**T.C.**
**BAHÇEŞEHİR UNIVERSITY**
**GRADUATE SCHOOL**
**THE DEPARTMENT OF EDUCATIONAL SCIENCES**
**MASTER'S PROGRAM IN PSYCHOLOGICAL COUNSELING AND GUIDANCE**

# HEALING BEYOND THE VISIBLE: HOW PURITY CULTURE MODERATES THE RELATIONSHIP BETWEEN ENDOMETRIOSIS SYMPTOMS AND BODY COMPASSION

**MASTER'S THESIS**

**MERIEM LASFI**

**İSTANBUL 2025**

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## MASTER THESIS APPROVAL FORM

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**Director of Graduate School**

This thesis was read by us, quality and content as a Master's thesis has been seen and accepted as sufficient.

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## ABSTRACT

HEALING BEYOND THE VISIBLE: HOW PURITY CULTURE MODERATES THE RELATIONSHIP BETWEEN ENDOMETRIOSIS SYMPTOMS AND BODY COMPASSION

Meriem Lasfi

Master's Program in Psychological Counseling and Guidance

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Endometriosis is a debilitating condition that affects a significant portion of the global population. While medical research on its physiological aspects continues to grow, the bodily and cultural experiences of those living with the disease remain under-represented in the literature. This thesis investigates the roles of body compassion and purity culture in the lives of individuals diagnosed with endometriosis.

Methods: Using quantitative research design, data were collected from a sample of 84 participants (Age Mean = 31.2 and *SD* = 6.45) who had a previous endometriosis diagnosis to examine the correlations between body compassion, purity culture and endometriosis symptoms, as well as the moderating role of purity culture on the relationship between body compassion and endometriosis-related experiences. Additionally, comparative analyses between different religions, different ethnicities, and purity culture beliefs were conducted.

Results: No statistically significant correlations were found. A marginally significant moderation of purity culture was observed but only for the impact of endometriosis in the past 12 months ($\beta = -.89$, $p = .07$). Additionally, comparative analyses indicated that Muslim participants reported significantly higher levels of purity culture-related shame and guilt—both in terms of current and childhood religious affiliations, compared to Protestant/Christian ($U = 47.00$, $Z = -2.97$, $p =$

.002) and non-religious participants ($U$ = 13.50, $Z$ = -2.90, $p$ = .002).

Conclusion: These findings highlight the nuanced interplay between cultural-religious beliefs and bodily experiences in chronic illness. They underscore the need for more inclusive, culturally informed counseling in supporting individuals with endometriosis.

**Key Words:** Endometriosis, Body Compassion, Purity Culture, Religion, Culture.

# ÖZET


GÖRÜNÜRÜN ÖTESİNDEKİ ŞİFA: SAFLIK KÜLTÜRÜ ENDOMETRİOZİS BELİRTİLERİ İLE BEDEN ŞEFKATI ARASINDAKİ İLİŞKİYİ NASIL DÜZELTİYOR

Meriem Lasfi

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Endometriozis, küresel nüfusun önemli bir bölümünü etkileyen zayıflatıcı bir durumdur. Fizyolojik yönleriyle ilgili tıbbi araştırmalar büyümeye devam ederken, hastalıkla yaşayanların bedensel ve kültürel deneyimleri literatürde yeterince temsil edilmemektedir. Bu tez, endometriozis teşhisi konan bireylerin yaşamlarında beden şefkati ve saflık kültürünün rollerini araştırmaktadır.

Yöntemler: Nicel araştırma tasarımı kullanılarak, daha önce endometriozis tanısı almış 84 katılımcıdan (Yaş Ortalaması = 31,2 ve *SD* = 6,45) oluşan bir örneklemden, beden şefkati, saflık kültürü ve endometriozis semptomları arasındaki korelasyonları ve saflık kültürünün beden şefkati ile endometriozisle ilişkili deneyimler arasındaki ilişkide düzenleyici rolünü incelemek için veri toplandı. Ek olarak, farklı dinler, farklı etnik kökenler ve saflık kültürü inançları arasında karşılaştırmalı analizler yürütüldü.

Sonuçlar: İstatistiksel olarak anlamlı korelasyonlar bulunamadı. Saflık kültüründe marjinal olarak anlamlı bir düzenleyicilik gözlemlendi, ancak yalnızca son 12 ayda endometriozisin etkisi için ($\beta$ = –.89, $p$ = .07). Ek olarak, karşılaştırmalı analizler Müslüman katılımcıların hem mevcut hem de çocukluk dini bağlılıkları açısından önemli ölçüde daha yüksek saflık kültürüyle ilişkili utanç ve suçluluk düzeyleri bildirdiğini gösterdi. Protestan/Hristiyan ($U$ = 47,00, $Z$ = -2,97, $p$ = .002) ve dindar olmayan katılımcılarla ($U$ = 13,50, $Z$ = -2,90, $p$ = .002) karşılaştırıldığında.

Sonuç: Bu bulgular, kronik hastalıkta kültürel-dini inançlar ve bedensel deneyimler

arasındaki nüanslı etkileşimi vurgulamaktadır. Endometriozisli bireyleri desteklemede daha kapsayıcı, kültürel olarak bilgilendirilmiş danışmanlığa olan ihtiyacın altını çizmektedir.

**Anahtar Kelimeler:** Endometriozis, Beden Şefkati, Saflık Kültürü, Din, Kültür.

*To those who have the courage to unlearn, deconstruct and say no.*

*To "My word against the world".*

*To Little M.*

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And finally, I would like to take the chance to thank my chosen family – a living proof of abundance, for their love, care, and support. You are home away from home.

Istanbul 2025 Meriem Lasfi

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| | |
|---|---|
| EIQ | Endometriosis Impact Questionnaire |
| PCBS | Purity Culture Beliefs Scale |
| PC | Purity Culture |
| BCS | Body Compassion Scale |
| BC | Body Compassion |
| IBS | Irritable Bowel Syndrome |
| SIBO | Small Intestinal Bacterial |

# Chapter 1

## Introduction

The introduction consists of five sections. The first one is dedicated to the statement of the problem, the second section will be about the purpose of the study, moving forward to the third part that will be centered around the hypotheses, and the last two sections will be about the significance of the study and dominantly used terms and their definitions.

Endometriosis is an illness that affects nearly 10% of reproductive-age women and teens (Adamson et al., 2010). This disease is observed largely in the pelvic area and is formed of similar tissues found in the lining of the uterus (World Health Organization, 2023). Furthermore, with this condition, these tissues can grow outside of the womb, causing major symptoms such as chronic inflammation, handicapping pain during periods or outside of menstruation days, hormonal dysfunctionalities, heavy menstrual bleeding, anemia, infertility, fatigue, pain during or after sex, cysts in the ovaries, and more (National Library of Medicine, 2023).

What causes it? How can it be healed? Can it be healed? How does it impact individuals, their surroundings, and society? There are many unanswered questions faced with ambiguity and mystery, which makes it harder for those with a diagnosis and without to understand where, when and how to reach for help. This might be the case especially when faced with shallow answers such as “take a painkiller”, “it’s all in your head”, “pain is normal” and more. But, who is to

blame when even the most advanced ultrasound devices may not detect it, blood and urine tests are ineffective and sometimes the last or even first resort, referred to as a "gold standard" is surgery (Hsu et al., 2010).

Endometriosis remains complex and challenging not only ethologically but also historically. Starting with discovered traces in ancient medical transcripts dating over 4000 years ago, moving forward to the 17th and 18th century when major discoveries were established (Nezhat et al., 2012). While many other scientists have contributed to building the current conceptualization of the condition, it has been mentioned that the first researchers who were able to exhibit a full picture of the illness were Thomas Cullen and John A. Sampson (Benagiano & Brosens, 2011). Since then, many changes has occurred, especially the prevailing idea that endometriosis is mostly a reproductive disease has been considered as a misleading information, and a perspective of a full body inflammatory ailment has been privileged (Macmillan, 2023). Nevertheless, the complexity of the illness exceeds the medicinal sphere and may touch on other aspects.

While some may consider the womb a source of life, the key to continuity of the human race, a symbol of wisdom, love, psychological and physical containment, others and maybe even the same person might contradict itself and see it as a cause of hysteria, 'extremist anguish', a source of madness and furor, an organ hungry for semen believed to wander the body looking for sperm and compared to a roved animal, a taboo, a culturally justified reason of infanticide and feticide ( *Female Infanticide* 2024; Ahmad, 2010; Kapsalis, 2017; Nezhat et al., 2012). A womb, if not controlled and obsessively protected, can become a source of shame and dishonor (Kaniel, 2022).

In such conditions, it's a challenge to own, one's own body, and at instances it might feel like it belongs to others, the family, friends of the family, an aunt of an aunt no one has seen for years but has the right to project her insecurities, hidden underneath the veils of religion, the neighbors and their luggage of inherited ideas with no touch of introspection nor minimal reflection, the supermarket at the corner of the street where customs and limiting are sold with no expiry date. To all be gathered in one term with an impact that cannot be contained in terms of consequences but can be assembled linguistically in seven letters: culture. Add to the mixture purity and observe the drastic impact.

Purity culture is in general linked to religion and consists of restrictions focused on gender. This focus influences individuals self-image and creates many limitations, such as lack of access to sexual education, internalized shame and self-objectification (Camden, 2020; Owens et al., 2021). Purity culture regards as true that women's value is fundamentally related to her sexual purity, and her ability to stay "untouched" until marriage is what creates her esteem and worth (Gregoire, 2016). This shift of the individual's locus of evaluation from internal to external, inserts a distorted belief that women are their husband's and society's "property", while effectively dissociating them from their autonomy and dictating them to obey their partner's and surrounding's desires and beliefs (Klement & Sagarin, 2017). This dependency can create introjected beliefs that were not tailored to fit oneself, and therefore psychological consequences can be easily witnessed (Fredrickson & Roberts, 1997).

However, it is not only the psyche that takes on the burden of carrying such weight, the body does too. And in between, you may find the person wandering in shame and guilt for being a human with desires, or for being stigmatized due to

their bodily ailments (Goffman, 1963). These challenges, can easily be translated into the physical conception of the self, especially how compassionate the individual can be towards their body, their body image, their different dispositions of behavioral, cognitive and evaluative elements that constitutes their physical realm (Cash, 2002).

In efforts to support the substantial evolutions in the comprehension of one's encounter with its physical self, the nature of this encounter, its impact on the individual's quality of life, an emerging need to discover more layers of one's links with its body is necessary, especially when perceived as "inadequate", and "flawed", in hope to raise more body compassion and to reduce the sentiments of constant agony and self-criticism in individuals who suffer from endometriosis, low body compassion and repressive beliefs such as purity culture.

## 1.1 Statement of the Problem

As mentioned in the introduction, lack of understanding of endometriosis makes women's experience full of stigma and coping challenges. While medicine focuses mostly on eliminating the tissues, it puts aside the unfavorable repercussions endometriosis has on an individual's quality of life and mental health (As-Sanie et al., 2019). In addition to that, and to the best of our knowledge, there has been no study about the nature of correlation between purity culture and endometriosis, nor to which extent purity culture moderates levels of body compassion in individuals suffering from endometriosis and their levels of symptom burden. Furthermore, no research could be found directly linking purity culture and body compassion. To take in regard that purity culture sub-themes such as self-objectification and shame has displayed proven consequences on the

relationship with the body, raising significant levels of body shame and guilt (Fredrickson & Roberts, 1997; O'Donnell, 2020), making it in an overall and general view proportionally close to the out-turns of endometriosis.

Knowing that endometriosis is a condition that specifically affects women and individuals with female reproductive organs (Endometriosis: Epidemiology, Diagnosis and Clinical Management - PMC, n.d.) , it is recommended to explore more how these individual's experience their lives as members of groups, cultural mechanisms that can alter their symptoms, mediate and/or moderate aspects of their being, and their overall quality of life. This way, more holistic approaches can be tailored and provided based on their common and subjective needs.

## 1.2 Purpose of the Study

The aim of this study is to investigate the relationship between the severity of endometriosis symptoms and levels of body compassion among women. Specifically, this study aims to examine how purity culture influences this relationship.

