# Sources of Stress in Student-Athletes: An Exploratory Study of Intercollegiate Soccer Players in Canada, Germany, and Japan

Guido Geisler, 1) Larry M. Leith2)

#### Abstract

This preliminary, qualitative study examined the main sources of stress for 179 intercollegiate soccer players in Canada, Germany, and Japan. The purpose was to address the combined influences of higher education and university sport on the stress experiences of culturally diverse student-athletes. During the competitive season in each country, participants were asked to list all sources of stress that they were currently experiencing in their daily lives. Due to the exploratory nature of the research, the data were analyzed via content analysis, which revealed only slight differences between the three national cohorts in their reported stressors. Moreover, academic issues emerged as the most frequently cited source of stress for all of the participants. The findings suggest that intercollegiate soccer players in the three sampled countries derive more stress from their academic studies than from participation in competitive sport. These results should serve as a foundation for follow-up cross-cultural work, while future research might also examine potential differences between starters and support players and between athletes with varying levels of commitment. A further suggestion is to address the coping mechanisms that culturally diverse student-athletes use to deal with their felt stress.

Key words: stress, intercollegiate sport, soccer, student-athletes, cross-cultural, content analysis

There is considerable evidence today that the experience of stress can contribute to various forms of human dysfunction (see Gould & Krane, 1992; Hardy, Jones, & Gould, 1996; Lazarus, 1986; Tomaka et al., 1993). Among the many definitions put forth, McGrath (1970, p. 20) states that stress occurs when there is "a substantial imbalance between environmental demand and response capability, under conditions where failure to meet the demands has important consequences." Similarly, Lazarus and Folkman (1984) describe stress as an unfavorable person-environment relationship that is linked to negative psychological and physical health. Both perspectives have contributed to the contemporary conceptualization of stress as a process rather than as an event or outcome-a process that stems from a dynamic person-environment relationship and the individual's cognitive appraisal of situational stimuli (see Lazarus, 1999). There are two main levels of appraisal. In primary appraisal, the person decides if the outcome of the situation is important to his or her interests; if so, then secondary appraisal assesses the capacity to deal or cope with situational demands. The results of these appraisals determine whether environmental characteristics will tax personal resources and endanger well-being, and this dictates whether or not the stress response will occur (Lazarus, 1986). Thus, stress is neither in the person nor in the environment, but in the relationship between the two.

The ever-changing nature of the personenvironment relationship means that felt stress varies with situational characteristics to the extent that any setting can be stressful if cognitively appraised as

<sup>1)</sup> University of Tsukuba, Institute of Health and Sport Sciences

<sup>2)</sup> University of Toronto, Faculty of Physical Education and Health

such. However, two environments frequently linked with stress experiences are educational settings (Mates & Allison, 1992; Stark et al., 1989; Tsyszkowa, 1986) and those associated with competitive sport (Gill, 1994; Jones & Hardy, 1990; Wrisberg, 1994), due largely to the challenges and obstacles that both students and athletes must routinely contend with. Indeed, researchers (e.g., Ames, 1992; Amirkhan, 1998; Covington, 1993) have demonstrated that when students perceive their challenges as negative, adverse effects on motivation and performance can occur. Numerous studies in sport contexts indicate that this applies equally to competitive athletes (Gould & Krane, 1992, provide a review; see also Duda & Treasure, 2006; Kerr, 1997, 1999), and if these effects are prolonged or seen as unmanageable, they can elicit stress (Carver & Scheier, 1994). Of course, some students are able to withstand academic stress better than others (Struthers, Perry, & Menec, 2000), just as some athletes interpret the stress of competition as exciting and challenging rather than as unpleasant or anxiety-provoking (Jones, 1995; Kerr, 1999). Nevertheless, some of the deleterious effects that can accompany stress in education are impaired health and functioning (de Anda et al., 2000) and lower course grades (Struthers et al., 2000). In sport, they include excessive physiological activation and increased competitive anxiety (Martens, Vealey, & Burton, 1990) as well as a decline in physical performance (Anshel, Brown, & Brown, 1993; Gould & Krane, 1992; Kerr, 1990; Martens, 1987).

Research into specific educational stressors reveals that one of the most common sources for students is examination stress (Gallagher, 1996; Halamandaris & Power, 1997). Other stressors reflect concerns about future goals, school-related issues, emotional and/or interpersonal concerns, and time pressures pertaining to academic assignments and performance (de Anda et al., 2000). In the sport literature, the occasional (and incorrect) use of "stress" and "anxiety" as interchangeable terms can make it difficult to interpret research findings (Anshel, 2003; Balague, 2005; Gould & Krane, 1992; Wrisberg, 1994), but studies that specifically address sport "stress" have identified a number of common antecedents. Previous work by

Gould, Horn, and Spreemann (1983) characterized the variables underlying athletes' stress as fear of failure/feelings of inadequacy, external control/guilt, and social evaluation. Subsequent research by Scanlan, Stein, and Ravizza (1991) revealed that the major sources of stress in former elite figure skaters were negative aspects of competition, demands or costs of participating, negative significant-other relations, personal struggles, and traumatic personal experiences. Gould, Jackson, and Finch (1993) also interviewed champion figure skaters and included life direction concerns as a further stressor that could not be subsumed under those outlined in the Scanlan et al. (1991) study.

