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BETWEEN THE MIRROR AND THE SCREEN: PREDICTORS OF BODY IMAGE IN MIDDLE-AGED MEN

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Between The Mirror And The Screen: Predictors Of Body Image In Middle-Aged Men

Dissertation submitted to the Faculty of Health Sciences of Universidade Europeia in partial fulfillment of the requirements for the degree of Master of Science in Clinical and Health Psychology. This work was carried out under the academic supervision of Professor Mafalda Leitão, Assistant Professor at Universidade Europeia and the co-supervision of Professor Teresa Santos, Dean of the Faculty of Health Sciences, Associate Professor, and Vertical Coordinator of Psychology at Universidade Europeia.

Dedication

To my parents, the silent force behind every step I take.

And to my little brother, for reminding me every day of the joy and lightness of life.

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Palavras-chave Homens de Meia-Idade; Imagem Corporal; Envelhecimento; Mídias Sociais; Modelagem por Equações Estruturais.

Resumo

O construto imagem corporal (IC) em homens de meia-idade reflete a interseção entre diversos fatores, como envelhecimento biológico e ideais socioculturais de juventude e desempenho físico, tornando este grupo vulnerável, porém pouco explorado na literatura científica. Este estudo investigou preditores da IC nesta população, incluindo fatores sociodemográficos, de estilo de vida, psicológicos, perceções do envelhecimento e uso de redes sociais. Uma amostra de conveniência de 181 homens brasileiros (87,8%), portugueses (9,9%) e com dupla nacionalidade (2,3%) completou medidas validadas de IC (satisfação e importância atribuída à aparência), perceções do envelhecimento e uso de redes sociais. Foram realizadas análises descritivas, análises fatoriais confirmatórias e modelação por equações estruturais. O modelo preditivo apresentou bom ajustamento (RMSEA=.059;CFI=.892; TLI=.880;SRMR=.107). A satisfação com a aparência foi negativamente predita pela perceção cíclica do envelhecimento (β=−.300;p=.002), pelo IMC (β=−.179;p=.004) e uso do WhatsApp (β=−.130;p=.023), e positivamente pela satisfação com a gordura abdominal (β=.366;p=.014), controlo negativo (β=.257;p=.010) e consequências positivas do envelhecimento (β=.159;p=.022). A importância atribuída à aparência associou-se positivamente às representações emocionais do envelhecimento (β=.514;p=.000), ao controlo negativo (β=.292;p=.018), à preocupação com a gordura (β=.185;p=.014), ao uso do YouTube (β=.245;p=.000) e ao uso geral da internet (β=.198; p=.006), e negativamente ao uso do Instagram (β=−.213;p=.004) e do TikTok (β=−.172;p=.015). Estes resultados questionam a adequação de intervenções simplistas para lidar com as especificidades biopsicossociais da IC neste grupo, destacando percursos passíveis de intervenção clínica. Ademais, evidenciam a natureza multidimensional da imagem corporal e apoiam empiricamente a aplicabilidade do modelo integrativo proposto por Matsumoto e Rodgers (2020) nesta população.

Keywords Middle-Aged Men; Body Image; Aging; Social Media; Structural EquationModeling

Abstract

The construct of body image (BI) in middle-aged men reflects the intersection of multiple factors, such as biological aging and sociocultural ideals of youth and physical performance, making this group vulnerable yet understudied in the scientific literature. This study examined predictors of BI in this population, including sociodemographic, lifestyle, psychological, aging perceptions, and social media factors. A convenience sample of 181 men — Brazilian (87.8%), Portuguese (9.9%), and dual nationals (2.3%) — completed validated measures of BI (appearance satisfaction and importance), aging perceptions, and social media use. Descriptive statistics, confirmatory factor analysis, and structural equation modeling were conducted. The predictive model showed good fit (RMSEA=.059; CFI=.892; TLI=.880; SRMR=.107). Appearance satisfaction was negatively predicted by cyclical perception of aging (β=−.300; p=.002), BMI (β=−.179; p=.004), and WhatsApp use (β=−.130; p=.023), and positively by abdominal fat satisfaction (β=.366; p=.014), negative control (β=.257; p=.010), and positive consequences (β=.159; p=.022). Importance attributed to appearance was positively associated with emotional representations of aging (β=.514; p=.000), negative control (β=.292; p=.018), fat concern (β=.185; p=.014), YouTube use (β=.245; p=.000), and general internet use (β=.198; p=.006), and negatively with Instagram (β=−.213; p=.004) and TikTok use (β=−.172; p=.015). These findings question the adequacy of simplistic interventions to address the biopsychosocial specificities of BI in this group, highlighting pathways that may be targeted in clinical practice. Furthermore, they underscore the multidimensional nature of body image and empirically support the applicability of the integrative framework proposed by Matsumoto and Rodgers (2020) in this population.

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Introduction

Body image (BI) is a multifaceted psychological construct that encompasses an individual's perceptions, attitudes, and feelings about their own body. It includes not only how individuals perceive their own physical appearance but also how they believe they are perceived by others. BI is strongly influenced by social and cultural standards regarding ideal appearance. External factors such as social norms, media content, and interpersonal interactions play a central role in the development and maintenance of BI (Jiotsa et al., 2021).

Historically, BI research has predominantly focused on women and young adults, as these groups are most commonly associated with body dissatisfaction, which can give rise to psychological distress and maladaptive coping strategies, including disordered eating behaviors. However, recent evidence indicates that middle-aged men also experience significant vulnerabilities related to BI. These vulnerabilities stem from age-related physical changes and societal pressures to conform to cultural ideals that valorize youth and physical appearance. Consequently, middle-aged men represent a relevant at-risk group for body dissatisfaction and eating disorders, yet they remain underrepresented in the scientific literature (Matsumoto & Rodgers, 2020; Martins & Nascimento, 2020).

Biopsychosocial changes associated with aging have a particularly impact on BI within this population. Loss of muscle mass, increased body fat, and hormonal changes may hinder self-acceptance, especially in societies that emphasize youthfulness and physical strength. This challenge is exacerbated by the pervasive influence of media and social networks that promote idealized body standards, reinforcing social comparison processes (Santos et al., 2024).

In addition, psychological factors significantly influence how middle-aged men experience and evaluate their bodies. Emotional symptoms such as anxiety, depression, and chronic stress have been consistently linked to more negative body image perceptions. These symptoms reflect internal psychological distress and also may act as amplifiers of the

challenges posed by age-related physical changes and cultural expectations. In combination, these factors can intensify self-scrutiny and promote maladaptive behaviors around food, exercise, and appearance control, potentially leading to the onset of eating-related pathologies (Höglund et. al, 2020; Mangweth-Matzek et al., 2016).

To address this gap in the literature, the present study aims to advance scientific understanding of the factors influencing BI among middle-aged men, focusing on variables such as social media use, lifestyle and health factors, psychological symptoms, and age-related perceptions. Existing explanatory models, primarily developed for women, adolescents, and young adults, often fail to adequately capture the specific characteristics of this demographic, because they do not consider the interaction between age-related physical changes, shifting masculine identity norms, and the cumulative impact of sociocultural and psychological stressors unique to midlife (Matsumoto & Rodgers, 2020). Gaining insight into the factors that affect BI in this population is essential for advancing empirical research and for informing clinical interventions that promote psychological and physical well-being tailored to this group.

This thesis is structured into five main sections. Following this Introduction,yThe Literature Review begins by outlining core concepts of body image, followed by associations with lifestyle and health factors. It then explores the aging process, with a particular focus on middle age and the physical changes experienced by men during this stage. The impact of social media is subsequently discussed, along with its specific influence on male body image. Finally, the section presents the theoretical models that underpin the study. The Study Objectives and Research Hypotheses section outlines the research questions and hypotheses. The Methodology section describes the study design, participants, instruments, procedures, and data analysis. The Results are then presented, followed by a Discussion that interprets the findings in the context of existing literature, highlighting practical implications, study

limitations, and directions for future research. The thesis concludes with a synthesis of the study's main contributions.

Literature Review

The Construct of Body Image: From Concept to Measurement

Body image (BI) is a complex and multifaceted psychological construct comprising four interrelated dimensions: perceptual, affective, cognitive, and behavioral. The perceptual dimension refers to how individuals visually perceive their own body, which may significantly differ from their actual physical appearance. The affective dimension encompasses emotional responses toward one's body, typically reflected in varying degrees of satisfaction or dissatisfaction with specific physical traits. The cognitive dimension involves beliefs, thoughts, and internal dialogues related to body shape, size, and weight, frequently giving rise to obsessive or preoccupying thoughts. Lastly, the behavioral dimension pertains to actions influenced by BI, such as social withdrawal or the adoption of harmful practices aimed at altering one´s appearance (National Eating Disorders Collaboration [NEDC], 2022).

Instead of being developed on isolation, these dimensions are shaped by a complex interplay of contextual and interpersonal factors. In particular, the internal representation of physical appearance is influenced by the dynamic interaction between societal standards and individual psychological processes (Jiotsa et al., 2021). According to the authors, these societal standards are perpetuated and reinforced by external sources such as media, family, and peers, becoming internalized through mechanisms like social comparison and idealization. The incorporation of culturally prescribed appearance ideals and the continual self-evaluation against these standards are key processes in the formation and maintenance of BI (Jiotsa et. al, 2021).

Perceptions of body image vary from highly positive to extremely negative. Positive body image, or body acceptance, extends beyond mere satisfaction with appearance and entails a deeper capacity to appreciate, accept, and respect one's body despite its perceived imperfections. Rather than requiring complete contentment with all physical traits, it reflects a form of self-regard that tolerates dissatisfaction while maintaining a basic sense of acceptance. This phenomenon has been identified as a significant protective factor against the development of disordered eating behaviors and body image disturbances (Levine & Smolak, 2016; NEDC, 2022). Individuals with positive body image tend to exhibit higher self-esteem, greater resilience to sociocultural pressures and unrealistic media portrayals, and are more likely to adopt balanced and health-promoting behaviors (NEDC, 2022).

Conversely, negative body image, marked by dissatisfaction with perceived physical attributes, often arises when individuals compare themselves to idealized standards they feel are unattainable. This discrepancy between perceived and ideal appearance is a key predictor of body image disturbances (Bucchianeri & Neumark-Sztainer, 2014; Jiotsa et al., 2021)

Recent data from the Mental Health Foundation (2019) indicate that body image concerns are a significant public health issue among UK adults, with 36% reporting feelings of anxiety or depression and 20% experiencing shame due to dissatisfaction with their appearance. Moreover, approximately 19% of adults reported having had suicidal thoughts and feelings related to body image concerns. While these findings underscore the pervasive impact of body image on adult mental health, they also highlight the lack of recent, large-scale and statistically robust studies focusing on specific subgroups such as middle-aged men.

Moreover, experiencing negative body image can have broad implications for mental health and overall well-being. Studies have demonstrated that individuals who are unhappy with their bodies are at an increased risk of developing psychological issues such as low self-esteem and depressive symptoms. Additionally, dissatisfaction with body image is linked to

diminished quality of life, as emotional distress and negative self-perception can affect various aspects of daily functioning (Paxton et al., 2006; Wynne et al., 2016).

While the multidimensional model of body image comprises perceptual, affective, cognitive, and behavioral dimensions, other frameworks in the literature have emphasized more specific evaluative components that help capture individual differences in how people judge and relate to their physical appearance. Among these, two constructs have received consistent attention: satisfaction with appearance and the importance attributed to it. As described by Cash (1994, 2002a, 2002b, 2004), satisfaction reflects the degree to which individuals feel content or dissatisfied with specific aspects of their physical features, whereas importance refers to the personal value and emotional investment placed on appearance as part of one's self-concept.

These two constructs are theoretically distinct, yet they interact in meaningful ways to shape attitudes, self-evaluations, and behaviors. Their role becomes particularly relevant during midlife, when bodily changes and sociocultural expectations may intensify self-scrutiny and influence an individual's relationship with their appearance. Recent empirical studies have further supported the importance of considering these evaluative dimensions in middle-aged populations, especially in capturing the subjective experience of BI during this life stage (Pimenta et al., 2022).

Furthermore, gender differences in appearance ideals add complexity to these dynamics and may shape how individuals engage in health-related behaviors. For men, the ideal emphasizes muscularity and leanness, combining low body fat with increased muscle mass, whereas women are typically pressured toward thinness (Tylka, 2011; Fasoli & Constantinou, 2024). These ideals influence lifestyle choices, such as physical activity and dietary patterns, which in turn affect body image: a focus of the following section.

Associations Between Lifestyle, Health Factors, and Body Image

Physical activity has been consistently associated with body image outcomes. Recent academic research emphasizes that body image can function both as a motivator and a barrier to engagement in exercise behaviors (Sabiston et al., 2019). Engaging in physical activity with health-related goals has been linked to substantial physical and mental health benefits, including improvements in cardiovascular health, psychological well-being, and overall quality of life (Marschin & Herbert, 2021). In this regard, participation in regular physical activity has also been associated with reductions in negative body image experiences and enhancements in positive body evaluations (Sabiston et al., 2019). Several mechanisms have been proposed to explain these associations, such as improvements in body composition, enhanced physical fitness, and psychological benefits like elevated self-esteem, all of which contribute to more favorable perceptions of the body (Campbell & Hausenblas, 2009; Sabiston et al., 2019).

However, despite these positive associations, the relationship between physical activity and body image is complex, particularly among male populations. One dimension of this complexity is the risk of developing exercise addiction (EA), a maladaptive behavioral pattern characterized by excessive exercise engagement, loss of control, and the emergence of physical, psychological, and social impairments (Juwono & Szabo, 2021; Szabo & Demetrovics, 2022). The literature suggests that a strong drive for muscularity is significantly associated with a heightened risk of exercise addiction among men (Brewster et al., 2017; Chittester & Hausenblas, 2009; Liu et al., 2018), while research examining similar mechanisms in women remains limited, indicating a significant gender gap in how body image concerns intersect with exercise behaviors (Guo et al., 2025). Moreover, empirical findings have identified body image dissatisfaction as a key psychological risk factor contributing to the development of exercise addiction (Alcaraz-Ibáñez et al., 2021; Zou et al., 2022). Recent neuropsychological findings further suggest that middle-aged men are particularly susceptible

to developing addictive exercise behaviors, as evidenced by observable brain changes and disruptions in self-efficacy (Zhang et al., 2024).

Furthermore, emotional experiences associated with body functionality, particularly feelings of shame and pride, have also been shown to influence the onset and maintenance of compulsive exercise behaviors, highlighting the role of affective dimensions in this maladaptive cycle (Alcaraz-Ibáñez et al., 2019). Collectively, these findings illustrate the intricate and, at times, paradoxical role that physical activity occupies in shaping body image, especially when dissatisfaction and societal ideals of muscularity are left unaddressed.

Beyond physical activity, body mass index (BMI) also emerges as a significant lifestyle-related factor influencing body image perceptions. BMI is a basic anthropometric measure that evaluates the relationship between an individual's weight and height, calculated as weight in kilograms divided by height in meters squared (kg/m^2), and is widely used in clinical practice and epidemiological studies to screen for excess body fat (Sweatt et al., 2024). According to the World Health Organization (WHO, 2021), overweight is defined as a BMI ranging from 25 to 29.9 kg/m^2, and obesity as a BMI of 30 kg/m^2 or higher, further categorized into three classes based on severity.

