e qualidade de vida. Os resultados revelaram que *stress* relacionado com a infertilidade está positivamente associado ao evitamento experiencial e negativamente associado à qualidade de vida. Adicionalmente, o evitamento experiencial mediou a relação entre o *stress* relacionado com a infertilidade e a qualidade de vida. A idade não foi correlacionada com nenhuma das variáveis. Atendendo a que o evitamento experiencial pode ser uma via que leva a pior adaptação, considera-se que uma intervenção focada no evitamento experiencial poderá traduzir-se em níveis mais elevados de qualidade de vida nas mulheres que lidam com problemas de fertilidade. Considerando que este mecanismo é um processo subjacente à inflexibilidade psicológica, que é o alvo da terapia de aceitação e compromisso, esta terapia poderá ser benéfica para mulheres que lidam com problemas de fertilidade, contribuindo para uma melhor qualidade de vida.

Palavras-chave: infertilidade; *stress* relacionado com a infertilidade; qualidade de vida; evitamento experiencial; grupo etário

Abstract

Infertility is a disease with impact on the individuals' lives which can be perceived as a stress-inducing experience. Higher levels of infertility-related stress have been associated to lower levels of quality of life. The aim of this study was to examine experiential avoidance as a pathway through which infertility-related stress is linked to quality of life in women with fertility problems. Additionally, as an exploratory aim, the relationship between participants' age groups regarding infertility-related stress, experiential avoidance, and quality of life was examined. A cross-sectional study was conducted with a sample of 285 Portuguese women (*M* = 35.61; *SD* = 4.80) who completed a sociodemographic and clinical data sheet, and self-reported measures of infertility-related stress, experiential avoidance, and quality of life. The findings showed that infertility-related stress is positively associated with experiential avoidance and negatively associated with quality of life. Furthermore, experiential avoidance mediated the link between infertility-related stress and quality of life. Age was not correlated with any of the variables. Given that experiential avoidance may be a pathway leading to a worse adaptation, interventions focused on experiential avoidance may result in higher levels of quality of life in women dealing with fertility problems. Considering that this mechanism is a process underlying psychological inflexibility, which can be targeted by acceptance and commitment therapy, this therapy can be beneficial for women dealing with fertility problems, contributing to an improved quality of life.

Keywords: infertility; infertility-related stress; quality of life; experiential avoidance; age group

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1. INTRODUCTION

This master's dissertation was conducted during the 2nd year of the master's degree program in Clinical and Health Psychology at Portucalense Infante D. Henrique University. This research is part of a broader ongoing project titled *Protective and Risk Factors for Mental Health in the Context of Infertility*. The primary aim of this project is to understand the individual and marital adaptation to infertility within the framework of acceptance and commitment therapy (Hayes et al., 1999) and compassion-focused therapy (Gilbert, 2009). The research team consisted of four members, namely Professor Susana Santos, Professor Juliana Pedro, and the students Carolina Barbosa and Ana Margarida Alves. Considering the increasing number of infertility diagnoses and the fact that fertility problems' experience may have a negative impact on the subjects' lives, it is crucial to conduct studies that contribute to a more comprehensive understanding of the adaptation to infertility' context.

This dissertation theoretical framework is the acceptance and commitment therapy (Hayes et al, 1999), and its title is *Infertility-related Stress and Quality of Life: The Role of Experiential Avoidance*. Specifically, it focuses on exploring whether experiential avoidance is a pathway by which infertility-related stress is linked to quality of life. Existing literature suggests a negative association between infertility-related stress and the quality of life of individuals dealing with fertility problems. However, the mechanisms underlying this relationship remain understudied. Thus, this study aims to analyse the association between infertility-related stress and quality of life, with a particular focus on the mediating role of experiential avoidance. Additionally, as an exploratory aim, the relationship between participants' age groups regarding infertility-related stress, experiential avoidance, and quality of life was examined. This dissertation adopts an article format and, as such, it presents a literature review, methodology, results, and a discussion. Additionally, a conclusion and a reflection on the dissertation making process are presented.