Through this research, we seek to enforce what has been mentioned in the literature about the expected negative association between endometriosis symptoms on body compassions levels. We also aim to shed more light on how purity culture manifests itself in relation to body compassion in individuals from different cultures and religions. Additionally, our purpose is to discover more insights about how individuals who suffer from endometriosis symptoms experience the physical and psychological manifestations of their illness under the umbrella of purity culture. We believe that understanding these dynamics can add value to previous findings about purity culture, body compassion and

endometriosis, and might establish a foundation for future studies about the psychosocial context of those who suffer from endometriosis and repercussions of purity culture.

### 1.3 Hypotheses

The current study aims to investigate four hypotheses. First, in previous studies, endometriosis and body compassion are negatively correlated (Van Niekerk et al., 2023). Therefore, in H1, this study aims to replicate these findings.

**H1:** Endometriosis symptoms and body compassion are negatively correlated. (As the severity of symptoms increases, body compassion decreases).

Second, purity culture has demonstrated many negative effects on mental health. Findings suggest that purity culture has a detrimental impact on relationships, intimacy, levels of anxiety, shame and guilt (Stillman, 2022). However, to our knowledge, no research on the relationship of the two variables: purity culture and body compassion has been conducted, and no findings are available on the latter elements focusing on a population with endometriosis. Thus, for this study we aim to explore the interaction between these elements.

**H2**: There is a negative association between purity culture and body compassion. *(*Higher exposure to purity culture is associated with lower body compassion).

**H3**: There is a positive association between purity culture and endometriosis symptoms. (As the exposure to purity culture increases, endometriosis symptoms accentuate).

**H4:** Purity culture moderates the association between body compassion and endometriosis symptoms, such as that the negative association is stronger for individuals who have higher levels of exposure to purity culture. Therefore, when purity culture is high, the negative association between low body compassion and endometriosis symptoms becomes more accentuated. As a result, higher levels of purity culture exposure heighten the impact of low body compassion on the severity of endometriosis symptoms **(Figure 1)**.

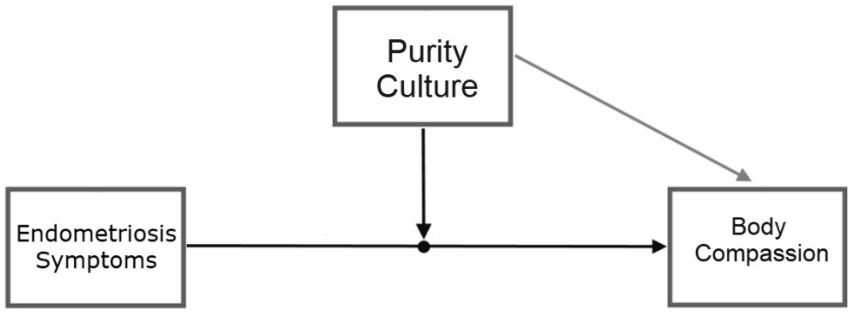


*Figure 1.* Moderation effect of purity culture on the relationship between body compassion and endometriosis impact in the last 12 months.

This hypothesis's importance relies in determining the moderating effect of purity culture on body compassion and endometriosis symptoms. To our knowledge, no previous study has been conducted to understand the interaction between the three variables.

## 1.4 Significance of the Study

The significance of this study resides in the important nature of the previously stated variables alongside the gap in literature concerning the interplay

between endometriosis symptoms and body compassion and the influence of purity culture as a moderator element. By investigating how purity culture affects women's experiences with endometriosis and their capacity of displaying compassion towards their bodies, this research contributes to a deeper understanding of how cultural factors shape mental and physical health experiences in different ethnicities, religions and cultural environments.

Furthermore, these findings may inform multidisciplinary support strategies leading to improved psychological and physical interventions and a much-needed support for women coping with endometriosis, purity culture and low levels of body compassion. This study has broader implications for understanding the intersection of cultural experiences and women's and individual's health, which can guide practitioners in creating more inclusive and supportive environments for people facing chronic health challenges.

## 1.5 Definitions

**1.5.1 Endometriosis.** Endometriosis is a female reproductive auto-immune disease, affecting approximately 1 in 10 women or an estimated 190 million women and girls of reproductive age (World Health Organization, 2023). This disease is observed largely in the pelvic area and is formed of similar tissues found in the lining of the uterus (World Health Organization, 2023). Furthermore, with this condition, these tissues can grow outside of the womb, causing major symptoms such as chronic inflammation, handicapping pain during periods or outside of menstruation days, hormonal dysfunctionalities, heavy menstrual bleeding, anemia, infertility, fatigue, pain during or after sex, cysts in the ovaries, and more (National Library of Medicine, 2023).

**1.5.2 Body compassion.** Body Compassion is a newly created construct (Altman et al., 2020). This notion combines self-compassion(Neff, 2003) and body image framework (Cash et al., 1990; Cash, 2004a). Therefore, to determine what body compassion is, it is mandatory to first specify what self-compassion and body image are.

Defined and examined by Neff (2003). Self-compassion involves three main integrative segments. The first one is self-kindness, which indicates being understanding and kind toward oneself in moments of agony or inadequacy instead of self-criticism. The second one outlines common humanity and is characterized by the ability to perceive one's encounters as a part of a broad human experience versus judging circumstances as unique, dividing and isolating. The third component is mindfulness in containing unpleasant and distressing thoughts and feelings in an unprejudiced sense of awareness, in opposition to isolation, negative appraisal towards the self and rumination (Neff, 2003).

Alongside the self-compassion conception, body image framework has been correspondingly employed in the construction of body's compassion conceptualization (Cash, 2004a). Body image is described as a person's attitudinal dispositions toward their physical self (Cash, 2004b), a design with a multipronged nature revolving around the subjective perceptions each individual have of their own body image (Cash, 2004; Cash et al., 1990). The dispositions of the physical self are constituted of behavioral, cognitive and evaluative elements. Additionally, the body's abilities and competence, presented as fitness in this context and its biological state meaning health and illness are variables that similarly to the previously mentioned features, encompasses the physical self and

constitutes an integrative entity that impacts one's subjective experience from different spheres of existence (Cash, 2002).

**1.5.3 Purity culture.** Purity culture is a movement generally associated with the evangelical faith and directly Christianism. Its principles emphasize idealizing virginity, dating abstinence and prohibition of all forms of physical intimacy before marriage (Fahs, 2010). While it is signaled in literature that purity culture is rooted in Christianity, it is to note that purity culture can also be observed in other religions and cultures such as Islamic faith and Middle Eastern countries (Jünemann, 2021), as well as Hinduism religiosity, and in different locations in India and South Asia (Chanana, 2001) . Therefore, purity culture is not only a religious ideology but also a social conduct, found in different areas around the globe sharing similarities in ideologies and aftereffects.

# Chapter 2

# Literature Review

In this chapter, an in-depth review of what the literature says about different key variables, such as endometriosis, body compassion and purity culture will be presented, in addition to sub-elements that intertwine with this research's variables, such as endometriosis symptoms, body image, objectification theory.

## 2.1 Endometriosis

**2.1.1 Statistics and obstacles.** Endometriosis is a chronic disease caused by tissues authentic to the endometrium growing outside of their natural habitat, the uterus (Lancet, 2024). Moreover, endometriosis is a multi-system and heterogeneous disorder that affects different organs and systems in the body in multiple and various ways, manifested in the form of many symptoms and varied comorbidities (Griffiths et al., 2024). This symptomatology diversification of endometriosis can be considered a factor that represents itself, among others, as a challenge in the diagnosis process, creating more physical, emotional, social and financial burden among this population (Horne & Missmer, 2022).

Endometriosis heterogeneity does not manifest itself exclusively in the form of symptoms but in its progressive stages as well. According to the revised American Society for Reproductive Medicine classification (1979), the development of this illness can be divided into four stages. Stage 1 or minimal, is when a few small wounds, lesions or implants are present either on the organs, the

tissue lining the pelvis or the abdomen with minimal or no presence of scar tissues. Stage 2 or mild is defined by the existence of scar tissues that are extensive and deeper. Stage 3 or moderate is identified by the prevalence of small cysts in at least one of the ovaries and adhesions. Finally, the last and most far-ranging stage: Stage 4 or severe, is when several deep and thick adhesions are found in addition to the presence of large cysts on one or both ovaries.

Nevertheless, in the absence of a gold standard classification, a combination of other classifications is used to establish an overview of this challenging disease (Lee et al., 2020). It is also important to mention that these phases do not have an effect on pain levels, meaning that if a person is in stage four, it does not necessarily imply more pain symptoms than an individual who has stage two endometriosis and conversely an individual who has a stage two endometriosis may not necessarily suffer from less pain symptoms than a patient who has stage four endometriosis (Vercellini et al., 1996).

Additionally, to quantify the impact of endometriosis, many surveys have been developed. Yet, a few limitations may be considered in this regard. Such as language barrier, lack of adaptation to other cultures, short-time focus and an exclusive focus on pain symptoms (Jones et al., 2023; Moradi et al., 2019; Puchar et al., 2021).

In regard to these limitations, The Endometriosis Impact Questionnaire ("EIQ") has been developed and validated, allowing participants to reflect on their experiences with different aspects of the disease's impact (e.g., physical, psychological, social, sexual and intimate, fertility, employment and financial, educational and lifestyle impact), in three recall periods (Last 12 months, 1 to 5 years and more than 5 years ago) to ensure the measurement of various effects on

a long term period (Mirghafourvand et al., 2024; Moradi et al., 2019). However, the need for more measurement tools adapted to different languages and cultures is primordial and may benefit in bringing more insights on the qualitative and quantitative aspect of this illness.

To understand the overall numerological scale of this ailment, researchers attempted to estimate the number of this population. Studies suggest that worldwide 190 million women and individuals assigned female at birth have been diagnosed with endometriosis, 10% of the population is of reproductive-age (Horne & Missmer, 2022; Zondervan et al., 2020). Despite efforts to evaluate the numbers of people affected by this illness, specific age groups and various regions in the world remain under-represented (Moradi et al., 2014). In respect to the efforts made by Australia, New Zealand, Canada, United States and Western European countries in producing and publishing research about endometriosis, it is mandatory to highlight that many other regions around the globe remain underestimated, such as Asian countries (excluding Japan and Iran), African and South American countries (excluding Brazil), creating an important gap and enhancing its ambiguity and constraints (Brüggmann et al., 2016; Fryer et al., 2024).

These varied and intertwined limitations can be attributed to many factors. In a report published by Smith (2023), unequal funding due to gender gap has been highlighted as a reason behind the lack of research about female dominant diseases, among these illnesses endometriosis has been regarded as one of the conditions that do not receive fair research funding appropriate to its impact on the life of those with the diagnosis. These findings support Mirin's (2021) research outcomes about the funding of the U.S National Institutes of Health (NIH),

suggesting an important emergence of gender inequality displayed in an underfunding of conditions affecting women with disregard to their burden and an overfunding in favor of diseases affecting men, no matter their levels of strain.

Furthermore, this underinvestment is observed in other regions of the globe, such as the European Union where out of 145,983 projects collected since 1980, only 27 scientific investigations have been dedicated to endometriosis either fully or partially (Viganò et al., 2024).

In addition to these limitations, economic and educational facets such as levels of income and patient and clinicians literary about endometriosis has demonstrated a significant effect on individual's recognition of their symptoms and their ability to access healthcare, resulting in less data about the influence of low and middle-incomes on those with endometriosis and the levels of awareness about this disease among individuals who indicate suggestive symptoms of the disorder (C. Harris et al., 2018).

Moreover, social constructs such as race and ethnicity might play an important role in the inclusion of certain groups in literature and their access to efficient medical resources and care (Bougie et al., 2022). While many textbooks suggest a higher prevalence of endometriosis diagnosis in White women, compared to Black and Hispanic women (Callahan & Caughey, 2013; Speroff & Fritz, 2005). Various studies have investigated these perceptions. One of the major indicators of important gynecological surgeries and hysterectomies is endometriosis, revealing an influential prevalence in African-American women residing in the USA (Kyama et al., 2007).

