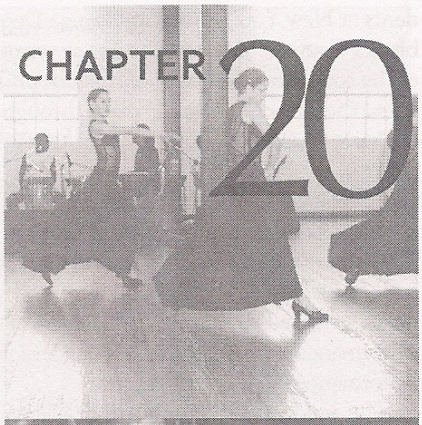
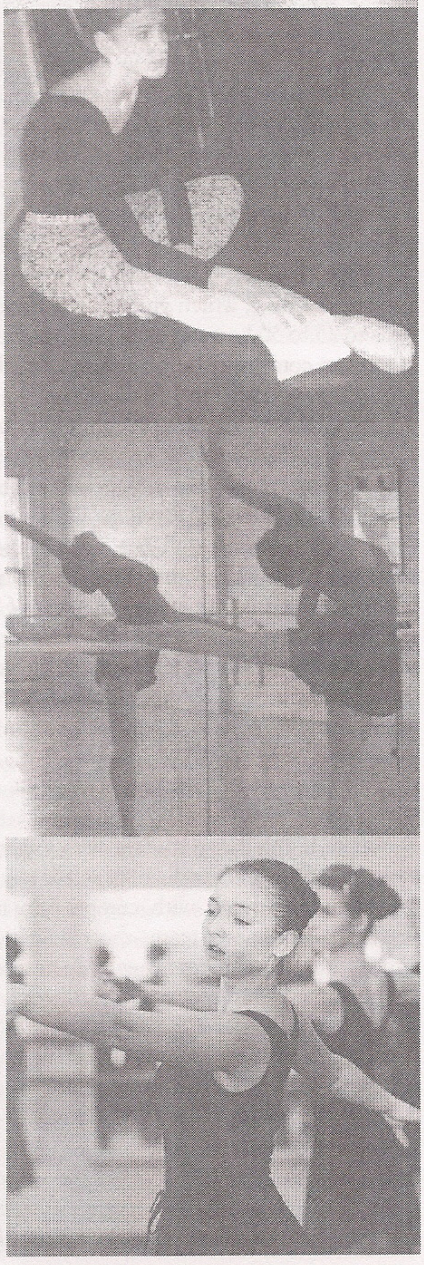
CHAPTER 20



Psychological Issues in the Clinical Approach to Dancers

Bonnie E. Robson



Dance is good for all of us. Taking a recreational dance class can improve self-esteem and reduce anxiety and depression.[1] It is so therapeutic that a specific form of treatment for psychiatric disorders, dance therapy, has been developed. If the effects are so positive, then why are young dancers, especially ballet students, reporting low self-esteem, feelings of humiliation, apathy, eating disorders, anxiety, depression, and hopelessness?[2-4] Research has focused on the stresses that exist in the training and in a career in dance that account for this pathological change. Some factors have emerged, such as intensity and length of training, personality factors of successful candidates, and the high level of competition.

It is a long journey from the first creative movement class to a career as a professional dancer. The process is one in which many train but few are successful in obtaining a job.[5] The focus and stamina required to learn the technique exceed those of professional sports.[6] The training demands long hours, intense focus, the ability to learn new material rapidly, the ability to learn from criticism, the ability to withstand criticism, and, in ballet, a specific body type is generally required.[7] A developmental approach will illustrate the mental health issues and stresses for the student, professional dancer, teacher and artistic director.

YOUNG DANCE STUDENTS

Play is the child's way of understanding the world. Developmental theory supports the tradition of not starting formal training until age 7, when the child can repeat and retain simple sequences of action from memory. In kinder-ballet or creative movement classes, the children imitate movement, and the child's imagination is given outward form.

Even at this age, dance becomes communication, and students develop an attachment to the studio. According to attachment theory, we are biased to the familiar and more comfortable in situations that are predictable. The structure and ritual of dance class promote a beginning bond to the dance world and an identity as a dancer. This may be one of the reasons that dancers faced with a crisis often return to the studio.[8] On September 11, 2001, stu-

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dents at New York University Dance Department were just blocks from the devastation. Some witnessed the collapse of the towers from the roof of the school. Traumatized, they asked their teacher to guide them through a class, the familiar barre exercises, allowing them to gain some emotional control.

Schools that have competition teams or end-of-year recitals can rely on students to learn a simple routine by age 7. The opportunity to dress up, perform, and be admired is generally welcomed by these children, and part of their self-image is linked to dance. This may form the basis for later performance anxiety if the self-image is too dependent on performance.

The resident choreographer of a large North American ballet company recalls how his teachers encouraged his creativity and his self-image grew. He started making dances for his peers, but by grade 9, his principal recommended he start therapy because of the excessive demands he placed on himself. His striving for excellence had become a tendency to perfectionism. This warning sign was recognized by an astute principal so that a psychiatrist could help him to set realistic goals and to define more appropriate training needs.