Higher BMI levels have consistently been associated with greater body dissatisfaction. Weinberger et al. (2016) and Gruszka et al. (2022) found that individuals with elevated BMI reported substantially more dissatisfaction with their bodies, with women consistently expressing higher levels than men across all weight categories. Similarly, Divecha et al. (2022) reported that obese students were four times more likely to experience body image distortion compared to their underweight peers, further highlighting the psychological burden linked to excess weight.

Among middle-aged men, Akerman and Borsa (2022) demonstrated that higher BMI significantly predicted body dissatisfaction, particularly when combined with the

internalization of sociocultural appearance ideals. These findings highlight the dual role of BMI as both a clinical measure and a psychosocial factor that shapes men's experiences of their bodies in midlife, reinforcing its relevance as an indicator when investigating body image concerns, particularly among individuals vulnerable to weight-related stigma.

In addition to overall BMI, central adiposity has also been identified as a key predictor of BI dissatisfaction among men in midlife. Anthropometric indicators such as waist circumference, waist-to-hip ratio, and visceral fat have been significantly linked to negative perceptions of body image (Ghannadiasl, 2021). These measures reflect central fat distribution and are associated with heightened preoccupations about weight and appearance, even in individuals with normal BMI. This relationship is especially pronounced in sociocultural contexts that idealize a lean and muscular abdomen. In a Brazilian study, for example, 79.8% of adults presented abdominal obesity and 78.7% reported dissatisfaction with perceived excess weight, highlighting the psychological burden of abdominal fat accumulation (Almeida et al., 2020). In that way, waist-related metrics encompass indicators of physical health risk alongside psychological dimensions pertinent to the evaluation of male BI.

BI concerns have also been linked to various health risk behaviors. Dissatisfaction with BI may contribute to or correlate with patterns such as unhealthy weight control practices, disordered eating behaviors, smoking, excessive alcohol consumption, and even sunbed use, with complex interrelationships often observed among these patterns (Fiske et al., 2014; Kling et al., 2019; Heckman & Manning, 2019). However, the distribution of these behaviors across different stages of adulthood remains underexplored. Most research has predominantly focused on adolescents and young adults, while relatively little is known about how body image perceptions relate to health risk behaviors among middle-aged adults (Strand et al., 2021).

Beyond lifestyle and behavioral factors, psychological dimensions — such as stress, anxiety, and depressive symptoms — are closely intertwined with body image perceptions.

Research on body image often examines depression and anxiety together, acknowledging their frequent co-occurrence and combined impact on dissatisfaction with one's physical appearance (Hong & Ahmad, 2024).

In this context, body image struggles appear to contribute to depressive symptoms, particularly when individuals perceive themselves as falling short of culturally idealized appearance standards (Sharpe et al., 2018). Body image dissatisfaction is also associated with disordered eating behaviors and broader psychological distress (Griffiths et al., 2016). Moreover, higher perceived stress has been linked to greater dissatisfaction, highlighting the complex interplay between emotional states and body perceptions (Griffiths et al., 2021). The co-occurrence of depression, anxiety, stress, and body image dissatisfaction suggests a cumulative burden on psychological well-being.

These dynamics are particularly salient among men. A systematic review and meta-analysis by Barnes et al. (2020) identified a positive association between body image dissatisfaction and symptoms of depression and anxiety in male populations. Age-related changes further complicate these dynamics, progressively reshaping how individuals relate to their bodies over time. Before addressing more specificities of body image in middle-aged men, it is essential to first examine the aging process more broadly to contextualize these experiences.

The Aging Process

While aging is a continuous and individual process, it also represents a global demographic shift with significant social implications. Projections indicate that by the end of the Decade of Healthy Aging (2021–2030), the global population aged 60 years or older will increase by 34%, rising from 1 billion in 2019 to 1.4 billion. By 2050, this number is expected to more than double. Notably, in 2020, for the first time in history, the number of people aged

60 or older exceeded that of children under five years old. Furthermore, by 2050, this group is expected to outnumber adolescents and young adults aged 15 to 24 (WHO, 2021). These trends highlight the urgent need to understand aging as a central matter for public health, social policy, and psychological research.

Aging involves a broad spectrum of transformations affecting the body, cognition, and social relationships, requiring continuous adaptation to evolving circumstances, and, over time, chronic health conditions may emerge, demanding adjustments to new physical limitations and emotional challenges associated with significant life transitions, such as retirement (Veras & Oliveira, 2018). According to Maturana (2001), these changes reflect an ongoing process of structural reorganization through which individuals strive to maintain coherence and respond effectively to environmental challenges. This capacity for dynamic adaptation is essential for preserving functional integrity despite shifting conditions.

This understanding aligns with the broader framework proposed by Veras and Oliveira (2018), who advocate for a comprehensive model of care that reflects the multifaceted nature of aging. They argue that effective care must integrate physical, psychological, and social dimensions, acknowledging how the aging process profoundly impacts individuals' health, autonomy, and overall quality of life. To promote well-being, care strategies must address biomedical, subjective and relational aspects of growing older.

Building on this integrative perspective, Barker et al. (2007) proposed a multidimensional model to explain how individuals cognitively and emotionally interpret the experience of aging. Grounded in Leventhal's Common-Sense Model of Self-Regulation (1984), this framework posits that people construct subjective representations of aging across eight interconnected dimensions: (1) *chronic timeline*, or the perception that aging is a constant and irreversible process; (2) *cyclical timeline*, which reflects the belief that awareness of aging fluctuates over time; (3) *positive consequences*, referring to perceived benefits of aging such

as personal growth or wisdom; (4) *negative consequences*, which capture beliefs about aging as a source of loss or functional decline; (5) *positive control*, indicating a sense of agency and ability to influence aging outcomes; (6) *negative control*, reflecting the belief that one has little or no control over the effects of aging; (7) *emotional representations*, encompassing affective responses such as fear, sadness, or acceptance; and (8) *identity*, which assesses the extent to which individuals associate age-related symptoms and limitations with their self-concept.

Together, these dimensions highlight how the experience of aging varies across individuals depending on contextual factors such as gender, sociocultural background, and personal identity. Building on this notion, Barbee (2022) emphasizes that although aging is often socially framed as a process of decline and limitation, many individuals actively reconstruct this stage of life by reshaping their identity and social roles. This phenomenon, referred to by the author as *harnessing progress*, reflects a conscious effort to focus on growth, resilience, and adaptation in response to the transformations brought by aging.

This perspective aligns with the understanding that achieving healthy aging requires more than the mere absence of disease; it entails maintaining functional ability, autonomy, and well-being despite the natural changes associated with aging (WHO, 2015). Rather than being defined by perfect health or lack of difficulties, healthy aging depends on the ability to adapt, remain independent, and preserve quality of life across diverse contexts. Behavioral patterns established during midlife, such as engagement in physical activity, nutritional practices, and psychological coping strategies, play a decisive role in shaping long-term health trajectories (Infurna et al., 2020). Moreover, as Martins et al. (2021) note, concepts like health, disease, normality, and pathology are themselves socially and culturally constructed, influencing how individuals interpret and respond to the challenges of aging.

Another key aspect of the social experience of aging is ageism — prejudice, stereotyping, and discrimination based on age. Ageism manifests at institutional, interpersonal,

and internalized levels, leading to invisibility, stigma, social isolation, and reduced quality of life (WHO, 2021; Souza et al., 2018). This phenomenon reflects the tension between natural physical changes and persistent societal expectations of youthfulness and productivity.

It is also essential to recognize that concepts such as health, disease, normality, and pathology are socially and culturally constructed, shaping how individuals understand, experience and respond to the challenges of aging (Martins et al., 2020). Building on this perspective, the following section examines how these processes manifest during midlife, a period that represents a pivotal stage in shaping later aging experiences.

Middle Age

Middle age, often characterized as the period between approximately 40 and 60 years, represents a critical phase shaped by biological, psychological, and social factors. Although commonly defined within this age range, its delimitation is flexible and influenced by social, cultural, and historical contexts (Lachman et al., 2015).

During middle age, individuals often occupy central roles within their families, workplaces, and communities, assuming essential responsibilities for maintaining social bonds and guiding younger generations. As life expectancy increases and parenthood is increasingly delayed, middle-aged adults are expected to fulfill increasingly prominent roles in social structures, highlighting the intersection between biological aging and evolving societal demands (Infurna et al., 2020; Martin et al., 2017).

In the field of human development, Erikson (1997) identified middle age as a critical period characterized by the psychosocial conflict between generativity and stagnation. According to Erikson, this phase involves a desire to contribute to the quality of life of future generations and leave a lasting legacy. This drive may manifest in various forms, such as parenting, professional development, volunteering, and engagement in social and political

causes (McAdams & de St. Aubin, 1992). However, these aspirations often coexist with concerns related to identity, productivity, and physical decline, complicating the balance between personal achievement and the awareness of aging.

While the pursuit of generativity may be challenged by concerns about identity and physical decline, many middle-aged individuals simultaneously consolidate important milestones in their personal and professional lives. This period is frequently marked by increased financial stability, strengthened social bonds, and the consolidation of long-term relationships (Lachman et al., 2015). Additionally, financial earnings tend to peak around the age of 40 for those with fewer years of schooling, and in the early 50s for individuals with higher educational levels, reflecting the consolidation of longer and more specialized careers (Bhuller et al., 2017). This period is also associated with improvements in crystallized cognitive abilities, which are related to the accumulation of knowledge and experience throughout life, as well as increased self-confidence and a greater sense of control over one's life trajectory (Carstensen, et al., 1999; Lachman, 2006; Schaie, 1994).

Despite these accomplishments, middle age also presents considerable challenges. The pressure to maintain productivity, relevance, and adherence to cultural standards of success can generate high levels of stress, particularly for those balancing demanding careers with family responsibilities (Infurna et. al, 2020). This burden is often intensified by the dual caregiving role of the *sandwich generation*, who must care for aging parents and children simultaneously (Ward & Spitze, 2004). Such pressures can be particularly exhausting when they occur within contexts of economic instability and inadequate social policies (Infurna et al., 2020). Furthermore, unlike (Carstensen et al., 1999; Schaie, 1994; Lachman, 2006), Infurna et al. (2020) emphasizes that during this phase physical and cognitive vulnerabilities may begin to emerge, complicating the healthy management of everyday demands.

Public discourse has also shaped perceptions of this life stage through the widespread narrative of the so-called “midlife crisis” , portraying it as a normative and almost inevitable phenomenon. However, empirical evidence suggests that such crises affect only a small proportion of the population (Wethington, 2000; Lachman, 2004). Treating midlife crises as universal experiences risks obscuring the identification and management of specific psychological or physical health challenges that require individualized attention (Lachman, 2015). Moreover, framing middle age predominantly through a lens of crisis or failure oversimplifies the diverse range of developmental trajectories that define this multifaceted phase of life.

Therefore, middle age should be understood as a multifaceted life stage that encompassesboth developmental gains and emerging challenges. Financial security, professional success, and social stability often coexist with difficulties related to role overload, shifting identities, and the emergence of physical vulnerabilities. These experiences are further shaped by intersecting factors such as gender, race, sexual orientation, socioeconomic status, and the timing of life events (Infurna et al., 2020).

Nevertheless, despite these more favorable cultural narratives, many older men still experience pressure to maintain an appearance aligned with youthful ideals, reflecting enduring sociocultural expectations (Souza et al., 2018)

Middle-Aged Men: Physical Changes and Their Impact on Body Image

Among men, these dynamics take on a particular configuration. Evidence suggests that, unlike women, older men are more likely to develop greater acceptance of their physical appearance with age, reframing their identity and redefining their self-image in the process (Hurd & Mahal, 2019; Bennett et al., 2020). This acceptance may partly reflect the social privilege inherent in the *double standard of aging*, as described by Sontag (1972), whereby

aging men are often perceived as gaining status and wisdom, whereas aging women tend to be marginalized.

Yet this privileged position does not fully shield men from societal pressures to maintain a idealized youthful appearance, revealing a tension between acceptance and persistent sociocultural expectations (Souza et al., 2018). This tension is further shaped by the pervasive influence of ageism, which affects how men internalize and respond to their own aging bodies. According to previous research, the physiological changes commonly associated with aging — such as shifts in body fat distribution, reduction in muscle mass, and decreased skin elasticity — are particularly salient for BI (Jakiel et al., 2015; Kummer et al., 2019).

Within this context, the andropause emerges as a particularly significant phase in male aging, marked by the gradual decline of testosterone and accompanied by multidimensional changes that deepen these challenges. Beyond the physical alterations (e.g., reduced muscle mass, increased body fat, and diminished libido), the andropause also entails psychological symptoms, including depressive mood, anxiety, irritability, and lowered self-esteem, as well as social difficulties, such as strained relationships and shifting roles. Together, these factors further undermine body image and overall well-being (Ali & Parekh, 2020).

As a consequence, the andropause deepens the discrepancy between men's bodies and the ideals of youthfulness and masculinity. This persistent mismatch fosters what Tiggemann et al. (2007) term *normative discontent*, a culturally sanctioned form of dissatisfaction arising from the internalization of unattainable aesthetic ideals and the inevitable bodily changes of aging.

In contemporary society, this influence is increasingly mediated by digital platforms. Ryding and Kuss (2020) emphasize that social media, in particular, has emerged as a dominant channel for disseminating unrealistic and often unattainable aesthetic standards. Constant exposure to such imagery can exacerbate body dissatisfaction and promote engagement in

extreme behaviors such as restrictive dieting and compulsive exercising, which will be further explored in subsequent sections.

Social Media

Social media platforms are digital environments offering web-based services, allowing users to create and manage public or semi-public profiles within specific systems. Through these platforms, individuals establish connections, navigate social networks, and interact with various forms of content produced and shared by different users. This interaction model facilitates the construction of social relationships and enables the rapid and widespread dissemination of information and cultural trends, contributing to the formation of dynamic and diverse virtual communities (Boyd & Ellison, 2007). Common platforms include Facebook, Instagram, YouTube, and X (formerly known as Twitter).

The growing prominence of social media over the past decade has established it as a key tool for communication, entertainment, marketing, and socialization across diverse contexts. As Zimmermann and Błaszkiewicz (2020) emphasize, these platforms are no longer limited to personal interactions; they are extensively employed by organizations, brands, and public figures seeking to promote their image, engage with audiences, and achieve strategic objectives. Such widespread use underscores the platforms´versatility and influence on global connectivity.

Unlike traditional media, social media platforms offer a high level of interactivity, enabling users to actively participate in creating, sharing, and responding to content. In this context, the interactive environment fosters deeper engagement by allowing individuals to not only consume but also produce and disseminate information (Guo et al., 2022). As a result, social media has become deeply embedded in everyday life, functioning as a primary medium

for interaction and information exchange for millions of users worldwide, including Brazil and Portugal.

In 2023, 87.6% of the Brazilian population aged 10 years or older owned a mobile phone, a significant rise from the 77.4% reported in 2016 (Brazilian Institute of Geography and Statistics [IBGE], 2024). Similarly, in Portugal, internet access is broadly available, with 94.2% of individuals aged 16 to 74 residing in households with internet connections (Statistics Portugal [INE], 2024).

