Introduction

Body image disturbance, more specifically body dissatisfaction and drive for thinness, is considered central to the development of eating pathology.\(^1\)

The sociocultural theory of eating disorders posits that the pressure to be thin, as perceived from sources such as the media, family and peers, leads to internalization of the sociocultural thin-ideal images, which then produces heightened body dissatisfaction and ultimately disordered eating.\(^2\)–\(^5\)

Consistent with the theory, a substantial body of research confirms that exposure to thin-ideal images adversely affects body image\(^6,7\) and eating behaviors in sighted women.\(^8,9\)

To date there has been little research on the impact of perceived sociocultural pressure to be thin in visually impaired individuals. We found only two studies that compared body dissatisfaction, restrained eating and appearance attitudes in blind and sighted women and both reported significantly lower levels of body dissatisfaction and restrained eating in the blind respondents.\(^10,11\) The more recent study\(^11\) also found that congenitally blind women placed much less importance on appearance and were significantly less aware of and endorsed the thin-ideal as a personal goal significantly less than their sighted peers. The authors suggested that congenitally blind women might be protected from developing body dissatisfaction due to their lack of exposure to the thin-ideal images in the visual media. Additionally, the authors hypothesized that the distinct challenges blind women face might preclude a focus on appearance. In contrast with these findings, an ethnographic study investigating body image in the blind found that also visually impaired people are quite concerned with their appearance and that their inability to see does not prevent them from adopting sighted people's body ideals, which they could describe in detail.\(^12\)

Although anorexia nervosa and bulimia nervosa are generally thought to be exceptional in the visually impaired,\(^13\) case reports of eating disorders in this population\(^14–22\) suggest that the inability to see does not protect against the development of an eating disorder.\(^16,15\) Yet, the roles of appearance investment and thin-ideal internalization as possible risk factors for eating disorders in the blind have been generally neglected. The influence of internal conflicts,\(^17\) developmental problems\(^16\) and inappropriate stress-coping skills\(^21\) accentuated by the visual impairment, have been argued to be stronger than that of body image dissatisfaction,
which was even absent in the one reported case of bulimia nervosa.\textsuperscript{21}

In the current report we present a case of bulimia nervosa in a congenitally blind woman with a characteristic psychopathological presentation, including body image dissatisfaction and a desire for thinness.

The patient consented to have her case data used for publication in the scientific literature and has read and approved the final manuscript.

Case Report

B. is a 28-year-old blind woman of Dutch descent who was referred by her family doctor to our eating disorders clinic with a 10-year history of eating disorder. B. has been totally blind since her first year of life as the result of a retinoblastoma.

Her eating-disorder-related symptoms included intense food and weight preoccupations, distorted body image, fear of fatness, marked dietary restrictions, binge eating, self-induced vomiting, excessive exercise, and laxative abuse. She expressed a high degree of dissatisfaction with her weight and body size, terming herself “fat and big”, with a particular focus on her breasts, stomach, thighs and upper arms. She also reported concerns about other aspects of her appearance, i.e., her hair and face, cellulite, acne and looking old. She had regularly been visiting pro-anorexia websites for some time and spent a lot of money on beauty products. She weighed herself at least twice daily and compared herself to her female friends and sister by touching parts of their bodies during handshaking or by using auditory cues (e.g., the tone, volume and pitch of their voices) to estimate their body sizes. Interestingly, this auditory recognition of material properties was also recently reported in a single case of anorexia nervosa in a blind patient\textsuperscript{22} and earlier in a study of blind children.\textsuperscript{21} B. avoided social meals because she was concerned that her fellow diners would be judging her physique and disability negatively “just look at this fat blind girl eating . . . “. At presentation, B. weighed 69 kg and had a body mass index (BMI) of 21.2 kg/m2. She attributed her drive for thinness to a wish to attain a more “beautiful” physique (i.e., 60 kg/BMI = 18.9) which coincides with the current standards of female beauty and thinness.