2. INFERTILITY-RELATED STRESS AND QUALITY OF LIFE: THE ROLE OF EXPERIENTIAL AVOIDANCE

Infertility is “a disease characterized by the failure to establish a clinical pregnancy after 12 months of regular, unprotected sexual intercourse or due to an impairment of a person’s capacity to reproduce either as an individual or with his/her partner” (Zegers-Hochschild et al., 2017, p. 10). According to Mascarenhas et al. (2012), an estimated 48 million couples in reproductive age (i.e., between 15 and 49 years old according to the World Health Organization Group; 2006) suffer from infertility worldwide. The causes of infertility can be male and/or female or unknown factors (Zegers-Hochschild et al., 2017). Considering the increasing number of infertility diagnoses and the impact of experiencing fertility problems on subjects' life domains (e.g., physical, psychological, and financial; Njogu et al., 2022; Veiga et al., 2020; Zegers-Hochschild et al., 2017), there’s an urgent need for research that can contribute to a more comprehensive understanding of this psychological impact and adaptation to this experience.

The theoretical framework used for this study was the transactional theory of stress and coping (Lazarus & Folkman, 1984). According to this theory, an event can become a stressor (e.g., infertility diagnosis or medically assisted reproduction; Rooney & Domar, 2018; Luk & Loke, 2014) if it is perceived as presenting a risk of harm, threat, or challenge (e.g., due to the commitment to parenthood and the uncertainty of achieving it; Swift et al., 2021). Therefore, stress may arise (e.g., infertility-related stress; Woods et al., 2022), which may have a significant impact on individual’s’ life (e.g., perception of quality of life; Lazarus & Folkman, 1984; Swift et al., 2021).

In addition to dealing with difficulty getting pregnant, the use of medically assisted reproduction can also be perceived as a stress-inducing and potentially painful

experience (Rooney & Domar, 2018; Luk & Loke, 2014). Infertility-related stress is conceptualised as an overwhelming mental, emotional, or physical stress resulting from the desire, but inability, to conceive a child spontaneously and/or as a result of medically assisted reproduction, which may impact individuals' social, personal and marital domains (Woods et al., 2022; Schmidt, 2006a). Consistently, infertility-related stress has been negatively associated to quality of life. Quality of life is conceptualised as an individual's perception of their position in life in relation to a cultural context and value system, as well as in relation to their goals, standards, and concerns (WHOQOL Group, 1994). Studies have shown that infertility-related stress negatively affects quality of life of people dealing with fertility problems (e.g., Kim et al., 2018) and women undergoing fertility treatments (e.g., Swift et al., 2021).

Nevertheless, little is known about the mechanisms underlying the relationship between infertility-related stress and quality of life. Therefore, one pathway that may help explain the relationship between infertility-related stress and quality of life is experiential avoidance. This construct emerges from acceptance and commitment therapy (Hayes et al., 1999) and it's one of the six nuclear processes that lead to psychological inflexibility (Hayes et al., 1999). According to Hayes et al. (2012), experiential avoidance seems to be one of the main factors that contribute to psychological inflexibility. Experiential avoidance is a regulatory mechanism (Karekla & Panayiotou, 2011) and consists of an effort to alter the frequency or form of stressful or painful private events (e.g., thoughts, emotions, memories, bodily sensations; Hayes et al., 1999; Masuda et al., 2014). Although it seems to work in short term, long term experiential avoidance seems to be linked to the development or maintenance of several psychological difficulties (Karekla & Panayiotou, 2011) and worst quality of life (Hayes et al., 2004).

In the context of infertility, there is one study that explored the mediating role of experiential avoidance, which is similar to the current study (Galhardo et al., 2019). The authors found a mediation effect of experiential avoidance in the relationship between two domains of infertility-related stress (i.e., representations about the importance of

parenthood and impact on life domains) and depressive symptoms. In fact, the authors suggest that, when faced with emotional difficulties, the use of experiential avoidance, used to relieve the suffering resulting from infertility, may contribute to the onset or aggravation of depressive symptoms (Galhardo et al., 2020). According to Cernvall et al. (2012), experiential avoidance is a process by which stress positively affects depressive symptoms, in a study with individuals diagnosed with cancer. Additionally, the results of a study conducted by Trindade et al. (2019) suggest that experiential avoidance may be positively associated with stress and depressive and anxious symptomatology. The findings of this study also suggest that experiential avoidance may be negatively associated with emotional well-being and life satisfaction (Trindade et al., 2019). Together, these data suggest that experiential avoidance may be a regulatory mechanism that emerges in the presence of stressful thoughts and emotions related to infertility, which may consequently decrease subjects' quality of life.