These high levels of connectivity correspond to widespread social media engagement. As of January 2025, Brazil had approximately 144 million social media users, representing 67.8% of the total population (DataReportal, 2024a). Meanwhile, in Portugal, an estimated 71.9% of the total population were social media users at the beginning of 2025 (DataReportal, 2024b).

Consequences of Social Media Use

The impact of social media on body image has been extensively documented among women, whose bodies are often idealized and objectified within digital environments. Frequent social media use is associated with higher internalization of thinness ideals, heightened appearance-related concerns, engagement in restrictive dietary behaviors, and more negative perceptions of one's own body image (Tiggemann & Slater, 2014).

As Cohen and Blaszczynski (2015) argue, the internet, particularly through social media platforms, has surpassed traditional media such as television and printed publications in its ability to disseminate aesthetic ideals. The constant circulation of idealized images intensifies opportunities for social comparison and perpetuates appearance-related dissatisfaction when those comparisons fall short (Lev-Ari et al., 2014). DUATherefore, the same platforms that encourage wellness and inclusivity may simultaneously promote unattainable standards, thereby complicating efforts to cultivate a positive body image.

In that way, evidence suggests that qualitative aspects of social media use — such as negative social comparison, inauthentic interactions, and engagement with appearance-focused content — show stronger associations with body dissatisfaction and psychological distress than mere time spent online (Berryman et al., 2018; Davila et al., 2012; Feinstein et al., 2013; Guo et al., 2022; Reinecke & Trepte, 2014). This underscores the importance of how — rather than how much — individuals engage with these platforms (Grieve & Watkinson, 2016).

The type of content consumed plays a central role in shaping perceptions of beauty and self-worth. Social media amplify historically fluid beauty standards, redefining and promoting them through fleeting "fads", including restrictive diets, cosmetic procedures, and supplements, marketed as quick paths to happiness, well-being, and social acceptance (Souza et al., 2018). Such narratives reinforce the belief that attractiveness and success are intrinsically tied to physical appearance, contributing to lower self-esteem and impaired well-being (Gültzow et al., 2020).

Even though social media often promotes physical activity as a positive and health-oriented behavior, this messaging frequently masks underlying pressures to conform to unrealistic body standards. One prominent example is "fitspiration" — a blend of "fitness" and "inspiration" — which emerged to ostensibly encourage healthy habits, balanced eating, and regular exercise (Abena, 2013). However, despite its positive framing, fitspiration content has been shown to reinforce unattainable aesthetic ideals and foster maladaptive behaviors, such as compulsive exercise, heightened body dissatisfaction, and negative psychological outcomes (Dahl, 2013; Hausenblas, 2015).

Similarly, aesthetic-driven content on platforms like Pinterest has been associated with extreme weight-control behaviors, eating disorders, and increased negative affect, particularly among women (Bardone-Cone & Cass, 2007; Simpson & Mazzeo, 2017). Beyond these examples, broader narratives that overemphasize physical activity as the pathway to self-worth

and success strengthen the link between personal value and conformity to cultural body ideals, ultimately contributing to lower self-esteem and impaired well-being (Gültzow et al., 2020).

The Male Body in the Age of Social Media

While the majority of research has focused on women, growing evidence suggests that men are also significantly affected by media-driven ideals. However, as mentioned before, these ideals differ: instead of thinness alone, the male standard emphasizes both muscularity and leanness, a dual imperative that can shape harmful body-related behaviors (Gültzow et al., 2020; Pope et al., 2000; Tylka, 2011).

Studies indicate that the pressure to achieve a defined physique often results in increased use of substances such as anabolic steroids and muscle-enhancing supplements. In addition, it contributes to the development of conditions like muscle dysmorphia, a condition marked by pathological concern over perceived muscular inadequacy (Olivardia et al., 2000; Duarte et al., 2015; Fortes et al., 2013; Frank et al., 2016; Scarth et. al, 2023).

On top of that, these platforms perpetuate biased and exclusionary representations: the idealized body type is far from representative of real male diversity. Gültzow et al. (2020) analyzed male representations on Instagram and identified a distinct bias in body portrayal: images predominantly featured slim, muscular, and white men, while those with higher body fat percentages were significantly underrepresented. This pattern persists despite approximately 37% of the global male population having a BMI above 25 kg/m² (Ng et al., 2014). Furthermore, posts featuring non-white men, particularly Latinos, received lower engagement, highlighting racialized and unequal patterns in beauty validation.

In that way, social media also serves as a fertile context for social comparison, a process through which individuals evaluate themselves in relation to others. As highlighted by Social Comparison Theory (Festinger, 1954), such comparisons often result in unfavorable self-assessments when individuals are confronted with unattainable standards. Moreover, through

repeated exposure and observation, individuals may internalize such ideals and engage in potentially maladaptive behaviors aimed at achieving them. This dynamic of social comparison and internalization can be more comprehensively explained through the lens of Social Cognitive Theory (SCT), which emphasizes observational learning and behavioral modeling.

Theoretical Models and Conceptual Approaches

The Role of Social Cognitive Theory (SCT)

The Social Cognitive Theory (SCT) proposed by Albert Bandura (1986, 2001a, 2001b) provides a robust framework for understanding how social media facilitates the internalization of idealized beauty standards and unhealthy wellness behaviors. According to SCT, learning occurs through observation, imitation, and social modeling, where individuals acquire new behaviors by observing others and the outcomes associated with their actions. This process of modeling is particularly relevant in the context of social media, where users are continuously exposed to idealized representations of bodies and lifestyles.

The theory also emphasizes the importance of outcome expectations, suggesting that individuals are motivated to act in certain ways when they believe their actions will lead to rewards or help avoid punishment (Bandura, 2001a). On social media platforms, positive reinforcements such as likes, comments, and shares function as powerful motivators that encourage adherence to cultural ideals of attractiveness and success (Borzekowski et al., 2010). This means that likes and positive comments can function as a social currency, reinforcing behaviors aimed at achieving aesthetic standards, even when those standards are unrealistic or harmful.

Social media perpetuates specific standards through social feedback mechanisms, but, as Infurna et al. (2020) highlight, the aging process introduces unique challenges related to

physical appearance and health, which can be further strained by exposure to unrealistic standards online. For middle-aged men, adapting to shifting cultural expectations and evolving health practices often involves negotiating ideals that are increasingly difficult to achieve. These interactions between digital influences, aging, and lifestyle contribute to a multifaceted process of body image construction.

Integrative Model of Body Image in Middle-Aged Men: Matsumoto and Rodgers (2020)

Given the unique ways middle-aged men experience and evaluate their appearance - it is essential to adopt a framework capable of capturing the multidimensional and context-specific nature of these experiences. While previous sections have outlined the cognitive and emotional dimensions of body image, further theoretical integration is necessary to account for how sociocultural, psychological, and biological forces interact to influence body-related attitudes and behaviors in this demographic.

To provide a theoretical foundation for investigating the factors predicting BI in middle-aged men, this study adopted the integrative model proposed by Matsumoto and Rodgers (2020), which offers a comprehensive structure that integrates diverse theoretical perspectives and addresses the limitations of traditional models predominantly focused on younger or female populations. The following theories are articulated within this approach:

The Tripartite Influence Model, a sociocultural theory proposed by Thompson, Heinberg, Altabe, and Tantleff-Dunn (1999), posits that three primary social agents, namely parents, peers, and media, play a central role in shaping body image and promoting the internalization of aesthetic standards. These agents influence body image through two main processes: social comparison - where individuals assess their appearance relative to others - and internalization of beauty ideals, which promotes the adoption of culturally valued yet often unattainable standards.

According to this theory, parents and peers influence BI both directly, through appearance-related comments, and body-related reinforcement or criticism, and indirectly, by establishing norms and expectations about the ideal body. Meanwhile, media plays a key role in disseminating images that reinforce dominant aesthetic standards, contributing to increased body dissatisfaction and the development of weight control behaviors (Thompson et al., 1999).

The Objectification Theory, originally developed to explain women's experiences, has been adapted to apply to men. It suggests that continual self-surveillance and internalization of others' gaze may be associated with feelings of body shame and, consequently, the development of eating disturbances (Fredrickson & Roberts, 1997; Davids et al., 2019).

The Social Identity Theory posits that hegemonic masculinity, with its emphasis on strength and bodily control, may reinforce dysfunctional behaviors as men strive to conform to group norms and maintain their social identity amid the invisibility associated with aging (Tajfel & Turner, 1979; Gattario et al., 2015).

Existential and Terror Management Theory proposes that anxiety related to aging and mortality may intensify investment in bodily ideals as a way of mitigating fears of physical decay. Restrictive dieting and excessive body control often emerge as attempts to cope with the fear of mortality and preserve characteristics associated with youthfulness (Goldenberg, 2005).

Biological and biopsychosocial theories consider the hormonal and metabolic changes associated with aging as factors that can affect both body perception and the use of dysfunctional strategies to control weight and appearance (Kummer et al., 2019).

The Embodiment Theory and the concept of Positive Body Image offer a more empowering perspective, emphasizing that valuing bodily functions and deconstructing unrealistic ideals can act as protective factors against body dissatisfaction and eating disorders (Piran, 2016; Tylka, 2011).

By integrating these perspectives, Matsumoto and Rodgers´ (2020) model offers a more comprehensive and sensitive framework that addresses the specificities of male experiences of body image in middle age and aging.

According to the authors, the development of BI in this population unfolds across interconnected levels. At the distal level, sociocultural pressures originating from media, peers, partners, and family are identified, alongside the influence of past self-concept, where men compare themselves to younger versions of themselves. These factors mediate psychological processes such as the internalization of unrealistic aesthetic ideals, body objectification, and conformity to traditional masculine norms. Consequently, these processes may lead to body image concerns characterized by body dissatisfaction and shame, as well as reduced body appreciation and a weakened connection with the body. These factors, in turn, are predictors of behaviors related to the pursuit of muscularity, thinness, and rigid weight control, and classic eating disorder symptoms, including binge eating and severe restriction (Matsumoto & Rodgers, 2020).

In parallel, Michels et al. (2017) suggest that interventions aimed at promoting a more positive body self-esteem and reducing dissatisfaction with body size may play a relevant role in preventing symptoms associated with disordered eating behaviors. By encouraging a healthier relationship with one's own body, these strategies can mitigate the risks of harmful eating practices and promote a more balanced development of body image.

The model also incorporat**es** protective dimensions**,** highlighting that men who resist objectification and the internalization of unrealistic standards, who reassess the importance of appearance in their lives, and who develop greater appreciation for their bodies tend to be less vulnerable to developing eating disorders Matsumoto & Rodgers, 2020).

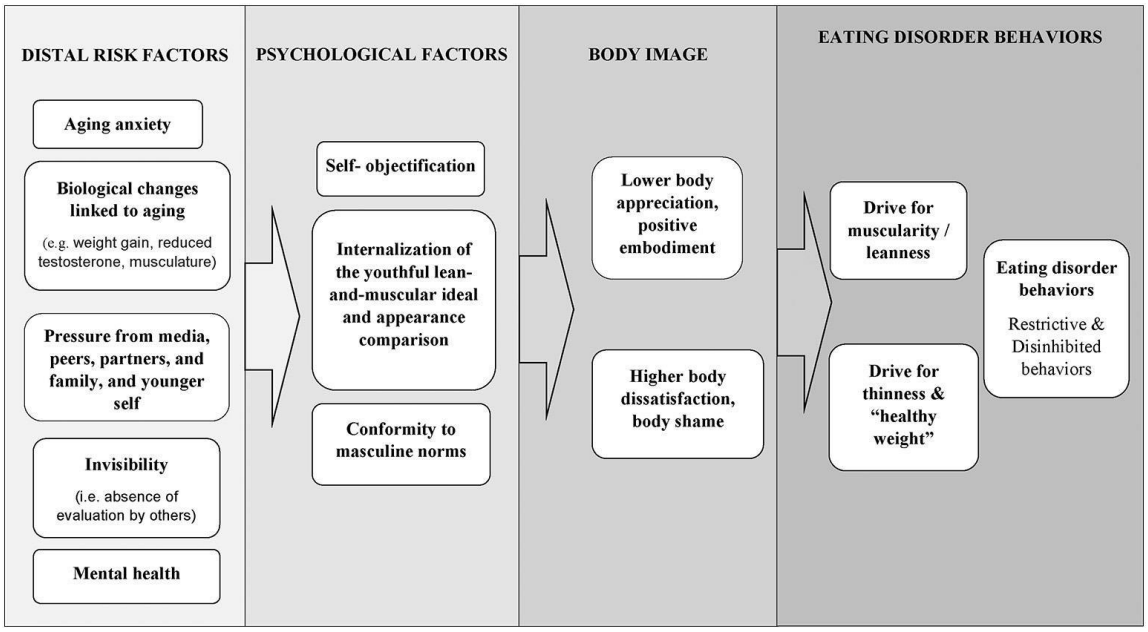

Figure 1. *Integrative Model by Matsumoto & Rodgers (2020)*

Although the model provides a comprehensive framework for understanding the factors influencing BI in these men, it does not directly consider individual life experiences and stressors over time.

However, studies indicate that significant changes, such as divorce, unemployment, health issues, financial or housing instability, and traumatic events, can deeply affect how these men perceive their bodies and relate to food (Reas & Stedal, 2015). In addition, culturally grounded values and experiences also shape body image and eating patterns, with research highlighting how men from diverse sociocultural contexts, such as South African communities, diasporic populations, and Indigenous or immigrant groups, may interpret bodily ideals and food practices differently, shaped by their own histories, social pressures, and exposure to dominant beauty standards (Gitau et al., 2014; Ricciardelli et al., 2007).

In summary, understanding body image perceptions in middle-aged men involves recognizing the interplay of personal factors, health conditions, and lifestyle behaviors in shaping self-evaluations of the body during this stage of life.

Study Objectives and Research Hypotheses

Central Research Question

The central question guiding this study is: "Do social network use, the biopsychosocial changes associated with the aging process, and psychological symptoms impact body image perception in middle-aged men?"

Specific Objectives

Accordingly, the following specific objectives were established to deepen the understanding of this phenomenon:

1. To investigate the impact of social media use on body image (BI) perception among middle-aged men;
2. To assess the impact of psychological symptoms (specifically, stress, anxiety, and depressed mood) on BI perception among middle-aged men;
3. To examine how the aging process influences body image perception among middle-aged men;
4. To explore whether specific sociodemographic (e.g., marital status), health-related (e.g., BMI), and lifestyle factors (e.g., physical exercise) influence BI perception among middle-aged men.

Research Hypotheses

Based on these objectives, the following working hypotheses were formulated:

1. Frequent use of social media is associated with a more negative perception of body image (BI) among middle-aged men.
2. Psychological symptoms (specifically, anxiety, depressed mood, and stress) significantly predict greater body image dissatisfaction in middle-aged men.
3. Perceptions of the aging process have a negative impact on body image among middle-aged men, particularly regarding physical appearance and body composition.

4. Sociodemographic (e.g., marital status), health-related (e.g., BMI), and lifestyle factors (e.g., physical activity, alcohol consumption, smoking) are significantly associated with body image perceptions in middle-aged men.