More recent work by Lonsdale and Howe (2004) identified skill performance errors, being outplayed by opponents, opposition aggression, interpersonal conflict, game outcome events, and injuries as sources of competitive sport stress, while Anshel and colleagues make mention of opponents' success (Anshel, Williams, & Hodge, 1997; Gan & Anshel, 2006) in addition to physical errors and unfair refereeing decisions (Anshel & Delany, 2001). However, despite the recognition that stress can extend from performance concerns in academic as well as sport environments, only a small number of studies to date have addressed the stressors or stress experiences of people identified as both students and sports competitors; namely, intercollegiate athletes. Participation in sport is frequently acknowledged as an effective means of stress reduction (Hudd et al., 2000; Kimball & Freysinger, 2003; Leith, 2002; Norris, Carroll, & Cochrane, 1992), but recent evidence also suggests that student-athletes may experience greater levels of stress than mainstream (non-athlete) students due to the dual demands of athletics and academics (Kimball & Freysinger, 2003; Papanikolaou et al., 2003; Wilson & Pritchard, 2005). Specifically, the time devoted to competition, training, and travel, plus the resulting fatigue, can negatively affect performance in both areas (Heller et al., 2005; Humphrey, Yow, & Bowden, 2000; Miller & Kerr, 2002), and intercollegiate athletes are sometimes said to represent an "at risk" group with respect to academic success (Wilson & Pritchard, 2005). Moreover, studentathletes often complain of social stressors such as conflicts with girlfriends/boyfriends (Wilson & Pritchard, 2005) and problems in their relationships with teachers, coaches, and fellow athletes (Humphrey et al., 2000; Papanikolaou et al., 2003). In light of these phenomena, there is a continued need for research that delineates the exacerbating as well as the mediating effects of intercollegiate sport involvement on the stress processes of students.

Of additional interest in contemporary sport studies is the notion of cultural context and the diversity between nations in their values and attitudes toward sport (Nagaki, 1998). However, research results have been inconsistent. On the one hand, Park (2004) examined the sources of competitive stress in nationallevel Korean athletes from 41 different sports, and found that the reported stressors generally paralleled those that Gould et al. (1993) identified for elite American competitors. In contrast, Teipel et al. (1998) compared the stressors of German and Japanese soccer players at various levels of competition and reported that both male and female Japanese players experienced more stress than their German counterparts in connection with 14 out of 15 training situations. When the researchers assessed males only, Japanese players also rated 9 out of 10 pregame situations and 7 out of 10 postgame situations as more stressful. The relevance of cultural context to stress research is underscored by the influence that cultural viewpoints have on primary and secondary appraisal (Carver, Scheier, & Weintraub, 1989; Gan & Anshel, 2006; Lonsdale & Howe, 2004). Hardman (1998) adds that explanations for diversity in sport attitudes and behaviors often point to national differences in physical education and school sports programs, such as Yamaguchi's (1984) earlier observation that Japanese socialization into sport arises mainly from a closed school structure compared to the more open community structure in Canada. Many countries provide competitive sport opportunities in educational settings, but they are treated with varying levels of importance and intensity. Carroll (1993) suggests, for example, that priority in Asian cultures is sometimes allocated to academic and intellectual development over physical or sport achievement, and it is unclear

how this or other culturally-specific practices might affect the appraisal process and felt stress of school sports competitors.

The combined influences of higher education, intercollegiate sport, and cultural attitudes offer a unique perspective for comparing the stressors of student-athletes with distinct national backgrounds. Therefore, the purpose of this qualitative investigation was to reveal the main sources of stress reported by intercollegiate soccer players at selected universities in Canada, Germany, and Japan. Since the study was of a descriptive and exploratory nature, no formal hypotheses were proposed, but the findings may provide a preliminary framework for researchers interested in the stress processes of student-athletes from different countries and the implications for learning, adaptation, and performance in both academic and sport contexts. The results should also be of interest to those who compete, teach, and coach at institutions in the sampled nations or in any multicultural academic setting.

## Methods and Procedures

## **Participants**

The study involved 179 male intercollegiate soccer players (60 in Canada, 59 in Germany, and 60 in Japan) from four university or technical university soccer teams in each of the three countries. Players' ages ranged from 18-31 years in Canada (M = 21.4, SD = 2.31), 20-30 years in Germany (M = 22.8, SD = 2.27), and 18-22 years in Japan (M = 19.6, SD = 1.13), and all participants were full time students as well as members of their institution's top varsity soccer team.

