THE EFFECTS OF SPORTS PARTICIPATION ON YOUNG ADOLESCENTS' EMOTIONAL WELL-BEING

Sarah J. Donaldson and Kevin R. Ronan

ABSTRACT

This study examined the relationship between children’s sports participation and emotional well-being including self-reported emotional and behavioral problems and multidimensional aspects of self-concept. Data were collected from 203 young adolescents using a multitrait-multimethod assessment methodology. Information was obtained using a sports questionnaire concerning participation in and perceptions of sporting activities. Emotional well-being was assessed by the Youth Self-Report (Achenbach, 1991) and the Self-Perception Profile for Children (Harter, 1985). The study found that increased levels of sports participation had a positive relationship with aspects of emotional and behavioral well-being, particularly self-concepts. Results also showed that children with increased perceptions of sport-related competencies reported significantly fewer emotional and behavioral problems than did children who were, by external standards (e.g., teacher rating, number of sporting achievements), actually competent at sport. The study also found particular areas of sports participation to be positively associated with self-concept. Evidence suggests a similar beneficial association with some aspects of behavior problems. Practical implications of the findings are discussed along with recommendations for future research.

Exercise and sports participation has been established as an important factor in reducing the risk of many physical problems such as cardiovascular disease, high blood pressure, and obesity (Schiffman, 1994). Current research suggests that sustained exercise may also enhance psychological or emotional well-being as it is often called, and therefore can be used as an additional therapy in the treatment of some psychological disorders (Pelham, Campagna, Ritvo, & Birnie, 1993). The most consistent message derived from the adult literature is that, kept within healthful limits, there is often a positive relationship between exercise and emotional well-being, generally confirming the “feel good” effect often reported by regular exercisers (Kremer & Scully, 1994).

The literature in the area of sport, exercise, and emotional well-being has focused primarily on the relationship between exercise,
sports participation and anxiety, depression, self-esteem, and more recently on psychosocial stress (Biddle, 1992). Since these are among the most common problems brought to the attention of mental health professionals, the idea that exercise and sports participation may alleviate some emotionally related problems and improve self-concept is appealing.

Exercise has been found to improve mood in adults including alleviating many forms of depression (Schiffman, 1994; Cox, 1994; North, McCullagh, & Tran, 1990; Weinberg & Gould, 1995). Generally, the literature also supports a relationship between increased exercise and reduced anxiety in adults (King et al., 1993; Petruzzello et al., 1991). While research and meta-analytic findings of a beneficial relationship between anxiety and exercise, the evidence is not as strong as those claiming the benefits of exercise and sport on depression. It appears that aerobic exercise is more beneficial if one is anxious but for depression both aerobic and anaerobic exercise seems similarly effective.

Psychological problems such as depression, anxiety, and stress of course are not restricted to the domain of adults (Cantwell, 1982). While not as extensive, some research has examined the links between exercise and sports participation in children and adolescents and reduced emotional and behavioral problems. Research suggests that the sport environment can provide socialization opportunities and place adaptive demands that are similar to those of other important life settings (Smith & Smoll, 1991). Organized sport is believed to influence the development of important behaviors such as cooperation, unselfishness, positive attitudes toward achievement, stress management, perseverance, appropriate risk-taking, and the ability to tolerate frustration and delayed gratification (Smith & Smoll, 1991). Through playing with others, children and adolescents can build cooperative relationships and meet their need to belong (Estrada, Geltand, & Hartmann, 1988). Similarly, they learn key cooperation skills as they work together and perform specific team roles. This need to be accepted and successful in one's peer group can be very strong especially as children enter adolescence. One way a young adolescent can gain acceptance and status among peers is to be good at activities valued by other youth. Sport provides an opportunity outside the classroom to do this, since athletic ability is often considered by their peers to be a strong social asset (Brustad, 1992).

The idea that youth who participate in sport exhibit fewer behavior problems has been supported by empirical studies. For example, in a large American study, Jeziorski (1994) found that participants in sports earned better grades, behaved better in the classroom, had fewer behavior problems outside the classroom, dropped out less frequently, and attended school on a more regular basis with fewer unexcused absences as compared to nonparticipants. Furthermore,
Jezioriski found what nonparticipants were more likely to drop out of school, more likely to use drugs, more likely to become teen parents, more likely to smoke cigarettes, and more likely to have been arrested than were sport participants. Segrave & Hastad (1982) also found a negative relationship between sport and delinquency in both early adolescents and college students. Increased sports activity was associated with lower levels of delinquency. Other studies support the view that sport and exercise are associated with reduced problem behaviors (Brown & Siegel, 1988).