Methodology

Study Design

The present study adopted a cross-sectional, exploratory, descriptive, and analytical design, employing a quantitative approach.

Participants

In this study, middle age is considered to extend up to 65 years, in line with international demographic criteria (WHO, 2015) and psychosocial developmental models that emphasize the complexity of this life stage (Lachman et al., 2015).

In this regard, participants were recruited using non-probabilistic, convenience sampling methods. The final sample included 181 men, aged between 40 and 65 years, (M = 47.95, SD = 7.28), residing in Portugal or Brazil (Table 1).

Inclusion criteria required participants who self-identified as male, between 40 and 65 years of age, and residents of either Portugal or Brazil. Additionally, they had to be active users of at least one social media platform and possess sufficient reading and comprehension skills in Portuguese to complete the online questionnaire. Exclusion criteria included individuals with severe self-reported medical or psychiatric diagnoses (e.g., schizophrenia, major neurocognitive *disorder*) that could compromise their responses, as well as those with incomplete or inconsistent questionnaires.

Instruments

Data were collected through a comprehensive and structured online protocol that included multiple validated instruments. Each instrument was selected based on its relevance to the constructs of interest and its psychometric robustness.

Sociodemographic, Health, and Lifestyle Questionnaire

An *ad hoc* questionnaire was developed for the study to collect detailed information on sociodemographic variables (age, nationality, marital status, educational level, income bracket) and health-related behaviors (physical activity engagement, sleep quality, alcohol and tobacco use). This instrument consisted of 30 items. . Participants were asked questions such as: “Are you currently in a romantic relationship?” with the following response options: “I am in a relationship and live with my partner/spouse,” “I am in a relationship, but do not live with my partner/spouse,” and “I am not in a relationship.”

Additionally, this section included specific questions addressing body composition perceptions, targeted men’s perceptions regarding the balance between muscle mass and fat, which has been highlighted as a central concern in male body image research (Blashill, 2010; Cohane & Pope Jr., 2001; Dakanalis & Riva, 2013; McCabe & Ricciardelli, 2001 add citações na lista de ref). For example, participants were asked, “How do you feel about the amount of fat located in your abdominal region?”

Psychological Symptoms Assessment

To evaluate psychological symptoms, a set of items embedded within the sociodemographic questionnaire assessed the frequency of anxiety, depression, and stress symptoms during the past month (e.g., "How often did you feel anxious in the past month?").

Social Media Use Questionnaire (Adapted from Guo et al., 2022)

Participants’ engagement with digital platforms was assessed through an adapted five-item questionnaire based on the work of Guo et al. (2022). This instrument evaluated the duration of social media usage, the degree of appearance-focused content exposure, and the

emotional salience attributed to online appearance comparisons. For example, one item asked, "How much time per day do you spend browsing social media?", with fixed response categories: "0 to 2 hours," "2 to 3 hours," "3 to 4 hours," and "more than 4 hours."

The original validation study among Chinese adults yielded a Cronbach's alpha of 0.82, indicating good internal consistency.

Appearance Beliefs Scale (Pimenta et al., 2022)

Body image perceptions were assessed using the *Appearance Beliefs Scale* (ABS), developed and validated by Pimenta et al. (2022) for middle-aged populations. The instrument originally comprises 12 items, answered on a 5-point Likert scale (1 = Totally disagree to 5 = Totally agree), and is structured around two theoretical subscales:

- Satisfaction with Appearance – Reflects the degree to which individuals are content with and evaluate positively their own physical appearance .This dimension includes **5** items.

  Example item: "I am satisfied with the way I look."

- Importance Attributed to Appearance – Assesses the importance given to appearance as part of one's self-concept and how it influences thoughts, feelings, and behaviors. This dimension includes 7 items.

  Example item: "Feeling good about the way I look is very important to me."

In the original validation study, the scale demonstrated good psychometric properties, with composite reliability values of .758 for Satisfaction and .800 for Importance. The psychometric results from the present sample, including the final factor structure adopted, are presented in the Results section.

Aging Perceptions Questionnaire – Short Form (Portuguese Version by Claudino et al., 2011)

Aging perceptions were assessed using the *Aging Perceptions Questionnaire – Short Form* (*Questionário de Perceções do Envelhecimento*), originally developed by Barker et al. (2007) and adapted for the Portuguese population by Claudino (2011). This self-report instrument consists of 32 items divided into seven subscales. Each item is rated on a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The subscales are described below:

- Chronic Timeline – Measures the constant awareness of aging as a persistent process.

  Example item: "I always feel that I am aging."

- Cyclical Timeline – Assesses the perception of aging as variable or fluctuating over time.

  Example item: "There are times when I feel younger and times when I feel older."

- Positive Consequences – Evaluates beliefs about the benefits and personal growth associated with aging.

  Example item: "Growing older has made me more accepting of things I cannot change."

- Negative Consequences – Assesses perceived losses and negative impacts attributed to aging.

  Example item: "Getting older makes it harder for me to do the things I want."

- Positive Control – Measures beliefs about one's ability to influence positive aspects of aging.

  Example item: "Whether I continue to be healthy depends on me."

- Negative Control – Captures beliefs regarding the inability to prevent the negative effects of aging.

  Example item: "There is nothing I can do to prevent the negative effects of aging."

- Emotional Representations – Assesses emotional responses triggered by the awareness of aging.

  Example item: "I get anxious when I think about growing older

The Portuguese version of the APQ demonstrated acceptable internal consistency, with Cronbach's alpha values ranging from .66 to .86 across subscales and .86 for the total scale. Although the APQ in its full form also assesses identity and causal dimensions, the present study focused exclusively on perceptions related to consequences, control, and emotional reactions. This decision was motivated by the need to reduce participant burden and to prioritize dimensions shown to be more directly associated with body image among middle- aged men (Pimenta et al., 2022).

Procedures

This study was approved by the Ethics Committee for Research at Universidade Europeia (approval date: February 8, 2025). All procedures complied with the ethical standards outlined in the Declaration of Helsinki and the General Data Protection Regulation (EU) 2016/679 (see Appendix 2).

Data collection took place between February and May 2025 via an online survey hosted on Microsoft Forms. This platform was chosen for its practicality, scalability, and compliance with data protection standards.

Participants were recruited through social media, including Instagram, Facebook, and WhatsApp. Each invitation included a brief description of the study objectives and participation criteria. Before beginning the survey, participants accessed an informed consent form, which they were required to read and agree to.

Before beginning the survey, participants accessed an informed consent form, which they were required to read and electronically agree to. The survey was completed anonymously,

with no personally identifying information collected beyond non-identifiable sociodemographic data necessary for analytical purposes. Participant confidentiality was fully ensured throughout the study.

Statistical Analysis

The statistical analysis of the present study was conducted in three sequential stages: (i) descriptive analyses, (ii) psychometric properties of the instruments, and (iii) predictive model test.

In the first stage, descriptive statistical analyses were performed to characterize the sociodemographic, clinical, and behavioral profile of the sample. Absolute and relative frequencies were calculated for categorical variables, and means and standard deviations were computed for continuous variables. These results provided a comprehensive overview of participant characteristics and contextual variables.

In the second stage, Confirmatory Factor Analyses (CFA) were conducted to assess the factorial validity of the scales. Model fit was evaluated using accepted thresholds: $\chi^2/df < 5$; RMSEA ≤ 0.08; CFI, GFI, and TLI ≥ 0.90; and SRMR ≤ 0.10 (Marôco, 2021; Kline, 2011; Byrne, 2010). Average Variance Extracted (AVE) values above 0.50 were considered acceptable.

In the third stage, Structural Equation Modeling (SEM) was conducted using the Maximum Likelihood (ML) method to test the predictive model of body image, considering the influence of three main blocks of variables: (i) sociodemographic and lifestyle factors (such as age, BMI, sleep quality, physical activity, smoking, and alcohol consumption), (ii) internet and social media use (including frequency, exposure time, and active/passive search for content related to body and appearance), and (iii) aging perceptions (cognitive, emotional, and behavioral dimensions of the APQ). The dependent variable was modeled based on the two

latent dimensions of the ABS: satisfaction with appearance and importance attributed to appearance.

All statistical analyses were conducted using IBM SPSS Statistics (version 29) and IBM SPSS Amos (version 29), following the assumptions of multivariate statistics applied to psychology. Statistical significance was set at $p < 0.05$.

Results

Participant Sample Overview

The final sample consisted of 181 men aged between 40 and 65 years *(M* = 47.95; *SD* = 7.28), residing in Brazil (*n* = 159, 87.8%) or Portugal *(n = 18, 9.9%),* with a small proportion reporting dual nationality (*n* = 4, 2.2%; see Table 1), with the majority being in a romantic relationship (75.1%) and employed full-time (66.9%). High educational attainment was observed, and most participants were not undergoing psychological or psychiatric treatment at the time of data collection. Table 1 summarize the participants´sociodemographich profile, lifestyle behaviors, and social media use.

Table 1

Sociodemographic, health and lifestyle characteristics (n=181)

Variables	N	%
Nationality		
Portuguese	18	9.9
Brazilian	159	87.8
Dual Nationality (Portuguese and Brazilian)	1	0.6
Dual Nationality (Brazilian and another)	3	1.7
Relationship Status		
I am in a relationship and live with my partner	136	75.1
I am in a relationship but do not live with my partner	21	11.6
I am not in a relationship	24	13.3
Presence of Psychological Condition		
No	157	86.7
Yes	24	13.3

Frequency of Depressed Mood		
Never	48	26.5
Rarely	64	35.4
Sometimes	51	28.2
Frequently	14	7.7
Daily	04	2.2
Frequency of Anxious Mood		
Never	35	19.3
Rarely	62	34.3
Sometimes	54	29.8
Frequently	27	14.9
Daily	0.3	1.7
Frequency of High Stress Levels		
Never	24	13.3
Rarely	49	27.1
Sometimes	65	35.9
Frequently	37	20.4
Daily	4	2.2
Engages in Physical Activity		
No	49	27.1
Yes	132	72.9
Has Previously Experienced Overweight		
No	111	61.3
Yes	70	38.7
Family History of Obesity		
No	112	61.9
Yes	69	38.1
Currently Smokes		
No	158	87.3
Yes	23	12.7
If a Smoker, Smokes Daily		
Not a smoker	158	87.3
Yes	23	12.7
Consumes Alcoholic Beverages		
No	64	35.4
Yes	117	64.6
Frequency of Alcohol Consumption		
Do not consume alcohol	62	34.3
Daily	08	4.4
One to three times per week	59	32.6
Once or twice per month	52	28.7
Concern About Having Body Fat		
Strongly disagree	06	3.3
Disagree	25	13.8

Neither agree nor disagree	19	10.5
Agree	91	27.6
Strongly agree	40	77.9
Abdominal Fat Level		
Very low	06	3.3
Adequate	61	33.7
Above ideal	96	53.0
Well above ideal	18	9.9
BMI		
Healthy weight	47	27.1
Overweight	76	42.2
Obesity Class I	32	17.8
Obesity Class II	15	8.3
Obesity Class III	10	5.6

Beyond the sociodemographic and health-related characteristics summarized in Table 1, additional data indicate that among participants residing in Portugal, educational attainment was distributed as follows: 43.1% held a bachelor's degree (EQF Level 6), 27.6% had completed upper secondary education (EQF Level 3), 6.9% held a master's degree (EQF Level 7), 1.7% had completed a doctoral degree (EQF Level 8), and smaller proportions were observed in other categories. For income, most participants reported annual earnings above €26,355, with 17.2% earning between €26,355 and €38,632 and 10.3% earning above €50,483

Among participants residing in Brazil**,** 35.4% had completed higher education (bachelor's degree), 19.5% had completed postgraduate education at the *lato sensu* level, 13.4% at the *stricto sensu* level (master's or doctoral programs), and 17.7% had completed upper secondary education. Relating to the income in Brazil**,** 14.9% of participants reported earning more than R$120,000 annually, while approximately 12–13% of participants were distributed relatively evenly across intermediate income brackets, indicating a diverse socioeconomic profile.

In terms of their partner's weight status, 13.8% of participants reported not having a partner, whereas among those with a partner, 64.6% reported that their partner had a normal

weight, 19.3% indicated their partner was overweight, and 3.3% stated that their partner had obesity.

For professional status, the majority of participants (66.9%) were employed full-time, 9.9% part-time, 5.0% unemployed, 12.2% retired, 3.3% temporarily inactive, and 2.8% reported other conditions.

Concerning the duration of current weight status, more than half of the participants (52.5%) reported maintaining their current weight for more than two years, while 17.1% reported between one and two years, and smaller proportions reported shorter durations.

Finally, concerning the presence of physical illness**,** 90.1% of participants reported no physical illnesses, while 9.9% reported at least one physical illness.

Table 2

Social Media Use (n=181)

Variables	N	%
Average Daily Time Spent Online		
Between 0 and 2 hours	24	13.3
Between 2 and 3 hours	40	22.1
Between 3 and 4 hours	42	23.2
More than 4 hours	75	41.4
Social Media Platforms Used		
WhatsApp	150	82.9
Instagram	136	75.1
YouTube	113	62.4
Facebook	81	44.8
TikTok	33	18.2
Twitter	31	17.1
Telegram	15	8.3
Other	12	6.6

Beyond the time spent online and the platforms most frequently used (see Table 2), participants also reported on their exposure to and engagement with fitness- and appearance-related content. Specifically, 44.2% of participants indicated that they *sometimes* received such content while online, 28.2% reported *rarely*, and smaller proportions reported *never* (12.2%),

often (11.0%), or *always* (4.4%). Similarly, 33.1% of participants stated that they *sometimes* sought out fitness- or appearance-related information, 38.7% *rarely*, 12.2% *never*, 12.7% *often*, and 3.3% *always*. Furthermore, more than half of the participants (54.1%) reported spending *less than half* of their online time searching for fitness- or appearance-related content, while 37% stated that they did not dedicate *any* of their online time to this purpose.

Relationship Between Dependent and Independent Variables

This study investigated body image as the dependent variable, operationalized through two central evaluative dimensions: *Appearance Satisfaction* and *Importance Attributed to Appearance***.** The independent variables were selected based on theoretical relevance and prior empirical findings. These included sociodemographic characteristics (age, nationality, marital status, educational level, and employment status), lifestyle factors (smoking, alcohol consumption, physical activity, and body mass index), body-related perceptions (satisfaction with and concern about abdominal fat), psychological symptoms (frequency of anxiety, stress, and depressive states), perceptions of aging (emotional distress about aging, perceived lack of control, and perception of aging as cyclical or unpredictable), and digital engagement indicators (use of Instagram, TikTok, YouTube, WhatsApp, and general internet use). The relationships between these variables and the two dimensions of body image were explored through structural modeling procedures.

Confirmatory Factorial Analyses

Social Media Questionnaire (Adapted from Guo et al., 2022)

The CFA was not conducted for the social media and internet use questionnaire. This decision was based on the fact that only four of the seven original items from the validated instrument were included in the present study, resulting in a reduced and unbalanced set of indicators. As McNeish and Wolf (2020) point out, a poorly specified or unstable structure (for

instance, due to an insufficient number of items per factor or the omission of items that adequately capture the theoretical dimensions) can compromise the model's validity, leading to poor fit indices and misleading interpretations. Including only part of the original items could also affect the representativeness and coherence of the proposed multidimensional structure. Therefore, the four items used were grouped under a single conceptual factor, labeled "Internet," reflecting participants' exposure to and engagement with appearance-related content in digital environments. This approach preserved the theoretical rationale and ensured greater statistical robustness by avoiding artificial adjustments that could result from testing a CFA with a limited and potentially unstable set of indicator.