By **age 10 or 11**, ballet students may audition for pre-professional training, which gradually increases over the next 4 years to 25 to 30 hours/week of class and rehearsals. Students in modern companies or performing arts schools may train or perform every day.

One of the major stressors in the dance world is the lack of time and the numerous tasks to be completed in the day. Even students of 10 years are encouraged to carry an agenda or timetable. If the rehearsal or class schedule changes, all these young dancers pull out their agenda and mark the change. This is part of the process of learning to focus and organize, which is one of the strengths of dance training. It also means that dance study consumes almost all their free time. It is one of the ironies of intensive training that many dance students graduate from high school never having had the opportunity to attend a dance or prom.

Teaching Styles

Fortunate is the dance student who experiences supportive parents and teachers and whose **self-image** is enhanced during training. Schools with competition teams claim that, similar to any sports team, the experience enhances self-esteem. But many students have experienced training that is less supportive and at times harshly and unjustly critical.[9] When the student of 7 or 8 years perceives that mistakes are unacceptable and that some students are favored, the student may become nervous of errors and may have doubts about his or her performance.[10]

Authoritarian teaching methods are common in the dance community. Even when the choreography depicts issues of social justice, the treatment of the dance students and even dancers in rehearsal may be harsh and inappropriate.[11] This behavior is often excused as part of the tradition, a rite of passage.

It is the tradition of respect for one's elders that was illustrated by research done on the relationship of the dancers of the New York City Ballet to their Artistic Director, George Balanchine.[5,12] Two years after his death, 62% of his dancers reported that they felt an exceptional high when he complimented them, and 38% felt that his praise verified their ability. This may be expected when such a prominent figure recognizes the dancer. However, 33% of the dancers welcomed even his negative criticism, and 31% felt that his criticism was cruel and damaging to their self-respect.[5] Brocknar and Hulton[13] found that having low self-esteem resulted in lower confidence and impaired the ability to perform in the presence of others. It can be concluded that harsh remarks that teachers might make to enhance motivation or challenge their students may have the opposite effect and should be discouraged.

In college settings, student feedback and evaluation ensure fair treatment, but in private academies and regional schools, students and their parents need to be aware of the negative consequences of highly critical comments and guard against them. Many students had teachers who were critical and told injured students that they complained too much. Up to 58% of these students are more likely to perform when injured, against medical advice. Hamilton[5] found that 48% of dancers had a teacher who unjustly humiliated them, and 24% reported that their teacher encouraged them to work with a serious injury.

Several books are available to dance students and parents to help them through these years without developing negative psychological habits that could be the precursor of a more serious disorder.[14-17] However, the tone of these manuals has often been one of survival rather than mastery. Julia Buckroyd, who spent 15 years studying and counseling dance students, has written about the emotional aspects of teaching and learning dance. In her book, she recommends a **developmental approach** to healthy learning.[18] Many children are living away from family and even some in a different country and culture. If we take a developmental approach, as recommended by Buckroyd, it is clear that this will be a significant stress for children of 10 or 11 years of age. They are at risk for anxiety and depression related to their losses or at least homesickness.

ADOLESCENT DANCERS

Adolescence is a developmental phase of tremendous physical, cognitive, social, and emotional growth (Table 20–1). Most children tend to gain some weight just prior to their growth spurt at **age 11 or 12**. Because of the growth spurt, they may become clumsy and tend to knock things over. Facial features change and sexual development begins by 15 or 16, with hormone rushes, mood swings, and irritability. Adolescents need more sleep but can have outbursts of

TABLE 20–1. Characteristics of Nondancers and Dancers During the Three Stages of Adolescence

Nondancers	Dancers
Early Adolescence	
Growth spurt	Fight against body changes (hope for delay)
Eat more	Focus on diet, talk of food
Become self-conscious and anxious about appearance	Change in shape with weight increase (self-image problems)
Reject adult role model	Traditional role model
Crush on media personality	Indulge with guilt, give voice to self-criticism
Close intense friendships	Friends transient, lack of trust in friends
Emotional, cranky, moody	Highly anxious
	High moral development
Middle Adolescence	
Mood swings	Fear loss of control
Prolonged sleep	Trouble falling asleep (restless legs)
Experiment with new ideas	Closed to new ideas
Conform to peer group	Individual goals (highly competitive)
Resent age restrictions	Seek perfection, organized
Want immediate gratification	Delay gratification
Experiments with food, alcohol, marijuana, cigarettes	More cigarette use, pain killers, laxatives, appetite suppressants
Late Adolescence	
Boys larger than girls	More demands, less time; academics may suffer
Improved coordination	Fatigue, injury
Establish life goals	Uncertain of future, "mid-life" crisis
Empathy, deeper relationships	Still dependent on artistic director for self-worth
Self-directed	

Adapted from Robson B. *Med Probl Perform Art* 2001; 16(3):109-114.[19]

intense energy. Cognitively, they develop social conscience and empathy but lack the emotional experience to use their intellect wisely.

