Body image in individuals with intestinal ostomy

Background: Individuals with an intestinal ostomy often experience changes in physical appearance and function, which affect body image and require psychological adjustment. Alongside physical recovery, they must cope with altered self-perception and daily needs. Health psychology concepts, such as body image, are central to understanding the experience of individuals with an intestinal stoma. Within this framework, social comparison theory offers insight into how individuals interpret and respond to body image disturbances by comparing themselves to others, influencing their emotional and behavioural responses.
Aim: This paper aims to appraise social comparison theory, as one of the factors that influence the individual's perception of body image following intestinal stoma surgery.
Methods: This review evaluates the impact of altered body image perception through a traditional literature review, framed by the body image care model and social comparison theory, with a focus on upward and downward comparisons to critically analyse the experiences of individuals living with an intestinal stoma.
Results: Social comparison shapes how individuals perceive changes in their body image. Depending on its direction, the aspect being compared, and target similarity, individuals may engage in upward or downward comparisons with varying outcomes.
Conclusion: Body image changes following ostomy surgery disrupt the key components of the body image care model. Balanced adjustments are vital for maintaining quality of life.

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Key words
- Body image
- Colostomy
- Downward comparison
- Ileostomy
- Upward comparison

A colostomy or ileostomy is a surgically created opening on the abdomen to divert the flow of faeces (Swan, 2011) . The most common aetiology resulting in stoma formation includes inflammatory bowel disease (IBD), malignancy and trauma (Melotti et al, 2013). Depending on the aetiology, stoma creation can be temporary or permanent, and results in changes to physical appearance (Salomé and de Almeida, 2014; Thorpe et al, 2016). Following stoma creation, the person must adapt to the new ostomy, both physically and psychologically (de Campos et al, 2017).

In the postoperative period for any surgery , apart from dealing with recovery from the major operative procedure, the patient must also deal with the alteration of body image (BI), changes in bodily function, and physical and personal needs (Black and Notter, 2021).

Several aspects of health psychology apply to individuals with stoma, such as BI, adjustment and acceptance, and stress and coping mechanisms (Ayaz-Alkaya, 2019). Within the concept of BI, various theories, such as social comparison theory, offer insight into understanding how individuals respond to and behave following BI disturbance, particularly in patients with stoma (Byfield, 2018)

The concept of body image

Early research on BI by Henry Head in the 1900s focused on the concept of the body schema, which theorised that the brain coordinates changes in body posture and movement (Cash et al, 2011). However, the psychological variables received limited attention in developing this theory (Cash et al, 2011).

In 1935, Paul Schilder discussed the importance of biopsychosocial elements of BI, highlighting the necessity of exploring the neurological, psychological and sociocultural dimensions of the BI, where he further proposed a framework of BI consisting of three interrelated domains: physiology, psychosexual and psychosocial (Nokaneng, 2021). In his writing, Schilder described BI as a dynamic mental representation of one's body, which starts at a young age and develops throughout life, shaped by individual life experiences across the three domains (Newell, 1999). It is a complex, multidimensional concept that includes how people perceive and emotionally relate to their BI and engage in daily life (Demaria et al, 2024).

The lack of practical definitions and descriptions of BI for nursing care led to the development of the body image care model

by Price in 1990. Previous explanations of BI often relied on complex measurements and methods, which were more suitable for research settings than clinical nursing practice (Price, 1990). Price suggested that the body image care model be used to assist healthcare professionals in understanding the diagnosis of altered BI and implementing appropriate intervention.

He described that the model encompasses the interaction of three elements of body reality, body ideal and body presentation and their impact on self-image. The model also stems from recognising that the adaptation process is an active, interactive response influenced by reality and an individual's interpretation of their environment, highlighting its significance in nursing care. Maintaining a balance among the three domains of the model enables individuals to adapt to their BI to varying degrees in response to sudden or gradual environmental changes. This insight helps integrate the concept of the body image care model into clinical practice, especially in a field where physical changes are prominent, to improve individual's adaptation process to their BI (Price, 1990) .