Appearance Beliefs Scale - ABS (Pimenta, 2022).

Psychometric item properties

Descriptive statistics and psychometric sensitivity indicators for the items of the Appearance Beliefs Scale (ABS) are presented in Appendix 1. Mean scores ranged from M = 2.95 (SD = 1.18) for item ABS9 ("Feeling dissatisfied with my appearance affects my mood.") to M = 3.48 (SD = 1.01) for item ABS5 ("Feeling good about the way I look is very important to me."). Median values ranged from 3.0 to 4.0. No violations of univariate normality were observed, with skewness ranging from –0.837 to –0.063 and kurtosis from –1.139 to 0.648.

Following item-level inspection, a revised model was tested, excluding items 6, 7, and 8 based on their unsatisfactory psychometric performance in the original validation study (Pimenta et al., 2022) and weak saturation in the present sample. The final model included 9 items distributed across the two latent dimensions, *Appearance Satisfaction* and *Importance of Appearance***.** All items showed standardized factor loadings above the recommended threshold ($\lambda \geq .50$). Full standardized loadings, squared multiple correlations (R^2), and descriptive statistics are available in Appendix 3.

Confirmatory Factor Analysis - ABS

A two-factor model was tested using data from 181 participants. Error covariances between items from different latent dimensions were not specified, in order to preserve the theoretical independence of the constructs. The model yielded the following fit indices: TLI= 0.878; CFI= 0.918; RMSEA= 0.110; SRMR= 0.094

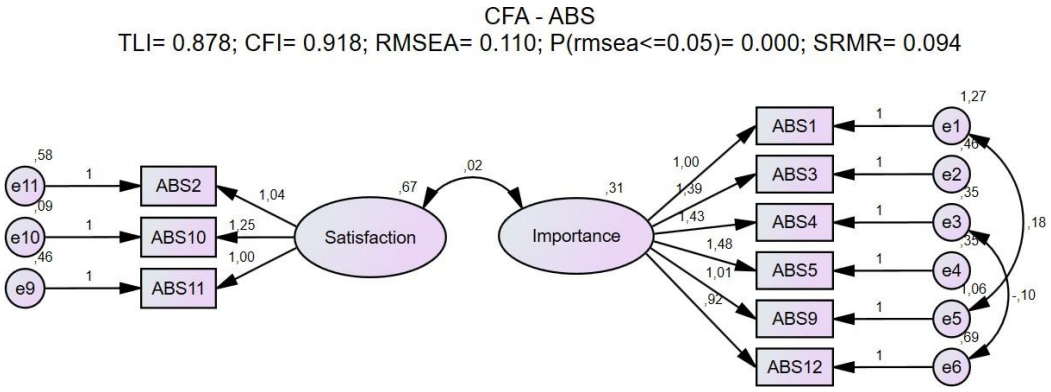

Figure 2. *Final CFA of the ABS*

Aging Perceptions Questionnaire – Short Form

Psychometric item properties

Descriptive statistics (Appendix 2) indicated that item means ranged from M = 2.35 (SD = 1.15) for item APQ29 (“I get upset when I think about getting older”) to M = 4.13 (SD = 0.73) for item APQ12 (“The quality of my social life in later life depends on me”). Median values ranged from 2.0 to 4.0. No substantial violations of univariate normality were observed, with skewness ranging from –1.22 to 0.69 and kurtosis from –1.08 to 2.21.

Confirmatory Factor Analysis – APQ

A confirmatory factor analysis was conducted to assess the factorial structure of the Aging Perceptions Questionnaire – Short Form, based on the original 32-item version. No

correlated error terms were specified across dimensions. The model demonstrated the following fit indices: TLI= 0.910; CFI= 0.923; RMSEA= 0.057; SRMR= 0.120. All standardized factor loadings were statistically significant. Descriptive statistics and psychometric indicators for each item, as well as the standardized loadings and inter-factor correlations, are provided in Appendix 4. The final model is presented in Figure 3.

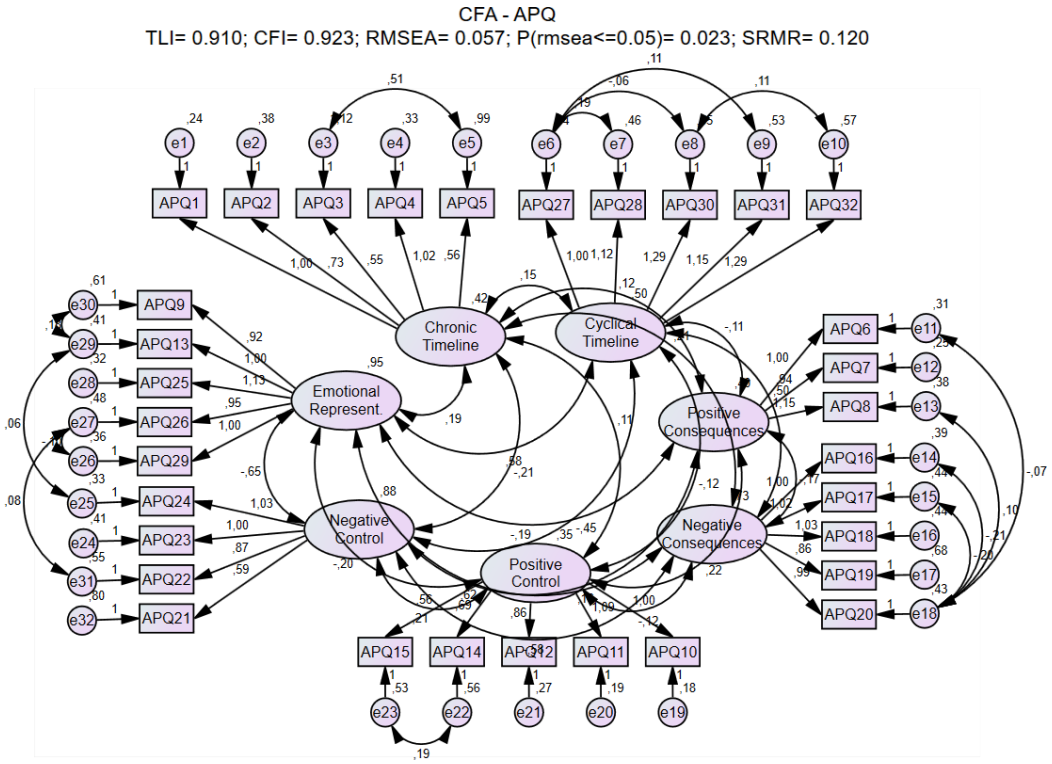

Figure 3. *Final CFA of APQ*

Structural Model – Final Predictive Model

Model Specification Process

Model development followed a sequential and theory-driven procedure. Initially, variables from each domain were tested in exploratory models to identify significant predictors of the two body image dimensions. This stepwise approach allowed for the empirical refinement of the model through the exclusion of non-significant variables and re-evaluation

of fit indices at each stage. Only variables that retained significance and conceptual consistency were incorporated into the final model.

Specifically, the process began by assessing sociodemographic and lifestyle variables, followed by internet use indicators and psychological/aging-related factors. Each block was tested separately before being combined into a full structural model. This methodological structure ensured coherence in the final specification.

To ensure transparency, an intermediate model including both significant and non-significant predictors is presented in Figure 4. It showed modest fit indices (TLI = 0.831; CFI = 0.847; RMSEA = 0.064; SRMR = 0.132), supporting the subsequent refinement toward a more parsimonious final solution.

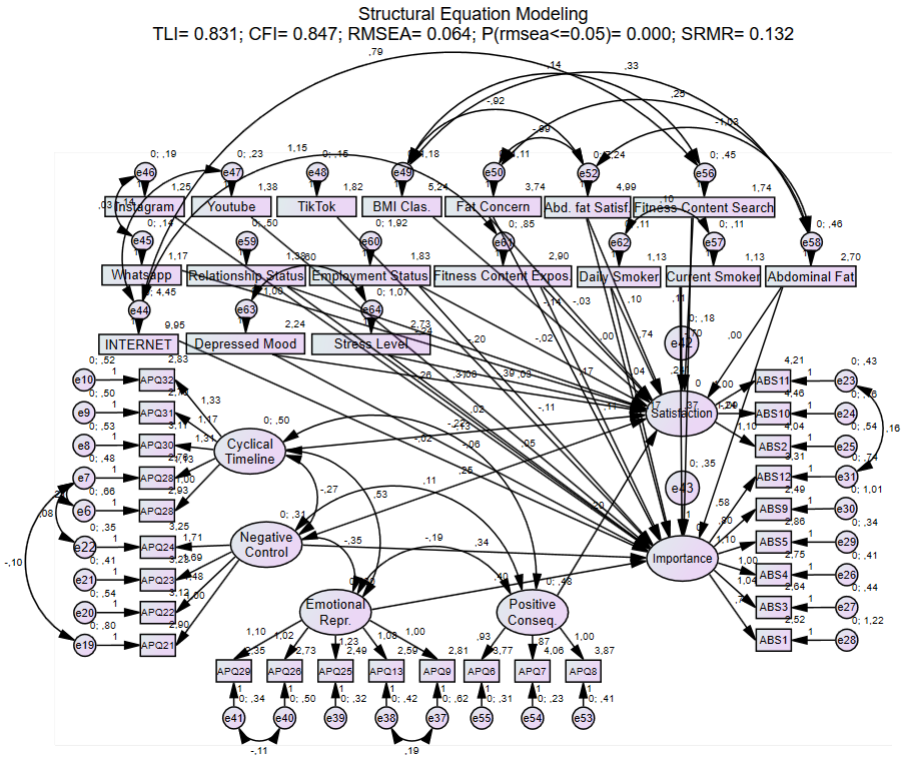

Figure 4. *Model Specification Process*

Structural Equation Model

Following the specification process, the final structural equation model (Figure 5) was constructed to examine the predictive relationships between key variables and body image

outcomes. Specifically, the model tested whether social media use, perceptions of aging, body composition, and dissatisfaction with abdominal fat predicted the two latent dimensions assessed by the ABS (*Appearance Satisfaction* and *Appearance Importance*, *as mentioned before).*

The independent variables included the four subscales of the APQ – Short Version (Claudino, 2011): *Cyclical Timeline*, *Negative Control*, *Emotional Representations*, and *Positive Consequences*, each scored on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*), in line with the original validation studies. Body mass index (BMI) was coded as: 1 = healthy weight, 2 = overweight, 3 = obesity class I, 4 = obesity class II, 5 = obesity class III. Concern about body fat was rated on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Satisfaction with abdominal fat was coded as 1 (*very low*), 2 (*adequate*), 3 (*above ideal*), and 4 (*well above ideal*).

The variable "Internet" was computed as a composite of four items assessing the participants' engagement with fitness- and appearance-related content online. Each item used an ordinal response scale reflecting increasing frequency of the behavior (e.g., *Never, Rarely, Sometimes, Frequently, Always*). While not a traditional 1–5 Likert-type scale, the categories were ordered and interpreted as increasing levels of engagement, which justified combining them into a single latent construct. Higher scores thus represent more frequent exposure to and search for fitness- and appearance-related information online. Additionally, the use of specific social media platforms (e.g., WhatsApp, Instagram, YouTube, Facebook, TikTok, Twitter, Telegram, Other) was coded as a binary variable for each platform (1 = Does not use; 2 = Uses).

Other sociodemographic and health-related variables (e.g., age, education level, presence of physical or psychological conditions) were coded numerically according to their respective categories and explicitly described in the corresponding tables. This explicit coding

ensures that all predictors were appropriately specified and the standardized estimates can be correctly interpreted.

Sociodemographic variables (age, education level, and relationship status) and psychological symptoms (depression, anxiety, and stress) were initially tested but excluded from the final model due to non-significant predictive effects. The final structural model demonstrated good overall fit TLI= 0.880; CFI= 0.892; RMSEA= 0.059; SRMR= 0.107 and all reported coefficients correspond to standardized regression weights (β). The analysis focused on direct predictive paths from the independent variables to the two latent outcomes. Statistically significant paths are summarized in Table 3.

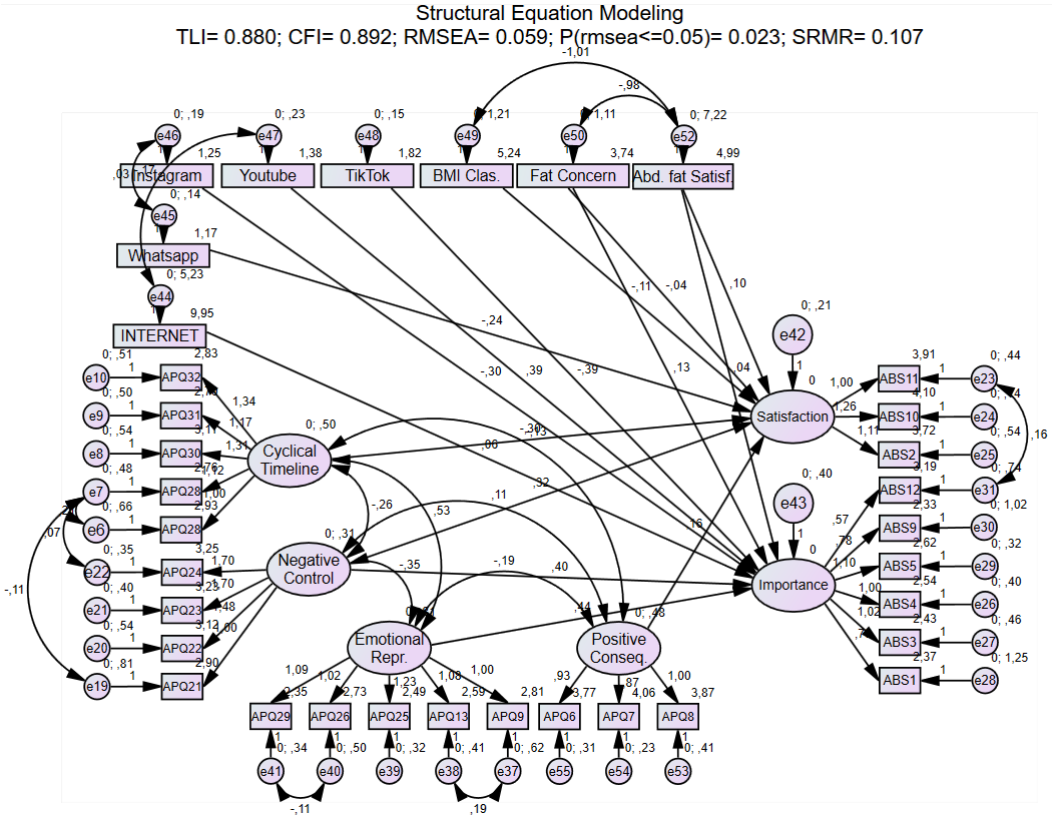

Figure 5. *Final Structural Equation Model.*

Table 3

Significant Paths Between Independent and Dependent Variables in the Final Structural Equation Model

Paths	β	*p*
Appearance Satisfaction ← Cyclical Duration	-0.300	0002**
Appearance Satisfaction ← Negative Control	0.257	0.010**
Appearance Satisfaction ← Positive Consequences	0.159	0.022*
Appearance Satisfaction ← Whatsapp	-0.130	0.023*
Appearance Satisfaction ← BMI Classification	-0.179	0.004**
Appearance Satisfaction ← Satisf. with Abdominal Fat.	0.366	0.014*
Importance Attributed to Appearance ← Emotional Representation	0.514	0.000**
Importance Attributed to Appearance ← Negative Control	0.292	0.018*
Importance Attributed to Appearance ← Concern with Body Fat	0.185	0.014*
Importance Attributed to Appearance ← YouTube	0.245	0.000**
Importance Attributed to Appearance ← TikTok	-0.172	0.015*
Importance Attributed to Appearance ← Instagram	-0.213	0.004**
Importance Attributed to Appearance ← Internet	0.198	0.006**

As shown in Table 3, Satisfaction with Appearance was significantly predicted by Cyclical Timeline (β = −0.300, p = 0.002), Negative Control (β = 0.257, p = 0.010), and WhatsApp use (β = −0.130, p = 0.023). BMI Classification (β = −0.179, p = 0.004), Abdominal Fat Satisfaction (β = 0.366, p = 0.014), and Positive Consequences (β = 0.159, p = 0.022) also contributed significantly to this outcome. Regarding Importance Attributed to Appearance, significant predictors included Emotional Representations (β = 0.514, p < 0.001), Negative Control (β = 0.292, p = 0.018), and Concern about Body Fat (β = 0.185, p = 0.014). Among social media variables, YouTube (β = 0.245, p < 0.001), TikTok (β = −0.172, p = 0.015), Instagram (β = −0.213, p = 0.004), and overall Internet use (β = 0.198, p = 0.006) were also significantly associated with the importance attributed to appearance.