One of the major tasks of the teen years is the emergence or reemergence of the individual's **identity**.[19] Adolescents believe they are invulnerable, and their ideas are often contrary to social convention while they adhere to the values of their peer group.

Typical teens experiment with nonconformity. Finally, in late adolescence, the males become larger and stronger than the females. As their hormones stabilize, there is a dramatic change in the biological impulse which is accompanied by deeper interpersonal relationships. They are more self-directed and self-reliant, with a deepening of interests. Friendships are more durable and social relationships are not as influenced by age or gender.[19]

Body Image and Self-Esteem

By **age 12 or 13**, serious female dance students have auditioned and been accepted into pre-professional programs, arts schools, or competition teams. In high school, the average female dancer has had 9 years of ballet and has had 4.5 years of modern training.[20] These students are already part of the tradition and are dedicated to all of the ethics and morals of the dance world, including a lean physique and what is termed the "look."

In earlier times, the Classical or Romantic ballerinas created an ethereal illusion, but in the second half of the 20th century, dancers tried to achieve this sylph-like quality physically.[21] In her book, *The Dancer's Body Book*,[15] Allegra Kent asserts that dance has followed society's trends: Today's choreography is faster and more physically demanding. The public has become more conscious of losing weight, and the dance world is required to meet these demands. Thus, dancers are required to be thinner and stronger. Dance students are chosen for their waif-like, androgynous, prepubertal, long-limbed bodies.

As puberty approaches, these dancers gaze into the mirror in horror at breast buds. While other adolescent girls eagerly anticipate menarche, dancers are pleased when their puberty is delayed.[19] Young male dancers are eager for puberty and look forward to "bulking up" and being able to take weight training, as the older students do.[22]

While it is true that adolescent dancers rate themselves highly in terms of **physical self-image** compared with nondancing peers, when they look in the mirror and compare themselves to their classmates, they tend to be highly critical.[3] By middle adolescence, the change in their bodies is viewed as a **loss of control**. This can be a stress for most adolescents, but it can be devastating for dancers, who strive for perfection.

The morphology issue becomes even more critical in late adolescence. If the student's body is not naturally slim, then the **nonaerobic training** that comprises most of the day of the older student can actually make maintaining low body mass index more difficult. Oxygen uptake is a measure of aerobic activity. Cohen reported an average VO_2, or oxygen

uptake per unit time, of 37.7% for barre work and 45.9% maximum for center work.[23] These levels do not meet the minimum guidelines established by the American College of Sports Medicine to increase cardiorespiratory endurance in normal, healthy individuals.

There is no significant difference in body fat between elite runners and ballet dancers,[24] but dancers do not have the opportunity for aerobic exercise that the runners do. So we must conclude that dancers are either naturally slim or they are **restricting food intake**. Hamilton found that "heavy" dancers, 4 to 10% below normal body weight, engaged in more **weight control** than thinner dancers, 11 to 21% below normal weight.[25]

However, weight control by restricting food intake can induce more difficulties. Rosenbaum found a lower resting metabolic rate per unit tissue in ballet dancers than age-matched, nondancing controls, even though the dancers had a lower percent body fat.[26] Therefore, the exercise of dancing did not prevent the lowering of the metabolic rate induced by dieting. Hamilton[7] looked at students who dropped out of dance programs. They have more deficits on the orthopaedic screening exam, higher injury rate, and a higher incidence of eating problems. She suggests that abnormal eating patterns may be undertaken to compensate for suboptimal technique.[7]

The young dancer may not consider **disordered eating** abnormal but as a necessary part of her striving for perfection in service of her art, like many glamorous ballerinas before her who were extolled for their self-denial, such as Anna Pavlova.[27] Sometimes, students who fear that their technical proficiency is not equal to that of their classmates will adopt an attitude that if they cannot be the best in the class, they can be the thinnest.

Stephanie was a star in her ballet and jazz at a competetion-oriented school in a northern Ontario mining town. She auditioned and was accepted into the regional arts high school. Some of the students were to participate in a touring production of the Nutcracker. Stephanie was not chosen. This had never happened to her before. One of the other students to console her suggested that it was probably not a technique fault but that the costume might not fit. Horrified, Stephanie immediately began to restrict her food intake and definitely lost weight. Her teacher recognized a problem when Stephanie became listless and lacking in energy.

Disordered Eating and Lifestyle

Disorder eating patterns mean more than restricting caloric intake. It includes a wide variety of behaviors, such as using diet pills, laxatives, or diuretics and purging. It can lead to the more serious psychiatric disorders of **anorexia nervosa** and **bulimia nervosa**, as defined by the American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders*,[28] or the **female athlete triad**, as defined by the American College of Sports Medicine.[29]

In 1999, a survey was completed by Danek, Snell, and Robson[30] on 257 students aged 12 to 19 years. Of these, 9.7% suspected that they had an eating disorder, and 6.2% had been diagnosed as having anorexia nervosa or bulimia. In order to lose weight, 56% excercised, 40.5% restricted food intake, 12.1% used liquid food, 8.2% used diet pills, 5.1% made themselves vomit, 3.5% used laxatives, and 2.7% used diuretics.