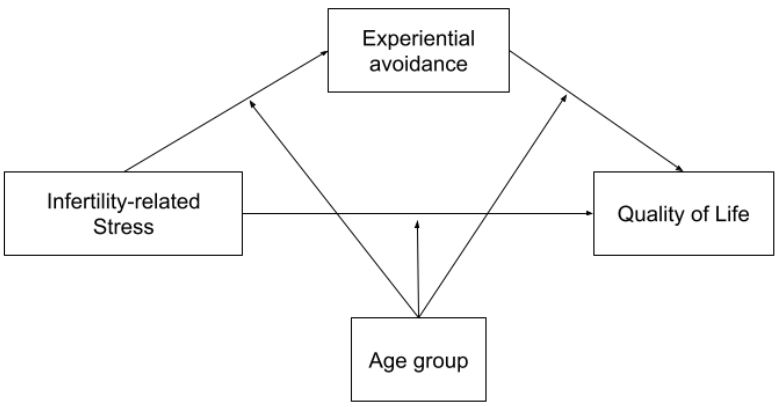
A well-established risk factor in the literature is age, and it is pointed out that female fertility declines at 30 years of age, and more markedly after 35 (Trawick et al., 2021). However, there is no congruence regarding the impact of age on infertility-related stress and quality of life. Regarding infertility-related stress, the literature suggests that its levels increase with women's age (Teklemicheal et al., 2022). This may be explained by the fact that older women pursuing medically assisted reproduction appear to have worst personal resources (e.g., hope; Santos et al., 2015) that might hinder more adaptative emotional regulation strategies to deal with stressful experiences such as infertility (Teklemicheal et al., 2022). However, the literature also suggest that younger women experience higher levels of infertility-related stress (Cesta et al., 2018). According to Noorbala et al. (2009), this might be explained by the fact that younger women might show more frequent attempts to get pregnant and through various procedures of medically assisted reproduction, increasing levels of infertility-related stress. Furthermore, older women may have lower levels of infertility-related stress as they may have already accepted that they will not be able to achieve pregnancy, either with or without pursuing fertility treatments (Lechner et al., 2007). Considering quality of

life, in a study conducted by Chachamovich et al. (2007) the results suggest that quality of life's perception increases with age. This might be explained by the fact that older women have more life experience, which may help their perception of quality of life to be unaffected (Chachamovich et al., 2007). However, Barnawi et al. (2020) conducted a study that suggest younger women might have higher levels of perception of quality of life since they might have less physical and medical problems and more energy comparing to older women (Barnawi et al., 2020). Regarding age, the literature suggests that levels of experiential avoidance are higher in younger adults (Mahoney et al., 2015; Nielson et al., 2016), as they tend to use less adaptive emotion regulation mechanisms (Mohoney et al., 2015). Therefore, while on the one hand the literature suggest that older women have higher levels of infertility-related stress (e.g., Teklemicheal et al., 2022) and lower levels of quality of life (e.g., Song et al, 2021), on the other hand, it also suggests the opposite (e.g., Matasariu et al., 2017; Wdowiak et al., 2021).

This study's purpose was to analyse the associations between infertility-related stress and quality of life, and specifically examine experiential avoidance as avenue through which infertility-related stress is linked to quality of life in individuals with fertility problems. Furthermore, this study purposes to explore the impact of the participants' age groups (i.e., under 35 years and 35 years or over) on the relationships between infertility-related stress, experiential avoidance, and quality of life (see Figure 1).

Figure 1.

Proposed Model of Moderated Mediation



3. METHOD

3.1. Participants and Procedures

This study was approved by the scientific committee of Portucalense Infante D. Henrique University in Porto. Between November 2022 and February 2023, participants who met inclusion criteria were invited to participate through dissemination on social networks (i.e., Instagram and Facebook) and through flyers distributed in medically assisted reproduction clinics. Inclusion criteria were men and women on reproductive age and over 18 years old with an infertility diagnosis or who have been trying to conceive for more than 12 months (even without a medical diagnosis), able to read and write Portuguese, who were married or living with their partner in a heterosexual relationship. The sampling approach that was used was self-selection[1]. It was given an informed consent that guaranteed the confidentiality and anonymity of the data collected through the online questionnaire to the participants. The sample was composed by 285 women with ages ranging between 26 and 49 years (*M* = 35.61; *SD* = 4.80). More detailed sociodemographic and clinical characteristics of the sample are presented in Table 1.

Table 1.

Sociodemographic and Clinical Characteristics of the Sample

	M/n	*SD/%*
Age group		
> 35 years, *n%*	128	44.91
≥ 35 years, *n%*	156	54.74

[1] This approach is a type of non-probabilistic sampling method, in which researchers specify required inclusion and exclusion criteria and persons from the population choose to participate based on free will (Berndt, 2020).

