Psychological factors in the etiology of binge eating

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Abstract — Numerous psychological factors have been hypothesized to play a role in the etiology of binge eating. This chapter proposes that female gender-role socialization puts girls at risk for the development of binge eating. Moreover, it is proposed that an understanding of risk requires an exploration of the developmental tasks of female adolescence. As research of the etiology of binge eating in particular and eating disorders in general begins to move away from testing single-factor causal models and toward testing complex, multifactorial models of causation, research needs to examine the psychological factors discussed in this chapter.

Recurrent binge eating represents a major health risk because it is associated with weight gain, obesity, and psychiatric distress. Research on the etiology of binge eating is still in an early stage. To date, efforts to understand the causal factors involved in the development of binge eating have focused on binge eating in the context of the clinical syndromes of anorexia nervosa (AN) and bulimia nervosa (BN). Research of binge eating has been accelerated in the wake of the recent proposal to recognize a new eating disorder, namely binge eating disorder (BED), as reflected in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, APA, 1994).

Epidemiologic studies of AN and BN have found very strong gender-related differences in the prevalence of these disorders. Among cases with AN or BN, women outnumber men by a factor of greater than 10 (Fairburn & Beglin, 1990; Hoek, 1993; Hoek et al., 1995). Gender-related differences are less pronounced in preliminary studies of the prevalence of BED, where the ratio of female to male cases is approximately 3:2 (Smith, Marcus, & Eldredge, 1994). Nevertheless, gender-related differences in overall prevalence raise the question of why women appear to be at such disproportionate risk for developing an eating disorder.

Another major and consistent finding of epidemiologic studies is that binge eating has become more common over the past few decades. The widely acknowledged increase in eating disorders since the 1950s has been due to an increase in clinical syndromes in which binge eating plays a central role, such as BN and BED; in comparison, the prevalence of AN, restricting subtype, has remained relatively unchanged (Ash & Piazza, 1995; Kassett, Gwirtsman, Kaye, Brandt, & Jimerson, 1988; Kendler et al., 1991). This secular trend prompts the question of what has changed in Western cultures to contribute to this increase in the prevalence of binge eating.

Studies of women with recurrent binge eating have found that this behavioral symptom typically begins during adolescence or early adulthood. With remarkable
consistency across several decades and across studies in Europe and the United States, the peak incidence of AN has been found to occur in the age group of 15-to-19-year-olds (Crisp, 1995; Hoek et al., 1995; Lucas, Beard, O'Fallon & Kurland, 1991; Nielsen, 1990; Joergensen, 1992). For BN, the peak incidence rate reportedly occurs between the ages of 15 to 29 years (Hoek et al., 1995; Kendler et al., 1991; Woodside & Garfinkel, 1992). The relatively earlier onset of AN compared to BN is consistent with the observation that in a majority of cases of AN with binge eating (AN–binge eating subtype), the symptom of binge eating emerges subsequent to a prolonged period of restrictive dieting (Hsu, 1990). These findings raise the question of what renders the developmental periods of adolescence and early adulthood so problematic for women.

It has been widely assumed that eating disorders are limited to White women in industrialized nations. This view has been supported by the low rates of minority women with anorexia nervosa and bulimia nervosa in studies utilizing patient samples. In addition, the lower prevalence of these eating disorders in women in non-Western countries (Pate, Pumariega, Hester, & Garner, 1992) contributed to an understanding of eating disorders as a culture-bound syndrome (for review, see Smith, this volume, and Stice, 1994). In addition, the notion that race (i.e., being White) is a risk factor for an eating disorder is derived from sociocultural models of eating disorders that emphasize the contributing role of Western societies' beauty ideal of extreme thinness and the weight-control efforts this ideal stimulates.

