Multi-Impulsivity Among Women with Bulimia Nervosa

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Objective: *The results of past research suggest the possible existence of a distinct subgroup of bulimic individuals who display multiple behaviors indicative of impulsivity (e.g., stealing, self-injury, attempted suicide, drug abuse). We further investigated potential relationships between multi-impulsivity and other clinical variables.* **Method:** *We compared women with bulimia nervosa (purging type) who displayed "multi-impulsivity" (n = 40) to those who did not (n = 177) with regard to symptom history and presentation, eating-disordered attitudes, and sexual experience.* **Results:** *The two groups did not differ in mean age, body mass index, scores on scales of eating-disordered attitudes and traits, incidence of self-induced vomiting, sexual intercourse, or masturbation, and current frequency of binge eating and self-induced vomiting. However, relative to the comparison group, women in the multi-impulsive group reported earlier onset of binge eating and sexual intercourse, a greater incidence of laxative abuse, and use of a greater number of different substances. There were statistical trends ($p < .10$) toward the multi-impulsive group displaying earlier onset of self-induced vomiting, laxative abuse, and masturbation.* **Discussion:** *Results are discussed in relation to the results of past research and the implications for treatment of bulimic women.* © *1996 by John Wiley & Sons, Inc.*

Bulimia nervosa is characterized by the existence of binge eating, and individuals with the disorder have been portrayed as displaying general problems with impulsivity (American Psychiatric Association, 1994; Russell, 1979; Vitousek & Manke, 1994) including increased rates of substance abuse (Holderness, Brooks-Gunn, & Warren, 1994; Johnson & Connors, 1987; Krahn, 1991). Are problems with impulsivity pandemic among individuals with bulimia nervosa, or is there a distinct subgroup of bulimics who evidence marked impulsivity beyond that inherent in the eating disorder?

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Based on sizeable rates of stealing and drug abuse among their patients, Lacey and Evans (1986) proposed that a subgroup of bulimics have increased rates of impulsive behavior unrelated to food (Lacey, 1993). Lacey and Evans proposed the existence of a "multi-impulsive form of bulimia" which they defined according to the existence of at least one of the following behaviors: alcohol or drug abuse, suicide attempts, repeated self-harm, sexual disinhibition, or shoplifting.

Sohlberg, Norring, Holmgren, and Rosmark (1989) performed a follow-up study of 35 adult patients with either anorexia nervosa or bulimia nervosa and considered the role of multi-impulsivity in predicting long-term outcome. Impulsivity was defined as the sum of four possible impulsive behaviors (binge eating, drug abuse, stealing, suicide attempts). Increased impulsivity was the best predictor of poor outcome at both 2–3 years follow-up and 4–6 years follow-up.

More recently, Fahy and Eisler (1993) considered multi-impulsivity among their sample of 39 patients with bulimia nervosa. Twenty of the 39 patients exhibited at least one of the behaviors indicative of impulse problems (drug abuse, self-harm, and shoplifting) and were designated the "multi-impulsive" group (only 3 patients indicated more than one impulsive behavior). Compared to those without additional impulsive behaviors, the multi-impulsivity group evidenced more frequent binge eating at initial assessment and after 8 weeks of treatment. However, the two groups did not differ in rates of binge eating at 1-year follow up, leading Fahy and Eisler (1993) to conclude that multi-impulsives do not constitute a distinct subgroup.

Fichter, Quadflieg, and Rief (1994) studied women diagnosed with bulimia nervosa (purging type) and defined multi-impulsivity according to the existence of at least three of the following six behaviors: suicide attempts, self-harm, shoplifting, alcohol abuse, drug abuse, or sexual promiscuity. Fichter et al. compared 32 women with multi-impulsivity to 32 bulimic women who did not evidence any of the six impulsive behaviors. The two groups did not differ with regard to age, body mass index (BMI), duration or age of onset of the eating disorder, frequency of laxative use, or scores on measures of eating- and body-related attitudes. However, the two groups did differ with regard to a more general level of functioning, with the multi-impulsive groups displaying greater comorbid psychopathology and lower psychosocial functioning. These findings led Fichter et al. (1994) to conclude that multi-impulsive bulimics comprise a distinct subgroup of patients presenting with bulimia nervosa, a group indistinguishable with regard to disordered eating symptoms but which evidences more pervasive psychopathology.

