

## **Abstract thesis Karin de Bruin**

### **Thin is going to win? Disordered eating in sport**

An increased prevalence of eating disorder symptomatology has been repeatedly reported in elite women athletes in comparison with non-elite athletes or non-athletes, particularly in aesthetic sports (e.g., gymnastics, synchronized swimming, dance), weight-class sports (e.g., judo, rowing), and endurance sports (e.g., cycling, swimming). Another group of sport participants in which eating disorders have been often found consists of individuals who exercise out of weight-related motivation. These results raise the question why certain athletes are more vulnerable to the development of eating problems. The current thesis aims at broadening our understanding of eating problems in these groups of women athletes. Three studies were conducted to answer the question how the heightened vulnerability of certain athletes to the development of eating problems could be explained. The first research project encompassed different themes that were captured in three separate chapters, Chapters 2, 3, and 6. In Chapter 2, dieting behaviors in the general Dutch female adolescent population were investigated, particularly those of adolescent girls who participate in sport out of weight-related motives. In Chapter 3, part of this adolescent control group was compared to a sample of elite and non-elite gymnasts. Not only do eating problems seem to be more prevalent in elite women athletes, but it was also suggested in previous studies that eating disorders in athletes differ in comparison with those in non-athletes, for example concerning the role of body image and the athletes' desire to perform. The core part of this thesis consisted of investigating the influence of the multidimensional body image on eating problems in athletes, which is discussed in Chapters 3, 4, and 5. In Chapter 6, the relationships of athletes' disordered eating correlates with performance-related variables were investigated.

As previous studies in samples of exercisers have shown that the presumed benefits of sport tend not to be experienced by individuals who are motivated to exercise for weight-control or appearance related reasons, it was studied whether these relationships could also be found in a general sample of adolescent girls and women mainly participating in sport activities outside the exercise arena. The results in Chapter 2 indicated that also among younger adolescent women, those who participated in sport at least once a week with the specific purpose of burning calories exhibited more dieting and pathogenic weight control behaviours, and showed a more negative body image as well as lower self esteem than girls who participated in sport for other reasons or girls who did not participate in sport at all. Parallel to what is known from American and Australian studies, it was concluded that dieting and body image-related problems are common in the general Dutch female adolescent population, particularly in weight-related sport participants, and warrant special attention.

In Chapter 3, the dieting behaviours and body image of (part of) the adolescent control group from the second chapter were compared to those of elite and non-elite gymnasts. The elite gymnasts reported a higher dieting frequency and more pathogenic weight control than non-elites or controls, confirming that elite gymnasts are an important risk group for eating disorder symptomatology. Furthermore, it was found that gymnasts, both elites and non-elites, dieted more frequently despite being relatively satisfied with their body. More importantly, the findings suggested that gymnasts' dieting behaviours seemed related to body image in a different way than the controls' dieting as the athletes' feelings of being overweight were not significantly related to their perceived appearance. Moreover, in gymnasts several sport-specific variables seemed more important, such as weight-related coach pressure and the perceived importance of weight, body shape and appearance to performance, which was captured with the concept "weight-related causal attributions of success and failure". Rather than believing that "thin is beautiful", gymnasts seemed convinced or persuaded that "thin is going to win". These results implicated that distinguishing between body image in the context of daily life and body image in the athletic context might contribute to the clarification of eating problems in athletes, which was further explored in Chapters 4 and 5.

In the study presented in Chapter 4, the influence of body image on athletes' disordered eating was studied from a contextual and more dynamic perspective in a sample of high performance women athletes with and without disordered eating who mainly competed in aesthetic and endurance sports. For this, a new questionnaire was developed as existing ones were not suitable for investigating the multidimensional body image of athletes in athletic and daily life contexts. The validity and reliability of the Contextual Body Image Questionnaire for Athletes was tested in a general population of female athletes and exercisers, and appeared to be quite satisfactory. The research findings showed that athletic body image, and more specifically self-perceptions of weight, shape and fat percentage in the context of sport as well as the perceived "thin-fat opinions of others" made significant unique contributions to explaining eating disorder variance. Body satisfaction appears to be transient because high performance women athletes perceive themselves differently in sport compared to daily life. In many women athletes a more negative athletic body image than daily life body image was found. Women with disordered eating, however, seemed quite negative about their body in both contexts when compared to women athletes without disordered eating. In conclusion, the contextual body image framework seems to lead to a better understanding of eating disorder symptomatology in high performance athletes. The contributions of daily life and sport to disordered eating in athletes and the processes through which this occurred were further explored in a qualitative study.

