Weight Control and Weight Concern in Competitive Female Gymnasts

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In recent years a number of authors have suggested that many female athletes feel a tremendous pressure to maintain low body weight and especially a low percentage of body fat (Borgen & Corbin, 1987; Calabrese, 1985; Crago, Yates, Beutler, & Arizmendi, 1985; Loosli, Benson, Gillien, & Bourdet, 1986; Parr, Porter, & Hodgson, 1984; Rosen, McKeag, Hough, & Curley, 1986; Short & Short, 1983; Smith, 1980; Tveit, 1989; Welch, Zager, Endres, & Poon, 1987; Werblow, Fox, & Henneman, 1978). This pressure is particularly strong for athletes in sports such as gymnastics which require a thin and attractive appearance as part of the overall standard by which performances are judged (Borgen & Corbin, 1987; Calabrese, 1985; Loosli et al., 1986; Rosen & Hough, 1988; Tveit, 1989). Previous research on gymnasts has suggested that some are likely to show some pathogenic weight-control behaviors such as self-induced vomiting, use of diet pills and laxatives, or binge eating (Rosen & Hough, 1988; Rosen et al., 1986); they may tend to consume diets low in recommended nutrients and calories (Calabrese, 1985; Loosli et al., 1986; Short & Short, 1983; Tveit, 1989) and to be lacking in nutritional knowledge (Calabrese, 1985; Welch et al., 1987).

The present study extended this research in several ways. First, we measured gymnasts’ attitudes about weight and gymnastics performance directly, predicting that the gymnasts would report a high degree of concern about their weight. Second, we measured scores on “the two standardized measures most widely used to assess the attitudes and behaviors characteristic of eating disorders” (Rosen, Silberg, & Gross, 1988, p. 305): the Eating Attitude Test (Garner, Olmsted, Bohr, & Garfinkel, 1982) and the Eating Disorders Inventory (Garner, Olmstead, & Polivy, 1983). Due to the unusual pressures on these gymnasts to perform and to maintain a thin but strong body, we expected that dangerous weight control behaviors would be reported fairly frequently and that the subjects would exhibit higher scores than other adolescent girls on the EDI, in particular the Drive for Thinness, Body Dissatisfaction, and Perfectionism scales, and on the EAT.

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Third, unlike other researchers, we obtained subjects’ scores on a test designed to measure knowledge specifically about obesity (Price, O’Connell, & Kukulka, 1985). Based on previous research on obesity knowledge in college students (Harris, 1983) and on the literature suggesting that athletes are not very knowledgeable about nutrition (Loosli et al., 1986; Short & Short, 1983; Welch et al., 1987; Werblow et al., 1978), we expected these gymnasts to show only partial knowledge about obesity. Fourth, we compared the scores of subjects who were truly elite (having placed in the Elite national competition) with those of less outstanding performers.

Method

Subjects

Subjects were recruited through personal contacts by the second author, a member of a nationally competitive college gymnastics team. The 28 female gymnasts who agreed to participate ranged in age from 17 to 23 years, the mean being 19.5 years. Three were high school seniors, 23 were in college, one was a college graduate, and one was not currently in school. Nine of the subjects were members of the team that won the 1989 NCAA women’s gymnastics national title.

Instrument. After signing an informed consent form, subjects filled out an anonymous questionnaire that first asked about their gymnastics history and then asked a number of questions about their weight and about how they and others viewed their weight. They were then given a 12-item obesity knowledge test (Price et al., 1985), which had a possible range of scores from 0 to 24. Next they responded to the items on the eight subscales of the Eating Disorders Inventory and the three subscales of the Eating Attitudes Test. These measures have been shown to validly distinguish between those with and those without eating disorders, and to have subscale reliability coefficients (Cronbach’s alpha) ranging between .65 and .91 for normal females (Garner et al., 1982; 1983). Finally, subjects were asked two open-ended questions about weight concerns in gymnasts and about changes in their own feelings about weight in the last few years.

Results

According to their self-reports, the subjects had a mean height of 154.1 cm, a mean weight of 48.86 kg, a mean body mass index of 20.54, and a mean of 14.65% body fat. Their current weight was significantly less than their highest weight, $t(27) = -11.12$, $p < .001$, and significantly more than what they would like to weigh, $t(27) = 7.55$, $p < .001$, or what their coach would like them to weigh, $t(27) = 2.77$, $p < .05$. Most of the subjects (56%) felt pressure from their coach to lose weight, although only 17% felt pressure from fellow gymnasts to lose. Most of the subjects (61%) were currently trying to lose weight; no one was trying to gain. Table 1 presents the subjects’ reports of how they and others perceived their body.

Subjects reported using a variety of methods when trying to lose weight: 75% went on a mild diet and 71% increased their level of exercise, whereas 43% went on a strict diet, 18% fasted for at least a day, and 7% took laxatives, one taking as many as 22 Ex-Lax a day. They reported dieting an average of 19.0 days in the past month, and 57% reported exercising more than 4 hours a day.