However, in the same study, authors reported a lower rate of endometriosis among African-indigenous women in comparison to African American, proposing

that these findings are the results of lack of awareness, lifestyle factors, lack of research, limited treatment and informed training on diagnosis, concluding that race is not the explanation (Kyama et al., 2007). In contrast, a second study , explained that endometriosis has been perceived throughout many foundational textbooks of gynecology as a condition limited to only White women with a minimized focus on minority groups and a more dominant focus of research on a specific racial category (Bougie et al., 2022).

Besides, sparse data is found about an important population, which is transgender men. While it has been noted that endometriosis do exist among this population, it has been reported that most of these patients experience incidental findings of endometriosis when a gender affirming hysterectomy is performed, therefore, special focus on this marginalized population is essential and mandatory (Ferrando, 2022; Okita et al., 2021; Vallée et al., 2023).

Another important factor to consider is the delay of diagnosis and its repercussions. In the UK, approximately 60% of women will consult an average of three clinicians before receiving a diagnosis, 63% will be told nothing is wrong with them even with the presence of persistent pelvic pain, thus an established norm of seven years with exhausting symptoms before receiving a diagnosis (Greene et al., 2009).

Moreover, in a study conducted in the United Kingdom by (Ballard et al., 2006), delayed diagnosis has shown to be linked to different factors, such as family doctors normalizing pelvic pain and dismissing their patients worries by referring to the symptomatology as "*just normal period pains*" leading to patients questioning their experiences and the severity of their symptoms. Consequently, the chances of being referred to a specialist can become drastically low, leading

to a lengthy delay estimated at 6.6 years (Fryer et al., 2024).

A second factor noted in the same study is inadequate and superficial treatment such as intermittent hormonal suppression of symptoms, to treat specifically "painful periods" without trying to understand the source of the matter, and if due to persistent pelvic pain patients are referred for ultrasound, where the reports were in majority negative since these devices can be ineffective in detecting all forms of endometriosis, another factor creating more doubt in regard to the legitimacy of the patients symptoms and adding more to the barriers shadowing this illness (Ballard et al., 2006).

These research findings and limitations were supported and acknowledged by several studies and political committees. In a systematic literature review, conducted by Koufopoulou et al. (2022), regrouping 16 studies out of 891 and identifying that the main obstacles are normalization of symptoms by the patients and clinicians, as well as mediocre quality of consultations highlighted by feelings of negligence, dismission, and mistrust experienced by the person in distress. This normalization and minimization of pain is stemming from inadequate awareness of conditions like endometriosis, lack of education and medical misogyny as mentioned in the report published by the Women and Equalities Committee in the United Kingdom, leading into important negative impacts in many aspects of these individual's lives, such as their careers, relationships, symptoms management, finances, education, fertility and overall quality of life (*'Medical Misogyny' Is Leaving Women in Unnecessary Pain and Undiagnosed for Years - Committees - UK Parliament*, 2024).

In summary, endometriosis has many detrimental effects on women's daily life, originating not only from the physiological and psychosocial facets of the

illness but also from the stigma, lack of research, challenging diagnosis, dismissive attitudes from doctors and entourage, and the exorbitant and elongated psychological, physical and financial burden of diagnosis and treatment (Moradi et al., 2014).

### 2.1.2 Diagnosis strategies.

***2.1.2.1 Non-Invasive diagnosis strategies.*** In addition to what have been previously signaled as recurrent obstacles, patients may find themselves facing difficulties not solely before diagnosis but during the diagnosis and treatment process as well. To highlight these unfavorable circumstances, it is essential to investigate what the literature has presented so far in terms of diagnosis methods, current treatment strategies, their efficacy and limitations.

Endometriosis diagnosis relies on a few tools and methods categorized as non-invasive and invasive with an efficacy relative to endometriosis severity. For instance, high-resolution transvaginal ultrasonography (TVUS), a non-invasive method, can be helpful in detecting endometriomas which are cysts filled with endometrial tissues, or deep infiltrating endometriosis located in the bowel or bladder as well as other pelvic anomalies related to endometriosis. (Brosens et al., 2003). Its efficacy is determined by the level of experience of the operators and can be additionally enhanced if combined with magnetic resonance imaging (MRI), on the other hands its limitations are pictured in its inefficacy to capture images or detect various types and locations of endometriosis tissues, especially in patients in early stages or with vaginal endometriosis (Goncalves et al., 2021).

Furthermore, MRI's have also demonstrated high efficacy in comparison to TVUS in detecting different types of endometriosis, especially deep infiltrating

endometriosis and endometriosis cysts (Bazot & Daraï, 2017). Moreover, it has outperformed transvaginal sonography (TVUS) and showcased higher sensitivity in diagnosing two differently located endometriosis, the anterior endometriosis, which is a form of endometriosis located in front of the uterus nearer to the abdominal area, and posterior endometriosis, known as deep infiltrating endometriosis located closer to the spine (Gerges et al., 2021). In contrast, Noventa et al. (2019), differentiated by affirming that ultrasonography diagnosis accuracy is not of less excellence in comparison to MRI, particularly in endometriosis stage 3 and 4 and that MRI can be privileged if experienced sonographers are not available.

Additionally, Roditis et al. (2023) assessed if physical examination combined with transvaginal ultrasonography (TVUS) and magnetic resonance imaging (MRI) could result in a more strong diagnosis possibility for deep infiltrating endometriosis than proceeding with each diagnosis methodology independently. With a sample size of 178 patients, results showed strong sensitivity, specificity and positive significance if the three clinical and imaging evaluations were integrative (Roditis et al., 2023).

In a new promising study published by Schoeman et al., (2024), a new non-invasive blood test has revealed strong predictive accuracy in diagnosing endometriosis. The study compared 805 participants within two independent clinical populations and was able to detect distinct biomarkers in blood samples derived from participants who were diagnosed with endometriosis. These findings represent an important step in developing a non-invasive diagnosis method for endometriosis, in reducing the lengthy diagnosis delays experienced by patients and in understanding better the pathogenesis of endometriosis (Schoeman et al.,

2024).

However, it is necessary to note that this study presents a few limitations such as the ethnicity of the participants who were mostly European, which matches the previously mentioned factor of under-represented ethnicities (Schoeman et al., 2024).

***2.1.2.2 Invasive diagnosis strategies***. Laparoscopy is a technique that allows clinicians to directly visualize endometriosis and is currently considered the gold standard diagnosis method for this illness (Dantkale & Agrawal, 2024). To support what has been acknowledged previously, imaging devices, physical examination and medical history may help with speculations and initiation towards diagnosis, yet these practice pathways may not provide an accurate and conclusive diagnosis, enabling laparoscopy to be the only possibility to diagnose (Centers, 2014). This intervention requires to be performed under general anesthetic, in which the pathologist inserts a fiber optic camera (laparoscope) into the abdomen with the aim of identifying any abnormal tissues, retrieving biopsies and eliminating endometriosis, if any (Centers, 2014).

In a comparison study between histopathology, the previous gold standard for endometriosis diagnosis and laparoscopy, research has shown that laparoscopic visualization demonstrated high sensitivity (90.1%) and moderate specificity (40%) in comparison to histopathology (Gratton et al., 2022). Additionally, laparoscopic surgery has demonstrated different advantages, such as inducing minimal incisions replacing open surgery which contributes to a faster recovery, less risks of complications and lower pain post-surgery in comparison to traditional open surgeries (Lim et al., 2017).

Nevertheless, all surgical procedures come with risks, including internal bleeding, damage to a blood vessel or other surrounding organs such as the stomach, bladder or bowels, infection and abnormal lesion between proximate organs (Key, 2024).

### 2.1.3 Endometriosis symptoms and consequences.

***2.1.3.1 Physical symptoms and consequences.*** Endometriosis physical symptoms have been consecutively narrowed and specifically associated with pelvic pain (Olliges et al., 2021). Nevertheless, pain may be a common symptom of endometriosis, but it may manifest itself in different ways and contexts, such as pain during and outside menstruation medically referred to as dysmenorrhea, pain during or after sex also known as dyspareunia, pain with bowel movements, pain during urination, migraines and more (Endometriosis - Symptoms and Causes, 2025.).

Furthermore, there have been many proven hypotheses about the link between endometriosis and infertility (Park et al., 2025). The nature of endometriosis, which is inflammatory, can cause a reduction in fertility levels and abnormalities in ovary cells of women with endometriosis, creating more difficulties to conceive and additional impact on mental, relationship and financial aspects of women's life (Latif & Saridogan, 2023; Moradi et al., 2014).

Moreover, abnormal periods characterized with menorrhagia or heavy bleeding and extended periods are very often experienced by women and individuals who have endometriosis, creating an obligation of changing tampons or pads within a ratio of 1 to 2 hours, and can easily cause serious risks of anemia, severe blood loss, fatigue, weakness and overall a drop in metabolism functions

(Atkins et al., 2018; *Endometriosis Symptoms*, 2022).

Further, gastrointestinal symptoms are widely reported, while interpretations about the occurrence of these symptoms differ, the literature agrees on the recurrence of nausea, vomiting, painful bowel movements, diarrhea, abdominal pain and bloating (Ek et al., 2015). While there might not be an established cause effect link between endometriosis and other autoimmune diseases, a study has shown that hypothyroidism, fibromyalgia, chronic fatigue syndrome, autoimmune diseases such as systemic lupus, allergies and asthma are significantly more present among women with endometriosis that in women without the diagnosis (Sinaii et al., 2002).

In addition to that, women diagnosed with endometriosis have more than four times the risk of ovarian cancer than those without endometriosis, while women who have more severe stages of endometriosis face the risk of being diagnosed with ovarian cancer nine times higher than those without endometriosis (*Endometriosis Types and Ovarian Cancer Risk*, 2024). These findings validate and supplement that the severity of such illness can take a detrimental toll on the physical, psychological, and social aspects of these individual's lives.

***2.1.3.2 Psychological symptoms and consequences.*** Endometriosis and its impact on mental health have been the focus of several studies. Dating back to the 90's, multiple research papers investigated the link between the two elements. Even so, a few distinctive limitations were present among these studies, such as cross-sectional designs and changeful outcomes (Chen et al., 2016). For instance, Low et al. (1993), described a non-significant presence of depressive symptoms and a higher rate of anxiety symptoms and neuroticism in women with

endometriosis compared to non-diagnosed women. As opposed to a study published in 1995, reporting a significant level of depressive symptoms within the same population, but no observed difference in anxiety symptoms between the two groups of women (Waller & Shaw, 1995).

Remarkably, many new studies have been released about endometriosis, with or without focus on specific symptoms, and the association with mental health in different ethnic groups. Notably a longitudinal follow-up study in a Taiwanese population, supportive of previous literature suggesting a link between endometriosis, depression and anxiety disorders has established insights on the increased risk of developing depression and anxiety disorders as a result of suffering from endometriosis (Chen et al., 2016).

Alternatively, Nassiri Kigloo et al. (2024) focused on significant association between endometriosis and/or chronic pain and anxiety in an American population, establishing a significant association between the variables, strengthened by a large sample size of 12 million women from different races (White, Black, Hispanic, Asian or Pacific Islander, Native American and Other) diagnosed with endometriosis. The supportive outcomes suggest not only a significant association between endometriosis and/or chronic pain and anxiety, but also a higher chance of experiencing comorbid depression in women who suffer from anxiety when diagnosed with endometriosis and/or chronic pain (Nassiri Kigloo et al., 2024).

Further, an interesting insight was concluded from the same study suggesting a bidirectional association between anxiety and endometriosis as the after-effect, where participants who were predisposed with anxiety had a 20% higher chance of endometriosis incident (Nassiri Kigloo et al., 2024).

By the same token, Mousa et al. (2021) emphasized on the experience of Arab women with endometriosis, highlighting a significant affiliation between diagnosis delays, culture, depression and anxiety, and an important negative impact on their health-related quality of life. Still, it is important to indicate that to the best of our knowledge, this is the first study with a focus on diagnosis delay and its mental health effects of endometriosis in a Middle Eastern population. These limitations are necessary to be considered, especially when investigating an illness that contributes to the burden of more than 190 million women, girls and assigned female-at-birth individuals.

Clearly, research was able to highlight a significant link between endometriosis and/or pain, mood disorders and health-related quality of life. While pain may be the dominant symptom in endometriosis, other effects in correlation with pain or without, can endorse the negative effect this illness has on the individual's mental state and body image (Morotti et al., 2017; L. Van Niekerk et al., 2022). Even more, an influence on the quality of life and particularly, the social dimension (Culley et al., 2013; Mousa et al., 2021).