In general, is multi-impulsivity related to severity of bulimic symptoms and eating-disordered attitudes? We are unable to answer this question based on the discrepant means by which multi-impulsivity has been defined in past research. Fahy and Eisler (1993) designated their respondents as multi-impulsive if they exhibited just one impulsive behavior other than binge eating. In contrast, Fichter et al. (1994) compared bulimic women who exhibited three or more impulsive behaviors to those who did not exhibit any such behavior. What about those individuals who exhibit one or two impulsive behaviors? Also, Fichter et al. included sexual promiscuity as one of their selection criteria for inclusion in the multi-impulsive group. They arbitrarily defined promiscuity as five or more sexual partners in the past 2 years or 10 or more sexual partners since puberty. We are not told how "sexual partner" was defined.

The objective of the current study was to further investigate the usefulness of the concept multi-impulsivity among women with bulimia nervosa (purging type). Specifically, we investigated the relationship between multi-impulsivity and age, body size, symptoms of bulimia nervosa, eating disorder attitudes and traits, and sexual history. To clarify

definition of multi-impulsivity, we based categorization on the existence of discrete behaviors: (1) At least weekly use of alcohol and/or marijuana; (2) history of stealing; (3) history of physical self-injury; (4) history of attempted suicide. Respondents who indicated three or more such behaviors were considered members of the multi-impulsive groups, whereas those who reported fewer than three of the behaviors comprised the comparison group. Also, to ensure that our findings would have greater clinical relevance, subjects were consecutive patients evaluated in an outpatient eating disorders clinic who were female and between the ages of 18 and 35 years.

METHOD

Subjects

Participants were 217 adult women (mean age = 25.05 years; *SD* = 4.92; range = 18–35) who were evaluated at a university-based eating disorders clinic and subsequently met diagnostic criteria outlined in the 3rd Rev. Ed. of the *Diagnostic and statistical manual of mental disorders* (DSM-III-R; American Psychiatric Assocation, 1987) for bulimia nervosa (purging type according to the 4th Ed. of the *Diagnostic and statistical manual of mental disorders* [DSM-IV]; American Psychiatric Association, 1994).

Measures

Impulsive Behaviors

Participants completed the Diagnostic Survey for Eating Disorders-Revised (DSED-R; Johnson, 1985), a 24-page instrument which included information on relevant impulsive behaviors. Each respondent was asked to indicate how frequently she had used each of eight substances: alcohol, amphetamines, barbituates, hallucinogens, marijuana, tranquilizers, cocaine, and cigarettes. Respondents were also asked the following questions: Have you ever made a suicide attempt? Have you ever tried to physically hurt yourself (i.e., cut yourself, hit yourself with intent to hurt, burn yourself with cigarettes)? "Have you ever stolen items related to eating or weight (i.e., laxatives, food, etc.)? Have you ever engaged in sexual intercourse?

Eating Disorder Attitudes and Traits

Participants completed the Eating Disorders Inventory (EDI; Garner, Olmsted, & Polivy, 1983), a self-report measure consisting of eight subscales, each of which measures an attitude or clinical trait related to eating disorders. The first three EDI scales are considered the symptom scales and, according to the EDI manual (Garner, 1991; Garner et al., 1983), the Drive for Thinness scale measures the individual's preoccupation with pursuit of thinness. The Bulimia scale measures tendencies to think about and engage in bouts of uncontrollable binge eating. The Body Dissatisfaction scale taps the extent to which the respondent is dissatisfied with her overall body shape as well as those body parts which are of the greatest concern to eating-disordered patients. The remaining five scales measure attitudes and clinical traits relevant to eating disorders: Ineffectiveness, Perfectionism, Interpersonal Distrust, Interoceptive Awareness, and Maturity Fears. The EDI has been widely used, and is both reliable and valid (Garner et al., 1983; Garner, 1991; Raciti & Norcross, 1987).

Symptoms of Bulimia Nervosa

Within the DSED-R, participants reported the age of onset of binge eating, self-induced vomiting, and use of laxatives for weight loss. They also reported lifetime duration (in months) of binge eating, self-induced vomiting, and laxative abuse. Last, participants indicated the current frequency (average number of days per week over the past month) of binge eating, self-induced vomiting, and laxative abuse. BMI (Beaumont, Al-Alami, & Touyz, 1988) was calculated for each respondent as a measure of body size.