#### Research Measure

In each country, participants were administered a one-item questionnaire that asked them to list all sources of stress (if any) that they were currently experiencing in their daily lives. This item was one small part of a larger questionnaire package designed for a comprehensive quasi-experimental investigation on stress, anxiety, and emotions in intercollegiate soccer players (the various findings of which are reported elsewhere). The open-ended questionnaire format was adopted in order to elicit rich and detailed

information from respondents instead of having them fit answers into predetermined, forced-choice categories on a structured scale or inventory. It also follows the advice of Crocker, Kowalski, and Graham (1998), who state that qualitative research is useful when little is known beforehand about a phenomenon.

In addition to the first author/investigator, three people who had been familiarized with the applicable terminology were involved in translating the questionnaire and the participants' responses—one person plus the investigator for the German translations and the other two for the Japanese. In keeping with common procedure, subtle differences in the translated versions were discussed and final wording was agreed upon.

## Data Analysis

Since the questionnaire had no multiple-item subscales, statistical procedures for measures with subscales (such as item analysis, factor analysis, and item-to-subscale correlations) were inappropriate. In addition, consistent responses across situations could not be expected for such a measure, meaning that test-retest reliability calculations would also be inappropriate. As a result, sources of stress were analyzed with the conceptual analysis variant of content analysis, a process in which respondents' words or statements are grouped into conceptual clusters to represent selected ideas (Sanders & Pinhey, 1983). Usually, the clusters that are formed constitute what would ordinarily be regarded as variables in a research hypothesis. However, due to the exploratory aims of this study and the consequent lack of hypotheses, the formation of clusters was inductive in that they emerged only after perusal of the participants' responses.

To begin with, the questionnaires served as the unit of analysis. The English versions of all questionnaire responses were read by two principal investigators and those responses comprised the raw data. Consensus was then reached on the organization of these raw data into common higher-order themes for each national cohort. In other words, instances of certain words or statements (raw data) in the questionnaires (unit of analysis) were counted as individual scoring units

of the corresponding conceptual clusters (higherorder themes) that emerged and provided a means of numerical expression for each cluster (e.g., 4 instances of applicable statements equaled 4 scoring units). Information about respondents' sources of stress was then used descriptively by determining percentages for each of the clusters, revealing patterns within and between the three sets of student-athletes. This process resembled the one used by Park (2000, 2004), whose examination of coping and stress perceptions in Korean athletes reduced raw data into first-order themes, second-order themes, and general dimensions. However, since stress in the current study could extend from both academic and competitive sport concerns, there was a need to retain a greater variety of sources. As a result, two (instead of four) levels of analysis allowed higher-order themes to emerge directly from the original raw data, an approach most similar to Dale's (2000) analysis of distractions to decathletes whereby eight higher-order distractions were drawn directly from 32 raw data themes.

Content analysis is often taken to be a quantitative method for analyzing qualitative data. Nevertheless, it is a coding procedure and not any kind of statistical test (Sanders & Pinhey, 1983), and the information obtained frequently remains at the descriptive level for qualitative research applications (e.g., Dale, 2000; Park, 2000, 2004). Content analysis is a useful means of categorizing people's statements through their links to specific concepts or frameworks (Patton, 1990), but it bears repeating that it is simply concerned with transforming and *studying* data; it is not meant to be employed as an objective statement about social behavior (Sanders & Pinhey, 1983).

#### Procedure

In each of the three countries, data was collected in the latter part of the intercollegiate soccer season. The questionnaire was administered to players during a team meeting at each university and was answered on site. As noted, the data were gathered as part of a larger investigation; therefore, the players also completed a series of other questionnaires at that time. All participants were informed that there were no favorable or unfavorable answers to the question

and that all responses would be kept confidential. Confidentiality was protected by the use of a coding system on the questionnaire forms and in the data analysis.

## Results

A total of 329 raw data themes (scoring units) emerged from the combined set of questionnaires for all 179 participants. As such, the mean number of listed stressors for each participant was 1.84, with a range of 0 to 7. For intercollegiate soccer players at Canadian, German, and Japanese universities, this led to the categorization of stress sources into 11, 12, and 12 different higher-order themes or conceptual clusters, respectively. However, the cluster that clearly emerged as the most frequently reported source of stress for players in each of the three countries pertained to academic issues. Further details of the analyses are broken down by country and described below.

### Canadian Participants

Stressors relating to academic issues comprised 71 scoring units (48.3%) from a total of 147 in the Canadian sample. This means that almost half of all the stress experienced by the Canadian student-athletes in this investigation was derived from academic sources. The remaining clusters of stressors, in order of prevalence, were listed as money concerns (9.5%); time management (7.5%); intercollegiate team issues (6.1%); girlfriend and commuting (both with 5.4%); family relationships/issues (4.8%); concerns about the future (4.1%); interactions with others (3.4%); and part-time job and housing (both with 2.7%). For ease of interpretation, Table 1 shows all of the clusters that were formed as well as the number of scoring units and percentages for each.