The most recent evidence in support of a positive association between sports participation and emotional well-being is from a British cohort study which assessed this association with over 4,000 adolescents aged 16 years (Steptoe & Butler, 1996). Emotional well-being was assessed by the General Health Questionnaire (GHQ) and the Malaise Inventory. Information was obtained for team and individual sports and vigorous recreational activities. Findings showed that sport and vigorous recreational activity were positively associated with emotional well-being independently of sex, social class, or health status. In contrast, participation in some activities (e.g., snooker) was positively associated with psychological and somatic symptoms.

In line with these latter findings, some research has found sport to be related to increased behavior problems. For example, Segrave & Hastad (1982) in their study of sports activity and delinquency discussed earlier, suggest that although overall the study found a negative relationship between sports participation and delinquency, some detrimental associations were also found. Type of sport was of particular relevance with some types being positively related to delinquency. For example, students who played more "highly publicized, physically aggressive team sports" were involved in more seriously antisocial delinquent acts than those who participated in less publicized and aggressive sports.

Begg, Langley, Moffitt & Marshall, (1996) conducted a study which was part of the longitudinal Dunedin Multidisciplinary Health and Development Study (DMHDS). The study examined the hypothesis that involvement in sporting activity would deter delinquent behavior in later adolescence. At age 15 and again at 18 years, 1,037 adolescents were interviewed, during which times assessments of sports involvement and delinquency were undertaken. Results revealed that higher levels of involvement in sporting activity, with the notable exception of team sports, were in fact associated with a subsequent and significant increase, rather than decrease, in delinquent behaviors. However, the best predictor of delinquent behavior at age 18 was found to be delinquency at age 15, irrespective of involvement in sports activity. The authors suggest that the reason team sports did not show a positive
relationship with delinquency might be because conventional team
sports do not appeal to delinquent youth. These sports generally con-
tain rules and authority figures, and typically, it is these types of norms
which the delinquent violates in broader society.

The previous studies notwithstanding, data on young adolescents’
sports participation and mental health are sparse. Very few studies
have looked at the relationship between sport and specific emotional
or behavioral problems such as anxiety, depression, and externalizing
problems. More research is needed in this area.

An area of development that has received more attention with regard
to exercise and sports participation is self-concept. Some researchers
indicate that self-concept is a variable with more potential to reflect
positive psychological outcomes (Sonstroem & Morgan, 1988). The
most current hypothesis regarding the relationship between sports
participation and self-concept is that a positive relationship exists be-
tween ability in physical activity and increased self-concept (Harter &
Jackson, 1993). Generally, findings have supported this hypothesis,
but it is a view that is not without problems. One of the problems in
this type of research concerns the definition and measurement of self-
concept. Typically, in the past, studies in this area have used a unitary
view of self-concept, wherein a person’s self-worth was measured as a
single score. For instance, a study by Salokum (1994) examined the
relationship between improvement in total self-concept and increases
in sports skills after athletic training. Results showed the following:
Trained participants had higher self-concept scores and further, a po-
titive relationship was found between gains in sport skill and increases
in self-concept scores. However, the study used the Tennessee Self-
Concept Scale (Fitts, 1965), a unitary measure of self-concept.

Zaharopoulos & Hodge (1991) examined sports participation on 113
secondary school students. The study has an advantage over other
sport-self-concept studies in that a multidimensional model of self-
concept was used. Differences between athletes and non-athletes’
global self-concept and physical ability self-concept were investigated.
To qualify as a sports participant (i.e., athlete), a student had to be
currently representing a school or club in interschool/club competition.
Students were also asked to supply information about their sports
involvement. The Self Description Questionnaire III (Marsh & O’Neill,
1984)—a multidimensional self-concept measure as well as a global
self-esteem scale, was used. Results indicated that athletes differed
from non-athletes in physical ability self-concept but not in global self-
concept. Females did not differ from males in physical self-concept.
Sport, at least at the secondary level appeared to be more closely re-
lated to physical ability-related self-concept.

Zaharopoulos & Hodge (1991) suggest that a multidimensional view
of self-concept is particularly important for studying sport because

372
sports participation is more likely to influence particular areas of self-concept such as perceived physical or sporting competence rather than global self-worth.