Education, *n%*		
High school finished	5	1.75
Secondary school finished	72	25.26
Degree finished	123	43.16
Master's degree finished	80	28.07
PhD finished	5	1.75
Socioeconomic level, *n%*		
Low	18	6.32
Medium	176	61.75
High	91	31.93
Medically assisted reproduction, *n%*		
Yes	222	77.89
No	63	22.11
Sector, *n%*		
Public sector	109	38.25
Private sector	79	27.72
Both	34	11.93
Not applicable	63	22.11
Number of medically assisted reproduction cycles, *M SD*	2.83	2.28

Note. N = 285.

3.2. Measures

3.2.1. Sociodemographic and Clinical Characteristics

Relevant sociodemographic (e.g., age, education) and clinical (e.g., “Have you ever pursued medically assisted reproduction?”) information was collected from all participants. Using data from both partners’ job and education, the socioeconomic level of each participant was classified in three levels (i.e., low, medium, and high) according to an accepted classification system for the Portuguese context (Simões, 1994).

3.2.2. Infertility-related Stress

Participants’ infertility-related stress was measured by COMPI Fertility Problem Stress Scales (COMPI-FPSS; Schmidt, 2006a; Schmidt et al., 2005). COMPI-FPSS is a 14-item self-reporting questionnaire rated on a 4-point, ranging from 1 (*none at all*) to 4 (*a great deal*), or five-point Likert scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*), with higher scores indicating more infertility-related stress (Schmidt et al., 2005). This instrument measures the impact of infertility diagnosis on personal (e.g., “My life has been disrupted because of this fertility problem”), social (e.g., “How much stress has your fertility problem placed on your relationship with your friends?”), and marital (e.g., “How much stress has your fertility problem placed in your marriage?”) domains (Schmidt, 2006a; Schmidt et al., 2005). COMPI-FPSS was originally developed for the Danish population (Schmidt et al., 2005), but it was validated in a cross-cultural validation study of seven countries, and it was found to be a reliable measure for both men and women suffering with infertility and its treatments (Sobral et al., 2017). As the studies of Li et al. (2022) and Pedro et al. (2019), in the present study the total score was used. Cronbach’s alphas range from .73 and .81 in the three subscales for women in the original version (Schmidt, 2006a). A Cronbach’s alpha of .89 was found for the total score of the COMPI-FPSS in a study with women (Pedro et al., 2016). Internal consistency in this study was .89.

3.2.3. Experiential Avoidance

Participants' experiential avoidance was measured by the Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011; Portuguese version: Pinto-Gouveia et al., 2012). AAQ-II has a single-factor structure, with higher scores indicating greater experiential avoidance/psychological inflexibility (Bond et al., 2011; Pinto-Gouveia et al., 2012). Participants answered seven items (e.g., "My painful experiences and memories make it difficult for me to live a life that I would value.") rated on a 7-point Likert scale ranging from 1 (*never true*) to 7 (*always true*). A Cronbach's alpha mean of .84 was found in the original version (Bond et al., 2011). The Portuguese version of AAQ-II showed a Cronbach's alpha value of .90 (Pinto-Gouveia et al., 2012). Internal consistency in this sample was .94.

3.2.4. Quality of Life

Participants' quality of life was assessed by EUROHIS-QOL-8 (Power, 2003; Portuguese version: Pereira et al., 2011), a self-report variation of the World Health Organization Quality of Life-100 and World Health Organization abbreviated version. Participants answered eight items (e.g., "How satisfied are you with your health?") rated on a 5-point Likert scale ranging from 1 (e.g., *not at all*) to 5 (e.g., *completely*). The items were transformed to fit a 0-100 scale (Pereira et al., 2011). The measure has a single-factor structure and provide a global index of quality of life, with higher scores indicating better perception of quality of life (Schmidt et al., 2006b). The original study of this scale revealed Cronbach's alpha of .78 (Power, 2003). The Portuguese version of EUROHIS-QOL-8 showed a Cronbach's alpha of .83 (Pereira et al., 2011). Internal consistency in this sample was .86.

3.3. Data Analysis

Preliminary descriptive analyses, Pearson correlations, and multivariate analysis of variance (MANOVA) were computed with IBM SPSS Statistics (Version 27). Mediation analysis was conducted using PROCESS macro (Hayes, 2013) in SPSS. First,

preliminary analyses and bivariate correlations were conducted. Second, as an exploratory analysis, a MANOVA was conducted to determine whether women under 35 years differed from women with 35 years or over regarding infertility-related stress, experiential avoidance, and quality of life. Age group was entered as the between-subjects factor and infertility-related stress, experiential avoidance, and quality of life as dependent variables. Then, model 4 was used to test the hypothesis that the relationship between infertility-related stress and quality of life was mediated by experiential avoidance. Infertility-related stress and quality of life were entered into the model as independent and dependent variables, respectively. A bootstrap method based on 5000 samples and 95% confidence intervals (CI) were used (Preacher & Hayes, 2004). Moreover, no assumptions about the shape of the sampling distribution were necessary when conducted inferential tests, since bootstrapping is an alternative method to normal-theory tests of mediation (Preacher et al., 2007).