# German Participants

In the sample of German intercollegiate soccer players, academic stressors made up 41 scoring units (40.6%) from a total of 101. The next most frequently reported sources of stress were related to money concerns and family relationships/issues (both with 8.9%); girlfriend and job/part-time job (both with 6.9 %); concerns about the future (5.9%); intercollegiate team

Table 1

The Nature and Frequency of Stressors Reported by

Intercollegiate Soccer Players in Canada

Cluster (Source of Stress)	No. of Scoring Units	Percentage (%)
Academic Issues	71	48.3
Money Concerns	14	9.5
Time Management	11	7.5
Intercollegiate Team Issues	9	6.1
Commuting	8	5.4
Girlfriend	8	5.4
Family Relationships/Issues	7	4.8
Concerns about the Future	6	4.1
Interactions with Others	5	3.4
Part-Time Job	4	2.7
Housing	4	2.7
Total	147	100 (99.9)

issues, club (non-intercollegiate) soccer commitments, interactions with others, and time management (each with 4.0%); and health concerns and housing (both with 3.0%). Table 2 reveals all of the clusters that

Table 2

The Nature and Frequency of Stressors Reported by Intercollegiate Soccer Players in Germany

Cluster (Source of Stress)	No. of Scoring Units	Percentage (%)
Academic Issues	41	40.6
Money Concerns	9	8.9
Family Relationships/Issues	s 9	8.9
Girlfriend	7	6.9
Job/Part-Time Job	7	6.9
Concerns about the Future	6	5.9
Intercollegiate Team Issues	4	4.0
Club Soccer Commitments	4	4.0
Interactions with Others	4	4.0
Time Management	4	4.0
Health Concerns	3	3.0
Housing	3	3.0
Total	101	100 (100.1)

emerged as well as the number of scoring units and percentages for each.

## Japanese Participants

For the Japanese participants, 22 out of 81 total scoring units (27.2%) could be attributed to academic issues. This was followed by concerns about the future (17.3%); intercollegiate team issues (11.1%); part-time job (8.6%); interactions with others, commuting, and crowds (each with 7.4%); girlfriend and living alone (both with 3.7%); time management and family relationships/issues (both with 2.5%); and money concerns (1.2%). The Japanese results are also

Table 3

The Nature and Frequency of Stressors Reported by Intercollegiate Soccer Players in Japan

Cluster (Source of Stress)	No. of Scoring Units	Percentage (%)
Academic Issues	22	27.2
Concerns about the Future	14	17.3
Intercollegiate Team Issues	9	11.1
Part-Time Job	7	8.6
Interactions with Others	6	7.4
Commuting	6	7.4
Crowds	6	7.4
Girlfriend	3	3.7
Living Alone	3	3.7
Time Management	2	2.5
Family Relationships/Issue	s 2	2.5
Money Concerns	1	1.2
Total	81	100

presented in tabular form. All of the relevant clusters, plus their corresponding scoring units and percentages, can be found in Table 3.

#### Discussion

This exploratory research indicated that academic issues were the most common source of stress for the sampled intercollegiate soccer players in Canada, Germany, and Japan. With respect to other reported stressors, there were only small differences

between the student-athletes in the three nations and relatively few effects that were directly attributable to competitive sport. Before discussing implications, certain limitations of the study must be noted. First, questionnaire interpretation was limited by the truthfulness of respondents and by the possibility of bias in the formation of conceptual clusters and in the translation and categorization of participants' responses. However, translation was relatively straightforward given the fact that most responses were single words or short descriptions that were interpreted with little or no difficulty. Moreover, issues related to self-report measures and researcher bias are always inherent limitations of qualitative research (Anshel, 2001) and should not preclude such work, especially if analyses are repeated and reviewed. The second limitation acknowledges once more that the analysis was intended primarily to provide descriptive information about the research data. Instead of drawing objective conclusions, it offers insights into the stress experiences of the sampled student-athletes and can serve as a springboard for new or extended research questions and hypotheses. Accordingly, the results of the investigation cannot effectively be generalized to samples beyond the subsets studied. The most noteworthy findings are now discussed.

A question of paramount interest in this study was the extent to which intercollegiate soccer competition might be a direct source of stress to the participating student-athletes. Overall, responses that made up the "intercollegiate team issues" cluster were similar for all three groups and included concerns about getting injured or recovering from injury, relationships with coaches, performance level, and amount of playing time. Nevertheless, intercollegiate soccer participation did not emerge as a major contributor to the students' stress, but its ranking within each national cohort is worthy of comment. The Japanese rated intercollegiate team issues as more stressful (11.1%) than did the Canadians (6.1%) and the Germans (4.0%), a finding that invokes the results of Teipel et al. (1998) in their aforementioned comparison of stress conditions amongst Japanese and German soccer players. However, the higher Japanese stress in the current study might also be attributed to the fact that intercollegiate soccer at the sampled Japanese universities involved a long competitive season, daily training, and a committed off-season program. In comparison, the Canadian teams typically trained 3-4 times per week, with a competitive season that lasted a maximum of 10 weeks and a less intense approach to off-season development. To that end, the personal investment of the German players, some of whom also played recreational (non-intercollegiate) club soccer, may have been the lowest of all three groups. Unlike university athletes in Japan and (to some extent) Canada, elite German players or those with strong soccer aspirations do not generally play for university teams. Instead, they are usually involved with high performance programs or in some capacity with professional soccer clubs. Consequently, it is possible that the German participants took their university soccer participation less seriously than the Canadian and Japanese players and that this was reflected equally in their lower ratings for intercollegiate and club team stress (4.0% for each).