The most widely accepted sociocultural model of binge eating is the "Restraint Model." In essence, it proposes a pathway to binge eating from the internalization of the cultural beauty ideal of extreme thinness to body dissatisfaction, which, in turn, motivates behavioral efforts to lose or maintain weight. Prolonged dieting efforts are thought to result in cognitive changes (e.g., all-or-nothing thinking about food) and affective changes (e.g., irritability) that promote loss of control over eating. The Restraint Model has received some empirical support, yet several findings challenge the prominent role of dieting in the etiology of binge eating and raise into question the view that eating disorders occur primarily among Caucasian women (for review, see Striegel-Moore and Smolak, in press). Preliminary studies of BED suggest, for example, that African-American women may be as likely as White women to develop BED (Spitzer et al., 1992; Striegel-Moore, Wilfley, Caldwell, Needham, & Brownell, in press; Yanovski, 1993). The high rates of binge eating among African-American women cannot be fully explained within the Restraint Model given the fact that Black women tend to report higher body esteem and less social pressure to be thin, and they are less likely to engage in dieting than are White women (Striegel-Moore & Smolak, in press). Moreover, the Restraint Model fails to describe accurately the developmental course of binge eating in a significant number of individuals with BED. Specifically, in as many as half of obese individuals with BED, binge eating preceded the onset of dieting (Spitzer et al., 1992; Wilson, Nonas, & Rosenblum, 1993).

Alternative views to the Restraint Model focus on the role of emotions in precipitating binge eating, describing the behavior as an attempt to escape awareness of negative emotional states (e.g., Heatherton & Baumeister, 1991). Elsewhere, an Interpersonal Vulnerability Model of binge eating has been proposed (Striegel-Moore, 1993). In short, the Interpersonal Vulnerability Model describes a developmental sequence from inadequate child-caregiver interactions to insecure attachment to disturbance in identity and dysfunctional interpersonal relationships.
Striegel-Moore and Smolak (in press) have proposed that race-related differences in the prevalence of eating disorders may reflect, in part, race differences in the pathways into binge eating. Dieting may be a more prominent risk factor for the development of binge eating in White women, accounting for the greater number of White women with BN. Black and White women may be equally likely to arrive at binge eating through an interpersonal vulnerability pathway.

The present paper will address the questions of "why women," "why young women," and "why now" within the context of developmental psychopathology. Within the framework of developmental pathology, "abnormal" behavior is explored in the context of normal development, normative crises or transitions, and in the context of the larger social and cultural framework in which the problematic behavior occurs.

Femininity and Binge Eating

Gender identity is a central aspect of identity. It is developed early in childhood and is linked inextricably with one's culture's gender-role expectations, norms, and stereotypes. In the psychological literature, femininity has been described as follows: As a "stimulus variable," femininity refers to the degree to which a person possesses traits and behaviors deemed appropriate for a girl or woman; as a "subject variable," femininity refers to a woman's gender identity, her phenomenological sense of femaleness (Spence, 1985). It is proposed here that two components of femininity play a critical role in raising women's risk for developing binge eating: One, beauty is a defining feature of femininity, and two, a relational orientation is a central aspect of femininity.

The role of beauty in female identity

Being concerned with one's appearance and making efforts to enhance and preserve one's beauty are central features of the female gender-role stereotype (for review, see Rodin, Silberstein, & Striegel-Moore, 1985). Physically attractive women are seen by others as more feminine than are unattractive women, and thin women are rated more feminine than are heavier women (e.g., Cash, Dawson, Davis, Bowen, & Galumbeck, 1989; Guy, Rankin, & Norvell, 1980). Conversely, women who challenge traditional views of femininity, because of their political views or because of their sexual orientation (e.g., feminists or lesbians), often are stereotyped as physically unattractive (e.g., Brown, 1985). Research also suggests a relationship between women's eating behavior and perceived femininity (for review, see Rolls, Fedoroff, & Guthrie, 1991). For example, women who were described to research subjects as eating small meals were rated significantly more feminine, less masculine, more concerned with their appearance, and more attractive than were women who reportedly had eaten large meals (Chaiken & Pliner, 1987; Pliner & Chaiken, 1990). Women seem to be quite aware of the importance of eating for how they are perceived by others. Indeed, two studies showed that women eat less when they are motivated to create a favorable impression (Mori, Chaiken, & Pliner, 1987; Pliner & Chaiken, 1990). In sum, in a culture that equates beauty and its pursuit with femininity, a woman who makes efforts to enhance or preserve her beauty affirms others' perceptions of her as feminine.

Beyond impression management, however, a woman's pursuit of beauty and thinness has another, perhaps even more important, function: It affirms her own sense of
femininity (see, for example, Brownmiller, 1984; Freedman, 1984). For example, young girls' initial use of cosmetics has been portrayed as a rite of passage into womanhood, as a "sex-role specific behavior in the service of feminine identity development" (Cash, Rissi, & Chapman, 1985, p. 248, emphasis added). Clinical experience with women with an eating disorder suggests that dieting often starts at times when a girl or woman feels challenged in her femininity (e.g., after a romantic disappointment). The central role of beauty for female identity raises risk for binge eating because it creates a powerful motivation for girls or women to emulate the current beauty ideal. However, the normative overvaluation of physical appearance is fueled further by a second core component of female identity, namely the definition of female identity as relational.