4. RESULTS

4.1. Main Study Variables Correlations and MANOVA Analysis

Means, standard deviations, and correlations for age, infertility-related stress, experiential avoidance, and quality of life are presented in Table 2. Regarding age group, the results of the MANOVA revealed a normal distribution of dependent variables, as well as equal error variances [infertility-related stress: $F(1, 282) = .03$, $p = .60$; experiential avoidance: $F(1, 282) = .02$, $p = .60$; quality of life: $F(1, 282) = .02$, $p = .90$ and covariance matrices [box M = 3.19, $F(6) = .53$, $p = .80$]. A non-significant multivariate effect according to age group was found [Pillai's Trace = .02, $F(3, 280) = 1.85$, $p = .138$, $\eta_p^2 = .02$]. There were no differences in infertility-related stress [$F(1, 282) = 0.27$, $p = .601$, $\eta_p^2 = .00$], experiential avoidance [$F(1, 282) = 0.34$, $p = .562$, $\eta_p^2 = .00$], and quality of life [$F(1, 282) = 2.27$, $p = .133$, $\eta_p^2 = .01$] as function of age group. Given these findings, age group was not entered into the model.

Table 2.

Means, Standard Deviations, Actual Range, and Inter-correlations of the Main Study Variables

Variables	1	2	3	4	*M*	*SD*	Actual range
1. Age	-				35.61	4.80	26-49
2. Infertility-related stress	.02	-			2.34	.34	1.43-3.39
3. Experiential avoidance	-.04	.38***	-		3.67	1.58	1-7

4. Quality of life	-0.8	-.26***	-.55***	-	62.18	17.21	9-100

Note. $N = 284$

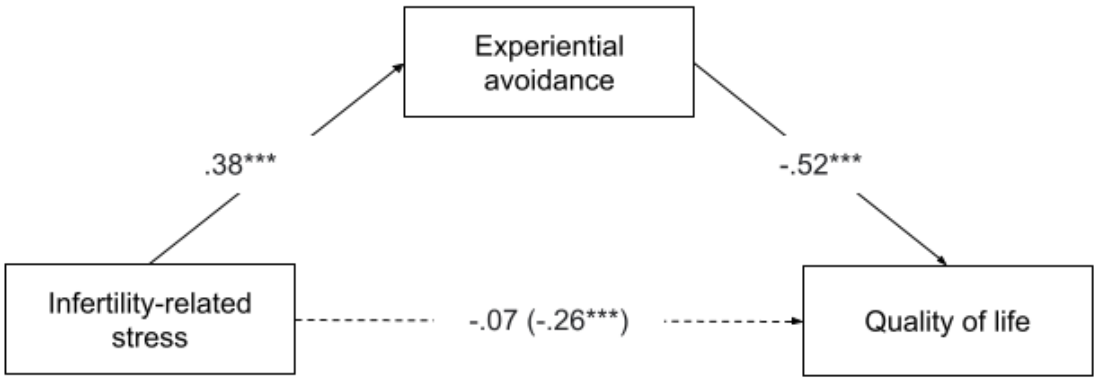
***$p < .001$

4.2. Mediation Analysis

Diagram of this analysis is presented in Figure 2. The mediation analysis explored whether the relationship between infertility-related stress and quality of life was mediated trough experiential avoidance. Results showed that infertility-related stress levels were significantly and positively associated with experiential avoidance ($b = .38$, SE = 0.25, 95% CI = [1.22, 2.22]), explaining 14.11% of experiential avoidance, $F(1, 283) = 46.48$, $p < .001$. Furthermore, experiential avoidance was significantly and negatively associated with experiential quality of life ($b = -.52$, SE = 0.58, 95% CI = [-6.85, -4.55]), explaining 30.43% of quality of life along with infertility-related stress, $F(2, 282) = 61.66$, $p < .001$. Although a total negative and significant effect was found between infertility-related stress and quality of life ($b = -.26$, SE = 2.86, 95% CI = [-18.82, -7.54]), $F(1, 283) = 21.18$, $p < .001$, no direct effect was found after analysing the mediating variable ($b = -.07$, SE = 2.68, 95% CI = [-8.65, 1.90]), $p = .209$. Thus, the results indicate a total mediation between infertility-related stress and quality of life through experiential avoidance. Inverse indirect models were tested, and no total or partial mediation were found.