The observation that academic issues emerged as the predominant source of stress for all three groups indicates that these concerns superseded the majority of both everyday and sport-related stressors. In one way, this is consistent with previous research by Humphrey et al. (2000) in that 95% of the male athletes and 86% of the female athletes they studied experienced stress as a result of examinations, preparing papers, missing classes, and making up missed assignments. However, it is at odds with the fact that the same participants reported a similar number of concomitant stressors that were directly related to their status as athletes. It also runs contrary to the results of Heller et al. (2005), who found that the stresses of elite female ice hockey players at a prominent American university were primarily due to training and competing in the sport itself. In all likelihood, discrepancies between previous results and the current findings can be attributed to the fact that, unlike their American counterparts, Canadian, German, and (most) Japanese student-athletes do not receive athletic scholarships. As such, they do not experience the pressures that are associated with retaining this type of funding in the American college sport system. Accordingly, it appears that for participants in the current study, intercollegiate soccer competition was not sufficiently consuming to undermine the importance that they attached to academic issues. In other words, there was no evidence that soccer either increased or decreased feelings of stress, with the broader inference that differences in the overall stress experiences of mainstream students and student-athletes in Canada, Germany, and Japan may be small or even negligible.

Further to the academic issues cluster, however, there was a small but discernible amount of variation between the three national groups. In the Canadian sample, for instance, statements commonly found on the questionnaires included "exams," "readings," "essays," "studying," "too much work," "homework," "lectures," "grades," and "GPA." This broad spectrum of statements suggests that the stress of Canadian players was derived from a wide array of general academic concerns which, as described below, contrasts with the narrower range of responses that the German and Japanese participants provided.

Among those at German universities, "exams" and "graduation theses" were mentioned most often, revealing that academic stress in the German sample stemmed specifically from tests and independent projects rather than from the various everyday details of student life. For the Japanese student-athletes, academic issues were also the most frequently cited source of stress. However, the percentage was lower than it was for the Canadians and Germans, and responses reflected a pragmatic emphasis on obtaining enough credits and graduating. The resulting perception is that the Japanese participants were more concerned about the ultimate outcome of university attendance than they were about individual exams, assignments, or specific course grades. English" was an additional Japanese concern and was mentioned several times, likely because students at many Japanese universities must successfully sit an English proficiency exam at some point during their programs before they are permitted to graduate. The nature of these sources may also explain, then, why concerns about the future occupied the second rank amongst all of the Japanese stressors, and why the future was a considerably stronger source of stress

than it was for the Canadian and German participants. In fact, when concerns about the future (17.3%) were added to academic issues (27.2%), the percentage for the combined stressors fell neatly between the totals for academic issues in the Canadian (48.3%) and German (40.6%) samples.

Money concerns accounted for the second most common stressor in the Canadian (9.7%) and German (8.9%) groups, which is understandable considering the significant cost of higher education. Interestingly, though, the Japanese participants ranked money as their least potent source of stress (1.2%). This could be a reflection of the fact that some of the stronger university sports programs in Japan offer financial incentives in the recruitment of accomplished athletes. While not akin to the athletic scholarships of American athletes, such incentives may nevertheless result in a reduced financial burden when compared to costs in Canada and Germany. It is therefore not surprising that money concerns would be a more significant stressor for the Canadian and German players.

Two other peripheral stressors mentioned solely in the Japanese responses were "crowds" (7.4%) and "living alone" (3.7%). Though unrelated to sport or education and not listed uniformly by all Japanese participants, they are briefly touched upon here because they represent sources of stress that may be uniquely characteristic of Japanese society. Those familiar with Japan can attest to the fact that cities and towns are densely populated, and making one's way through crowded streets and train stations can be a more trying (and stressful) experience than in many Western cities. The stress of living alone might be explained by research suggesting that people in Japan and other Asian countries exhibit greater collectivism or interdependence and have a stronger sense of community than those in North American and European nations (Kerr et al., 2000; Markus & Kitayama, 1991; Tafarodi & Swann, 1996). The traditional Japanese practice of having two and three generations living together under the same roof would thus be disrupted if students must live alone for the first time due to university attendance, and could lead to stress that people from more individualistic nations (like Canada and Germany) would not necessarily experience to the same degree.