Males were not exempt from disordered eating patterns. In the survey, 10% (n = 25) of the sample were males, and of these, only 1 thought he might have an eating disorder and 2 (10%) reported that they had been diagnosed with anorexia or bulimia. Although most of the adolescent men (76%) were satisfied with their body proportions, those who were dissatisfied desired an average weight loss of 4.17 lbs, whereas those who were moderately or completely satisfied desired a weight gain of from 4 to 19 lbs.[30]

Female Athlete Triad

The female athlete triad is a syndrome occurring in physically active women. Alone or in combination, the three preventable disorders that comprise the triad are disordered eating, amenorrhea, and osteoporosis. Recently, the American College of Sports Medicine has modified the definition by referring to *low energy availability* rather than disordered eating. This means simply that the individual expends more or almost as much energy through exercise as they take in through nutrition.[31]

Primary **amenorrhea** is the lack of menarche by age 16, and secondary amenorrhea is the absence of three or more consecutive menstrual cycles after menarche.[32]

Osteoporosis, the third component, is characterized by a deterioration of bone mass and of bone tissue, leading to enhanced skeletal fragility and increased risk of fracture.[33] The principal cause of premenopausal osteoporosis in active women is decreased ovarian hormone production and hypoestrogenemia as a result of hypothalamic amenorrhea, such as amenorrhea associated with exercise or anorexia.[34]

What this means is that **stress fractures** are linked to eating disorders and amenorrhea. Dancers and their teachers who may have ignored the studies in the 1980s that indicated a high incidence of anorexia in dance schools suddenly are more interested now that the condition has been related to a risk of fractures.[35,36]

Menstruation has its roots in the endocrine system. A decrease of luteinizing hormone (the hormone considered responsible for ripening of the follicle and the release of the ovum during ovulation) is thought to be caused by a decrease of gonadotrophin-releasing hormone (GnRH), which is secreted by the hypothalamus. There are two hypotheses for the decrease in GnRH: either GnRH is decreased by exercise and stress, or it is the result of insufficient energy being available.[37,38] What this means is that the dancer must match her caloric intake to her energy expenditure. Emphasis must be placed on body composition, not weight.

Nutritional Issues

Early recognition of a potential problem is important. Niva Piran[39] has demonstrated that disordered eating can be reduced through education by dance teachers, in early recognition and collaboration with students and parents. Through nutritional and psychological counseling, the student dancers in this program are being equipped to cope with the pressures of dance education for maintaining the required physical appearance. A study of 257 adolescent dance students reported that 9.7% suspected that they had an eating disorder and 6.2% had been diagnosed as having anorexia nervosa or bulimia.[20] This is similar to Garner and Garfinkel's findings[40,41] that 6.5% of Canadian ballet students had anorexia nervosa and 38% had an extreme preoccupation with their bodies on the Eating Attitudes Test (EAT).

Piran was so successful with in-school education that the preoccupation of students with eating dropped to 10%, which is below the 15% reported for the general population of adult women.[42] This is an amazing achievement that argues against the general acceptance in the dance world of the "thin is better" attitude or the tolerance of dieting behaviors to maintain a lean appearance, or worse yet, weigh-ins and body composition testing for dance students.

Residential schools with on-site academic classrooms can more easily implement such a program, but some recreational schools have regular mandatory workshops. The students are encouraged to distance themselves from the problem, to look at the issues objectively not personally, to externalize rather than internalize the pressures. Students are encouraged to recognize external pressures and to distance themselves from these, too. Hobden et al.[43] noted that the focus of primary prevention must be to discourage any comment about body weight or composition.

Nutritional education is also advocated. Yannakoulia and Matalas[44] reported that dancers' knowledge of proper nutrition is inadequate, with food faddism and misconceptions common. They suggested strategies for schools that "include the development of opportunities for healthy eating at school, the organization of outreach activities within the school and the community, and the establishment of appropriate referral system within the school and between the school and the community." Students can be taught to recognize the early signs of eating disorders in themselves, but more importantly in their friends. They are taught ways they might encourage their friends to seek professional help. Nutritionists and registered dieticians, as consultants to the school, are often distrusted at first, as dancers fear they will encourage a high caloric daily intake.

Snell[45] has recommended a nutritional program based on **adequate hydration**, which usually finds acceptance. Adequate fluid intake, as part of a nutritional strategy, allows the body to maintain the low weight and high energy needed by dance students. She noted that insufficient water interferes with weight management, as dancers may substitute food or juice for water when thirsty. Juices have a low fiber and high calorie count. She reported that dehydration of as little as 1% impairs physical response and performance during exercise.