Schwab et al. (2021), examined this population experience during COVID-19 pandemic and focused on the effect of social distancing on pain perception, whereas physical impairment levels improved after the application of social distancing measures, higher rates of pain awareness were indicated as a result of social distancing measures, in addition to a decrease in social support from friend, family and partners. While during the pandemic isolation was imposed for sanitary and vital reasons, social isolation remains prevalent for individuals diagnosed with endometriosis in disregard of the global circumstances (Schwab et al., 2021).

Matter of fact, social isolation in this population has been present in association with a lack of understanding about endometriosis symptoms, especially pain, stigma, anticipated stigma, avoidance of intimacy, loneliness and overall poor support (Calvi et al., 2024; Mellado et al., 2016). Whereas in terms of gender diverse experience with endometriosis and psychosocial support, not much data is found.

Yet, Eder & Roomaney (2025) findings of a qualitative study, investigating the experience of 11 transgender and non-binary people suggested a dominant feeling of isolation and rejection due to their gender identity and the challenges of endometriosis (Eder & Roomaney, 2025). While the study may be limited by its sample size, it provides preliminary insights on the experience of a significant group, which is crucial in understanding the layouts of this disease.

Furthermore, the psychosocial impact of endometriosis reaches intimate relationships and enhances the psychological and psychosocial burdens (Culley et al., 2013). Facchin et al. (2021) findings suggest a negative impact of endometriosis on the quality of past and present relationships, associated with poor relational satisfaction, deficient psychological health and negative dyadic coping, and more severe pelvic pain, whereas partners who were more interested and educated about the disease, and present during medical procedures had a positive effect on the participants psychological health, relational satisfaction and dyadic coping.

These findings are supported by Law et al. (2024) qualitative research of twenty two heterosexual couples, reporting in accordance to previous literature negative effects of endometriosis on couple's relationships, more specifically sex and intimacy, feelings of guilt, inadequacy, sadness, loss of intimacy and

closeness and turmoil experienced more by women, and expressed guilt, hesitance to initiate sex, and uncertainty by their male partners. Thus, a shared experience of distance and sometimes helplessness translated physically and interpersonally, characterized by lack of communication or miscommunication about the impact of endometriosis on their sex lives and individual approaches instead of working collaboratively as a couple (Law et al., 2024).

Despite these implications, a concerning gap in literature remains, influencing our understanding of couple's experiences from different sexual orientations and ethnic groups with endometriosis, as well as interventions and treatment plans for individuals and their support systems.

At the same time, individuals with endometriosis deal with a socially and medically imposed stigma, adding more to their barriers and challenges in seeking support and treatment (Sims et al., 2021). Matías-González et al. (2021) findings explain the lived experience of stigmatization among a Puerto Rican population. During semi-structured interviews, the term *changueria* was recurrent and dominant in different environments including familial, social and healthcare related. The term *changueria* is a word used to describe someone who is whiny and excessively complains without serious cause. Women were labeled as *changas* by healthcare providers, their pain was referred to as normal by practitioners, and their struggles were minimized by their spouses and family members (Matías-González et al., 2021).

Additionally, these results reinforce the negative effects stigmatization has on populations who struggle with physical and mental health conditions, impacting the psychosocial well-being of individuals with endometriosis and their ability to receive diagnosis, and inforcing their feelings of despair, social isolation

and sometimes suicidal thoughts (Livingston & Boyd, 2010; Sims et al., 2021; Tragantzopoulou, 2024).

Understanding of endometriosis patients' stories with stigmatization might still be in its early stages, nevertheless this does not imply a minimal effect on their mental health, wellbeing and diagnosis delay (Sims et al., 2021). As a matter of fact, through Goffman's (1963) fundamental description of stigma, many of its components can be traced back to its social attribution, labeling those who suffer from a defect of body or temperament as stained and undesirable.

Stigmatization has many consequences on the person's quality of life, especially when accepted and internalized, as it can be translated into emotions such as shame, blame, guilt and hopelessness (Corrigan et al., 2006). Besides, in the same manner endometriosis and its spectrum of symptoms and challenges alters the mood and quality of life, it also has a relevant impact on the individuals and their relationship with their bodies.

As revealed by L. M. Van Niekerk et al. (2023) self and body compassion are both important factors in determining a higher health related quality of life in individuals with endometriosis, demonstrating how endometriosis symptomatologic features, especially pain related, negatively impact body compassion, resulting in low levels of self and body compassion in this specific group. Additionally, low levels of body appreciation, high prevalence of sexual distress and body image disruption were associated with endometriosis identification (Sullivan-Myers et al., 2023).

Moreover, prevalence of dyspareunia alongside chronic pain, presence of physical and mental comorbidities may have a negative effect on sexual enjoyment and may create an anticipation of pain instead of pleasure, coupled

with a cycle of negative thoughts, sexual reduction or avoidance, and regression in the quality of communication with the partner about sex (Ferrero et al., 2005; Pluchino et al., 2016; Sullivan-Myers et al., 2023).

Consequently, endometriosis impacts more than just the physical body, but the psychological embodiment simultaneously. While evidence has empirically demonstrated major depressive symptoms as an outcome of negative body image, important underlying factors remain under-researched (Pehlivan et al., 2022).

Pehlivan et al. (2022) particularly investigated in a longitudinal study two mechanisms as mediators, self-esteem and rumination in an endometriosis diagnosed population with commonness of poor body image and depressive symptoms, reported results indicated no indirect effect of rumination on the body image and depression relationship, in contrast to an important role of poor body image in predicting and directly affecting depression symptoms, making deficient body image an important key for the development of depressive symptoms among individuals diagnosed with endometriosis, while self-esteem proved its mediating role on the body image and depression link.

## 2.2 Body Compassion

Body compassion is a body-focused mindfulness and acceptance based construct combining two fundamental psychological concepts, body image and self-compassion (Altman et al., 2020). It integrates, with a shift of focus from the general self to the physical self, the three components of self-compassion: kindness toward oneself versus judgment, perceiving one's experiences as part of the common humanity versus isolation and mindfulness versus over-identification. Additionally, it includes body image, a multifaceted concept that

incorporates the physical self which is the appearance, competence/fitness, and health/illness in addition to cognitive, behavioral and evaluative elements (Cash, 2002; K. Neff, 2003).

Body compassion consists of three factors, defusion, common humanity and acceptance (Altman et al., 2020; Neff, 2023). Defusion is defined as the capacity to perceive one's physical self or body from an observer perspective instead of the body itself. This ability allows the individual to distance themselves from the experienced body image and detach from radical images, positive or negative, of one's general self-concept (Altman et al., 2017). Common humanity is similar to the one found in self-compassion with a shift of focus from the global self to the physical self - the body (K. Neff, 2003). This component is rooted in Buddhist philosophy suggesting that all human beings are intimately interconnected and share universal experiences such as sorrows, vulnerabilities, imperfections, puzzlements, and it is only fair to forgive oneself for being a human with limitations and imperfections (Barnard & Curry, 2011). Final component is acceptance, which is translated to, in the context of body compassion, as the intentional welcomeness of one's appearance, state of health and body's abilities and functions exactly as it is in the here and now (Altman et al., 2017).

This notion has been created with the aim of not only conceptualization but also to shed light on the grounded experience of the body in the present moment, with the future aspiration of exploring and developing interventions tailored for individuals who encountered body dissatisfaction and its repercussions, as in the case of endometriosis where body dissatisfaction is dominant and plays a distinctive role in validating the hypothesis that suggests that a negative body image contributes to depressive symptoms(Altman et al., 2017; Andrew et al.,

2015; Pehlivan et al., 2022).

In contrast, body compassion is suggested as an important protector of shame and body image shame in women (Oliveira et al., 2018). Furthermore, body appreciation may play the role of a protective factor against the effects of external and internal shame, as well as social expectations attributed to body appearance in regards to idealized thin body shapes (Andrew et al., 2015; Ramos-Martins et al., 2022). In fact, body appreciation has also demonstrated a negative association with self-objectification, manifesting great psychological results in women of all ages (Robbins & Reissing, 2018). In accordance with these results, we hypothesize in this study that greater levels of body compassion may work as a protective factor against purity culture and endometriosis symptoms.

**2.2.1 Body image.** Body image is a fundamental psychological concept, conceptually formulated by Schilder in 1935 (Slade, 1994). Schilder, (1999) describes body image as "the picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves". This definition has been reshaped through time and research. As for today, body image is conceptualized as a multidimensional construct regrouping the attitudes and perceptions one has towards their physical self, including one's evaluation, orientation or level of investment in appearance, fitness and health/illness (Cash, 2000, 2004b; Cash et al., 1990).

Body image research has noticed a distinctive shift in terms of quantity in the past two decades allowing new crafted insights about body image, its structures, inter-relationships, and correlations with different elements such as chronic diseases and different forms of trauma to emerge (Andersen & Swami,

2021). Yet, as identified by a few researchers, challenges such as geographic diversity remain present, limiting a broader understanding of body image presentations in regional variations, such as South and Central America, South Asia, the Middle East, Eastern Europe and Africa where research about body image remains non-existent (Andersen & Swami, 2021; Cash, 2004b).

**2.2.2 Self-compassion.** Self-compassion has been conceptualized in different forms, however most researchers have centered their focus on the upcoming model (Phillips & Hine, 2021). According to K. Neff (2003) self-compassion is how we connect with ourselves in moments of failure, deficiency or individual challenges. It is the practice of caring, welcoming and protecting the self and can be considered a catalyst of change in the face of suffering. As it has been previously mentioned, self-compassion is a dynamic system consisting of various elements (K. Neff, 2003; K. D. Neff, 2023).

First, self-kindness versus self-judgment, a caring and supportive attitude towards the self especially in moments of despair. It's simply acknowledging that we are worthy of receiving care and working towards translating this stance into thoughts and actions. Second, common humanity versus isolation, is the realization of the imperfection of the human experience, which implies struggles as a normal experience of humankind, therefore it is not an individual but a universal and a normalized experience, that by its nature imposes being vulnerable and facing challenges. Third, mindfulness versus overidentification, which implies that in order to feel less absorbed and to avoid overidentifying one's self with negative thoughts and feelings, a more balanced and mindful position can be adapted, where the individual neither exaggerates nor avoids their pain (K. D.

Neff, 2023; Shapiro et al., 2006).

As a result, self-compassion has demonstrated a strong connection with well-being, and was associated with positive affect, satisfaction with life and greater happiness, in addition to being a predictive factor of positive health outcomes, such as composite health behavior, functional immunity, sleep, danger avoidance and overall physical health (Phillips & Hine, 2021; Zessin et al., 2015).

Additionally, different studies centered on adult and adolescent population regrouped in several meta-analyses, have demonstrated moderate to large effect sizes suggesting a negative association between negative mental states such as stress, anxiety, rumination, self-criticism, depression, self-harm and suicidal ideation, and self-compassion (Cleare et al., 2019; Ferrari et al., 2019; Hughes et al., 2021; Suh & Jeong, 2021). Moreover, Bhuptani & Messman (2022) demonstrated that among rape survivors, self-compassion was negatively associated with assault-related shame. These findings support previous research results suggesting a similar association between self-compassion, lower behavioral self-blame, as well as coping by withdrawal and characterological self-blame (Hamrick & Owens, 2019).

**2.2.3 Negative body image.** Negative body image, altered body image perception, body image distortion, body image perception, body image disturbance, and body dissatisfaction are different but connected terms used interchangeably in literature (Hosseini & Padhy, 2025). In this literature, many terms will be implemented to refer to the quality of one's experience with their physical self.

Body image distortion, measured as negative body image, a core component

of a variety of chronic illnesses, affecting competence, self-esteem, mood, social and occupational functioning, manifested through negative feelings, attitudes, affects and behaviors towards one's body (Hosseini & Padhy, 2025). Negative body image main ingredients are persistent negative cognitive and affective perceptions of body function and appearance, in contrast to respect and acceptance of one's body and abilities, and a rejection of unrealistic body standards determined as a positive experience of body appreciation (Alleva & Tylka, 2021; Cash et al., 2004; Satinsky et al., 2012).