In summary, this exploratory study found only a small number of differences in sources of stress between intercollegiate soccer players in Canada, Germany, and Japan. Conceptual content analysis revealed that university soccer itself was one stress factor for the sampled players and that it was highest in the Japanese cohort, but overall it represented a relatively small proportion of reported stress. The most prevalent stressors for each group were attributed to academic concerns, suggesting that the felt stress of student-athletes in each of the three nations stemmed more from their obligations as students than it did from their identities as athletes. Researchers interested in cultural diversity within the stress experiences of intercollegiate sport competitors might therefore use these findings as a backdrop for further study.

Future research can also contribute to existing stress theory by considering the recommendation of Heller et al. (2005) and investigating differences in stress cognitions between starters, or those who receive significant playing time, and athletes who play a predominantly supportive role. In the current study, no such distinctions were made, but cultural variation in individualism, collectivism, and athletic identity may have a significant effect on the way that competitors respond. An additional recommendation is to examine the coping mechanisms that diverse student-athletes use to contend with potentially stressful circumstances. Coping behavior is not restricted to successful outcomes but instead includes all purposeful attempts to handle demands, regardless of their effectiveness (Folkman & Lazarus, 1985). Aldwin (1994) adds that coping is a conscious rather than automatic process, and Anshel (2001) asserts that cultural factors play an important role in the coping methods selected. However, while the extant literature describes several coping styles and strategies that are enlisted to deal with stressors in academic settings (de Anda et al., 2000; Olah, 1995), it fails to fully explain why some students show a preference for problemfocused coping (Struthers et al., 2000) and why others opt for emotion-focused approaches (Mates & Allison, 1992; McCubbin & Patterson, 1987; Tsyszkowa, 1986). Similarly, though sport research suggests

that athletes' coping tends to be dynamic rather than dispositional in nature (Crocker & Isaak, 1997; Gould, Finch, & Jackson, 1993; Park, 2000), there is also evidence favoring the dispositional hypothesis (Giaccobi & Weinberg, 2000) and it is unclear why some coping mechanisms might be chosen over others (Kaissidis-Rodafinos, Anshel, & Porter, 1997).

There is more to be learned about the stress processes of culturally diverse student-athletes, their concordant coping behaviors, and optimal performance and satisfaction in academic as well as sport contexts. To provide adequate counseling and support services, consideration must be given to the nature of intercollegiate sport programs in different countries, participants' self-ratings of athletic identity, their status within the team, and the level of commitment that student-athletes invest in the intercollegiate sport experience. These issues await both original and follow-up research.

#### References

- Aldwin, C. (1994). Stress, coping, and development.

  New York: Guilford.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261-271.
- Anshel, M. H. (2001). Qualitative validation of a model for coping with acute stress in sport. Journal of Sport Behavior, 24(3), 223-245.
- Anshel, M. H. (2003). Sport psychology: From theory to practice (4<sup>th</sup> ed.). San Francisco: Benjamin Cummings.
- Anshel, M. H., Brown, M., & Brown, D. (1993).

  Effectiveness of an acute stress coping program on motor performance, muscular tension, and affect. Australian Journal of Science and Medicine in Sport, 25, 7-16.
- Anshel, M. H., & Delany, J. (2001). Sources of acute stress, cognitive appraisals, and coping strategies of male and female child athletes. *Journal of Sport Behavior*, 24, 329-353.
- Anshel, M. H., Williams, L. R. T., & Hodge, K. P. (1997). Cross-cultural and gender differences on coping style in sport. *International Journal of Sport Psychology*, 28, 141-156.

- Amirkhan, J. H. (1998). Attributions as predictors of coping and distress. *Personality and Social Psychology Bulletin*, 24, 1006-1018.
- Balague, G. (2005). Anxiety: From pumped to panicked. In S. Murphy (Ed.), The sport psych handbook (pp. 73-91). Champaign, IL: Human Kinetics.
- Carroll, R. (1993). Factors influencing ethnic minority groups' participation in sport. *Physical Education Review*, 16, 55-66.
- Carver, C. S., & Scheier, M. F. (1994). Situational coping and coping dispositions in a stressful transaction. *Journal of Personality and Social Psychology*, 66, 184-195.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989).

  Assessing coping strategies: A theoretically-based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Covington, M. V. (1993). A motivational analysis of academic life in college. In J. Smart (Ed.), Higher education: Handbook of theory and research (pp. 50-93). New York: Agathon.
- Crocker, P. R. E., & Isaak, K. (1997). Coping during competition and training session: Are youth swimmers consistent? *International Journal of* Sport Psychology, 28, 355-369.
- Crocker, P. R. E., Kowalski, K. C., & Graham, T. R. (1998). Measurement of coping strategies in sport. In J. L. Duda (Ed.), Advances in sport and exercise psychology measurement (pp. 149-164). Morgantown, WV: Fitness Information Technology.
- Dale, G. A. (2000). Distractions and coping strategies of elite decathletes during their most memorable performances. The Sport Psychologist, 14, 17-41.
- de Anda, D., Baroni, S., Boskin, L., Buchwald, L., Morgan, J., Ow, J., Gold, J. S., & Weiss, R. (2000). Stress, stressors, and coping among high school students. *Children and Youth Services Review*, 22(6), 441-463.