The relational self

Women have been described as different from men in their needs, emotions, and behaviors pertaining to interpersonal relationships (e.g., Gilligan, 1982). Women are expected to define themselves in relation to others and to care more than men about others' opinions, feelings, and welfare (Kaplan & Surrey, 1984; Miller, 1976). Also, women have been found to differ from men in the experience of self-presentationally relevant emotions such as shame and embarrassment (Lewis, 1987; Silberstein, Striegel-Moore, & Rodin, 1987), in non-verbal behaviors aimed at conveying the impression of being sociable, likable, and interested in the other person (DePaulo, 1992), and in empathy (Cohn, 1991). The relational self leaves women highly vulnerable to others' opinions of them and behaviors toward them. A woman's failed effort to find mutuality and understanding in a relationship represents a fundamental challenge to her identity and results in aversive emotional states such as self-blame and low self-esteem (Kaplan, 1986).

An extensive psychoanalytic literature has examined the origins of self-deficits, typically placing much of the blame on inadequate parenting (e.g., Miller, 1981). However, traumatic life events may be particularly relevant for understanding the identity deficits observed in many women with disordered eating. The role of sexual abuse as a causal factor in the etiology of identity deficits and, as a consequence, in the etiology of binge eating has been considered only fairly recently (for review, see Pope & Hudson, 1992). Girls are at risk for being sexually abused at a much higher rate than boys; studies have consistently shown an association between sexual abuse and symptoms related to identity and self-regulation (e.g., dissociation, body image dissatisfaction, low self-esteem, affective instability) (e.g., Cutler & Nolen-Hoeksema, 1991; Pribor & Dinwiddie, 1992). Whether sexual abuse constitutes a specific risk factor for the development of binge eating remains a matter of considerable debate (Kearney-Cooke & Striegel-Moore, 1994).

In our culture, physical attractiveness contributes significantly to interpersonal success (Eagly, Ashmore, Makhijani, & Longo, 1991; Feingold, 1992). There is extensive evidence that physically attractive individuals, women in particular, receive preferential treatment by others (for reviews, see Feingold, 1990, 1991; Hatfield & Sprecher, 1985). For most girls, the contemporary beauty ideal is biologically unattainable. Attempts to achieve an "adequate self" by pursuing an adequate physical self are likely to fail and are destined to result in a vicious circle: Self-deficits may intensify appearance-related concerns; perceived deficits in one's attractiveness in turn may be a potent source of social anxiety, hence contributing further to social self-dysfunction.
Although sex-role socialization is an ongoing process that starts as soon as a child is born, the normative challenges of adolescence (experienced by both boys and girls) are likely to amplify risk for the development of binge eating. Notable tasks include adjusting to the biological changes of puberty: establishing heterosexual relationships; coping with increased achievement expectations; and, encompassing all of the other tasks, establishing a cohesive and positive sense of self. During adolescence, gender-role socialization intensifies, and girls increase their sex-role stereotyped conceptions of themselves and of others (Harter, 1990; Hill & Lynch, 1983). Adolescence also marks a major developmental transition, namely the move into junior high and/or high school, an event that has far-reaching implications for young girls' social adjustment (Eccles & Midgley, 1989).

The mere number of developmental tasks that girls have to cope with has led some researchers to propose that the risk for an eating disorder results from the cumulative effect of the stress resulting from these many tasks. For example, Levine and Smolak (1992) found elevated scores on a measure of eating disorder symptoms in a nonclinical sample of girls for whom onset of dating coincided with onset of menarche, whereas either event alone was unrelated with eating disorder symptoms. Based on retrospective interviews of anorexic patients, Strober (1984) reported that, as a group, bulimic anorexics reported significantly more life changes 8 months prior to onset of the eating disorder. Moreover, degree of life stress was significantly correlated with severity of binge eating. Among a sample of female students, worsening of disordered eating during the first year of college was significantly correlated with perceived stress (Striegel-Moore, Silberstein, Frensch, & Rodin, 1989).