Smoking

Traditionally, the dancer's diet was said to consist of the "four C's": coffee, chocolate, diet coke, and cigarettes. The health risks of cigarettes and coffee have been generally acknowledged. A Harvard study found that girls who drank carbonated beverages were 3.14 times more likely to have a bone fracture than those who did not consume carbonated beverages. Among physically active girls who drank cola, the likelihood increased to 4.94.[46]

In the last few years, it appears that dance students and their role model teachers are smoking less and actively hydrating more appropriately. However, there have been no studies to substantiate this impression. In 2002, Wilmerding et al.[47] studied the smoking habits of 397 high school dance students, 90% of whom were female, and found that one third of the sample stated that they were occasional or regular smokers. These dancers had higher injury rates and lower overall health. They displayed a higher rate of comorbid disorders associated with eating disorders, such as use of laxatives and diet pills. Their rates of alcohol and illegal drug use were statistically higher than their nonsmoking peers'. Interestingly, nearly two thirds of the smoking students had a teacher who also smoked.[47]

The comorbid pattern of cigarette use with poor nutrition leads to decreased energy, diminished aerobic capacity, decreased calcium absorption, and loss of bone density, elevating risk of fracture. Fortunately, students who smoke are easily recognized. These students need to be referred for a medical work-up, including vitamin D and calcium levels, which are essential for healthy bones.

Risk and Reaction to Injury

Not only does poor nutrition put students at risk for injury, but the intensive physical training and psychological stress particular to ballet are associated with an increased risk of injury.[7,48-51] Ballet students are more likely than modern dance students to experience an injury.[49] The injury rate has been reported between 162 and 336 injuries per 100 participant seasons.[52] But if we look at the percentage of students reporting an injury, not the rate of injury, Hamilton found that 47% of young dancers and 46% of older students have a chronic injury.[5] Robson and Gitev[53] found that 70% had an injury in a 2-year observation period in high school that required them to stay out of class for 3 or more days, and 43% reported a chronic injury. Most injuries occur in class (44%) than in rehearsal (16%) or performance (8%).

A Stockholm study[54] showed a similar percentage of students injured. Of 1,555 female dancers, 11% of those who were 8 years of age had an injury, compared to 45% of those

at age 14. The frequency of repeated injury went from 27.7% at age 9 to 46% at age 16. This increase in injuries may be the result of increased hours of practice as the dancers progress in their training. It is well known from sports medicine that a sudden increase in practice schedule is a time of risk.[53]

While it is not the intention of this chapter to focus on the type of injury, it is interesting that the majority of injuries are of the **overuse type**, with a gradual onset with increased practice. This type of injury has been noted to foster denial, particularly in adolescents and particularly if it is a first injury.

Descriptive reports of injured adolescents indicate that they are fearful to admit an injury for fear of censure by their peers and fear of loss of performance opportunities.[50] Macchi and Crossman,[55] in a retrospective study of 26 professional ballet dancers aged 12 to 21, reported that initial reactions to injury included frustration, fear, distress, anger, and depression. During rehabilitation, reactions varied from optimism to pessimism.

Daniel is recovering from a stress fracture of his left tibia. In the summer he had joined a classical ballet company of 26 dancers and 4 apprentices, of whom he was the most recent. In the fall he had shin splints and sought the advice of a physiotherapist, who suggested he might have a stress facture and recommended a sports physician and x-rays. Daniel was afraid he would miss rehearsals and not be featured in the fall season and the Nutcracker performances, and so he did more exercises and went to the gym.

The pain continued. In early December, he was diagnosed with a stress fracture. In May, he was almost fully recovered, but he was highly anxious and refused to try jumps even using pilates equipment. He was obsessed with monitoring his pain and uncertain what was normal exercise-related stiffness, thinking rather that he was re-injuring himself. He lost his position with the company. He took an additional training year and began cognitive-behavioral therapy, and the next spring, he was able to join another more prestigious company.

In a study of university dance students who completed standardized questionnaires, 43% reported **hopelessness** and 25% symptoms of **clinical depression**.[56] Students with overuse injuries tended to be angry, while those forced to stop dancing reported severe depression and some **suicidal thoughts**.[12] One prospective study of fatigue-related injuries by Liederbach and Compagno[57] found these to be correlated with perfectionism, bulimic tendencies, body dissatisfaction, and a drive for thinness. The study did not report on the emotional concomitants of the injuries, but in an earlier study, the researchers found less energy and inertia at the onset of injury.[58]

In a prospective study of 26 injured ballet students, Robson[59] found that initially 38% tried to ignore their injury. Early emotional reactions were worry and anxiety about the injury and its relation to their immediate future. Dancers worried about not being able to perform and the social isolation that would result from being left out of rehearsal. The dancers reported few social contacts outside dance, even though they attended a regular academic high school. The dancers tended to stay together. They also expressed anger at the injury and frustration that they were not able to control this aspect of their lives. As they recover, they tend to be more confident, but then the worries resurface and the majority are concerned about reoccurrence, how the injury will affect their future prospects, or if they will get a job.[59]

Competition

Competition is a part of the reality of life in dance. Competition exists in daily class, casting for recitals, regional competitions between studios, auditions for summer and professional schools, national and international competitions, auditions for employment, and company competition for promotion and casting. Even young dancers know of the competition. It is natural to want the role of Clara in the *Nutcracker*. Young students often assume that the girl chosen for this role is the most talented, but it may be that she is only the smallest or fits the costume.