- Duda, J. L., & Treasure, D. C. (2006). Motivational processes and the facilitation of performance, persistence, and well-being in sport. In J. M. Williams (Ed.), *Applied sport psychology:* Personal growth to peak performance (5<sup>th</sup> ed., pp. 57-81). New York: McGraw-Hill.
- Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination.

  Journal of Personality and Social Psychology, 48, 150-170.
- Gallagher, D. J. (1996). Personality, coping, and objective outcomes: Extraversion, neuroticism, coping styles, and academic performance. *Personality and Individual Differences, 21*(3), 421-429.
- Gan, Q., & Anshel, M. H. (2006). Differences between elite and non-elite, male and female Chinese athletes on cognitive appraisal of stressful events in competitive sport. *Journal of Sport* Behavior, 29(3), 213-228.
- Giaccobi, P. R., & Weinberg, R. S. (2000). An examination of coping in sport: Individual trait anxiety differences and situational consistency. The Sport Psychologist, 14, 42-62.
- Gill, D. L. (1994). A sport and exercise psychology perspective on stress. *Quest*, 40, 20-27.
- Gould, D., Finch, L., & Jackson, S. A. (1993). Coping strategies used by national champion figure skaters. Research Quarterly for Exercise and Sport, 64, 453-468.
- Gould, D., Horn, T., & Spreemann, J. (1983). Sources of stress in junior elite wrestlers. *Journal of Sport Psychology*, 5, 159-171.
- Gould, D., Jackson, S. A., & Finch, L. (1993). Sources of stress in national champion figure skaters. *Journal of Sport and Exercise Psychology*, 15, 134-159.
- Gould, D., & Krane, V. (1992). The arousal-performance relationship: Current status and future directions. In T. S. Horn (Ed.), Advances in sport psychology (pp. 119-142). Champaign, IL: Human Kinetics.

- Halamandaris, K. F., & Power, K. G. (1997). Individual differences, dysfunctional attitudes, and social support: A study of the psychosocial adjustment to university life of home students. *Personality and Individual Differences*, 22(1), 93-104.
- Hardman, K. (1998). Physical and sporting activity in international and cross-cultural context:

  Diversity or congruence? In K. Hardman & J. Standeven (Eds.), Cultural diversity and congruence in physical education and sport (Proceedings of the 10<sup>th</sup> ISCPES Biennial Conference 1996 in Hachi-ohji, Japan).

  Aachen: Meyer & Meyer Sport.
- Heller, T. L., Bloom, G. A., Neil, G. I., & Salmela, J. H. (2005). Sources of stress in NCAA Division I women ice hockey players. *Athletic Insight:* The Online Journal of Sport Psychology, 7.
- Hudd, S., Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N., & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal*, 34, 217-227.
- Humphrey, J. H., Yow, D. A., & Bowden, W. W. (2000). Stress in college athletics: Causes, consequences, coping. Binghamton, NY: The Haworth Half-Court Press.
- Jones, G. (1995). More than just a game: Research developments and issues in competitive anxiety in sport. British Journal of Psychology, 86, 449-478.
- Jones, J. G., & Hardy, L. (1990). The academic study of stress in sport. In J. G. Jones & L. Hardy (Eds.), Stress and performance in sport (pp. 3-16). Chichester, England: John Wiley & Sons.
- Kaissidis-Rodafinos, A., Anshel, M. H., & Porter, A. (1997). Personal and situational factors that predict coping strategies for acute stress among basketball referees. *Journal of Sports* Sciences, 15, 427-436.
- Kerr, J. H. (1990). Stress and sport: Reversal theory. In J. G. Jones & L. Hardy (Eds.), Stress and performance in sport (pp. 107-131). Chichester, England: Wiley.

- Kerr, J. H. (1997). *Motivation and emotion in sport:*Reversal theory. East Sussex, UK: Psychology Press.
- Kerr, J. H. (Ed.). (1999). Experiencing sport: Reversal theory. Chichester, UK: John Wiley & Sons.
- Kerr, J. H., Kawaguchi, C., Oiwa, M., Terayama, Y., & Zukawa, A. (2000). Stress, anxiety and other emotions in Japanese modern dance performance. South Pacific Journal of Psychology, 11(1), 16-33.
- Kimball, A., & Freysinger, V. J. (2003). Leisure, stress, and coping: The sport participation of collegiate student-athletes. *Leisure Sciences*, 25, 115-141.
- Lazarus, R. S. (1986). Stress: Appraisal and coping capacities. In A. Eichler, M. M. Silverman, & D. M. Pratt (Eds.), How to define and research stress (pp. 5-12). Washington, DC: American Psychiatric Press.
- Lazarus, R. S. (1999). Stress and emotion: A new synthesis. New York: Springer-Verlag.
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York:

  Springer-Verlag.
- Leith, L. M. (2002). Foundations of exercise and mental health. Morgantown, WV: Fitness Information Technology.
- Lonsdale, C., & Howe, B. L. (2004). Stress and challenge appraisals of acute taxing events in rugby. *International Journal of Sport and Exercise Psychology*, 2, 7-23.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- Martens, R. (1987). Coaches guide to sport psychology. Champaign, IL: Human Kinetics.
- Martens, R., Vealey, R. S., & Burton, D. (Eds.) (1990).