In Chapter 5, the results of interviews with six elite women athletes were presented. In the past seven years I have worked with these athletes who suffered from an eating disorder at that time. The athletes were asked to share their stories on how they had dealt with food in their life and which factors had contributed to their eating disorder. The findings supported the conclusions of our quantitative study presented in Chapter 4. They indicated that, together with daily life influences such as family influences and certain personality characteristics which made the athletes more susceptible, sport-related influences contributed in particular to the development of their disordered eating. Among the examples that were given were the necessity of wearing revealing sports clothing, coaches who pressurized athletes through specific comments on their bodies, and the subjection to frequent public weigh-ins, which made the athletes highly self-aware. The athletes clearly stated that these experiences led to negative body-evaluations and upward body comparisons with better-off peers in the context of sport. Inspired by the conviction that “thin is going to win” factors such as negative performance evaluations and deteriorating performances worsened their disordered eating. The same holds for competitive stress and not being able to cope with it effectively, which acted as one of the maintaining factors.

Performance-related variables that seemed relevant for explaining the development or maintenance of disordered eating in women athletes were further explored in Chapter 6 in which the relationships between disordered eating and the central aspects of goal achievement theory (motivational climate and individual goal orientations) were investigated in a sample of 94 highly competitive female gymnasts and dancers. The study showed that in ego-oriented individuals who are motivated to outperform others, and in a performance motivational climate in which winning is crucial, the phenomena of weight-related coach and peer pressure appeared to be more common just as the presence of other disordered eating correlates such as the use of weight control methods, lower self-esteem and more perfectionism. It was concluded that ego orientation significantly explained dieting variance, that is, aesthetic performers who were highly ego oriented exhibited more frequent dieting. These athletes seemed more at risk for disordered eating, perhaps due to the philosophy that all is fair in winning, or perhaps due the presence of ‘competitive thinness’, which will be more common when feeling inclined to interpersonal comparisons. Not surprisingly, it was also shown that a mastery motivational climate aiming at personal development plays a protective role against disordered eating.

The final chapter provides a summary of the main findings of the studies presented in the thesis and a discussion of their theoretical and practical implications. In search for an explanation for their heightened vulnerability to the development of eating problems, some women athletes believed that “they might have gotten it anyhow” and pointed towards the daily life context as the origin of their problems. On top of that they acknowledged that certain sport influences triggered or worsened their disordered eating. Others seemed to hold the sport context accountable as the starting point of their disordered eating. In addition to explanations pertaining to cultural and sport-environmental factors, our findings also indicated that certain personality variables were found to exert influence on disordered eating.

Furthermore, implications for the concept body image and its role in athletes’ disordered eating were considered. Together, our results indicated that a more dynamic and contextual approach to body image seems necessary for a better understanding of disordered eating development in high performance athletes. If body image was measured as a stable and context-independent concept, thus without distinguishing between the contexts of sport and daily life, the influence of body image in athletes’ disordered eating could thus be underestimated.

Finally, several recommendations for prevention and treatment of disordered eating in sport were formulated for coaches, sport psychologists, and sport federations aiming at a protective sports environment, and supporting the development of well-balanced and resilient athletes. It was proposed, for example, that the sports milieu could consider extending legislation, and increase the awareness regarding underweight, weigh-ins, and sports clothing. Moreover, educational programs for coaches and other staff members should be implemented to increase their awareness of disordered eating and of their own impact. In addition, special attention was paid to the framework of extrinsic versus intrinsic motivation. In this thesis, the presence of extrinsic motivation was demonstrated in both groups at-risk for eating disorder symptomatology, the non-elite sport participants doing sport for weight-related motives without being overweight and the highly ego-oriented competitive athletes who were fixed on winning and interpersonal comparisons. Consequently, it was advocated to promote the intrinsic value of sport. In this respect, coaches and trainers should foster a mastery climate with its emphasis on self-improvement, cooperation and learning which seemed to protect against disordered eating. Furthermore, it was proposed how certain sport-related influences could be incorporated in prevention and treatment programs for athletes. Besides the development of a more positive body image, one should focus, for example, at cognitive restructuring of unrealistic beliefs concerning links between lower weight and better performance. To defeat disordered eating in sport, it is not thin but fun that is going to win.