In 1999, Bronner and Worthen[60] estimated that there were only 23,000 jobs in the United States for professional dancers and choreographers—that is, individuals who make the majority of their income from dance. As many as 76,000 worked part-time at the professional level. The estimate for students was between 659,000 and 10,445,000 which means a 1 in 241 chance of obtaining a professional job.

This level of competition is inevitably present in the professionally oriented schools. Most ballet teachers tend to see some competition as healthy, as do most artistic directors.[9,61] But most also agree that too much can lead to negative work habits and even the avoidance of opportunities for fear of failure.[9,62]

Carr and Wyon[10] demonstrated that in a professional-oriented climate, dancers showed either ego-orientation or a win/lose perspective. Low self-esteem was found to be related to these factors of ego-orientation and hyper-competitiveness.[63] These students were prone to performance anxiety. On the other hand, high motivation, commitment, and the ability to visualize, focus, and concentrate with appropriate goal-setting lead to peak performance.[64] So, students who had individual achievable goals were more likely to succeed than those focused on comparing themselves with their peers.

PROFESSIONAL DANCERS

After 10 to 15 years of training, a few students land jobs in the corps or as an apprentice or junior member of a modern company. While the dancer has experience living away from home and knows about the dance culture, choreographers, and schedules, many have never done their own laundry or made a meal. Some companies actually provide basic cook-

ing courses and financial management basics to their new members.[65] Many dancers obtain a position in a foreign country and have language difficulties, as well as the usual social isolation.

Because of the competition and hierarchy that exist and are encouraged in most large companies, the young dancer may be isolated from other company members. Generally, there is a huge discrepancy in pay between the corps and the soloists and principals, which further encourages competition and hierarchy. Obviously, the young dancers cannot afford to dine out with the soloists.

Many dancers find that those with seniority or company rank snub the young dancers.[66] Solomon, Solomon, and Micheli[67] found that dancers who had control of others and whose self-criticism levels are high have difficulty competing on the social level and tend to create problems for others who are less competent. Some ballet masters compensate for their subordinate position in the hierarchy by teaching the newcomer to do it *their* way, adding to the confusion when the new dancer receives criticism from the artistic director, as it is not *his* or *her* way.

As we all recognize, failure to please those in authority is dangerous, especially in dance, as dancers do not have tenure and union contracts are sometimes renewed on an annual basis.[5] Artistic directors want dancers who can quickly learn the repertoire and fill in cheerfully as needed. Sometimes, an artistic director will admit to deliberately stressing a new dancer to see how much he or she can take.[11] Dancers who were prone to self-image difficulties as a student are likely in this atmosphere to continue to have problems.

Male Dancers

When men graduate from school and start their professional career with a company, they suddenly find they have more free time, because the corps work falls mainly to the women. However, the men do not seem to use this extra time to improve their technique. Actually, they do less conditioning once they are employed than when they were in school.

In school, they had 17.5 hours of classes per week, compared with the female students who had had an average of 14.9 hours of classes per week. As students they had more rehearsals, stretch and strength conditioning, and weights. Leiderbach and Robson[22] looked at young male company members in New York. The men spent 19 hours a week in class and rehearsal, compared to the women who spent 34 hours. Women were also more likely to take conditioning, pilates, swimming, or yoga. The men reported no outside classes. This may be due to financial restrictions. In school, the men had scholarships and the additional classes were provided. Now, they found themselves totally financially responsible for themselves.[22]

In small modern companies, the lack of finances may actually contribute to poor eating habits.[68] It is not surprising that males were found to be more depressed, anxious, and irritable and their personal relationships conflicted. They had more health problems, weight fluctuations, and alcohol abuse. They were significantly less enterprising and well adjusted than the average male. Financial insecurity prompts some male dancers to leave prematurely to support a family.[69]

Although homosexually oriented male dancers represent less than half the male dancers in most companies, the general public image of the male dancer as effeminate seems to be a factor in keeping men and boys from training.[5] While women sympathize with the difficulties for the men in dance, they resent that the men do not have to compete as much for roles. Women dancers have expressed anger that men who had less training, who did not bother to take company class, or who arrived late and left early and who generally showed less commitment were as valued as the women.[66]

Injuries

Injuries plague the professional dancer, as they did the student. Only by now, the prevalence of chronic injury has risen from 47% in dance students to 61% in dancing professionals and 66% in nondancing or retired dancers. In Hamilton's survey[5] of 960 dancers, 49% of professionals continued to work injured, and 24% said they were expected to work injured. This survey was reported in 1997.