Discussion

This study aimed to investigate how middle-aged men's body image is influenced by psychosocial, behavioral, and digital factors. The structural equation model confirmed the relevance of body-related variables, such as dissatisfaction with fat and satisfaction with

abdominal fat, alongside beliefs about aging and online exposure patterns, in predicting two key dimensions of body image: satisfaction with appearance and the importance attributed to it. Although the SRMR value (0.103) slightly exceeded the stricter cutoff of 0.08, it remained within the acceptable range proposed by Marôco (2021), who suggests that values below 0.10 still indicate adequate model fit, particularly in studies with moderate sample sizes. Therefore, the model can be considered satisfactory in capturing the relationships among the variables despite this minor deviation.

These findings are consistent with theoretical frameworks that conceptualize body image as comprising both attitudinal and evaluative components (Cash, 2004; Pimenta et al., 2022). Additionally, the results reflect the assumptions of integrative models, which emphasize the interaction between psychological, sociocultural, and behavioral variables in shaping body image during midlife (Matsumoto & Rodgers, 2020).

As previously discussed, Appearance Satisfaction reflects the extent to which individuals feel content with their physical features and bodily appearance (Pimenta et al., 2022), while Importance Attributed to Appearance captures the emotional investment and centrality of appearance in one's self-concept (Cash, 2004; Pimenta et al., 2022). These two constructs, although theoretically distinct, are interconnected in how they build body image-related attitudes and behaviors.

Given the complexity and heterogeneity of the predictors involved, the discussion is first organized thematically according to distinct conceptual blocks of explanatory variables, namely, aging-related beliefs, social media use and sociodemographic and health factors: Each thematic block encompasses a set of theoretically informed predictors that were analyzed in relation to the two dependent dimensions of body image.

Self-Perceptions of Aging

Self-perceptions of aging, as conceptualized in the APQ (Barker et al., 2007), represent cognitive and emotional schemas that shape how individuals interpret and respond to the aging process, encompassing subjective appraisals of aging and encompass perceived control, emotional responses, and anticipated consequences. In the present study, four dimensions of these perceptions (*Cyclical Duration, Negative Control, Positive Consequences, and Emotional Representation*) were examined as predictors of one or both dimensions of BI. Some dimensions emerged as significant predictors whereas others, such as *Positive Consequences*, were not statistically significant but improved model fit, as discussed further. These results reinforce the importance of age-related cognitions in understanding the psychological mechanisms that shape body image in middle-aged men.

The *Cyclical Duration* subscale of the APQ reflects the perception that aging unfolds in fluctuating and unpredictable patterns rather than rather than linearly and predictably (Barker et al., 2007). In this research, this dimension was a significant negative predictor of *Appearance Satisfaction*, indicating that men who perceive aging as irregular and beyond their control tend to report lower satisfaction with their physical appearance.

This finding aligns with its original interpretation, as Barker et al. (2007) noted that higher *Cyclical Duration* scores are associated with feelings of helplessness, negative emotions, and diminished perceived control over aging-related changes. Rather than fostering flexibility, such perceptions may intensify anxiety and dissatisfaction by framing bodily changes as erratic and inevitable, which may undermine adaptive coping.

Furthermore, this result is consistent with evidence that negative self-perceptions of aging, particularly those characterized by unpredictability and loss of control, are linked to poorer psychological and physical outcomes, including lower body-related well-being (Kornadt & Rothermund, 2017; Infurna et al., 2020). Importantly, in the current model,

Cyclical Duration did not significantly predict the *Importance Attributed to Appearance*, suggesting that this belief may affects satisfaction directly but does not necessarily heighten the emotional centrality of appearance in one's self-concept (Cash, 2004; Pimenta et al., 2022).

The *Negative Control* subscale of the APQ reflects the belief that aging is largely beyond one's personal control (Barker et al., 2007). In the present study, this perception was positively associated with both *Appearance Satisfaction* and *the Importance Attributed to Appearance.* While this association may initially seem unexpected, it reflects a pattern in which individuals, when confronted with irreversible changes, start to place greater emphasis on areas that still feel manageable.

Individuals with more negative views about aging tend to reinforce areas in which they still perceive control, particularly those related to health and physical self-image (Kornadt & Rothermund, 2017; Barbee et al., 2020). Among middle-aged men, this tendency often translates into greater investment in physical appearance, which becomes a salient component of identity and a key marker of self-worth (Hong & Kim, 2025). Emotional investment in appearance may thus function as a compensatory response to perceived losses in other domains of life.

This greater importance attributed to appearance may lead to increased engagement in self-care, body monitoring, and strategic efforts to manage one's physical presentation. Satisfaction with appearance, therefore, may emerge not from genuine acceptance of age-related changes, however from the sense of control restored through behavioral effort and appearance management. This process aligns with theoretical frameworks of normative discontent and self-surveillance, in which self-esteem is maintained through continuous self-regulation in place of internalized body acceptance (Fredrickson & Roberts, 1997; Tiggemann et al., 2007; Levine & Smolak, 2016).

The Positive Consequences subscale of the APQ reflects the belief that aging brings valuable psychological and social benefits, such as increased wisdom, personal growth, and more meaningful relationships (Barker et al., 2007). This dimension was found to positively predict *Appearance Satisfaction* in the present sample, suggesting that a positive cognitive appraisal of aging may foster a more accepting and appreciative view of one's physical self. This finding aligns with theoretical models that conceptualize self-perceptions of aging as psychological filters through which bodily changes are evaluated (Marschin & Herbert, 2021). Emphasizing developmental gains may allow individuals to reinterpret physical changes in less threatening ways, integrating them into a broader narrative of growth and maturity (Sabiston et al., 2019). In this sense, as Barbee et al. (2022) argue, middle-aged men who frame aging as a meaningful and growth-oriented experience may cultivate a more stable and positive sense of self, which can serve as a psychological resource when navigating appearance-related changes. Overall, the present findings suggest that body image interventions for men in midlife may benefit from incorporating strategies that promote more constructive and multidimensional views of the aging process.

The experience of aging as emotionally distressing, marked by fear, sadness, or anxiety, was significantly associated in a positive way with attributing greater importance to physical appearance, as indicated by th*e Emotional Representation* subscale of the APQ (Barker et al., 2007). This may illustrate how emotional discomfort increases the value placed on appearance, beyonde aesthetic concerns, which becomes a way to maintain a sense of identity and control when individuals are confronted with loss, transition, and uncertainty. This interpretation aligns with biopsychosocial perspectives of aging, due to the deeply shaped emotional and sociocultural meaning of his developmental stage (Infurna et al., 2020; Sontag, 1972).

Social Media Use

In addition to aging-related beliefs, appearance-focused internet activity emerged as a relevant psychosocial factor in shaping BI among middle-aged men. In this investigation, a composite digital exposure score was created by aggregating four indicators: average daily time spent online, frequency of passive exposure to content related to fitness, weight loss, and physical appearance, frequency of active searches for such content, and the proportion of total internet use dedicated to these topics. This variable named *Internet* significantly predicted *Importance Attributed to Appearance*, but not *Appearance Satisfaction*.

This result aligns with findings from Ryding and Kuss (2020), who emphasize that social media often promotes unattainable aesthetic standards (youthful, lean, and muscular male bodies) contributing to heightened body investment without necessarily improving satisfaction. Our findings also resonate with the literature suggesting that sustained and multifaceted online engagement is more psychologically impactful than time spent *per se* (Davila et al., 2012; Feinstein et al., 2013; Guo et al., 2022).

Moreover, as Guo et al. (2022) point out, social media promotes active engagement in creating and sharing content, which reinforces the internalization of appearance ideals and heightens social comparison. These processes help explain why the perceived importance of appearance increases: individuals become more self-aware and invested in how they look, while their satisfaction either remains unchanged or even declines. This pattern aligns in Social Comparison Theory (Festinger, 1954) and Social Cognitive Theory (Bandura, 2001), which emphasize how repeated exposure and observational learning shape self-perception**.**

Notably, this absence of a significant relationship between internet use and appearance satisfaction challenges more optimistic perspectives in literature. While some studies suggest that digital environments, particularly through counter-narratives such as the body positivity movement, can foster more positive body image outcomes (Griffin et al., 2022), the present

findings offer a more critical view. The lack of association observed in this sample with the association to great investment on appearance may reflect the continued dominance of narrow and traditional appearance ideals in male-oriented digital content, where representations of diversity remain limited (Gültzow et al., 2020).

Importantly, since the composite variable used in this study aggregated multiple facets of digital engagement, the observed association with *Importance Attributed to Appearance* cannot be related to any single component. Instead, it reflects a broader pattern of multifaceted involvement with digital environments that prioritize physical aesthetics.

Our research also investigated the type of social media platforms used by this population, revealing a complex set of associations. *WhatsApp* use was negatively associated with *Appearance Satisfaction*. Although primarily centered on interpersonal communication, this platform may still shape body image outcomes. Interactions through messaging apps might involve implicit appearance-related feedback, relational expectations, or subtle comparison processes that influence self-perception. These mechanisms echo previous findings that social media can foster the internalization of appearance ideals and encourage social comparison, regardless of the platform's visual intensity (Davila et al., 2012; Feinstein et al., 2013; Guo et al., 2022; Tiggemann & Slater, 2014).

YouTube use, in turn, was positively associated with the *Importance Attributed to Appearance*. This finding aligns with the notion that visually rich platforms may reinforce investment in appearance, especially when users are exposed to idealized portrayals of health, fitness, or lifestyle aesthetics. Prior studies have emphasized how digital media, especially those centered on visual and performative content, can heighten self-awareness and promote aspirational beauty standards (Alamyar & Khotimah, 2023).

Unexpectedly, the use of Instagram and TikTok was negatively associated with the Importance Attributed to Appearance and showed no association with Appearance Satisfaction.

This finding diverges from most studies conducted with adolescents and young adults, in which these platforms are frequently linked to body dissatisfaction and increased appearance surveillance (Alamyar & Khotimah, 2023). Such divergence may reflect age-related differences in how appearance-related content is received, interpreted, or prioritized by middle-aged men

Taken together, these findings suggest that the psychological impact of digital engagement in midlife varies across platforms and does not uniformly replicate patterns observed in younger populations. Future research should explore how platform-specific content and user experiences influence body image in older male cohorts, allowing for a more nuanced understanding of digital influences across the lifespan.

Sociodemographic and Health Factors

Although previous research highlights the relevance of sociodemographic, lifestyle, and psychological factors in shaping body image — including divorce, unemployment, health issues, financial reality, physical activity, psychological distress, and even risk behaviors such as alcohol and tobacco use (Reas & Stedal, 2015; Sabiston et al., 2019; Marschin & Herbert, 2021; Bucchianeri & Neumark-Sztainer, 2014; Fiske et al., 2014; Kling et al., 2019; Heckman & Manning, 2019) — these variables, apart from BMI, did not significantly predict body image outcomes in the present model.. This outcome suggests that, in our middle-aged men sample, fat-related indicators may exert a more immediate influence than broader contextual or behavioral factors. Alternatively, the effects of these variables may operate indirectly, mediated or moderated by psychological and cultural mechanisms, or emerge under specific adverse circumstances (Ricciardelli et al., 2007; Reas & Stedal, 2015). These results underscore the need for further investigation into how these factors interact and whether their effects become more pronounced in subgroups experiencing significant life stressors or cultural pressures.

In our predictive model, the *BMI Classification* variable was significantly associated with *Appearance Satisfaction*, indicating that higher BMI categories were related to lower satisfaction levels. Specifically, the negative regression coefficient suggests that as BMI classification increased — from normal weight to overweight and obesity — satisfaction with appearance decreased. This outcome aligns with previous literature demonstrating that higher BMI levels are associated with greater body dissatisfaction (Weinberger et al., 2016; Akerman & Borsa, 2022), particularly when weight-related stigma and internalized sociocultural ideals of thinness or muscularity are salient (Gruszka et al., 2022; Almeida et al., 2020).

Similarly, *Satisfaction With Abdominal Fat* was positively associated with overall *Appearance Satisfaction*, indicating that men who felt more at ease or accepting of their abdominal fat also reported greater satisfaction with their overall body image. This result aligns with evidence from the literature suggesting that central adiposity is particularly salient in male body evaluations (Ghannadiasl, 2021; Almeida et al., 2020). In our sample, perceptions of abdominal fat seem to play a key role in shaping global body image.

In contrast, the variable *Concern With Body Fat* was positively associated with greater *Importance Attributed to Appearance*, suggesting that heightened preoccupation with fatness intensifies the emotional investment placed on physical appearance. It resonates with the outcomes that sociocultural pressures to maintain a lean and muscular physique amplify the centrality of appearance in self-concept (Pimenta et al., 2022; Akerman & Borsa, 2022).

Overall, these findings reinforce the relationship between objective indicators (such as BMI) and subjective evaluations of fat distribution. They highlight how dissatisfaction and concern interact differently with evaluative components of body image, underscoring the influence of sociocultural ideals that valorize male muscularity while stigmatizing excess weight and fat.

Evaluation of Hypotheses in the Light of Results

These findings are consistent with integrative theoretical perspectives such as the model proposed by Matsumoto and Rodgers (2020). Their framework highlights the interplay of biological, psychological, and sociocultural factors in shaping body-related experiences across male midlife. Similarly, our results corroborate the idea that evaluative dimensions of body image, namely *Satisfaction with Appearance* and the *Importance attributed to it*, emerge from the interaction of subjective perceptions, internalized ideals, and contextual influences rather than from isolated determinants.