Given the female beauty ideal of extreme thinness, the "fat spurt" associated with puberty results in a dramatic decrease in girls' body image satisfaction (Gralen, Levine, Smolak, & Murnen, 1990; Rosen, Silberg, & Gross, 1988; Shore & Porter, 1990). The development of weight dissatisfaction is paralleled by a rise in dieting and related weight-control behaviors (Bennett, Spoth, & Borgen, 1991; Rosen et al., 1988). Only the thinnest girls are relatively immune to pressures to diet; in contrast, a majority of normal-weight and overweight girls start dieting once they have reached puberty (Schreiber et al., in press; Story et al., 1991).

Adolescent girls who diet are significantly more likely to report binge eating. For example, in a sample of more than 34,000 public school students ages 12 to 18 years, "chronic dieters" (defined as students who had been on a diet more than 10 times during the past year, or who were always dieting during the past year) were four times (female students) to six times (male students) more likely to acknowledge ever having had an episode of binge eating (Story et al., 1991). Whether this concurrent relationship between dieting and binge eating supports the Restraint Model of binge eating needs to be confirmed in prospective studies. Although causal models have focused on the progression from weight dissatisfaction to dieting to binge eating, research still needs to test the alternative hypothesis that some women start dieting in an attempt to prevent or reverse weight gain resulting from binge eating.

Some researchers have focused on the role of sex hormones as important variables in the development of eating disorders. To date, this research has been limited to
studying women who already exhibit an eating disorder (for review, see Newman & Halmi, 1988). Because even modest caloric restriction results in endocrine changes involving the hypothalamic-pituitary-gonadal axis (e.g., Pirke & Ploog, 1987), these abnormalities are likely the result and not the cause of dieting. Importantly, however, dieting appears to have a differential effect on endocrine function in women compared to men, a gender-related difference that may explain in part why women are at greater risk for developing binge eating (e.g., Goodwin, Fairburn, & Cowen, 1987). Research is needed to elucidate the role of biological variables in the progression from dieting to binge eating. Perhaps some women are more vulnerable than others to adverse effects in response to food deprivation, including metabolic changes requiring increasing food restriction for successful weight control (e.g., Pirke et al., 1990) and secondary depression (e.g., Laessle, Schweiger, & Pirke, 1988). Moreover, the normative hormonal changes during adolescence may heighten adverse physiological consequences of dieting.

Hormonal changes during puberty may increase risk for binge eating beyond their influence on body weight or on appetite regulation. Although there is a growing literature on the role of hormones in adolescent mood and behavior (for review, see Buchanan, Eccles, & Becker, 1992), much of this research is based on cross-sectional data. Utilization of this literature for the delineation of risk factors for binge eating is therefore conjectural. Some studies suggest that pubertal development is accompanied by an increase in depression (Brooks-Gunn & Warren, 1989; Paikoff, Brooks-Gunn, & Warren, 1991). Inasmuch as negative affect and labile mood contribute to binge eating, the hormonal changes associated with puberty may contribute to an increased risk for binge eating, particularly in girls with a temperamental predisposition to negative affectivity and deficits in affect regulation.

Early-timing of pubertal development may represent a risk factor for the etiology of binge eating for several reasons. Early maturing girls are typically shorter and fatter than their on-time or late maturing peers, and these differences in body build remain once all girls have completed maturation, and early maturing girls are particularly dissatisfied with their weight (Simmons, Blyth, & McKinney, 1983). Hence, these early-timing girls may be at an increased risk for binge eating because they may be more likely to diet and to initiate dieting at a younger age. Early maturation may increase risk for binge eating because of the stress associated with early-timing. For example, the accelerated social development of early maturing girls may require that these girls cope with experiences for which they have not yet developed adequate cognitive or emotional levels of maturity.

Establishing heterosexual relationships

Most girls start dating during early adolescence. In light of the literature reviewed earlier regarding the salience of physical attractiveness in interpersonal attraction, it is not surprising to find girls who begin dating also initiate dieting (Gralen et al., 1990). Adolescence is also associated with the initiation of adult sexual behaviors. Adolescent girls have become sexually active at increasingly younger ages (e.g., Boxer, Levinson, & Petersen, 1989; Brooks-Gunn & Furstenberg, 1989). Some girls feel poorly prepared for adult sexuality and describe experiencing considerable peer pressure to be sexually active (e.g., Udry & Billy, 1987). The clinical literature contains numerous references to the role of psychosexual development in the etiology of anorexia nervosa and bulimia nervosa. Self-starvation is described as the adolescent girl’s response to her fear of adult sexuality (e.g., Crisp, 1980). Research
has yet to be conducted to determine whether sexual anxieties and conflict do in fact promote dieting and, in turn, binge eating. Alternatively, sexual anxieties may contribute to binge eating as a way of coping with the aversive emotional state.