Today, most large companies have a medical team to support the dancers and to promote injury prevention because of the high cost of injury. Dancers are encouraged to seek early treatment. Still, dancers are terrified they will be replaced if injured. Although most artistic directors insisted that they would hold a role for an injured dancer until she or he was able to return to the role and said that they encouraged work hardening, they did admit that if the replacement was better for the part or had an impressive presence on stage, the injured dancer would be replaced.[61]

TRANSITION

One of the major crises for the dancer is the fact that, with few exceptions, dancers cannot continue to perform into their later years. Compared with other artists, their career is very short. In 2005, dancers in Canada were compared with other artists. The majority of artists, mostly visual artists, were over 45 years of age, whereas only 3% of dancers were aged 50 or older.[70]

Dancers must transition into another job which may be dance-related but does not involve performing. They report anger, relief, sorrow, euphoria, and fear at the termination of regular performing. They often feel as if their identity is at risk. Nonperforming dancers will say, "I used to be a dancer." Female dancers who are forced into retirement by an injury are more likely to be depressed, as one would expect; but they also overuse prescription drugs and 38% consider suicide. This is in contrast to the dancing professionals, among whom there were no suicidal threats.[12]

Transition centers have developed in many major cities in North America and Europe, with the specific goal of aiding the transition for dancers into related or new careers.[71] Some companies have formed partnerships with colleges or universities so that dancers can further their education during their performing career to prepare for the future.

John is well known internationally as a guest artist and principal dancer with a large ballet and contemporary company. At 35 he realized that he was nearing the end of his career. He had always been interest in photography and went to the director and asked if he could take some of the publicity shots for the company. The director supported him and encouraged him to take extra classes at a local community college. John soon was doing all the company photography and working for other companies as well. He retired from dancing and stayed 1 more year with the company, but that, despite the director's encouragement, was not financially possible.

So John headed to New York City. It was hard to get enough work, and he became quite depressed and was without the support of his friends and community. Still, he persisted, and with his webpage and making contacts with old friends, he eventually developed a clientele, a small apartment, and social life both inside and outside dance.

INFLUENCES OF DANCE EDUCATORS AND DIRECTORS

Teachers

A significant number of dancers move onto teaching careers, often with only their own dance training and professional experience to guide them in this new career. Dance teachers have been criticized for lack of knowledge in anatomy and physiology.[72] Yet, it may be unrealistic to expect that those who go directly from performance to teaching to have had the opportunity to integrate this knowledge.

TEACHING STYLES: Further, it is suggested that dancers who have experienced humiliation or unjust criticism are more likely to perform injured and have a higher prevalence of stress fractures and chronic injuries.[5] In one retrospective study, 78.8% of teachers reported that they had felt humiliated in their training; of those who were criticized, only 61.5% said that they had consciously changed their method of teaching away from this style.[9] This means that over one third might be perpetuating abusive, critical practices, some even slapping or poking students.[9,27]

At a recent international workshop, teachers in some settings, particularly universities, expressed just the opposite opinion. Those teachers are sometimes hesitant to criticize students when those students complete evaluations of the teachers' methods and style after every class. In discussion at workshops, some teachers have voiced concern about physically touching a student lest they be accused of inappropriate sexual touching. Some schools obtain signed informed consent from parents allowing teachers to touch their children as part of the teaching process. However, the very fact of having to do so heightens awareness for the teacher and calls into question a teaching practice that is natural.

ATTITUDES TO INJURY: Chronic injury was reported by about half of the teachers, 53.1%.[9] These teachers were more likely to emphasize injury prevention, recommend strength and conditioning, and refer injured students to a health professional. It appears that they can empathize with the injured students. However, by their own report, one fourth of teachers would insist that the injured student take the class. Among the reasons they gave for this decision was that the type of injury that the student sustained was not sufficient to prevent class. They were annoyed by doctors' notes excusing students from class but stating that the student was medically fit to perform. Some felt that the student was clearly malingering. Thus, the teacher's response to injury could vary from encouraging them to seek medical assessment to insisting they take the class.[59]

Over 60% of teachers in this 2002 study[9] provided training in injury prevention, and 57% made sure their students had classes in healthy nutrition, either taught by themselves or a colleague but rarely by a dietician. It is surprising that less than 100% of teachers ensured that their students were receiving courses in injury prevention when dance publications, sports and dance organizations, and physiotherapy organizations have special interest committees devoted to issues in dance. Coach effectiveness training workshops have long developed guidelines for coaches in prevention, a program that supports Howse's original recommendations for teachers in dance to be educated in the needs of their students and to train them in prevention.[72]

Teachers admitted that they were not always the best role models for their students. Most said they participated in a warm-up and cool-down in an area the students could watch. Yet, in day-to-day practice, time constraints often made this impossible.[9] Some teachers recognized this contradiction and included warm-up as part of the class.

STRESSES: The most common stresses mentioned by dance teachers were unmotivated students and not enough time to complete all of the tasks required. Teachers speak of a lack of administrative support and parents who do not understand dance as an art form but are seeking a vicarious experience through their child. The teachers speak of issues for the profession as the best way to foster talent and self-worth in their students. They are concerned about student health, lack of discipline, and respect in young people. Most teachers felt that their training was inadequate for the task and were seeking further education and certification.[9]

Artistic Directors

Artistic directors have been criticized as ignoring safe practices and putting dancers at risk physically and emotionally for the sake of the company. But what is the real attitude of the artistic directors? Do they want information from the

medical community? Are they interested in the welfare of their dancers, or are they merely giving lip service to these standards and are they motivated by financial concerns?