Regarding ao hypotheses, H1 proposed that social media use would be associated with more negative body image perceptions. This hypothesis was partially supported**.** *YouTube* use was positively associated with the importance attributed to appearance, and *WhatsApp* use was negatively associated with appearance satisfaction. These findings indicate that both platforms may contribute to detrimental body image outcomes, either by reinforcing appearance-related investment or by undermining satisfaction. Additionally, general internet use was also negatively associated with appearance satisfaction, further supporting the hypothesis. However, the associations identified for *TikTok* and *Instagram* use did not align with the hypothesis. Both platforms were negatively associated with appearance investment and showed no significant relationship with appearance satisfaction. These results diverge from the predicted pattern of detrimental body image outcomes..

In contrast, H2 — that psychological symptoms, particularly stress, anxiety, and depressive mood, would predict greater body image dissatisfaction — was not supported in this sample. Contrary to expectations, these variables did not significantly contribute to body image outcomes in the predictive model, suggesting that other mechanisms, such as sociocultural and behavioral factors, may exert a stronger influence than psychological symptoms *per se*.

H3 — that aging-related beliefs would negatively impact body image — was supported. Beliefs characterized by emotional distress (e.g., fear, sadness), unpredictability, and lack of control were associated with lower satisfaction and increased investment in appearance, confirming the detrimental role of negative aging schemas. Additionally, the belief in positive consequences of aging emerged as a significant predictor of Appearance Satisfaction, suggesting that constructive views of aging may buffer against body dissatisfaction.

Finally, H4 — that sociodemographic, health-related, and lifestyle factors would influence body image — was also partially supported. Among these variables, BMI classification and satisfaction with abdominal fat emerged as significant predictors of appearance satisfaction, whereas concern about fatness was associated with greater importance attributed to appearance.

Strengths and Limitations

This study provides advances in understanding the factors shaping body image among middle-aged men. However, several methodological and conceptual limitations should be acknowledged to guide the interpretation of these findings and inform future research.

Despite being widely used, BMI has notable limitations: it does not directly capture fat distribution and does not reliably reflect individual health risks associated with excess adiposity, which limits its accuracy as a diagnostic tool (Sweatt et al., 2024). Nonetheless, it remains a cornerstone of health assessments and research worldwide due to its simplicity, accessibility, cost-effectiveness, and standardized thresholds that enable comparability across studies (Nuttall, 2023; Sweatt et al., 2024).

The sample also poses limitations. The research aimed to include both Portuguese and Brazilian participants to enhance cultural diversity, but the final sample was relatively small

and geographically concentrated (with limited representation of Portuguese men), which restricts the generalizability of the results.

Additionally, the mixed composition of the sample (combining participants from two distinct cultural contexts) may have introduced unmeasured cultural differences that could have influenced the outcomes, warranting caution when interpreting the results**.** Furthermore, all variables were assessed through self-reported measures, which are inherently vulnerable to biases such as social desirability and recall inaccuracies.

Regarding the digital exposure variable, the use of a composite score aggregating time, frequency, and type of engagement does not allow disentangling the specific contributions of these components. This limits our ability to identify whether certain qualitative or quantitative aspects of internet use are more influential than others in shaping body image outcomes.

Furthermore, the cross-sectional design of this study limits the ability to establish causal relationships between the variables. It is not possible to determine whether, for example, appearance-focused internet use leads to increased importance attributed to appearance, or if individuals who already place higher importance on appearance engage more with such content. The direction of these associations therefore remains uncertain and should be explored in longitudinal or experimental research.

Nevertheless, this study also presents several strengths that enhance its contribution to the literature. First, it focuses specifically on middle-aged men, a population that remains underrepresented in BI research. Second, the sample included participants from two cultural contexts, Portugal and Brazil, providing an initial exploration of these dynamics across distinct, though culturally connected, settings**.** Moreover, CFAs supported the validity and reliability of the measurement model, ensuring the psychometric adequacy of the instruments for this population.

Additionally, although BMI is a widely used but limited proxy for adiposity, this study addressed some of its shortcomings by also examining participants' subjective satisfaction with and concern about body fat, offering a more nuanced perspective on fat-related perceptions.

Finally, the study adopted a comprehensive approach to biopsychosocial predictors within the same model, advancing the field by integrating age-specific psychological mechanisms with contemporary sociocultural pressures (social media use), offering a foundation for more updated clinical and public health strategies addressing BI concerns in this underrepresented population. Overall, our investigation sets the stage for more nuanced investigations in this area.

Clinical Practice Implications and Future Research

The multidimensional perspective advanced here allows clinicians to examine how these domains dynamically interact and mutually influence the body image perceptions in this population, without attributing causality or sufficiency to any single domain. Rather than fragmenting the phenomenon into discrete components, practitioners can employ an integrative framework to situate body image within the client's broader psychosocial context, facilitating the collaborative development of clinically relevant intervention goals.

Future research should address the limitations of the present study by employing longitudinal designs to better clarify the observed associations. Recruiting larger and more diverse samples would improve the generalizability of findings. Furthermore, incorporating assessment tools beyond self-reported measures could provide a more comprehensive understanding of these constructs. In addition, studies should examine the specific impact of different social media platforms on body image among middle-aged men, as the present findings suggest that even less visually oriented platforms, such as WhatsApp, may influence appearance-related outcomes. Finally, cross-cultural studies are needed to identify which

mechanisms underlying body image concerns in middle-aged men are universal and which are shaped by specific sociocultural contexts.

Conclusion

This study demonstrated that the two evaluative dimensions of body image in middle-aged men (*satisfaction with appearance* and *importance attributed to appearance*) are shaped by distinct patterns of beliefs, behaviors, and experiences.

Greater investment in appearance was associated with emotional distress related to aging, perceived lack of control over the aging process, concern with body fat, and engagement with visually driven platforms such as YouTube. In contrast, the use of Instagram and TikTok was unexpectedly linked to lower appearance investment, challenging assumptions based on younger populations.

Appearance dissatisfaction was related to higher BMI, negative perceptions of abdominal fat, beliefs that aging is unpredictable, and broader social media engagement, including WhatsApp use. Conversely, acceptance of abdominal fat, along with positive beliefs about aging, emerged as relevant correlates of appearance satisfaction. These findings suggest that both body acceptance and constructive self-perceptions of aging may buffer against dissatisfaction in this life stage.

In sum, the study achieved its objective by identifying key psychological, behavioral, and sociocultural factors associated with body image among middle-aged men.

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Appendices

Appendix 1 - Questionnaire Protocol (Portuguese form)

1. Título do Projecto

"Imagem Corporal em Homens de Meia-Idade"

2. Breve resumo introdutório aos participantes, sobre os objectivos do estudo.

Este estudo faz parte de uma Tese de Mestrado em Psicologia Clínica e da Saúde, estando sob a responsabilidade do aluno Maria Eduarda Araújo Carvalho da Cruz, com a orientação da Profa. Doutora Mafalda Leitão e co-rientação da Profa. Doutora Teresa Santos. Para quaisquer pedidos de informação acerca deste estudo, por favor, contacte a equipa de investigação através do email 50047098@europeia.pt. Este estudo explora o uso de redes sociais, sintomas psicológicos, o processo de envelhecimento e imagem corporal em homens de meia-idade. O questionário será aplicado a uma amostra de homens residentes em Portugal e no Brasil, com idades entre 40 e 65 anos, prevendo-se que o número de participantes seja de aproximadamente 150 pessoas.

3. Consetimento Informado

Caro Participante, nos termos do Regulamento Geral sobre a Proteção de Dados (RGPD) e da Lei n.º 58/2019 informamos que o presente formulário destina-se à recolha dos seus dados para o estudo com o título "Imagem Corporal em Homens de Meia-Idade" e que a entidade responsável pelo tratamento dos seus dados pessoais será a Ensilis, Educação e Formação, Unipessoal, Lda., com o NIPC 504 669 788 e com sede em Quinta do Bom Nome, Estr. da Correia 53, 1500-210 Lisboa, entidade instituidora da Universidade Europeia ("Universidade Europeia").

Ao preencher este formulário, compreende assim que os seus dados pessoais serão tratados para essa finalidade e declara, sob compromisso de honra, que toda a informação disponibilizada no presente formulário de investigação é verdadeira.

Em nenhuma situação, os seus dados pessoais serão fornecidos a terceiros, sendo os confidenciais e a sua análise tem como objetivo a obtenção de resultados globais e não individuais. Os dados serão usados apenas com a finalidade a que se refere esta investigação, e no âmbito de publicações e comunicações científicas/académicas, onde os resultados passarão a ser agregados e serão publicados sem individualizar a informação à luz dos direitos, liberdades e garantias.

Em concordância com as Declarações Helsínquia da Associação Médica Mundial, o código deontológico e ético da American Psychological Association e da Ordem dos Psicólogos Portugueses relativamente à investigação realizada, informamos que a sua participação é voluntária e pode recusar-se a participar ou retirar o consentimento a qualquer altura, sem nenhum tipo de prejuízo, ou penalização. Pode também igualmente corrigir os dados durante todo o tempo de preenchimento do questionário.

Ao dar este consentimento, entendo e declaro que:

- Tenho mais de 18 anos.
- Estou a fornecer este consentimento por vontade própria, e não sob coação ou sob qualquer forma de ameaça e que a não aceitação não se traduz em qualquer influência negativa.

- Terão acesso aos meus dados pessoais apenas as pessoas com necessidade de conhecer.
- Reconheço que não tenho direito a qualquer remuneração, royalties ou qualquer pagamento em relação a este consentimento.
- Posso exercer o direito de informação, acesso, rectificação, apagamento, oposição, limitação e portabilidade, ou retirar este consentimento sem que isso afete a legalidade do tratamento efetuado até então, solicitando-o por escrito para os contactos abaixo indicados:

por e-mail para: direitos.dados@universidadeeuropeia.pt; ou

por correio com carta registada com aviso de receção para: Quinta do Bom Nome, Estr. da Correia 53, 1500-210, Lisboa.

- A Universidade Europeia esforçar-se-á por responder prontamente ao qualquer pedido, no prazo máximo de 30 dias (prorrogável), da seguinte forma:

Confirmando a receção do pedido; ou

O recebimento, pela Universidade Europeia, de qualquer informação adicional que a entidade possa exigir para permitir o cumprimento da solicitação.

- Sem comprometer a minha relação existente com a Universidade Europeia, reservo-me ainda o direito de retirar o consentimento a qualquer momento após a confirmação desta declaração, aceitando fazê-lo por escrito para os contactos acima indicados.
- A Universidade Europeia a efetuar transferências internacionais, fá-las-á sujeitas a garantias adequadas;
- Existe o direito de apresentar uma reclamação junto da autoridade de controlo competente, a Comissão Nacional de Proteção de Dados.

☐ *Declaro que li e compreendi*

Declaro que ao responder a este questionário, expresso e inequivocamente consinto e autorizo que sejam tratados dados pessoais relativos à saúde física ou mental para fins de investigação científica, relacionados com a presente investigação.

Sim ☐

Não ☐

Para qualquer assunto adicional relacionado com o tema proteção de dados, privacidade e segurança da informação, entendo/entendemos que devo/devemos contactar o Encarregado da Proteção de Dados através dos contactos supra indicados comprovando a identidade/tipo de representação legal, descrevendo o assunto do pedido e fornecendo um endereço de e-mail, número de telefone e/ou endereço postal para a resposta. Para mais informações, qualquer dúvida relacionada com questões de proteção de dados pessoais relacionados, poderei/poderemos consultar a política de Privacidade da Universidade Europeia, disponível em: https://www.europeia.pt/politica-de-privacidade/.

Para mais esclarecimentos adicionais sobre a presente investigação, posso contactar o investigador responsável deste estudo através do email: 50047098@europeia.pt.

4. Instrumentos de Recolha de Dados

Questionário I

De seguida, encontrará uma série de questões relativas a dados sociodemográficos. Responda por favor de acordo com a sua situação. Não há respostas certas nem erradas.

1. Qual é a sua idade?

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

2. Qual é a sua nacionalidade?

Portuguesa

Brasileira

Dupla nacionalidade (Portuguesa e Brasileira)

Dupla nacionalidade (Portuguesa e outra)

Dupla nacionalidade (Brasileira e outra)

3. Encontra-se atualmente em uma relação de compromisso?

Tenho uma relação e vivo com a(o) minha/meu parceira(o)/cônjuge

Tenho uma relação, mas não vivo com a(o) minha/meu parceira(o)/cônjuge

Não tenho uma relação

4. Qual o peso da/do sua/seu parceira(o)?

Peso adequado/normal

Excesso de peso

Obesidade

5. Quantos filhos biológicos/adotivos/enteados tem?

1

2

3

4 ou mais

6. Atualmente, qual é a sua situação profissional?

Empregado a tempo inteiro

Empregado a tempo parcial

Desempregado

Reformado/Aposentado

Inativo temporariamente

Outra. Qual? _____

7. Qual foi o último grau de ensino que completou?

Responda a esta questão caso viva em Portugal (se viver no Brasil, responda à questão seguinte por favor):

2.º ciclo do ensino básico (5º e 6º anos) (QNQ nível 1)

3.º ciclo do ensino básico (7º, 8º e 9º anos) (QNQ nível 2)

Ensino secundário (10º, 11º e 12º anos) (QNQ nível 3)

Cursos Profissionais, EFA tecnológicos e de Aprendizagem (QNQ nível 4)

Cursos CET e Técnicos Superiores Profissionais (CTESPs) (QNQ nível 5)

Licenciatura ou Bacharelato (QNQ nível 6)

Mestrado (QNQ nível 7)

Doutoramento (QNQ nível 8)

Responda a esta questão caso viva no Brasil (se viver em Portugal, responda à questão anterior por favor):

Ensino Fundamental incompleto

Ensino Fundamental completo

Ensino Médio completo

Ensino Médio incompleto

Superior incompleto

Superior completo (Licenciatura, Bacharelado ou Tecnólogo)

Pós-graduação Lato Sensu (Especialização ou MBA)

Pós-graduação Stricto Sensu - Mestrado/Doutorado

8. Qual é o rendimento anual bruto do seu agregado/núcleo familiar?

Responda a esta questão caso viva em Portugal (se viver no Brasil, responda à questão seguinte por favor):

Até 7.479€

Mais de 7.479 € até 11.284 €

Mais de 11.284 € até 15.992 €

Mais de 15.992 € até 20.700 €

Mais de 20.700 € até 26.355 €

Mais de 26.355 € até 38.632 €

Mais de 38.632 € até 50.483 €

Mais de 50.483 € até 78.834 €

Mais de 78.834 €

Responda a esta questão caso viva no Brasil (se viver em Portugal, responda à questão anterior por favor) (valor anual, incluindo o 13º salário):

Até R$ 15.600 (equivalente a 1 salário mínimo por mês)

Entre R$ 15.601 e R$ 26.400 (1 a 2 salários mínimos por mês)

Entre R$ 26.401 e R$ 39.600 (2 a 3 salários mínimos por mês)

Entre R$ 39.601 e R$ 52.800 (3 a 4 salários mínimos por mês)

Entre R$ 52.801 e R$ 79.200 (4 a 6 salários mínimos por mês)

Entre R$ 79.201 e R$ 120.000 (6 a 10 salários mínimos por mês)

Mais de R$ 120.000 (**acima** de 10 salários mínimos por mês)

Questionário II

De seguida, encontrará uma série de questões relativas a dados de estilo de vida e saúde. Responda por favor de acordo com a sua situação. Não há respostas certas nem erradas.