  Competitive anxiety in sport. Champaign, IL:
  Human Kinetics.
- Mates, D., & Allison, K. R. (1992). Sources of stress and coping responses of high school students. *Adolescence*, 27(106), 461-474.

- McCubbin, H., & Patterson, J. (1987). Adolescent coping style and behaviors: Conceptualization and measurement. *Journal of Adolescence*, 10, 163-185.
- McGrath, J. E. (1970). A conceptual formulation for research on stress. In J. E. McGrath (Ed.), Social and psychological factors in stress (pp. 1-13). New York: Holt, Rinehart, & Winston.
- Miller, P. S., & Kerr, G. (2002). The athletic, academic and social experiences of intercollegiate student-athletes. *Journal of Sport Behavior*, 25, 346-367.
- Nagaki, K. (1998). A comparison of Australian and Japanese judo practitioners' values and attitudes towards sport. In K. Hardman & J. Standeven (Eds.), Cultural diversity and congruence in physical education and sport (Proceedings of the 10<sup>th</sup> ISCPES Biennial Conference 1996 in Hachi-ohji, Japan). Aachen: Meyer & Meyer Sport.
- Norris, R., Carroll, D., Cochrane, R. (1992). The effects of physical activity and exercise training on psychological stress and wellbeing in an adolescent population. *Journal of Psychosomatic Research*, 36, 55-65.
- Olah, A. (1995). Coping strategies among adolescents: A cross-cultural study. *Journal of Adolescence*, 18, 491-512.
- Papanikolaou, Z., Nikolaidis, D., Patsiaouras, A., & Alexopoulos, P. (2003). The freshman experience: High stress-low grades. Athletic Insight: The Online Journal of Sport Psychology, 5.
- Park, J. K. (2000). Coping strategies used by Korean national athletes. *The Sport Psychologist*, 14, 63-80.
- Park, J. K. (2004). The perceived sources of competitive stress in Korean national athletes. *International Journal of Sport Psychology*, 35, 207-231.
- Patton, M. Q. (1990). Qualitative evaluation and research methods (2<sup>nd</sup> ed.). Newbury Park, CA: Sage.

- Roberts, G. C., & Treasure, D. (1992). Children in sport. *Sport Science Review, 1* (Sport Psychology), 46-64.
- Sanders, W. B., & Pinhey, T. K. (1983). The conduct of social research. New York: Holt, Rinehart, & Winston.
- Scanlan, T. K., Stein, G. L., & Ravizza, K. (1991).

  An in-depth study of former figure skaters:

  II. Sources of stress. *Journal of Sport and Exercise Psychology*, 13, 103-120.
- Stark, L. J., Spirito, A., Williams, C. A., & Guevremont, D. C. (1989). Common problems and coping strategies I: Findings with normal adolescents. *Journal of Abnormal Child Psychology*, 17(2), 203-212.
- Struthers, C. W., Perry, R. P., & Menec, V. H. (2000).

  An examination of the relationship among academic stress, coping, motivation, and performance in college. *Research in Higher Education*, 41(5), 581-592.
- Tafarodi, R. W., & Swann, W. B., Jr. (1996). Individualism-collectivism and global selfesteem: Evidence for a cultural trade-off. Journal of Cross-Cultural Psychology, 27(6), 651-672.
- Teipel, D., Ichimura, S., Matsumoto, M., Sugiyama, Y., Uemukai, K., & Kondo, A. (1998). Assessment of psychological stress conditions amongst German and Japanese soccer players. In K. Hardman & J. Standeven (Eds.), Cultural diversity and congruence in physical education and sport (Proceedings of the 10<sup>th</sup> ISCPES Biennial Conference 1996 in Hachiohii, Japan). Aachen: Meyer & Meyer Sport.

- Tomaka, J., Blascovich, J., Kelsey, R. M., & Leitten, C. L. (1993). Subjective, physiological, and behavioral effects of threat and challenge appraisal. *Journal of Personality and Social Psychology*, 65, 248-260.
- Tsyszkowa, M. (1986). Coping with difficult school situations and stress resistance. In H. Bosma & S. Jackson (Eds.), *Coping and self concept in adolescence*. New York: Springer-Verlag.
- Wilson, G., & Pritchard, M. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight: The Online Journal of Sport Psychology*, 7.
- Wrisberg, C. A. (1994). The arousal-performance relationship. *Quest*, 40, 60-77.
- Yamaguchi, Y. (1984). A comparative study of adolescent socialization into sport: The case of Japan and Canada. *International Review for* the Sociology of Sport, 19, 63-81.