Sexual Experience

Within the DSED-R, participants indicated (1) whether they had ever had sexual intercourse, (2) the age at which they first engaged in coitus, (3) whether they had ever masturbated, and (4) the age at which they first masturbated.

Procedure

Upon presentation at the outpatient eating disorders clinic, 2-hr diagnostic assessments were conducted by clinicians experienced in the evaluation and treatment of eating disorders, including separate semistructured interviews conducted by a psychologist and a psychiatrist. Eating disorder diagnoses were based on the 2-hr diagnostic evaluation and were consensually derived among the members of the clinical team who had participated in the evaluation. Finally, participants completed the paper-and-pencil measures.

RESULTS

Of the 217 respondents, 86 (39.6%) reported weekly or daily use of alcohol, 22 (10.1%) reported weekly or daily use of marijuana, 86 (39.6%) reported stealing, 67 (30.9%) reported self-injury, and 65 (30.0%) had attempted suicide at least once. A total of 40 (18.4%) of the respondents reported at least three of the four impulsive behaviors and constituted the multi-impulsive group. The two groups did not differ in mean age [$F(1,215) = 1.30$, $p < .26$]. The majority of those in the multi-impulsive (95.0%) and comparison (96.6%) groups reported self-induced vomiting, and these rates did not differ ($X^2 = .24$, $p < .63$). A larger portion of the multi-impulsive group (85.0%) than the comparison group (61.6%) abused laxatives ($X^2 = 7.96$, $p < .005$). Comparisons of the two groups with regard to onset and duration of bulimic symptoms are presented in Table 1. Note that the two

Table 1. Comparison of bulimic women with multiple impulsive behaviors ($n = 40$) to bulimic women without such impulsive behaviors ($n = 177$)

Bulimic Symptoms	Multi-Impulsive *M* (*SD*)	Comparison *M* (*SD*)	*F*	*p*<
Body mass index (BMI)	21.41 (4.86)	22.43 (4.55)	1.56	.22
Age of onset of binge eating	16.59 (4.13)	18.80 (4.87)	6.86	.01
Duration of binge eating (months)	88.85 (59.29)	69.72 (55.68)	3.64	.06
Current binge eating per week	9.18 (8.57)	9.51 (12.50)	.02	.88
Age of onset of vomiting	17.39 (3.85)	18.93 (4.80)	3.40	.07
Duration of vomiting (months)	82.08 (56.94)	64.50 (57.06)	3.02	.09
Current frequency of vomiting per week	13.38 (14.16)	11.46 (16.23)	.47	.50
Age of onset of laxative abuse	19.52 (4.30)	21.31 (4.99)	3.46	.07
Duration of laxative abuse (months)	32.76 (30.61)	20.36 (32.94)	4.32	.04
Current laxative abuse per week	5.10 (15.17)	1.45 (3.53)	8.31	.005

groups did not differ in current frequency of binge eating or self-induced vomiting. However, there were trends ($p < .10$) toward the multi-impulsive group displaying both an earlier age of onset and a longer duration of binge eating and self-induced vomiting. Relative to the comparison group, the women in the multi-impulsive group reported a longer history and more frequent abuse of laxatives, and there was a trend toward the women in the multi-impulsive group reporting an earlier onset of laxative abuse.

To investigate whether the two groups differed in scores on the EDI, a logistic regression analysis (Norusis, 1990) was conducted in which scores on each of the EDI scales were simultaneously entered to predict group membership (0 = comparison group, 1 = multi-impulsive group). The advantage of logistic regression analysis is the consideration of relationships between each predictor variable and the dependent variable while the effects of the other predictors are simultaneously controlled. The analysis revealed that none of the EDI scales were related to membership in the multi-impulsive versus comparison group [model chi-square ($df = 8$) = 10.35, $p < .25$].