Figure 2.

Mediation Analysis Diagram



Note. N = 285. The value in parentheses in the link between infertility-related stress and quality of life represents total effect. The value outside the parentheses refers to the direct effect of infertility-related stress on quality of life, after the analysis of the mediator variable.

*** $p < .001$

5. DISCUSSION

This study provides a novel approach to an important issue in heathy psychology research - the impact of infertility-related stress on quality of life through experiential avoidance. In line with the stress and coping transactional model' assumptions (Lazarus & Folkman, 1984), in the present study we tested the mediation role of experiential avoidance on the association between infertility-related stress and quality of life in women dealing with infertility. The main finding highlights that women who reported higher levels of infertility-related stress, reported lower perception of quality of life through increased experiential avoidance.

Consistent with previous research (e.g., Galhardo et al., 2019) showing positive associations between infertility-related stress and experiential avoidance, in the present study, when women who experience higher levels of infertility-related appear to show higher levels of experiential avoidance. Past studies have indicated that women with higher levels of infertility-related stress might tend to avoid, diminish or minimize thoughts or emotions (i.e., experiential avoidance; e.g., Peterson & Eifert, 2011) related to the infertility process as a way of trying to diminish its form, frequency or situational sensitivity (Cardoso et al., 2011; Hayes et al., 2012). In fact, this painful and stressful process can be physically, as it might involve painful medical procedures (e.g., Ma et al., 2018; Rodrigues et al., 2020) and psychologically, due to, for example, the uncertainty of whether they will achieve motherhood (Swift et al., 2021), the financial concerns associated with medically assisted reproduction (Van den Broeck et al., 2009) and the fear of pregnancy loss (de Castro et al., 2021). Therefore, as it seems to be such a difficult process, both physically and psychologically, women may try to avoid, diminish, or minimize these painful and stressful thoughts or emotions of this experience by resorting to experiential avoidance.

In line with other studies, showing negative associations between experiential avoidance and quality of life (e.g., Bond et al., 2011), in the present study, when women show higher levels of experiential avoidance, they seem to experience lower levels of

perception of quality of life. Although this regulatory mechanism (i.e., experiential avoidance) can provide short term relief from suffering, it has a paradoxical effect (Hayes et al., 2012). In this matter, long term experiential avoidance not only worsen the individuals' perception of quality of life, but it also worsens the negative experience (Bond et al., 2011; Kashdan et al., 2006) Women's efforts to suppress, avoid, or eliminate unwanted private experiences (e.g., thoughts) - motivated by the perception of its painful nature and the consequent increase in suffering - are associated with higher frequencies, overwhelming occurrences, and intensifies of such experiences (Galhardo et al., 2019; Harris, 2009). As a result, these factors decrease the capacity to derive pleasure from life and exacerbate suffering, ultimately leading to a decreased perception of quality of life (Hayes et al., 2012; Karekla & Panayiotou, 2011). Therefore, this reinforcement of thoughts may encompass beliefs of being unhealthy, self-dissatisfaction, insufficient financial resources and other factors that may contribute to worsening perceptions of quality of life (Harris, 2009; Power, 2003).

The results of this study reveal a total mediation of experiential avoidance on the relationship between infertility-related stress and quality of life, in line with a recent study conducted by Cardoso et al. (2021). The authors suggested that the emergence of difficult emotional states resulting from an infertility experience may lead to an effort to alter the frequency or form of these states, which may contribute to the onset or exacerbation of depressive symptoms (Cardoso et al., 2021). Additionally, our findings are consistent with the study conducted by Cernvall et al. (2012), in which there was a total effect between stress and depressive symptomatology through experiential avoidance. Thus, what seems to be a hypothesis to consider is that it is not only the presence of infertility-related stress that decreases the perception of quality of life of women dealing with fertility problems, but rather that there are other processes involved (e.g., experiential avoidance).