As cited, body image is interlinked with different psychological and physical conditions and challenges such as obesity, eating disorders, depression, objectification, stigma and shame (Andersen & Swami, 2021). Correspondingly, negative body image has been associated with patients suffering from serious diseases, such as endometriosis (Calvi et al., 2024; Sayer-Jones & Sherman, 2023; Sullivan-Myers et al., 2023; L. Van Niekerk et al., 2022).

Additionally, chronic illness such as endometriosis and its cluster of symptoms can accentuate negative body image, demonstrating a lower level of appreciation of body functionality and satisfaction with body appearance, notably in presence of pelvic pain, and high levels of body image disturbance in presence of sex related symptoms (Sullivan-Myers et al., 2023; Volker & Mills, 2022).

Moreover, qualitative accounts of the challenging experiences of the physical self with endometriosis, highlighting a sense of alienation "I feel like my body isn't mine; it's out of control", sense of being defective "it makes me feel broken and inadequate", and a sense of conflict "I feel like I'm in a war with it" and presence of feelings of shame and behavioral tendencies to hide specific body parts if symptoms are manifested, such as the belly in case of bloating (Mills et

al., 2025; Sayer-Jones & Sherman, 2021, 2023).

Similar behavioral and emotional tendencies can be observed in specific social and cultural contexts, where women's bodies and/or body parts are objectified, sexualized and evaluated, creating internalized perceptions about the physical self, self-objectification, and heightened perceptions of the self and the body through the other's eye instead of an emphasize on one's internal perspective (Fredrickson & Roberts, 1997; Gay & Castano, 2010).

Matter of fact, the internal experience with the body when interfered negatively by others, can result in important consequences, including an increased risk of experiencing body shame, negative attitudes toward menstruation, anxiety, diminished awareness of internal bodily states, sexual dysfunction, depression and eating disorders (Calogero, 2004; Fredrickson et al., 1998; Tiggemann & Lynch, 2001). Based on these findings,-body compassion and purity culture, are social and psychological constructs that may regroup sub-themes such as shame, guilt and objectification (Camden, 2020; Ortiz et al., 2023).

## 2.3 Purity Culture

**2.3.1 History of purity culture.** Purity culture, as a Christian movement, saw its first beginning in the 1990's in the United States (Carter, 2019). It started as a response to the sexual revolution in the 1960's, which was witnessed by teens and children of that era, who later on became adults in the 1990's. Influenced by the sexual revolution, teen pregnancy rates reached an all-time highest rate in the history of the U.S, an increase in premarital sex partners was noticeable and the first cause of death for men aged 25 to 44 in the U.S became AIDS (Carter, 2019).

As a response, Evangelicals wanted to limit sex outside of marriage by

linking sexuality to biblical ethics (Carter, 2019). These efforts were manifested through a Christian sex education campaign created by Richard Ross in 1992, known as “True Love Waits” (Richard Ross Founds True Love Waits | AASECT:: American Association of Sexuality Educators, Counselors and Therapists, 2025). The program encouraged the youth to abstain from sexual intercourse and to pledge their commitment by taking an oath of chastity until they are married and by signing commitment cards, also known as purity pledges. The program was adopted by Southern Baptists and events such as rallies were hosted resulting in 350,000 signed pledges (Carter, 2019).

Moreover, in 1997, Joshua Harris published his first book called “I Kissed Dating Goodbye”, which became the primary text of the purity culture movement. In his book, Harris mentions that dating is harmful and should be avoided, forms of physical and sexual intimacy prior to marriage are forbidden and deducts from women’s value. Additionally, girls should dress modestly to not distract boys, a woman's body belongs to her husband, and virginity before marriage is a must (J. Harris, 1997; Klement & Sagarin, 2017). In 2018, Joshua Harris published a statement where he renounced the teachings from his book, reconsidering the beliefs shared previously about dating and stating that romantic relationships can be a healthy part of a person’s relational development (J. Harris, n.d.).

Nevertheless, purity culture's existence persists in different cultures and religions (Chanana, 2001; Jünemann, 2021). In fact, it has demonstrated a larger impact reaching various aspects of daily life, notably, psychological and mental health, and access to medical care. In a study conducted by Mousa et al. (2021), researchers found that one of the factors behind diagnosis delay of endometriosis in an Arab descendent culture is the widespread societal norm that dictates an

abstinence from seeking gynecological care, unless married. Additionally, cultures with a strong patriarchal influence and dominant gender norms can limit women's autonomy, decrease support received from social entourage and contribute to mental health discrepancies (Yount & Smith, 2012).

Meanwhile, very few studies are available about purity culture and its sub-themes, its presence and impact on stigmatized populations in countries with gender dominance and religious rules, causing a larger gap and several limitations in quantifying and understanding the effect such social constructs have on the individual's quality of life. Thus, the importance of this study in shedding light on the intersectionality of purity culture, endometriosis and body compassion.

**2.3.2 Objectification theory.** Objectification theory is a framework developed to understand how women experience their bodies and selves in a society that sexualizes the female body (Fredrickson & Roberts, 1997). This theory explains that girls and women are usually prone to internalizing an outsider outlook and prioritizing it as a central view of their physical selves. This introjected perspective can increase chances of experiencing lower levels of awareness of internal bodily states, shame and anxiety. While consecutive exposure to objectification can promote various mental health risks such as: sexual dysfunction, eating disorder, and depression (Fredrickson & Roberts, 1997).

As specified by objectification theory framework, exposure to experiences of sexual objectification condition young girls and women to carry themselves as though their bodies are objects to be judged strictly by their appearance, as if the bodies are separated from the selves and only certain body parts may be indicative and representative of the individual. Accordingly, sexual objectification can lead

to self-objectification, a state where the observer's viewpoint is introjected and internalized, insinuating body surveillance, shame, anxiety and reduced motivational states (e.g: enjoyment, creativity, and immersion with life) (Bailey et al., 2016; Fredrickson & Roberts, 1997).

These consequences can also be traced in purity culture, where the community monitors and surveys women's behaviors, evaluating with factors such as modesty, obedience and virginity creating shame, guilt, disconnection and traumatic experience with religious constructs (Camden, 2020). Markedly, self-objectification and its consequences can also be noticed in patients with endometriosis, reporting distress, shame, embarrassment and concerns about socially stigmatized perception of their bodies (Mills et al., 2025; Sayer-Jones & Sherman, 2023).

**2.3.3 Social stigmatization.** Another noticeable concept in purity culture is social stigmatization. Social stigmatization is defined as a social construct based on disapproval of an individual and/or individuals because of a specific trait that indicates their deviance from social norms (*Deviance and Social Stigma*, 2018). Goffman's (1963) classic definition represents stigma as a deeply discrediting attribute, confirmative to devalued stereotypes, and that is based on a tainted view of the other, due to their skin color, body size, religion, race, ethnicity, criminal record and health challenges.

Following Goffman's formulation of stigma, psychologists elaborated the interactions, causes, processes and consequences resulting from such a social process. Some emphasized that stigma's evolutionary cause is to serve sociobiological functions by excluding and categorizing members of the group

who may threaten the stability of the community (Clair, 2018).

In fact, stigma can be used as a form of social control with the purpose of guaranteeing that the majority of the community members convey to the defined norms and values, whereas those who challenge the cultural taboos may be sanctioned by the members of society (Becker & Arnold, 1986). However, the methods of sanctions can be proportionally different, varying from discrimination to honor killings (Clair, 2018; Hamzaoğlu, 2024).

The negative impact of such circumstances can be displayed among many attributes of the individual's lives. For example, women in dominantly patriarchal cultures may become victims of oppressive structures where their value, dignity and right to live is intertwined to their sexual behavior (Kandiyoti, 1988; Kulwicki, 2002), similarly to the teachings of evangelical based purity culture and the shared experience of women from different cultures (Adak, 2022; Bangash & Muhammad, n.d.; Kulwicki, 2002). Another example would be the discriminatory attitudes towards individuals who suffer from “physical deformities” and “blemishes of character” (Goffman, 1963), such as endometriosis, infertility, pain symptoms, homosexuality and mental illness. These distorted perceptions can negatively influence not only the life quality of societal members, but also law policies and healthcare access and quality (Frost, 2011; Kulwicki, 2002; Mousa et al., 2021).

**2.3.4 Gynecological care: A taboo?** As seen with purity culture, sexual inequalities are manifested abruptly in many societies and can be considered an outcome of many determinants, especially gender inequality, impacting women and girls and limiting their rights to take decisions about their sexual and

reproductive rights (Ouahid et al., 2023). In fact, such circumstances forge the negative gap gender norms create, especially in terms of accessing gynecological and sexual healthcare (Ouahid et al., 2023). Additionally, cultural barriers, restrictions in decision-making, authoritative patriarchy, makes it hard for women in cultures where males opinions are prioritized, to gain and practice their basic rights (Mukhtar, 2023).

It can be noticed that in many conservative cultures, social representations can limit the access of unmarried women and adolescent girls to sexual and reproductive health information and services, imposing a selective and "socially acceptable" access only to married women (Alkhalili et al., 2024; Hameed, 2018; Omaima, 2024; Ouahid et al., 2023).

In a qualitative study conducted in Marrakech-Safi, a region of Morocco, researchers findings highlighted the most common factors affiliated to restricted sexual and reproductive healthcare behaviors, notably, stigmatization, social exclusion of girls from sexual and reproductive health education services, parental refusal, strong decision-making power of family members over contraceptive use, and the lack of discussions about sexual health in families (Ouahid et al., 2023). These results go hand in hand with the previously mentioned factors of stigmatization and cultural taboos in endometriosis diagnosis delays among low-income and developing countries (Al-Worafi, 2023; Matías-González et al., 2021). Moreover, internalized sociocultural norms can play an important role in structuring the image women have of their bodies and accentuating their levels of body dissatisfaction (Paquette & Raine, 2004).

Actually, the expected role of women in conservative cultures may create hesitance towards help seeking behaviors (Mousa et al., 2021). These findings are

supported by research results of an Arab population that suggest, in order to favorize psychosocial expectation, secrecy is prioritized over their wellbeing, childlessness may create more distress in certain ethnic groups due to its possible secondary outcomes (e.g., negative influence on marital life, divorce or a shift from heterogamous to polygamous marriage), and social taboos are recurrent factors in limiting discussions about sexual education, access to physical and mental health care, and diagnosis delay of certain diseases like endometriosis, which can be 11.61 years among Arab women, 5 years greater than the average reported by *The Global Study of Women's Health* (6.7 years) (Mousa et al., 2021; Nnoaham et al., 2011).

Furthermore, in Islamic societies, access to sexual and reproductive health related information and services can be limited. This restriction can be attributed to many social characteristics, such as religious and cultural beliefs, family and community perception, fear of stigmatization and male-dominance in taking decisions (Alomair et al., 2020). Similarly to these results, in the United States, high stigma and unfavorable perceptions towards abortion and abortion care can be noticed among individuals religiously identifying as Catholic, Evangelical and Protestant religion (Cutler et al., 2021).

These findings can suggest that purity culture sub-themes may not necessarily be affiliated in an exclusive manner to Evangelical communities, but it may be possibly noticeable in different cultures and religions. Based on these findings, this research aims to explore the presence of purity culture beliefs among different religious communities.

# Chapter 3

# Methodology

This chapter goes through the methodology used in this research. It is expected to entangle the research design, particularities of the participants, measurement tools, data analysis and its subsequent sections.

## 3.1 Research Design

This research is based on quantitative research design, investigating the association between endometriosis symptoms, body compassion and purity culture. An online quantitative survey format was selected, enabling the questionnaire to reach participants from different locations, which adds to the diversity and inclusion of different individual experiences with different backgrounds.

## 3.2 Participants

English speaking adults, aged 18 years or older at the time of the data collection, who self-reported having received an endometriosis diagnosis, and who were assigned female at birth were eligible to participate in the study.

After receiving the ethical committee approval on the 27th November 2024, under the approval code of 2024/16/16, by the Özyeğin University Human Research Ethics Board, participants were recruited through diverse endometriosis organizations (The Endometriosis Foundation of America, Endo Black Incorporated), social media pages (Kouni Mra, Yabangee, Endometriosis Reddit),

and Facebook support groups (Endometriose Maroc, Endometriose Tunisie). Survey URL, study flyer and contact information were administered by the organization representatives, the social media pages admins and the researcher. Qualtrics was used for the online survey that was conducted between December 2024 and April 2025.