With regard to sexual experience, the majority of women in the multi-impulsive (94.7%) and comparison groups (89.1%) had engaged in sexual intercourse, and these rates did not differ ($X^2 = 1.12$, $p < .30$). However, the multi-impulsive group reported a younger age at first intercourse ($M = 15.75$, $SD = 2.22$) than did the comparison group ($M = 17.83$, $SD = 2.72$), $F(1,187) = 18.22$, $p < .0001$. The majority of women in the multi-impulsive group (62.2%) and the comparison group (57.2%) reported having masturbated, and these rates did not differ ($X^2 = .31$, $p < .59$). There was a trend, however, toward the women in the multi-impulsive group reporting a younger age at first masturbation ($M = 13.70$, $SD = 3.73$) relative to the comparison group ($M = 15.84$, $SD = 5.46$), $F(1,103) = 2.75$, $p < .10$.

Last, we compared the two groups with regard to the use of different drugs. By definition, the multi-impulsive group would be expected to show more frequent use of alcohol and marijuana than would the comparison group. However, the women in the multi-impulsive groups also reported having taken a greater number of eight possible different drugs ($M = 3.38$, $SD = 2.27$) than did the women in the comparison group ($M = 1.72$, $SD = 1.73$), $F(1,216) = 26.05$, $p < .0001$.

DISCUSSION

Past researchers have suggested the possible existence of a distinct subgroup of bulimic individuals who display multiple behaviors indicative of impulsivity (e.g., stealing, self-injury, attempted suicide, drug abuse, sexual promiscuity). As did Fichter et al. (1994), we found that the multi-impulsive and comparison groups did *not* differ in mean age, BMI, or scores on the EDI. Fichter et al. (1994) also did not find a relationship between multi-impulsivity and onset or duration of bulimia. Our multi-impulsive group showed an earlier onset on binge eating relative to the comparison group, and there were trends toward the multi-impulsive group displaying earlier onset of self-induced vomiting and longer duration of both binge eating and vomiting. In the current study, multi-impulsivity was unrelated to current frequency of binge eating or vomiting. It appears that multi-impulsive bulimic patients may not display more severe forms of typical bulimic symptoms (i.e., binge eating and vomiting), but these individuals may have more extensive histories of bulimia (i.e., earlier onset, longer duration).

Fichter et al. (1994) did not find differential rates of laxative abuse as a function of multi-impulsivity. In the current study, however, we found that women with multi-

impulsive behaviors had increased incidence of laxative abuse, longer duration of laxative abuse, and more frequent use of laxatives currently. There was also a trend toward the multi-impulsive group exhibiting an earlier onset of laxative abuse. The relationship between multi-impulsivity and laxative abuse is a topic worthy of further study, as laxative abuse can result in severe medical consequences that require special clinical attention (Sansone & Sansone, 1994).

With regard to sexual experience, the multi-impulsive and comparison groups did not differ in likelihood of having masturbated or having had sexual intercourse, behaviors experienced by a majority of women in the total sample. However, relative to the comparison group, women in the multi-impulsive group had an earlier onset of coitus, and there was a trend toward these women displaying an earlier onset of masturbation as well. There was also a relationship between multi-impulsivity and having tried a greater number of substances.

Taken as a whole, the results of the current study and previous research have important implications for clinicians involved in the treatment of bulimia nervosa. There appears to be a substantial proportion of bulimic women (approximately 20%?) who evidence multiple indicators of problems with impulse control that extend beyond the impulsivity inherent in binge eating. These women display multiple experiences, such as attempted suicide, self-injury, alcohol/drug abuse, laxative abuse, stealing, and sexual promiscuity, each of which can have serious medical complications and legal ramifications.

As multi-impulsive individuals engage in potentially dangerous behaviors, it appears that traditional treatment approaches are less likely to be effective with bulimics who evidence multiple indicators of impulsivity (Fichter et al., 1994; Lacey, 1993; Sohlberg et al., 1989). Certainly further research is needed to determine the most productive clinical course to take when confronted with individuals who belong to this subgroup of clinically challenging bulimic patients. Also, further research is needed to investigate the pathways by which bulimic individuals may come to evidence multi-impulsivity. In other words, is multi-impulsivity primarily the result of tempermental dispositions (Lacey & Evans, 1986), personality disorder (i.e., borderline personality disorder), substance abuse, history of sexual abuse (Everill & Waller, 1995), or some combination of factors? Answering this question is important for both the understanding and treatment of many individuals with bulimia nervosa.

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