Regarding age, the findings of this study suggest no differences in the variables explored (i.e., infertility-related stress, experiential avoidance, and quality of life) between

the two distinct age groups (i.e., under 35 and 35 and over). However, the sample of this study was homogeneous, with the majority being around 35 years old, which may explain why no differences were found. Nevertheless, the literature has not been congruent regarding the influence of age on the variables in this study. There are some hypotheses in the literature on this subject that may help to better understand these findings. It seems that both younger and older women may have protective and risk factors regarding infertility-related stress and quality of life, including some associated with experiential avoidance. Regarding protective factors, older women may benefit from greater life experience, which allows them to have more maturity to accept infertility' experience and consider other options (e.g., adoption; Chachamovich et al., 2007; Mahoney et al., 2015). Conversely, younger women may present fewer physical and health problems, more levels of energy and self-esteem, which may allow them to face the infertility experience in an adaptive way and to use more adaptive emotional regulation strategies (Barnawi et al., 2020). With respect to risk factors, older women seem to have lower levels of personal resources (e.g., hope; Santos et al., 2015; Teklemichael et al., 2022). Instead, younger women may be inclined to pursue more attempts to achieve pregnancy, trying to seek for several kinds of treatments more frequently (Noorbala et al., 2009), which may increase infertility-related stress and decrease quality of life. In contrast to the study conducted by Barnawi et al. (2020), another study suggests that younger women are more likely to be reinforced by the immediate gratification of experiential avoidance, which in long term may be a risk factor for the development of psychopathology (Harris, 2009; Mahoney et al., 2015). Together, these hypotheses might help to explain why literature is not congruent.

The results of this study need to be considered in light of some limitations. First, it is a cross-sectional study which does not allow establishing causal relationships. Additionally, the fact that it is an online questionnaire also constitutes a limitation due to sampling bias, self-selection concerns and the underrepresentation of the sample (i.e., only those who have access to an online platform can answer the questionnaire). Hence, it restricts the possibility of making generalisations (Wright, 2005). Regarding age, our

sample was homogeneous, therefore the findings about age should be interpreted with caution. Another limitation that deserves attention and reflection is about the AAQ-II (Bond et al., 2011). Although, this measure proposes to assess psychological inflexibility and experiential avoidance (Bond et al., 2011), the authors considered it prudent to refer to experiential avoidance, since the literature points in this direction (Tyndell et al., 2019). However, theoretically, these two constructs present different definitions (Hayes et al., 1999). Psychological inflexibility is a more global construct, encompassing experiential avoidance and other processes (Hayes et al., 1999). In fact, some studies have started to question the discriminant and construct validity of this instrument (Cherry et al., 2021; Doorley et al., 2020; Tyndell et al., 2019).

Although these limitations exist, this study also presents strengths. The sample is large, which allows the data to show greater robustness, and to have greater confidence in the results. Although online questionnaires have limitations as mentioned above, they also allow for anonymity which makes social desirability less likely when answering the questionnaire, which might contribute for less bias regarding social desirability. Since no total or partial mediation were found in inverse indirect models of mediation, this also suggests reliability of these results. In fact, the results of a systematic review and meta-analysis conducted by Akbari et al. (2022) suggests that experiential avoidance should be explored as a dynamic process (i.e., a state) rather than a fixed trait, as it is a regulatory mechanism. Therefore, it offers more utility when it comes to understanding its relationship with the individuals' quality of life (Machell et al., 2015). Another strength is that having infertility-specific measures such as the COMPI-FPSS (Schmidt, 2006a; Schmidt et al., 2005) help to access specific demands of this experience. Moreover, relating these measures to more general measures is also a strength, as it allows us to understand the influence of these specific infertility demands on more general variables.

Taking into consideration the limitations and strengths of this study, we suggest as future directions longitudinal studies to establish causal relationships, which would

allow to have further insight into the experience of infertility. Dyadic studies would be interesting to understand how the variables under study might affect the members of the couple differently. For example, Kim et al. (2018) showed that the perceived quality of life of the female member of the couple can influence the partner's perception of quality of life. Thus, it would be interesting to explore the impact of variables like infertility-related stress, experiential avoidance, and quality of life on partners. It would also be interesting to control the effect of clinical variables in this study (e.g., primary or secondary infertility and infertility's cause). It would also be important to replicate the study with a greater distribution of the sample regarding age to observe whether the results would be identical concerning the impact of this variable on the relationships tested. Additionally, studies targeting men's experience are needed. Since the sample did not encompass LGBTQIA+ population, it would also be interesting to replicate this study in this population. Since concerns about the AAQ-II (Bond et al., 2011) discriminant and construct validity, a future research direction would also be a profounder examination of the construct that is being measured by this measure.