Participants were informed about the protocol of the study and were provided with a consent form **(Appendices A)**. The questionnaire assessed: demographic information, diagnosis related questions, religion and cultural affiliations, body compassion, endometriosis impact and purity culture exposure **(Appendices B)**.

The survey included a section for participants who wish to be part of the upcoming second phase of the study, to include their email addresses and a seven-character nickname to ensure confidentiality.

Initially a total of $N = 135$ individuals participated in the study with 84 completing the survey fully. Of those not completing the study, 30 did not meet the inclusion criteria and 21 stopped before the end of the survey.

Out of 84 participants, 96.40% identified as female, while 3.60% gender was queer. The age range was between 18 and 45 years old, with 51.24% aged between 25 and 35 years, 26.15% were aged between 36 and 45 years, and 22.61% between 18 and 25 years old. 76.19% of the sample's current country of residence is USA 4.76%, Morocco 3.57%, Canada 2.4%, Türkiye 2.38%, 2.38% India, and 1.19% are as follows: Nigeria, Kuwait, Jordan, UK, Italy, Algeria, France, Greece, Algeria, Colombia.

Additionally, 54.00% confirmed suffering from other pain inducing pathologies, such as migraines 11.08%, IBS 11.08%, back pain 8.88%,

endometriosis associated back pain 8.88%, digestive complications 8.88%, adenomyosis 6.69%, ovaries cysts 4.44%, fibromyalgia 4.44%, scoliosis 4.44%, SIBO 4.44%, Hashimoto 2.23%, pelvic floor dysfunction 2.23%, multiple disc herniations 2.23%, arthritis 2.23%, lupus 2.23%, uterine fibroids 2.23%, and endosalpingiosis 2.23%.

Furthermore, participants current religions were not religious 32.14%, spiritual but not committed to one religion 25%, Muslim 11.90%, Protestant /Christian 10.71%, prefer not to say 5.95%, Roman Catholic 3.57%, Jewish 2.38%, Hindu 2.38%, and 1.19% were as follows: Buddhist, former Catholic, Jehovah Witness, and Universalist.

Whereas the childhood religions were distributed as follow: Protest /Christian 26.19%, Roman Catholic 23.80%, Muslim 13.09%, not religious 10.71%, spiritual but not committed to one religion 5.95%, Jewish 3.57%, Hindu 2.38%, Jehovah Witness 2.38%, Latter Day Saints/ Mormon 1.19%, Orthodox 1.19%, Buddhist 1.19%, Messianic 1.19%, and Seventh Day Adventist 1.19%.

Finally, participants reported their current country of residence and their cultural identifications. Dominant results were as follow: USA 76.19%, Morocco 4.76%, Canada 3.57%, and culturally identified as American were 23.80%, Native Americans 4.76%, Indian 4.76%, whereas different and minor identifications such as: African, Amazigh, Canadian, Colombian, and others were ranged at 1.23%.

Table 1

*Demographic, Health, Religious and Cultural Information of Participants (N=84)*

Table 1 (cont'd)

| Participants | *N/M* | Percentage (%) /*SD* |
|---|---|---|
| Gender | | |
| Female | 81 | 96.4% |
| Gender Queer | 3 | 3.6% |
| Age (years)[a] | 31.2 | 6.45 |
| Range (18-45) | | |
| Age groups | | |
| Aged 18-25 | 19 | 22.61% |
| Aged 26-35 | 43 | 51.24% |
| Aged 36-45 | 22 | 26.15% |
| Presence of other pain inducing pathologies | | |
| No | 39 | 46% |
| Yes | 45 | 54% |
| Other pain inducing pathologies[a] | | |
| *Migraines* | 5 | 11.08% |
| *IBS* | 5 | 11.08% |
| *Back Pain* | 4 | 8.88% |
| *Endometriosis Associated Leg Pain* | 4 | 8.88% |
| *Digestive Complications* | 4 | 8.88% |
| Present Religion | | |
| Not religious | 27 | 32.14% |
| Spiritual but not committed to one religion | 21 | 25% |
| Muslim | 10 | 11.90% |
| Protestant /Christian | 9 | 10.71% |
| Childhood Religion | | |
| Protestant /Christian | 22 | 26.19% |
| Roman Catholic | 20 | 23.80% |
| Muslim | 11 | 13.09% |
| Not religious | 9 | 10.71% |

Table 1 (cont'd)

| Participants | *N/M* | Percentage (%) /*SD* |
|---|---|---|
| Country of Residence [a] | 64 | 76.19% |
| | 4 | 4.76% |
| *USA* | 3 | 3.57% |
| *Morocco* | | |
| *Canada* | | |
| Cultural Identification [a] | | |
| *American* | 20 | 23.80% |
| *Indian* | 4 | 4.76% |
| *Native American* | 4 | 4.76% |

[a]*Answers inserted manually by the participants.*

### 3.3 Measures

3.3.1 The Body Compassion Scale (BCS). The BCS is a measurement tool developed by Altman et al. (2020) to measure body compassion. It consists of a total score of 23-item measure and three subscales: Defusion which is reversibly coded and negatively worded, Common Humanity and Acceptance, demonstrating excellent internal consistency in previous studies (Policardo et al., 2022). Its items are reported on a 5-point likert type scale indicating 1 almost never, 5= almost always, whereas higher scores on the BCS indicate higher levels of body compassion (Altman et al., 2020). For this study, a reliability and validity test was conducted resulting into a Cronbach's Alpha of ($\alpha = .69$) at first, one item of the defusion subscale was deleted, which increased the scale's Cronbach's Alpha ($\alpha = .73$). Internal consistency showed high levels between subscales. For defusion subscale Cronbach's alpha was ($\alpha = .89$), while common humanity alpha levels were ($\alpha = 89$), as for acceptance Cronbach's alpha was ($\alpha = 91$).

For BCS, reverse scoring was applied to the defusion subscale items. In reference to the literature, total BCS scores were calculated by summing responses

across all items, and subscale scores (e.g., defusion, acceptance, common humanity) were computed separately (Altman et al., 2020)**.** The PCBS was scored by computing subscale totals, excluding control items from the analyses. A total score of PCBS was created by summing subscale scores (Camden, 2020; Ortiz et al., 2023)**.**

**3.3.2 The Endometriosis impact questionnaire (EIQ).** The EIQ is a disease-specific questionnaire created by Moradi et al. (2019) to serve a better understanding about the impact of endometriosis on different aspects of life in the long-term. It presents a total of 63-item, including six dimensions subdivided on: 33-item physical-psychosocial (e.g. "I had severe pain"; "I felt less self-confident"; "I felt isolated"); 7-item sexual (e.g. "I had pain during or after sexual activity"); 3-item fertility (e.g. "I found it difficult to become pregnant"); 11-item employment and finances (e.g. "I had difficulty pursuing my preferred career"); 6-item education (e.g. "I took time off school/studies"); and 3-item lifestyle (e.g. "I consumed alcohol to help me cope"). The scale uses three recall periods ( The last 12 months; 1 to 5 years ago; More than 5 years ago) and possible response options ( 0= Not at all; 1= A little; 2= Somewhat; 3= Quite a lot; 4= Very much; and 9= Not applicable). To ensure the reliability and validity of this scale, a test has been conducted resulting in a Cronbach alpha of ($\alpha = .97$). Each dimension showcased high Cronbach alpha. Physical, psychological and social dimension ($\alpha = 91$), sexual dimension ($\alpha = 91$), fertility dimension ($\alpha = 91$), employment dimension ($\alpha = 91$), education dimension ($\alpha = 91$) , except Lifestyle dimension which result was ($\alpha = .43$). These results are expected and go in accordance with the literature (Moradi et al., 2019)

Items from the EIQ that used different response values (e.g., 7-12 instead of 1-6) were recoded to correspond with the original scale, whereas higher scores indicated greater impact. Responses coded as “Not applicable” were recoded as 0, compatible with the EIQ standardized scoring protocols (Moradi et al., 2019).

EIQ items were grouped into six dimensions, each evaluated across three time periods: The past 12 months, 1 to 5 years and more than 5 years ago. For each dimension and time period, standardized scores (ranging from 0 to 100) were computed. Mean scores were calculated for each dimension by averaging across available time periods, under the condition that data for at least two periods were present. A total EIQ score was computed by averaging across available dimension scores.

**3.3.3 The purity culture beliefs scale (PCBS).** The PCBS is a scale developed by Ortiz et al. (2023) to measure purity culture internalization and effects. It consists of 14-item and two subscales. Shame and guilt subscale groups 5-item (e.g “Having premarital sex will make you unattractive to your future spouse”), and gender role subscale with 5-item (e.g “It is normal for a man to struggle with pornography, but not normal for a woman”). Additionally, 4 control items are included (e.g “It is normal for women to struggle with lust”). The measurement relies on a 5-point scale. A higher score validates higher endorsement of purity culture beliefs.

Upon receiving acceptance from one of the scale’s authors, the instructions were modified to meet this study’s aim. In this research, PBCS was used to first identify levels of exposure and second internalization of purity culture beliefs. The instructions changed from: “The following items deal with the messages

about sexuality you may or may not endorse. Please answer all items using a 5-point scale, in which 1 represents that you strongly disagree with the statement, and a 5 represents that you strongly agree with the statement" (Ortiz et al., 2023), to "The following items deal with messages about sexuality you may or may not have been exposed to. Please answer all items using the following options to note the frequency of the exposure: (1= Almost never; 2=Rarely; 3=Sometimes; 4=Often; 5=Almost always). Scoring instructions remained the same, suggesting a higher exposure to purity culture if a high score is present. Reliability and validity of the scale were tested, resulting in a Cronbach alpha of (α = .88) for the overall scale, (α = .80) for the shame and guilt subscale and (α = 91) for gender roles subscale.

## 3.4 Data Analysis

Data analyses were conducted through IBM SPSS Statistics (Version 30). Preliminary steps included data cleaning, which resulted in a deduction of 53 participants, of whom 51 did not complete the survey. As a result, out of 135 participants, the sample size used for this research was ($N$ = 84).

Additionally, scoring of psychometric instruments, testing for normality assumptions, reliability analyses, descriptive analysis and the execution of both correlational and regression analyses to test the study hypotheses were conducted.

**3.4.1 Data preparation and scoring.** Inspection of missing values, out-of-range responses and inconsistent item coding from the dataset was conducted.

**3.4.2 Reliability analysis.** Cronbach's alpha was used to assess internal

consistency of each scale and subscale. The EIQ demonstrated excellent reliability across its three time-specific frames (α = .97), suggesting strong internal consistency. Additionally, across all dimensions excellent reliability was observed (α > .90) with the exception of dimension 6, which had a lower reliability coefficient (α ≈ .48), compatible with previous findings in the literature (Moradi et al., 2019) (Table 2).

The BCS, at first showed a low reliability (α = .69), therefore it was necessary to delete one item ("*When I wish some aspect of my body looked different, it feels like no* one *else understands my struggle*"). Consequently, BCS reliability was recalculated, showing an acceptable to excellent reliability with α = .73 for the total score, and α > .89 for subscales **(Table 2)**.

The PCBS demonstrated high internal consistency for both subscales (α > .90), and a value of α = .88 for the total scale **(Table 2)**.