1. **Qual o seu peso atual (kg)?**

_____

2. **Qual a sua altura (cm)?**

_____

3. **Há quanto tempo tem este peso?**

Há 1 mês

Entre 2 e 6 meses

Entre 6 meses e 1 ano

Há 1 ano

Entre 1 e 2 anos

Mais de 2 anos

4. **Tem atualmente alguma doença física?**

Não

Sim. Qual? _____

5. **Tem atualmente algum problema psicológico?**

Não

Sim. Qual? _____

6. Quão frequentemente sentiu níveis elevados de humor deprimido/depressão nos últimos no último mês?

Nunca

Raramente

Às vezes

Frequentemente

Diariamente

7. Quão frequentemente sentiu níveis elevados de ansiedade, no último mês?

Nunca

Raramente

Às vezes

Frequentemente

Diariamente

8. Quão frequentemente sentiu níveis elevados de stress, no último mês?

Nunca

Raramente

Às vezes

Frequentemente

Diariamente

10. Pratica algum tipo de atividade física (ex., ir ao ginásio, caminhadas, etc.)?

Não

Sim

Se sim, quantas vezes por semana?

Uma vez por semana

Duas vezes por semana

Três vezes por semana

Quatro vezes por semana

Cinco vezes por semana

Seis vezes por semana

Todos os dias

11. Como avalia a qualidade do seu sono? Assinale a melhor opção, em que 1 equivale a péssima e 10 a excelente.

Péssima 1 2 3 4 5 6 7 8 9 10 Excelente

12. No seu passado, alguma vez teve excesso de peso/obesidade?

Não

Sim

13. Tem antecedentes familiares (por exemplo, pais, avós) com obesidade?

Não

Sim

14. Fuma, atualmente?

Não

Sim

15. Caso seja fumador/fumante, fuma todos os dias?

Não

Sim

16. Consome bebidas alcoólicas?

Não

Sim

Se sim, com que regularidade?

Diariamente

Uma a **três** vezes por semana (incluindo fins-de-semana)

Uma a duas vezes por mês

17. A ideia de ter gordura no meu corpo preocupa-me.

Discordo fortemente

Discordo

Nem concordo, nem discordo

Concordo

Concordo fortemente

18. Como você avalia a gordura em sua região abdominal?

Muito baixa

Adequada

Acima do ideal

Muito acima do ideal

19. Avalie sua satisfação com a gordura na região do abdômen (1 = nada satisfeito; 10 = extremamente satisfeito).[1]

Nada satisfeito 1 2 3 4 5 6 7 8 9 10 **Extremamente satisfeito**

Questionário III

Este questionário pretende obter indicadores acerca do seu uso de redes sociais. Indique para cada item a resposta com que mais se identifica.

1. **Em média, quanto tempo por dia passa online (*ou seja, a navegar na internet)*?**

   Entre 0 a 2 horas

   Entre 2 a 3 horas

   Entre 3 a 4 horas

   Mais de 4 horas

2. **Quando está *online (ou seja, a navegar na internet)*, com que frequência recebe informações (como por exemplo, anúncios ou publicidade) sobre *fitness*, perda de peso, formato corporal ou aparência?**

   Nunca

   Raramente

   Às vezes

   Frequentemente

   Sempre (todas as vezes que estou online)

3. **Quando está *online (ou seja, a navegar na internet)*, com que frequência procura ativamente por informações sobre *fitness*, perda de peso, formato corporal ou aparência?**

   Nunca

   Raramente

   Às vezes

   Frequentemente

   Sempre (todas as vezes que estou online)

4. **Em média, quanto do tempo que passa online (a navegar na internet) é usado para procurar informações sobre *fitness*, perda de peso, formato corporal ou aparência?**

   Nenhuma parte do tempo que passo online (a navegar na internet)

   Menos de metade do tempo que passo online (a navegar na internet)

   Metade do tempo que passo online (a navegar na internet)

Mais de metade do tempo que passo online (a navegar na internet)

Todo o tempo que passo online (a navegar na internet)

5. **Quais são as plataformas de redes sociais que mais utiliza (pode selecionar mais do que uma opção):**

Facebook

Whatsapp

Instagram

Twitter

YouTube

Telegram

TikTok

Outras _____

Questionário IV

Estas questões avaliam as suas experiências e opiniões sobre o envelhecimento. Uma vez que todos envelhecemos, estas questões podem ser respondidas por pessoas de qualquer idade. Não existem respostas certas ou erradas — apenas as suas experiências e opiniões são importantes. Mesmo que algumas frases sejam sobre alguma coisa sobre a qual não pensa frequentemente, por favor tente dar uma indicação acerca das suas opiniões, respondendo a todas as perguntas.

A) **Opiniões sobre envelhecer**

Estamos interessados nas suas experiências e opiniões sobre o envelhecimento. Por favor, dê a sua opinião sobre as frases seguintes (discordo fortemente, discordo, não concordo nem discordo, concordo, concordo fortemente). Assinale a resposta que melhor descreve a sua opinião.

Item	Questão	Discordo Fortemente	Discordo	Não Concordo Nem Discordo	Concordo	Concordo Fortemente

1	Tenho consciência de estar a envelhecer a cada momento
2	Estou sempre consciente da minha idade
3	Sempre me considerei velho(a)
4	Estou sempre consciente do facto de estar a envelhecer
5	Sinto a minha idade em tudo o que faço
6	À medida que envelheço fico mais sábio
7	À medida que envelheço continuo a desenvolver-me como pessoa
8	À medida que envelheço aprecio mais as coisas
9	Fico deprimido(a) quando penso que envelhecer pode afetar as coisas que consigo fazer
10	A qualidade da minha vida social na idade avançada depende de mim

11	A qualidade das minhas relações com os outros na idade avançada depende de mim
12	Continuar a viver plenamente a vida depende de mim
13	Fico deprimido(a) quando penso no efeito que envelhecer pode ter na minha vida social
14	À medida que envelheço, há muito que posso fazer para manter a minha independência
15	O facto de o envelhecimento ter lados positivos depende de mim
16	Envelhecer limita as coisas que consigo fazer
17	Envelhecer torna-me menos independente
18	Envelhecer torna tudo mais difícil para mim
19	À medida que envelheço, participo em menos atividades

20	À medida que envelheço não lido tão bem com os problemas que aparecem
21	Abrandar o ritmo, devido à minha idade, não é algo que eu possa controlar
22	Quando for mais velho(a), a minha capacidade de me movimentar não é algo que dependa de mim
23	Não tenho controlo sobre a possível perda de vigor e gosto pela vida
24	Não tenho controlo sobre os efeitos do envelhecimento na minha vida social
25	Fico deprimido(a) quando penso no envelhecimento
26	Preocupo-me com os efeitos que o envelhecimento pode ter nas minhas relações com os outros

27	Passo por ciclos em que a minha experiência de envelhecer ora melhora, ora piora
28	A minha consciência de estar a envelhecer aumenta e diminui em ciclos
29	Sinto-me zangado(a) quando penso que estou a envelhecer
30	Tenho fases em que me sinto velho(a)
31	A minha consciência de estar a envelhecer varia bastante de dia para dia
32	Tenho fases em que me vejo como velho(a)

Questionário 5

DISCORDO FORTEMENTE	**DISCORDO**	**NEM CONCORDO NEM DISCORDO**	**CONCORDO**	**CONCORDO FORTEMENTE**

1. Olho-me ao espelho com frequência durante o dia para ter a certeza que estou bem arranjado e vestido.

2. Estou satisfeito com a minha aparência física

3. Para que o dia me corra bem, eu tenho de me sentir bem com a minha aparência.

4. É muito mais fácil gerir as minhas tarefas diárias quando me sinto bem com a minha aparência

5. A minha imagem é uma parte importante de quem eu sou

6. Há muitas coisas no meu corpo que eu gostava de mudar se pudesse

7. Eu perco pouco tempo a arranjar-me antes de sair de casa

8. O envelhecimento vai tornar-me menos atrativo.

9. É muito importante para mim que os outros me achem atraente.

10. Eu gosto do meu corpo.

11. Eu sinto-me uma pessoa atraente a maior parte dos dias

12. Sentir-me bem com a minha imagem é muito importante para mim**.**

Appendix 2 - Ethics Committee Approval

PARECER

DA COMISSÃO DE ÉTICA PARA A INVESTIGAÇÃO

DA UNIVERSIDADE EUROPEIA

Projeto de Investigação em análise: *Imagem Corporal em Homens de Meia-Idade*
Investigador/a: Maria Eduarda Araújo Carvalho da Cruz (estudante)

Orientador/a: Teresa Cristina da Cruz Fatela dos Santos

Coorientador/a: Mafalda Rodrigues Leitão

Área Científica: Psicologia

Âmbito do projecto (Curso e UC ou outro): Dissertação Mestrado Psicologia Clínica e da Saúde F2F

A Comissão de Ética para a Investigação da Universidade Europeia dá o seu parecer favorável ao projeto de investigação em epígrafe, tendo por base as informações a que teve acesso através da sua orientadora e co-orientadora, designadamente o acesso a dados pessoais pseudonimizados. A pseudonimização dos dados considerados pessoais, é recomendada por forma a reduzir os riscos de exposição dos titulares de dados e a possibilitar uma segurança adicional para a Universidade Europeia, entidade responsável pelo tratamento. Em caso de vir a ser utilizado dados pessoais, reitera-se que seja cabalmente respeitado o Regulamento (UE) 2016/679 do Parlamento Europeu e do Conselho, de 27 de abril de 2016, relativo à proteção das pessoas singulares no que diz respeito ao tratamento de dados pessoais e à livre circulação desses dados.

Reitera-se que sejam respeitadas, ainda, os Princípios Éticos para a Investigação Médica em Seres Humanos, constantes das Declarações de Helsínquia da Associação Médica Mundial, bem como as recomendações da Organização Mundial de Saúde e da União Europeia, no que se refere à experimentação que envolva seres humanos.

Lisboa, 08 de Fevereiro de 2025

Susana Antas Videira
Presidente da Comissão de Ética

Appendix 3 - Descriptive Statistics and Psychometric Sensitivity Analysis of the Appearance Beliefs Scale Items

		M *(DP)*	*Me*	Min	Max	*Sk*	*Ku*	λ
Satisfaction	ABS2	3.122 (1.148)	3.0	1.0	5.0	-0.063	-1.031	0.57
	ABS10	3.425 (1.070)	4.0	1.0	5.0	-0.614	-0.174	0.59
	ABS11	3.376 (1.066)	3.0	1.0	5.0	-0.520	-0.034	0.64
Importance	ABS1	2.961 (1.258)	3.0	1.0	5.0	-0.28	-1.139	0.52
	ABS3	3.227 (1.032)	3.0	1.0	5.0	-0.344	-0.567	0.61
	ABS4	3.320 (0.993)	4.0	1.0	5.0	-0.543	-0.272	0.58
	ABS5	3.481 (1.014)	4.0	1.0	5.0	-0.722	-0.106	0.62
	ABS9	2.945 (1.177)	3.0	1.0	5.0	-0.016	-0.956	0.69
	ABS12	3.365 (0.977)	4.0	1.0	5.0	-0.837	0.479	0.61

Appendix 4 - Descriptive Statistics and Psychometric Sensitivity Analysis of the Aging Perceptions Questionnaire (APQ) Items

		M (DP)	*Me*	Min	Max	*Sk*	*Ku*	λ
Cronic Timeline	APQ1	4.02 (0816)	4.0	1.0	5.0	-1.219	2.205	0.65
	APQ2	4.03 (0.781)	4.0	2.0	5.0	-0.907	1.016	0.63
	APQ3	2.38 (1.122)	2.0	1.0	5.0	0.602	-0.534	0.61
	APQ4	3.80 (0.880)	4.0	1.0	5.0	-0.922	0.933	0.57
	APQ5	2.73 (1.064)	3.0	1.0	5.0	0.084	-1.051	0.71
Cyclical Timeline	APQ27	2.93 (1.078)	3.0	1.0	5.0	-0.082	-0.773	0.63
	APQ28	2.76 (1.052)	3.0	1.0	5.0	-0.048	-0.929	0.70
	APQ30	3.11 (1.183)	3.0	1.0	5.0	-0.277	-0.879	0.71
	APQ31	2.70 (1.095)	3.0	1.0	5.0	0.077	-0.827	0.72
	APQ32	2.83 (1.192)	3.0	1.0	5.0	-0.022	-1.083	0.76
Positive Consequences	APQ6	3.77 (0.851)	4.0	1.0	5.0	-0.959	1.160	0.63
	APQ7	4.06 (0.773)	4.0	1.0	5.0	-1.046	1.866	0.55
	APQ8	3.87 (0.945)	4.0	1.0	5.0	-0.689	0.029	0.59
Negative Consequences	APQ16	3.41 (1.059)	4.0	1.0	5.0	-0.638	-0.352	0.69
	APQ17	2.99 (1.095)	3.0	1.0	5.0	-0.055	-0.899	0.68
	APQ18	2.82 (1.106)	3.0	1.0	5.0	0.132	-0.923	0.77
	APQ19	2.95 (1.107)	3.0	1.0	5.0	-0.100	-0.859	0.62
	APQ20	2.46 (1.078)	2.0	1.0	5.0	0.525	-0.476	0.75
Positive Control	APQ10	4.03 (0.734)	4.0	2.0	5.0	-0.641	0.629	0.63
	APQ11	3.99 (0.782)	4.0	2.0	5.0	-0.545	0.086	0.59
	APQ12	4.13 (0.731)	4.0	2.0	5.0	-0.634	0.417	0.56
	APQ14	3.81 (0.857)	4.0	1.0	5.0	-0.794	0.698	0.56
	APQ15	3.93	4.0	1.0	5.0	-0.801	0.954	0.47

		(0.800)						
Negative Control	APQ21	2.90 (1.055)	3.0	1.0	5.0	0.287	-0.887	0.47
	APQ22	3.12 (1.107)	3.0	1.0	5.0	0.041	-0.860	0.65
	APQ23	3.23 (1.139)	3.0	1.0	5.0	-0.250	-0.753	0.66
	APQ24	3.25 (1.125)	3.0	1.0	5.0	-0.196	-0.988	0.74
Emotional Representations	APQ9	2.81 (1.196)	3.0	1.0	5.0	0.073	-1.037	0.74
	APQ13	2.59 (1.169)	2.0	1.0	5.0	0.414	-0.733	0.78
	APQ25	2.49 (1.245)	2.0	1.0	5.0	0.634	-0.683	0.79
	APQ26	2.73 (1.158)	2.0	1.0	5.0	0.316	-0.890	0.75
	APQ29	2.35 (1.148)	2.0	1.0	5.0	0.691	-0.411	0.79