The social comparison theory

In 1954, Leon Festinger theorised in his social comparison theory that in the absence of objective standards, an individual tends to assess their opinion and abilities by comparing themselves to others to determine their self-worth, identity and social value. Based on the theory, the comparison process is essential for individuals to engage in self-evaluation and self-enhancement, thereby reducing uncertainties about their attributes (Caliskan et al, 2024).

Comparisons made with individuals perceived as alike are likely to significantly impact the outcome more than those with dissimilar targets (Lockwood and Kunda, 1997). According to the social comparison theory, individuals can evaluate themselves through upward or downward comparisons to assess their abilities (Festinger, 1957; Wills, 1981). In upward comparison, individuals evaluate themselves against those they perceive as superior, which can either motivate self-improvement or evoke a sense of inadequacy (Gibbons and Buunk, 1999).

Friend and Gilbert (1973) found that individuals threatened by failure, avoided upward comparisons to protect their self-esteem, an observation that led to the development of downward comparison theory.

Consistent with this, individuals can boost their sense of self-competence and well-being through downward comparisons, which involve comparing themselves to those who are less fortunate (Wills, 1981). Wills argued that downward comparison only involves comparing oneself to those worse off, but also occurs through lateral comparison with others in similar circumstances (Buunk and Gibbons, 2007).

Although Festinger emphasised that comparing oneself to others helps individuals understand themselves, he also recognised that social comparisons lead to a general pressure for uniformity, particularly in opinions (Krizan, 2018). Social comparison can sometimes lead to adverse outcomes and contribute to the worsening of one's condition (Beck and Alford 2009). Regardless, the outcome of comparison can be positive or negative, depending on factors such as its direction, the aspect being compared, and target similarity (Brown et al, 2007).

In relation to BI, the social comparison theory postulates that individuals are inherently motivated to evaluate their opinions and abilities by referencing external sources and that the image portrayed by the external sources becomes the basis of comparison to physical realities against others and idealised images (Festinger, 1957). This is evident in a 2009 review by Sainsbury, which highlights that societal expectations have established rigid beauty standards, often rooted in physical appearances as a measure of social value, and this practice has become more pervasive due to the influence of social media, which amplifies societal definitions of beauty. Changes and imperfections in the human body may lead to an individual being stigmatised, with society often perceiving such marks as indicative of moral and personal flaws beyond the physical deformity itself (Price, 1990). According to Sainsbury (2009), through this observation, individuals whose appearance deviates from these expectations are subjected to criticism and negative judgements, further impacting their perception of BI.

Understanding body image in the individual with a stoma

In individuals living with a stoma, the physical changes and alteration in the body's physiological process following surgery may be perceived as deviating from the norms (Thorpe et al, 2009). Individuals with a stoma may compare themselves to individuals without a stoma, focusing on societal standards of physical appearance and functionality perceived as usual (Black and Notter, 2021), which aligns with the principles of social comparison theory. The internalised

association of a stoma with uncleanliness and embarrassment often compels individuals to adopt behaviour aimed at concealing their altered physical state in order to conform to social norms (Black and Notter, 2021). Understanding this scenario across the three domains of the body image care model helps emphasise the role of healthcare professionals in helping individuals adapt to altered BI by addressing physical, psychological and social dimensions.

The effect of downward comparison on the individual with intestinal ostomy

De Campos et al (2017) conducted a longitudinal qualitative study to evaluate the impact of a colostomy on individuals' emotional, psychological, sexual, social and professional lives before and after ostomy surgery. The study utilised a standardised questionnaire conducted in two phases and included 15 participants aged 20 years or older, comprising 10 men and 5 women. In the pre-ostomy phase, 11 of the participants were in employment.

The first phase assessed various aspects of participants' lives before undergoing ostomy surgery, such as physical, social, professional and sexuality aspects. During the second phase, 6 months post-surgery, the same aspects were reassessed to evaluate potential differences between preoperative and postoperative responses; however, two participants' deaths were reported during this period.