Table 2

*Cronbach's Alpha Level for the Endometriosis Impact Questionnaire and its Dimensions; Body Compassion Scale and its Dimensions; Purity Culture Beliefs Scale and its Dimensions*

| Variable | Cronbach's Alpha | N of Items |
|---|---|---|
| EIQ Overall[a] | .96 | 63 |
| Physical Psychological and Social Dimensions | .91 | 33 |
| Sexual Dimension | .91 | 7 |
| Fertility Dimension | .91 | 3 |
| Employment Dimension | .92 | 11 |
| Education Dimension | .91 | 6 |
| Lifestyle Dimension | .48 | 3 |

Table 2 (cont'd)

| Variable | Cronbach's Alpha | N of Items |
|---|---|---|
| BCS Overall[b] | .73 | 22 |
| Defusion | .89 | 8 |
| Common Humanity | .89 | 9 |
| Acceptance | .89 | 5 |
| PC Overall[c] | .88 | 10 |
| Shame and Guilt | .90 | 5 |
| Gender Roles | .91 | 5 |

[a]*EIQ: Endometriosis Impact Questionnaire*

[b] *BCS: Body Compassion Scale*

[c]*PC: Purity Culture*

**3.4.3 Normality testing.** Normality of the primary study variables was evaluated using Shapiro-Wilk tests, skewness and kurtosis statistics. Results indicated that the PCS score was slightly right tailed, while some participants scored higher on purity culture beliefs, most had lower to moderate scores. PC overall scores showed a moderate positive skew (Skewness = 0.48, Kurtosis = –1.06) and significantly deviated from normality based on both the Kolmogorov-Smirnov ($D$ =.210, $p < .001$) and Shapiro-Wilk test ($W$ = .854, $p < .001$) (Table 3).

The Body Compassion Scale (BCS Score) was approximately normally distributed, with Shapiro Wilk's $W$ = .975, $p$ = .094 **(Table 3)**. All endometriosis impact scores (EIQ 12 months, EIQ 1 to 5 years, EIQ more than 5 years, and EIQ overall) showed significant non-normality (all $p < .001$), supported by high variance, negative kurtosis, and skewness close to zero **(Table 3)**. These results suggest that the majority of the variables in the study are non-normally distributed

and should be interpreted accordingly when using non-parametric tests.

Table 3

*Normality Testing*

| Variables | Skewness | Kurtosis | Shapiro-Wilk p |
|---|---|---|---|
| PC Overall | 0.48 | –1.06 | < .001 |
| BCS Score | 0.14 | –0.78 | .094 |
| EIQ 12 Months | –0.18 | –1.69 | < .001 |
| EIQ 1 to 5 Years | –0.02 | –1.65 | < .001 |
| EIQ +5 Years | 0.29 | –1.37 | < .001 |
| EIQ Overall | –0.11 | –1.65 | < .001 |

**3.4.4 Correlation and moderation data analyses.** Normality tests indicated that several variables, particularly endometriosis impact scores, were not normally distributed, and therefore non-parametric correlation test Spearman's rho was used to examine the relationships among key variables body compassion, purity culture and endometriosis impact, and exploratory variables and correlations were assessed between childhood religion, current religion, pelvic pain, purity culture and body compassion subscales and the three time periods of endometriosis impact.

Furthermore, to test the hypothesis that purity culture moderates the relationship between body compassion (IV) and endometriosis impact (DV), a hierarchical multiple regression was conducted. Prior to analysis, body compassion (the predictor) and purity culture (the moderator) were mean centered to reduce multicollinearity, and an interaction term (purity culture x body compassion) was created to test moderation. Additionally, three separate and exploratory multiple linear regressions were conducted to examine whether purity

culture moderates the relationship between body compassion and endometriosis impact over the last 12 months, 1 to 5 years ago and more than 5 years ago.

# Chapter 4

## Findings

This chapter is dedicated to exploring the findings of the statistical analyses, including descriptive analysis, correlations, and regression of key variables of this study and exploratory elements.

### 4.1 Descriptive Analysis

Descriptive statistics were calculated for all primary variables, including body compassion, purity culture, and endometriosis impact questionnaire scores across three different time frames (12 months, 1 to 5 years, more than 5 years ago).

Table 4

*Mean Scores of Endometriosis Diagnosed Individuals, Through Levels of Purity Culture, Body Compassion and Endometriosis Impact Questionnaire (N=84):*

| Variable | Observed Range | Theoretical Range | *M* | *SD* |
|---|---|---|---|---|
| PC Overall | 1.00-5.00 | 1.00-5.00 | 2.37 | 1.31 |
| BCS Score | 0.95-2.05 | 1.00-5.00 | 1.50 | 0.24 |
| EIQ 12 Months | 0.00-96.09 | 0.00-100 | 43.42 | 36.10 |
| EIQ 1 to 5 Years | 0.00-95.31 | 0.00-100 | 40.85 | 35.49 |
| EIQ +5 Years | 0.00-100.00 | 0.00-100 | 33.25 | 31.19 |
| EIQ Overall | 0.00-89.02 | 0.00-100 | 39.17 | 33.08 |

As shown in **Table 4**, the average body compassion score was low ($M$ = 1.50, $SD$ = 0.24), suggesting a very low level of body-directed compassion and difficulty in this sample's experience in being compassionate towards their bodies, whereas the standard deviation score was also low, implying that most participants in this sample scored similarly.

Purity culture endorsement was relatively low to moderate, with some participants reporting higher endorsement, and others much lower ($M$ = 2.37, $SD$ = 1.31), which may imply, to some extent, diverse experiences in this sample.

Endometriosis impact was highest for the past 12 months ($M$ = 43.42, $SD$ = 36.10), suggesting a moderate level of impact and a very large differentiation in participants' experiences, varying from minimal impact to severe impact during the past year. In the 1-5 year range a slightly lower reported impact was observed ($M$ = 40.85, $SD$ = 35.49), and the lowest for experiences more than five years ago ($M$ = 33.25, $SD$ = 31.19) indicating a temporal decrease in symptom impact in the more distant past, in comparison to recent years. While mean scores suggest a general trend of increasing symptom burden over time, standard deviations across all timeframes indicate a high degree of variability among participants.

### 4.2 Results of the Correlation Analysis

As shown in **Table 5** and **Table 6**, the three hypotheses have been rejected.

Endometriosis and body compassion correlation analysis suggests no meaningful association, therefore **H1** is rejected. As for the testing for a possible association between purity culture and body compassion, the results were not significant, and **H2** is not accepted. Finally, **H3** suggested that endometriosis symptoms and purity culture may have a positive association, due to their

insignificant values the results denied the hypothesis.

Correlation analyses were conducted to assess the relationships among exploratory variables. The results indicated a few statistically significant associations, especially between the subscales of each scale (e.g. Shame and guilt, and gender roles, subscales of PC scale).

Similarly to what the literature offers, positive correlations were present among the different recall periods of the EIQ. Specifically, EIQ in the last 12 months was significantly and positively correlated with EIQ of 1 to 5 years, EIQ of more than 5 years and the overall score of the scale. Also, EIQ of more than 5 years was also significantly associated with the overall score of EIQ.

As for the psychosocial elements, shame and guilt were positively correlated with gender role beliefs. Finally, no significant correlations were observed between BCS and any of the EIQ recall periods.

Table 5

*Spearman's rho Correlations Between Key Study Variables (N = 84)*

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1. Shame/ Guilt | — | | | | | | |
| 2. EIQ 12M | –.03 | — | | | | | |
| 3. EIQ 1.5Y | .03 | .90** | — | | | | |
| 4. EIQ 5+ Y | .06 | .83** | .92** | — | | | |
| 5. EIQ Overall | .03 | .92** | .98** | .97** | — | | |

Table 5 (cont'd)

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 6. Gender Role | .78** | –.08 | –.01 | .04 | .01 | — | |
| 7. Defusion | –.08 | –.06 | –.01 | –.02 | –.02 | –.01 | — |

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed)*

Table 6

*Continuity of Spearman's rho Correlations Between Key Study Variables (N = 84)*

| Variables | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|
| 8. Acceptance | — | | | | |
| 9. Common Humanity | .49** | — | | | |
| 10. PC | .19 | .03 | — | | |
| 11. BCS | *.00* | *.05* | *-.03* | — | |
| 12. Pelvic Pain | -21 | .16 | .18 | .12 | — |

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed)*

### 4.3 Results of the Regression Analysis

Although correlations were not significant, to test H4, four separate multiple linear regressions were conducted to examine whether purity culture moderates the relationship between body compassion and endometriosis symptom impact.

In the model used to assess relevance of H4, body compassion was not a

significant predictor of overall endometriosis impact, $\beta$ = 15.50, *SE* = 14.94, $\beta$ = .11, *t* (79) = 1.04, *p* = .30. Similarly, purity culture was not a significant predictor, $\beta$ = –18.37, *SE* = 12.28, $\beta$ = –.72, *t* (79) = –1.50, *p* = .13.

The interaction term between body compassion and purity culture also did not significantly predict overall endometriosis impact, $\beta$ = –15.18, *SE* = 10.51, $\beta$ = –.70, *t* (79) = –1.45, *p* = .15.

Alternatively, exploratory regression analysis for EIQ over twelve months was conducted, the interaction approached significance ($\beta$ = –.89, *p* = .07), suggesting a potential trend that higher purity culture may amplify the negative relationship between body compassion and symptom impact. However, this trend was not confirmed in the other models (EIQ 1 to 5 years, EIQ more than 5 years, and overall score of EIQ), where *p*-values ranged from .138 to .35.

Table 7

*Regression Analysis*

| DV | Predictor | *R2* | $\beta$ | *p* |
|---|---|---|---|---|
| EIQ 12M | Body Compassion | .06 | .15 | .19 |
| | Purity Culture | | –.89 | .07 |
| | Interaction | | –.90 | .07 |
| EIQ 1 5Y | Body Compassion | -.005 | .09 | .39 |
| | Purity Culture | | –.67 | .17 |
| | Interaction | | –.64 | .19 |
| EIQ_5plusY | Body Compassion | .02 | .09 | .44 |
| | Purity Culture | | –.51 | .30 |
| | Interaction | | –.46 | .35 |

Table 7 (cont'd)

| DV | Predictor | *R2* | *β* | *p* |
|---|---|---|---|---|
| EIQ Overall | Body Compassion | .04 | .12 | .30 |
| | Purity Culture | | –.72 | .14 |
| | Interaction | | –.70 | .15 |

## 4.4 Comparison Testing

**4.4.1 Comparison of purity culture and its subscales in different religious groups.** In addition, an exploratory analysis was conducted to understand the intersectionality of current religious affiliations, childhood religious affiliations and cultural identity with purity culture and its subscales. Due to the not-normally distribution of the data, Kruskal-Walli's test was used to compare the variables.

Table 8

*Comparison of Purity Culture Levels Among Different Religious Groups: Current and Previous Affiliations*

| Null Hypothesis | Sig. |
|---|---|
| The distribution of purity culture is the same across categories of current religion | 0.72 |
| The distribution of purity culture is the same across categories of childhood religion | .37 |

As the results were not significant, post-hoc testing was unnecessary.

Alternatively, a comparison was conducted to assess the difference between purity culture subscales—gender roles, and shame and guilt. Furthermore, a comparison between shame and guilt levels among different religious groups was conducted, resulting in a statistically significant difference in shame and guilt subscale score among the different religion groups, such as that the p-value $p = .03$ and $p = .009$ are both below the standard alpha of .05.

Table 9

*Comparison of Shame and Guilt Levels Among Different Religious Groups: Current and Previous Affiliations*

| Null Hypothesis | Sig. |
|---|---|
| The distribution of shame and guilt is the same across current religious categories. | .02 |
| The distribution of shame and guilt is the same across childhood religion categories. | .009 |

Moving forward, a Bonferroni test has been conducted and a pairwise comparison was established between the distribution of shame and guilt in the present religion, and childhood religion among all religious groups. Results indicated an individual significant pair, revealed as Muslim and not religious in the context of current religion, and a possibly significant pair in the context of childhood religion—Muslim and not religious. Based on these findings, paired with the frequencies of distribution of different religious groups **(Table 1)**, several pairings were used to explore if any significant difference is present, with the use of the Post Hoc test Mann-Whitney.

When comparing participants identifying as Muslims with other religious

identities, whereas participants with a current Muslim identification, scored significantly higher than those identifying as not religious ($U$ = 32.00, $Z$ = -3.52, $p$ < .001). Moreover, Muslim participants also scored significantly higher than those identifying as Protestant /Christian in their current religious affiliation.