Psychiatric interview findings were consistent with a DSM-IV diagnosis of bulimia nervosa and depressive disorder in remission. B. was highly cooperative, intelligent, motivated, and introspective. The physical, laboratory, and neurological examinations were unremarkable. Despite her problems B. was high-functioning and reported satisfaction with her current life, including her living conditions and social relationships.

B. stated having been aware of her physical appearance throughout her childhood and adolescence. The first notion she remembered acquiring about “the ideal body” was around age 7, from a radio commercial about light margarine, which suggested that weight control is important for good health. For some time after hearing this commercial, she refused to eat sandwiches with butter, with her parents having to convince her that butter was not harmful to her health. At the age of 12, she got her menarche, developing “breasts and hips”. At that time she was satisfied with her body and had a “normal” attitude towards food. However, she did become concerned about her appearance because of developing acne. Around the age of 13, B. became more aware of beauty standards through playing with her Barbie\textsuperscript{®} doll, with her “amazingly long legs, small waist and small face,” recalling that she was very angry with her Barbie because she did not look like her. Subsequently, she increasingly found herself experiencing a discrepancy between her body and the ultra-thin standard for female beauty. Throughout her adolescence she continued to absorb current societal standards for thinness from the internet, magazines, the radio and conversations about physical appearance. B. explained that she started feeling a pressure to be thin because she learned from the media that if she wanted to be accepted and successful, she needed to be perfect, which also entailed corresponding to societal body ideals for women.

By the age of 18, B. had left home to live on her own in a student house for people with visual disabilities. It was a safe world, a world she knew well enough to feel comfortable in, but still, she was missing the warmth of her family. She tried to comfort herself with food and also suffered eating binges associated with experimental marijuana use. B. described the onset of her eating disorder as having been precipitated by negative comments made by a male friend and his parents about her body size and extraordinary appetite. By that time she weighed 68 kg and had developed a fear of getting fat. She was shocked by the amounts she ate during a binge, suggesting that she started vomiting after binge eating. At age 20, she had lost 10 kg through dieting and experimental use of speed. At age 21, B. decided to change her ways.

\textsuperscript{21} OSTOJIC AND HANSEN

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She had started working and stopped taking drugs, causing her bulimic habits to subside. She enjoyed her work and decided to combine it with further study. This caused a great deal of stress, because she had difficulty saying no to working overtime. In the “normal” world of the sighted, B. had never found it difficult to make contact, but she did describe the sighted world as “very angry and hard”. She had always lacked confidence and had a strong fear of failure, along with a fear of prejudice and rejection because of her visual impairment. Uncomfortable in new surroundings, she tended to overcompensate for her handicap, which led to “a nervous breakdown” and depression. B. was first referred for psychotherapy at age 22, being treated by a clinical psychologist and prescribed an antidepressant, which together helped her cope better with her lack of confidence, eventually achieving full remission. B. resumed work, feeling competent and satisfied with her performance. This happy period came to a halt at age 25, when she started being bullied by one of her coworkers, much of which was related to her disability. Consequently, she gradually lost what little confidence she had. As “the double handicap”, i.e., being a blind and a fat woman, was her worst fear, B. again started dieting, binge eating, vomiting, and taking laxatives.

**Relevant Family and Personal History**

B. was the youngest of three children. She was born full-term by normal delivery and became totally blind during her first year due to retinoblastoma. Her developmental milestones were not markedly different from those of sighted peers. B. was a healthy, bright, cheerful child with a great interest in learning, sport and music. B. described her home life as caring. In addition to receiving professional, dedicated tutoring, B.’s parents helped her to discover her own boundaries as a blind person. They were supportive and encouraged her strivings for independence. B. described her parents as being neither controlling nor critical or appearance-oriented. However, conflicts between her brother and the rest of the family were frequent. B. attended primary and secondary schools for the visually impaired, where she received targeted education and training aimed at preparing her to integrate fully into the society of the sighted. B. characterized herself as an average student not overly concerned with her academic performance, and a very enthusiastic, outgoing person who was quite popular at school. For the past 7 years B. had been living on her own and working part-time, maintaining an active social life and pursuing many interests and hobbies. B. denied any history of abuse or trauma. Her family history was positive for adjustment disorder with depressed mood (both parents), and, possibly, ADHD and substance abuse (brother).