In pursuit of superwoman

Over the past few decades, a new definition of femininity has emerged, essentially demanding that women be “both beautiful and smart” (Selvini-Palazzoli, 1971). Described as the “myth of the superwoman,” the new ideal of femininity mandates that women extend their responsibilities from wife and mother to career woman without compromising quality of performance in any of these roles. These unrealistic expectations have been implicated in the rise of eating disorders, particularly bulimia nervosa (Levine & Smolak, 1992; Steiner-Adair, 1986; Striegel-Moore, Silberstein, & Rodin, 1986; Timko, Striegel-Moore, Silberstein, & Rodin, 1987). Mechanisms underlying this association have not yet been tested empirically.

Some have argued that the superwoman ideal is inherently conflictual by requiring women to assume incompatible traits (Barnett, 1986; Steiner-Adair, 1986), and that it generates stress by involving a multitude of role demands (Spade & Reese, 1991; Timko et al., 1987). Binge eating may be seen as a stress-related symptom, a woman’s effort to soothe herself without making demands on others. Additionally, it could suggest that embracing the exaggerated ideal of superwoman reflects a more fundamental disturbance of identity, where a girl is unable to prioritize roles and thus tries to live up to whatever ideal is currently “in style” (Timko, et al., 1987). The focus on physical appearance provides a concrete task resulting in visible accomplishments that are typically met with social approval.

Achieving a positive sense of self

During adolescence, self-awareness and self-reflection increase noticeably. Much of this heightened self-awareness is interpersonally focused, and social comparison of self with peers is common (e.g., DeArmas & Kelly, 1989; Grotevant & Cooper, 1985). The higher level of self-consciousness among adolescent girls compared to boys is believed to contribute to girls’ greater vulnerability to low self-esteem, depression, and disordered eating (Allgood-Merten, Lewinsohn, & Hops, 1990; Leadbeater, Blatt, & Quinlan, 1992; Nolen-Hoeksema, 1987; Striegel-Moore, Silberstein, & Rodin, 1993). Several mechanisms may explain the association between low self-esteem and dieting and binge eating. Low self-esteem may prompt a girl to improve her physical appearance. A prospective study of adolescent girls found poor self-esteem to be predictive of high EAT scores (Attie & Brooks-Gunn, 1989). The relationship between dieting and self-esteem may be more complicated however. Girls who diet to improve their self-esteem may experience a further decrease in self-esteem if their diet efforts fail.

For example, Rosen, Gross, and Vara (1987) reported that girls who were trying to lose weight had significantly lower self-esteem than did girls who made no effort to change their weight. Furthermore, low self esteem may affect how dieters respond to caloric deprivation and cognitive restraint. For instance, Polivy and her colleagues found that only dieters who had low self-esteem showed the counter-regulator pattern of overeating in response to a preload (Polivy, Heatherton, & Herman, 1988). Based on these findings, one might conjecture that prolonged dieting results in binge eating only if the dieter experiences low self-esteem. Finally, and not yet
explored empirically, one might argue that low self-esteem promotes binge eating as a palliative strategy.

CONCLUSION

An extensive literature accumulated that permits an understanding of why women are so vulnerable to developing an eating disorder. Research is now needed to test the various hypotheses pertaining to the question of why only some but not all women develop these disorders. The field of eating disorders has gradually shifted away from testing "single variable" models of etiology (e.g., sexual abuse causes eating disorders) to testing more complex models delineating multiple risk factors (e.g., Leon, Fulkerson, Perry, & Cudeck, 1993; Leon, Fulkerson, Perry, & Early-Zald, 1995), and incorporating developmental processes as an important dimension for consideration (e.g., Levine & Smolak, 1992; Levine, Smolak, Moodley, Shuman, & Hessen, 1994). Another major challenge for research is to expand the methodology to encompass prospective studies to test etiological models of eating disorders. Such research needs to examine the role of the psychological variables discussed in this chapter.

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