Table 10

*Current Religion*

| Comparison | *U* | *Z* | Sig |
|---|---|---|---|
| Muslim vs. Not Religious | 32.00 | -3.52 | < .001 |
| Muslim vs. Protestant /Christian | 15.00 | -2.46 | .013 |
| Muslim vs Spiritual but not committed to one religion | 32.5 | -3.08 | .001 |
| Protestant /Christian vs Roman Catholic | 12.00 | -.280 | .864 |
| Roman Catholic vs Muslim | 7.00 | -1.362 | .217 |

Similarly to the findings of current religion affiliations and different religions among this group, a similar pattern was revealed in relation to childhood religious background, where Muslim participants scored higher than those who are not religious ($U$ = 13.50, $Z$ = -2.90, $p$ = .002).

Table 11

*Childhood Religion*

| Comparison | *U* | *Z* | Sig |
|---|---|---|---|
| Muslim vs. Not Religious | 13.50 | -2.90 | .002 |
| Muslim vs. Protestant /Christian | 47.00 | -2.97 | .002 |
| Muslim vs Spiritual but not committed to one religion | 11.50 | -1.97 | .048 |
| Protestant /Christian vs Roman Catholic | 154.00 | -1.240 | .226 |
| Roman Catholic vs Muslim | 41.00 | -2.98 | .002 |

**4.4.2 Comparison of purity culture and its subscales in different cultural identifications.** Similarly to the previously established comparison between purity culture and its subscales—gender roles and shame and guilt, were analyzed in the context of cultural identifications. This analysis was conducted to test the significance of H5. Kruskal-Walli's test was used for this analysis, suggesting non-significance. From these findings, we can understand that no difference in shame and guilt, nor gender roles in this population, is observed when looking at different cultural identifications.

Table 12

*Comparison of Purity Culture, Shame and Guilt, and Gender Roles in Different Cultural Identifications*

| Null Hypothesis | Sig. |
|---|---|
| The distribution of purity culture is the same across cultural identity categories. | .30 |
| The distribution of shame and guilt is the same across cultural identity categories. | .40 |
| The distribution of gender roles is the same across cultural identity categories. | .66 |

# Chapter 5

# Discussions

This section discusses the findings reported in this study, in regard to the previously mentioned research questions. Additionally, a conclusion is drawn, and limitations and recommendations are discussed.

## 5.1 Discussion of Findings of Research Hypotheses

**5.1.1 Discussion of findings of relationship between body compassion and endometriosis impact.** When it comes to body compassion and endometriosis symptom impact, there was no correlation across any of the endometriosis symptom timepoints, and therefore H1 was rejected. One possible contributing factors to these results may be both the values and distribution of the body compassion scores, which were extremely low with very little variance ($M$ = 1.50, $SD$ = 0.24). These findings suggest that participants have a shared experience centered around extremely low self-compassion, high levels of alienation and psychological separation from the body and ultimately, a negative body image. These results go hand and hand with the long-lived experiences of invalidation by the medical system, social stigmatization, chronic and consistent pain, induced by endometriosis and other painful pathologies, such as fibromyalgia, IBS and chronic pelvic and back pain, which is widely present among this sample, and which often intensifies levels of shame and frustration (Sebring et al., 2023).

**5.1.2 Discussion of findings of relationship between body compassion and purity culture.** Along the same lines as with endometriosis symptoms, in

this study, there was also no correlation between purity culture and body compassion. This indicates that, within this sample, higher endorsement of purity culture beliefs was not meaningfully associated with individual's levels of body compassion. Thus, H2 is rejected. Moreover, an exploration of possible correlations between the subscales of PC and BCS resulted in a noticeable positive correlation in between PC subscale shame and guilt and BCS subscale acceptance.

These findings separate from theoretical frameworks that suggest purity culture may contribute to body shame and decreased self-compassion due to its emphasis on bodily control, sexual purity, and moral valuation of the body (Valenti, 2009; DeBlaere et al., 2021). A possible explanation for this inconsistency is again the very low body compassion levels of this sample. Furthermore, the internalization of purity culture messages may manifest differently, especially across cultural and individual contexts and particularly among individuals managing chronic health conditions like endometriosis (Natarajan et al., 2022).

Alternatively, the lack of association may reflect the presence of mediating or moderating variables, such as psychological resilience, that may buffer the relationship between cultural beliefs and body-related attitudes (Acar, 2022; Merino et al., 2024).

**5.1.3 Discussion of findings of relationship between purity culture and endometriosis impact.** A Spearman's rho correlation was conducted to examine the relationship between overall endorsement of purity culture beliefs and overall endometriosis impact. Results indicated no correlation, and H3 was rejected. As a result, higher purity culture endorsement was not meaningfully associated, in this sample, with differences in perceived endometriosis impact

**5.1.4 Discussion of findings of purity culture as a moderator of the relationship between body compassion and endometriosis impact.** Interestingly, although neither purity culture nor body compassion demonstrated strong individual association with endometriosis impact in this sample, their interaction approached statistical significance (H4). This can suggest that the relationship between endometriosis symptoms and body compassion may be dependent on a person's subjective beliefs around the physical self and purity. In other terms, although body compassion is low across all groups, it does differ by purity, and its effects may be more beneficial and helpful for some people than for others, depending on their cultural beliefs. For instance, participants who held strong purity beliefs might find difficulties in connecting with compassionate or accepting feelings toward their bodies, especially when their physical selves are physically and mentally associated with pain, menstruation and/or sexual concerns.

In this context, even high body compassion might not reduce symptom distress, because it may not match with deeply inserted beliefs. This can be noticed in cultures that value fertility and correlate the image of womanhood with motherhood, which may not be satisfied if endometriosis is present, and consequently can cause high exposure to stigmatization, shame and marital ruptures (Hameed, 2018; Mousa et al., 2021; Park et al., 2025; Tragantzopoulou, 2024).

On the other hand, individuals with lower purity culture exposure may be more open to engaging with body compassion in a way that reduces shame and guilt, which could help them cope more effectively with their symptoms. This

kind of pattern, where the effect of one factor depends on another, is exactly what an interaction effect illustrates.

Now, even though the interaction did not reach any significance, the trend may be considered meaningful, as it drafts the possibility that body compassion alone is not a one-size-fits-all protective factor, but that its impact may be altered by cultural or belief-based contexts, such as those related to purity.

Moreover, a possible significance, if the sample is increased, may be observed in the recall period of over the last 12 months. This possibility may be supported by the fact that cognitive and psychological factors may create recall bias and recency effect, which may impact the accuracy of responses (Mathiowetz & Groves, 1985; Stone et al., 2003)

**5.1.5 Discussion of findings of relationship between purity culture, cultural identity and religion affiliation.** The findings revealed distinguished differences in shame and guilt-related purity beliefs across different religious affiliations. Specifically, individuals who identified as Muslim, either currently or in childhood, reported significantly higher levels of shame and guilt, in comparison to the non-religious individuals.

These results suggest a strong ongoing influence of Islamic teachings. More importantly, it suggests new findings, contradictory to previous research, which focus on purity culture, as a concept, solely in the Christian context, especially among Evangelical communities in the US (Camden, 2020; Natarajan et al., 2022; Ortiz et al., 2023). Additionally, these findings support the theory that religious systems with stronger emphasis on purity codes, modesty and moral relegation, may be associated with heightened internalization of shame and guilt—purity

focused beliefs.

### 5.2 Limitations and Recommendations

Several limitations should be acknowledged when interpreting the findings of the present study. First, the relatively small sample size of 84 may have restricted the statistical power necessary to detect small but meaningful effects.

Second, the cross-sectional nature of the research limits the ability to draw causal inferences (Taris et al., 2021). While body compassion and purity culture were examined in relation to perceived symptom burden, it remains unclear whether these psychosocial constructs influence endometriosis impact, or whether the reverse may also be true. Longitudinal data would be required to disentangle these directional dynamics.

Third, the use of retrospective reporting in the Endometriosis Impact Questionnaire introduces the possibility of recall bias, particularly for the 1 to 5 years and over five-year time frames. Consistent with this, the strongest correlations in the study were observed for the most recent time period (past 12 months), suggesting that temporal proximity may influence the reliability of symptom reporting.

Fourth, although in the moderation analysis the interaction between body compassion and purity culture approached statistical significance, it did not meet the conventional alpha threshold. Therefore, interpretations of moderation effects should be considered exploratory and interpreted with caution.

Finally, while the PCS provided important insight into sociocultural belief systems, such constructs are inherently context-dependent. The generalization of the findings may therefore be constrained by cultural or religious homogeneity

within the sample, which could influence the interpretation and expression of purity-related beliefs. Additionally, the small size for some religious groups and most cultural groups was small, which may have limited the power to detect significant differences across all pairwise comparisons and restrained the possible comparisons between religious and cultural groups.

Future studies are encouraged to build on these findings through several methodological and conceptual refinements. Increasing the sample size would be a critical first step to improve statistical power and enhance the precision of possible interactions, particularly when testing moderation models, exploring small-to-moderate effect sizes or comparing different elements. Additionally, exploration of other variables such as current relationship status, frequency of gynecologist visits may bring more insights into possible interplay between social and medical support, and impact of the investigated variables in this study.

In addition, longitudinal or experimental designs would provide stronger evidence for causal relationships. For instance, studies that track changes in body compassion and symptom perception over time, or that implement interventions designed to enhance self-compassion, could clarify the directional influence of these constructs.

Further investigation into the moderating role of purity culture is also recommended. The current results suggest that purity culture may attenuate the potentially protective effects of body compassion on endometriosis-related impact, but additional research with larger and more diverse samples is needed to prove this relationship.

Qualitative methods may also offer valuable contributions, particularly in exploring how individuals conceptualize and negotiate bodily experience within

the framework of cultural or religious norms. Such approaches could enrich understanding of how purity culture beliefs shape illness narratives and coping mechanisms in the context of chronic conditions.

Moreover, future research may benefit from adapting or validating psychosocial measures for use in specific cultural contexts. Doing so would enhance the cultural sensitivity and conceptual accuracy of instruments such as the Purity Culture Beliefs Scale, thereby strengthening both internal and external validity.

Lastly, integrating culturally sensitive frameworks into clinical practice could support more tailored physical and psychological interventions that address both the psychological and social dimensions of health, and the diagnosis limitations (Vandecasteele, Robijn, Stevens, et al., 2024; Vandecasteele, Robijn, Willems, et al., 2024). In this regard, mental health practitioners can play a major role in psychological support to individuals and their families, by integrating psychological interventions with focus on the body, such as mindfulness based stress reduction therapy and on the emotions such as emotional focused therapy may be helpful in targeting feelings of shame and guilt, as well as the low levels of body compassion (Sevel, L.S et al., 2020).

### 5.3 Conclusions

Body compassion scores demonstrated very low values, which strengthens the theory that low body compassion is a shared experience among individuals with endometriosis. Although this finding has great importance for clinical work, the low scores and lack of variance limited the possibility of significant correlations with other variables.

To explore the interplay between psychosocial factors, a moderation analysis was conducted to examine whether purity culture beliefs influenced the relationship between body compassion and endometriosis impact overall, and specifically over three different time frames. While the interaction term did not reach statistical significance, it approached conventional thresholds, suggesting a possible moderating effect. The negative beta coefficient implies that the buffering influence of body compassion on symptom impact may be more pronounced among individuals with lower purity culture endorsement, therefore for people with low purity culture beliefs, higher body compassion is more strongly linked to lower endometriosis impact, and for individuals with high purity culture beliefs, the protective effect of body compassion is weaker, or possibly even nullified.

Nevertheless, from the preliminary stance of these results, these findings hint at the potential of purity culture to condition the role of body compassion in the context of endometriosis and body compassion. It may also be recommended for mental health practitioners to focus on shame and guilt in the context of purity culture, instead of an overall purity culture exposure. Furthermore, the findings of this study in regard to the influence of religious identity, both past and present, and internalized shame and guilt related to purity beliefs, highlight the important effects belief systems have on the psychological state of individuals.

Finally, in the context of body compassion and chronic physical ailments such as endometriosis, these findings carry particular weight. Shame and guilt associated with purity culture may interfere with body compassion and potentially aggravate distress for individuals managing ongoing pain and health challenges. These conclusions highlight the importance of implementing body-focused and

emotionally centered counseling not only for those with endometriosis but also other chronic ailments, as well as culturally focused psychological interventions and research, and socially and spiritually informed psychological and physical care that acknowledges the social, moral and emotional ingredients that shape how individuals relate to themselves and bodies, and that focuses not only the individuals but their entourage as well.

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