**Treatment**

B. received cognitive-behavioral therapy (CBT) for bulimia nervosa, comprising 12 group sessions, followed up by 27 individual sessions and 18 sessions of body-oriented therapy (i.e., containing elements of psychomotor therapy with a focus on “the multidimensional aspect of the body experience” including “rebuilding a realistic self-image”). With regard to B.’s blindness, we adopted a comprehensive normalizing rather than a pathologizing therapeutic approach. B. was treated as a “normal” bulimia patient who happened to have a visual disability. Given the absence of sight, we did modify relevant intervention elements (e.g., mindfulness-based mirror exposure was replaced with mindfulness-based “tactile” exposure). We also encouraged a critical analysis of B’s perceived societal influences on her body image in the context of the “paradoxical inability for blind people to retreat into a looking-glass-free world”. Finally, unique social-identity issues associated with blindness were addressed. After seven months of treatment, B. fulfilled the remission criteria, having attained a normal body weight, normal eating behavior and mental status. Both at the 6 and 9-month follow-ups B. still reported no symptoms of an eating disorder.

**Discussion**

This case study illustrates the presence of typical features of bulimia nervosa, including body dissatisfaction and drive for thinness, in a female patient blind since early infancy. As reported for sighted women, besides the more general risk factors for psychopathology and eating disorder, such as an accumulation of stressors from developmental tasks, achievement pressures, a high level of sociotropy, and deficiency in coping skills, more specific risk factors for body dissatisfaction, such as having been teased about body size and an internalization of sociocultural norms for thinness, also seem to have caused the bulimia nervosa in this visually impaired woman.

In the eating disorder literature it has been suggested that body image dissatisfaction and the sociocultural value of thinness must be or are ordinarily dependent on external visual experi-
ence, and that in blind people an internal representation of the human body is impoverished and consistently distorted as tactile-kinesthetic information cannot fully compensate for visual perception. In stark contrast with these presumptions, there is a growing body of evidence from imaging and behavioral studies indicating that the performance of blind participants is surprisingly similar to that of sighted controls in tasks and behaviors requiring visual imagery. Consistent with the concept of the supramodal functional organization of the human brain, which is to a considerable degree independent of visual experience, and supporting Kaplan-Myrth’s conclusion in her ethnographic study of the body image perceptions of 13 blind individuals, we found no difference between our blind patient and most of the normally sighted patients we see in our clinic with respect to the importance of appearance, thin-ideal awareness and thin-ideal internalization in the development of eating disorders.

In the current case, nonvisual media exposure, appearance conversations, and a Barbie doll seem to have been sufficiently powerful transmitters of the sociocultural ideal of thinness as an essential criterion of female beauty and success. As reported in the literature, early exposure to a Barbie doll and audio information about appearance stereotyping and discrimination may lead to body dissatisfaction and disordered eating in girls and women. Our case report, moreover, suggests that, in some cases, blindness can moderate the relationship between exposure to the thin ideal and subsequent eating pathology in the opposite direction than one might expect based on previous research in this field. B’s inability to see others and to look in a mirror and see herself as she really is, appears to have made her more vulnerable to cultural pressure as she needs to rely on the body perceptions of sighted people, which are already shaped by sociocultural dynamics. It is also important to put B’s eating problems in a broader sociocultural context. Prevailing misconceptions about blindness and B’s experiences of being bullied because of her disability made it more difficult for her to develop and maintain a positive self-concept and self-evaluation.

To our knowledge, ours is the first description of the typical clinical manifestation of bulimia nervosa in a congenitally blind female patient. Our findings underscore the need to also consider an etiological role of perceived sociocultural pressure and thin-ideal internalization in promoting body dissatisfaction and eating disorder in the blind.

Future research aimed at refining a comprehensive sociocultural model of eating disorder development, would benefit from experimental and nonexperimental studies of body image and disordered eating in blind women. More specifically, studies exploring potential mediators and moderators of sociocultural influences are needed in order to better understand the factors that protect and amplify these pressures.

References