The study found that, in the preoperative period, 76.9% of participants were in employment, but only 30% continued working after ostomy surgery. Among those who returned to work, varying degrees of decline in work activity were observed, although the result was not statistically significant ($p=0.64$). In the postoperative period, while a subset of individuals maintained their pre-surgery level of social engagement (38.46%), a statistically significant number displayed reduced willingness to engage in social activity (61.54%, $p=0.01$). One participant reported avoiding church due to concerns about the sound and odour associated with the stoma, while another refrained from using buses after facing humiliation when a fellow passenger complained about an unpleasant odour (de Campos et al, 2017). The experiences of these two participants illustrated how individual life experiences shape responses to daily life, particularly in relation to BI. These accounts underscore the negative impact of the surgery on social interactions, influenced by changes in perceptions of their BI .

The study by de Campos et al (2017) highlighted how a colostomy changes patient's perception towards their BI, leading to feelings of stigma, reduced social function, and working performance. Although some findings, such as changes in work performance after surgery were not statistically significant, the study highlighted the considerable challenges individuals with stoma face in maintaining occupational activities and fulfilling their social roles. However, the two deaths reported during the second phase of the study led to a reduced sample size, potentially introducing attrition bias into the results. Despite being a longitudinal study, the 6-month interval between preoperative and postoperative periods may not have been long enough for some individuals to fully adapt to the changes associated with ostomy surgery, which could result in inconsistent outcomes across participants and limit the generalisability of the study's finding to other groups with similar concerns.

The study by de Campos et al also evaluated sexual relationships and revealed that most participants admitted the colostomy had a negative impact on their sexual life, with a highly statistically significant result ($p=0.008$).

Cardoso et al. (2015) reported similar findings in their descriptive study, which utilised an interview-based approach to explore the sexual experience of patients with colostomy or ileostomy. In their study, six male and four female participants with a permanent stoma for over a year were recruited. The participants described that the physical changes brought by the surgery led to a new experience of sexuality. Male participants often reported experiencing erectile dysfunction and ejaculation issues resulting from nerve damage from rectal surgery, which negatively impacted their sense of masculinity and sexual identity , a clear example of changes in body reality. Similarly, female participants reported dyspareunia and fear of rejection, with their primary concerns rooted in self-esteem issues arising from changes in BI (Cardoso et al, 2015).

These gendered experiences align with the social comparison theory, which suggests that BI is shaped by cultural and societal expectations that impose pressure on individuals to conform to social standards, even when facing significant health challenges (Martins et al, 2011). Societal expectations that prioritise ideals of femininity such as slimness, smooth skin and physical attractiveness illustrate the role of body ideals, which exacerbate these challenges, creating added pressure for women to conform to these standards (Shoraka et al, 2019).

As a result, the individual's body presentation was shaped by fear of rejection and heightened self-consciousness, which contribute to further imbalance within the body image care model, and led to a loss of self-esteem (Price, 1990; Kiliç et al, 2007). This often resulted in attempt to hide their stoma from others, reinforcing the disruption in the body image care model (Cardoso et al, 2015). However, in the study conducted by Cardoso et al (2015), the presence of two researchers and a program nurse serving as a mediator during the interview sessions may have raised confidentiality concerns, potentially discouraging participants from providing a truthful and transparent response to the interview question, thereby affecting the rigour of the study .

The effect of upward comparison on the individual with intestinal ostomy

Although numerous studies suggested that having a stoma negatively impacts BI, Druss et al (1972) observed that some individuals respond to having a stoma in varying ways, reflecting differences in personal perception and ability to adapt. For example, in his interview with four women who had an ileostomy due to ulcerative colitis (UC), each expressed a preference to have the stoma rather than enduring the devastating symptoms of UC. These women viewed the stoma as an essential part of their body, allowing them to manage UC symptoms while maintaining their lifestyle. This positive perspective contributes to their identity and gives them a sense of empowerment and resilience. The same women demonstrated enthusiasm and willingness to display their stoma and participate in educational demonstrations (Druss et al, 1972).