Rosine Bena, Artistic Director of the Sierra Nevada Ballet Company, and I developed a questionnaire that was sent to artistic directors of classical ballet or contemporary ballet companies. If they agreed to participate, some were invited to a participate in a personal interview, after which they were invited to recommend another director whom they felt should be interviewed, and so to date, more than 30 artistic directors from three continents have been involved. The huge amount of information gathered was presented in part at IADMS in Stockholm and at the PAMA symposium in Snowmass.[73] With the assistance of Virginia Johnson, Artistic Director of Dance Theater of Harlem, and Diane Nottle, formerly of the *New York Times*, the information will be summarized and made available to arts medicine practioners.

CHARACTERISTICS: Most directors are mature members of the profession, with 50% between 40 and 60 years of age, so they have been practicing their art for up to 42 years.[73] They tend to stay with their company for 10 or more years and move on somewhat reluctantly. Most of the directors interviewed felt that their experience as choreographers encouraged them to become directors, while others do not choreograph and some only set on the company ballets in which they have danced. Many directors in the United States have danced with Balanchine, and some are members of the Balanchine Trust. This is an elite group of individuals who are allowed to mount the Balanchine classic ballets.

Some artistic directors report a passion for the art form from the beginning of their career and actively trained with the goal of becoming an artistic director. Some wanted to contribute to their country, to give something back. Some reported growing into the role with excellent training and knowing that they would always be an artistic director, but many were surprised to be asked or encouraged to apply for a position.[73]

Those who felt that they have been successful said that having a good business sense was essential. Directors are certain to experience some criticism from board members or audience members unhappy with the choice of program for the year. At first, most found this difficult to handle, but then they developed long-range plans for 5 to 10 years, inevitably involving education of the audience as part of this plan. They insist that having a clear vision of where they want to take the company is essential.

The majority of artistic directors are self-assured and validated by positive evaluations. They are forward-thinking and say that their most creative period is yet to come. They advise aspiring directors to develop empathy and to please themselves, as they cannot please everyone. The dance world is small. So directors cannot afford to offend others whom they may be working with 30 years later.

Yet, some directors blame themselves for everything or take on too much of the responsibility, and they do not sleep well as a result. Some would have wanted more education in painting, light design, and costumes before taking the position. Courses in conflict resolution are popular at conferences, as are business management courses.

STRESSES: Directors have developed various strategies for working with the **board**. It is important to remember that board members are volunteering their time and want to be helpful, yet the artistic director has to maintain complete artistic control while encouraging administrative support from the board, making this a psychologically stressful task. The director must be mindful of the budget at all times and not to have unrealistic expectations.

When it comes to the **dancers**, all directors have complete control over their selection and generally casting and promotion. Directors are looking for company members who have a high audience appeal, technical ability, strength, and the correct body type.[73] Some companies may have dancers of various heights and sizes, but still the director is usually looking to replace several specific dancers who are leaving the company and have specific roles. One of the frustrations is that dancers in regional companies and even some national companies want foreign or varied experience; many, early in their career, like to move on.

Directors themselves are often on the move, with invitations to **choreograph** or set pieces on other companies. For example, in one 3-month period, the director of the Argentinean ballet was in Switzerland, Turkey, and the United States.[73] The directors report that it is stressful to choreograph a piece for dancers with whom they are not familiar, especially if it is a prestigious company.[73] The dancers are perceived as highly critical. But those who choreograph really enjoy the activity, and most have been doing it since they were children, making dances for friends and siblings. Many recall the tremendous affirmation and support they received from parents, which is similar to the story of successful musicians.[74]

Financial stress and time management were the most important personal stresses experienced by artistic directors.[73] As to issues for the entire profession, they expressed concern that individuals other than dancers were sometimes making decisions for dancers. The idea of studying an art for years has been replaced by the notion that anybody can become famous and be chosen for their basic ability, not for their training.

Although most are not concerned about maintaining their audience, with a few notable exceptions, the directors have trouble expanding the audience, particularly the touring component.[73] Many companies do the same tour each year and are unable to increase the time in other cities or go to new cities. This is why the directors feel the 10-year plan is so vital. They need time to educate their audience to anticipate the next season and to be open to innovation. The audience must be encouraged to explore the art and to recognize excellence in the art form.

ATTITUDE TO INJURY: Artistic directors were supportive of arts medicine principles, in general, and saw the value in prevention. Dancers in large companies generally had insurance if they were off for an injury. Directors did expect the injured dancer to be very active to hasten their recovery; some directors for this reason did not want injured dancers sitting idle in rehearsal. It is true that the injured dancer may not have the role held for him or her.

In closing, while both teachers and artistic directors can recall vividly their own anxieties as dancers and their stress when injured, and while more than 60% of both groups have a chronic injury, their empathy for the individual dancer is often tempered by their concerns for the welfare of the company or school. This means there is still room for dance medicine organizations to be actively involved in the education of these professionals in strategies for maintaining healthy dancers both physically and psychologically.

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