Regarding research implications, this study contributed to the existing body of literature by providing support that experiential avoidance can be an important factor to be aware in adaptation to the infertility' context (e.g., Cernvall et al., 2012). Specifically, this study contributed for a better understanding of the process linking infertility' experience and quality of life, understanding another regulatory mechanism underlying the experience of infertility. Moreover, by showing that experiential avoidance may be an important factor in this context adaptation, reinforces the need for more randomized controlled trials targeting experiential avoidance, in order to better understand its efficacy. As a matter of fact, in a systematic review of six studies conducted by Barbosa et al. (2022), it was suggested that individuals dealing with infertility might benefit from interventions addressing acceptance and commitment therapy' processes (e.g., promoting acceptance; Hayes et al., 1999) to improve mental health outcomes (e.g., quality of life). The results of this study also highlight the importance to address experiential avoidance in interventions, such as acceptance and commitment therapy

(Hayes et al., 1999) into clinical practice, in line with what the systematic review conducted by Barbosa et al. (2022) suggested.

In conclusion, the present study highlights that the impact of infertility-related stress on quality of life occurs through experiential avoidance. Therefore, it helps to understand another regulatory mechanism underlying the experience of infertility. That is, women who in the presence of stressful events may try to minimize, control, or avoid thoughts, emotions or situations perceived as painful, tend to perceive themselves as having less quality of life. Therefore, experiential avoidance might be a risk factor to infertility context adaptation. Considering our findings, acceptance and commitment therapy (Hayes et al., 1999), namely promoting greater acceptance, may be useful for women dealing with infertility.

6. CONCLUSION

This conclusion is divided into two main topics, the first concerning the results and implications of the study, while the second delves into the experiential aspects of this dissertation development process. The results reveal that infertility-related stress is linked to quality of life through experiential avoidance. Thus, women with higher levels of infertility-related stress may have lower levels of quality of life's perception due to experiential avoidance. Regarding age, the study did not present conclusive findings that can resolve the conflicting results reported in the existing literature, but hypotheses on the reason for this incongruence were reflected upon. Consequently, this research contributed to the field on the role of experiential avoidance as an important risk factor in the adaptation to infertility context. In addition, it reinforced the importance of more studies addressing experiential avoidance, as well as of interventions in clinical practice with the purpose to promote acceptance, such as acceptance and commitment therapy (Hayes et al., 1999).

Regarding student's personal experience through the dissertation writing process, there are several noteworthy reflections. In fact, this experience has been instrumental in fostering both professional and personal growth, despite all the challenges that this experience also encompassed. On a professional level, numerous skills were enhanced or developed, such as the discussion and participation in a research project and the responsibility over the decisions made throughout the dissertation process (e.g., choosing appropriate measures for the constructs to be assessed based on data to ensure their reliability). Furthermore, despite the student having previously collaborated with two Professors in conducting a literature review on the topic, the student has acquired refined skills in literature review, scientific writing, and comprehension and interpretation of existing literature. As for personal growth, the student acknowledges the development of autonomous work, effective time management and organizational abilities and a strong sense of responsibility. Nevertheless, it is necessary to highlight factors that facilitated the development of this

dissertation. Firstly, the student's prior engagement in a literature review on infertility and acceptance and commitment therapy (Hayes et al., 1999) allowed for a comprehensive understanding of the dissertation's subject matter from the outset. Additionally, having previously discussed the dissertation preliminary topic in a curricular unit on the previous year served as a preparatory advantage. Moreover, the student's participation in relevant training and pre-courses pertaining to the therapy underlying this dissertation significantly facilitated the comprehension of the addressed constructs. Nevertheless, certain challenges did arise. The data collection phase proved to be particularly demanding for the student, who grappled with concerns regarding the attainment of a sufficient number of participants to conduct the intended analyses. Additionally, the absence of prior knowledge regarding mediation analyses and limited exposure to the requisite extension (i.e., PROCESS macro; Hayes, 2013) posed further challenges. However, the student considers that she managed to overcome it through much study and commitment. Another challenge involved the student's aspiration to explore multiple variables (e.g., anxious symptomatology, depressive symptomatology, marital satisfaction). The abundance of literature on different variables in the context of infertility complicated the decision-making process. However, after careful consideration, the student made well-considered choices in this regard.

Overall, the student takes great pride in this transformative journey, particularly due to the initial intention of conducting a simple mediation study and what was the final dissertation aims. The literature review revealed an incongruence related to age in relation to the variables under investigation, prompting the student to expand the scope and complexity of the dissertation. Ultimately, these gains will undoubtedly leave an indelible impact on the student’s future. Above all, this experience has solidified and fortified the student’s unquenchable thirst to pursue further research accomplishments.

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