A similar observation of positive outcomes from having an ileostomy was reported in a hermeneutic phenomenology study of 21 participants by Smith et al (2017). Through an in-depth interview, and analysis using interpretive phenomenological analysis (IPA), the study revealed that 12 of the participants reported experiencing a destabilising impact on their sense of self due to the stoma, with several participants specifically noting changes and impairments in BI. Interestingly, 11 participants reported that having a stoma positively influenced their sense of self. Some participants re-conceptualise their previous insecurities related to the stoma, which enhanced their self-confidence. One participant viewed the ileostomy as an opportunity to connect with others, incorporating it into his identity rather than reducing self-worth. He used this experience to advocate for others with disability at work, fostering a more positive outlook and a renewed sense of purpose. Another participant mentioned that comparing her situation to those facing greater challenges improved her self-esteem, which helped her cope better with her difficulties (Smith et al, 2017). This supports the notion of the concept of downward comparison in the social comparison theory.

In the study, the authors acknowledged that the heterogeneity of the sample conflicted with IPA's homogeneity principle, potentially introducing sampling bias. However, the analysis found no differences in terms of age, gender or condition leading to the ileostomy, prompting the researchers to treat the sample as a single group. Despite this, failing to adhere to IPA's standards make it difficult to identify consistent patterns due to sample heterogeneity (Brocki and Wearden, 2006). This potentially distorted the findings and analysis, hindering the ability to draw valid conclusions applicable to a specific group.

A more recent study by Song et al (2020) demonstrated a positive outcome of social comparison in an observational, cross-sectional study. Using a convenience sample of 282 patients, the researchers investigated the impact of stoma status (temporary versus permanent stoma) on psychological distress and quality of life. The study found that individuals with a stoma experienced poorer BI and higher levels of depression and anxiety compared to those without a stoma despite having the same diagnosis ($p<0.05$). Among those with stomas, individuals with a permanent stoma showed significantly poorer BI ($p<0.01$) and higher depression levels ($p<0.05$) compared to those with a temporary stoma (Song et al, 2020). These findings can be explained by the permanent nature of the stoma, which may lead to greater difficulties in adjusting to physical and emotional changes. In contrast, individuals with a temporary stoma may remain more hopeful, anticipating a potential reversal.

Nonetheless, da Silva et al (2008) found that, over time, patients' BI improved post-surgery, demonstrating that even those facing permanent stomas can adapt positively, aligning with Schilder's view of BI as a dynamic process. This improvement supports Price's body image care model, which emphasised the importance of balancing body reality, body ideal, and body presentation to achieve a satisfactory BI (Price, 1990). Therefore, while Song et al (2020) highlighted the initial challenges of a permanent stoma, da Silva et al's findings suggest that patients may gradually experience improvements in BI,

reflecting the adaptive nature of this process post-surgery over time.

Conclusion

The evidence illustrates that body image disturbance following intestinal ostomy creation is complex and mediated by processes of social comparison. While some individuals experience stigma, reduced self-esteem, and certain degree of disruption to social and occupational functioning, others demonstrate resilience by reframing their circumstances through downward, lateral or positive upward comparisons.

Theories of BI and social comparison highlights that adaptation is a dynamic process, shaped by individual, cultural and social factors. These underscore that BI in the context of intestinal ostomy is not solely defined by physical alteration but by the interaction between personal meaning, societal expectations, and various coping strategies, including social comparison. Acknowledging this dynamic enhances theoretical understanding while also carrying implications for clinical practice. To promote a good quality of life, healthcare professionals must address these aspects by facilitating an appropriate adaptation process that helps individuals restore balance in their BI, as outlined by the body image care model .

Patients with a stoma often engage in social comparisons that shape their self-perception and coping strategies. While comparisons with those without a stoma or with idealized body image can evoke feelings of inadequacy, comparisons are not uniformly beneficial or harmful. Some individuals gain strength from downward or lateral comparisons, which foster acceptance and resilience, while others find positive upward comparisons in role model who live confidently with a stoma, for example through advocacy or community visibility. Recognising this complexity allows healthcare professionals to support patients in fostering constructive comparisons that encourage adaptation and self-esteem. ●

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