Gruber (1986) conducted a meta-analysis of 27 studies, all of which examined the effects of children and adolescent physical activity on self-esteem. The analysis yielded 43 separate effect sizes and an overall effect size of 0.41. This means that those participants in studies of a physical activity intervention displayed self-esteem scores nearly one half a standard deviation (0.41) higher than participants in control groups. Thus, physical activities were shown to have a positive influence on self-esteem in youth. The greatest beneficial effects were found for youth with disabilities as compared to those without disabilities. Furthermore, participation in an array of sports activities was shown to have a beneficial effect on self-esteem. However, fitness-based activities (e.g., running) had the most beneficial impact as compared with creative, skill, or sports-based activities. Another notable feature of the study was the suggestive finding that estimation of physical ability may have some moderating influence on the link between actual physical activity and self-esteem. Based on this initial finding, Gruber pointed to the importance of measuring self-perceptions of competence, ability, and fitness in future studies. This suggestion notwithstanding, little research has directly examined the role of perceived competence in sporting activities by youth. According to Harter, young adolescents are motivated to become competent in their social environment; youth first engage in attempts at mastery of a domain or behavior (Harter, 1982). Success as judged by the individual is the crucial element. Thus, if individuals believed they did well despite what others say, they are more likely to have higher levels of perceived competence (Willimczik & Rethorst, 1995). An assumption based on this model is that perceived competence may contribute more to emotional well-being than actual competence.

The main aim of the present study was to determine if there is a positive relationship between sports participation and young adolescents' emotional well-being. The major hypothesis was that youth who engage in more sports activity, whether a formal or leisure-time sport, would report fewer emotional and behavioral problems and feel better about themselves, as compared to youth who engage in fewer sports activities. Both formal sport (organized sport by schools or clubs) and informal sport (leisure-time sport) were examined because a limitation of previous studies has been the exclusion of informal sports participation.

Past research examining youths' sport and self-concept has frequently employed a global model of self-concept rather than a multidimensional model. Consequently, the issue of the relationship between self-concept and sports participation needs clarification. An additional
aim of the present study was to consider the effects of sports participation on different aspects of self-concept using Harter's perceived competence measurement model. It has been suggested that sport may affect only certain aspects of self-concept—those which are thought to relate more to sport (i.e., athletic competence). In addition, the present study considered the question of whether young adolescents have to be competent at sports in order to gain psychological benefits or whether their perceptions of competence are more influential. Therefore, the present study tested the following hypotheses: (a) young adolescents' increased level of participation in sports would be associated with fewer behavior problems. (b) young adolescents who have a higher rate of sports participation at various levels would have increased perceptions of athletic competence, social competence, physical competence and global self-worth, and (c) young adolescents who have higher perceptions of athletic competence would have lower problem scores as compared to those who were rated as more competent at sports by an independent rater (the physical education teacher).

METHOD

Participants
Participants in the present study were 203 young adolescents aged 11 years, 1 month to 13 years, 10 months. The average age of the entire sample was 12 years, 4 months (SD = 1.23). In total, 93 males and 109 females participated in the study (one participant did not report gender). The following information was provided by the participants' origin; 152 students identified themselves as Caucasian, 17 as Maori, 6 as part Maori, part Caucasian, 7 Pacific Islander, 1 Asian, and 10 noted "other." Ten students did not report ethnicity. Information regarding socioeconomic status indicated that most fell within Category 2, 3 or 4 of the Socio-Economic Indices for New Zealand-Revised, where Category 1 is the highest of 6 socioeconomic ratings. That is, the participants were primarily from middle to upper-middle class backgrounds. Informed consent was necessary for participation.

Measures
Assessment was multitrait and multimethod. The self-report battery included three self-report instruments: the Youth Self-Report, the Self-Perception Profile for Children, and a sports questionnaire. A teacher rating was also included to provide an independent rating of participants' sports ability.

The Youth Self-Report (YSR; Achenbach, 1991) is a widely used assessment instrument designed to assess factors related to the social-emotional development of youth. The YSR is "designed to obtain 11 to 18-
year-olds' reports of their own competencies and problems in a standard­ized format" (Achenbach, 1991 p. 2). The YRS is relatively brief consisting of 120 items with the estimated time of completion to be 15 minutes.

The YSR consists of two major sections: the first contains scales which are designed to assess adolescents’ competencies and involvement, which relate to various activities, social relationships, and academic performance. The second section contains items consisting of 102 behavioral problems of clinical relevance. For the purposes of the present study, only the problem scales were included because youths’ competencies of interest to the current research were being assessed using the Self-Perception Profile for Children (Harter, 1985), and the present study was interested in sport-related activities, which were assessed in more depth using the Sports Participation, Perceptions and Abilities Questionnaire for Children (see later section). The YSR was included specifically to provide assessment of specific behavior problems areas.

The YSR has been shown to be a reliable and valid self-report used extensively in research and clinical practice with children and adolescents (Gould, Bird, & Jaramillo, 1993; Rey & Morris-Yates 1992; Christenson, 1992). Achenbach (1991) provides a summary of the extensive reliability and validity studies as well as norms.

The Self-Perception Profile for Children (SPPC; Harter, 1985) represents a revision of the Perceived Competence Scale for Children (PCSC; Harter, 1979, 1982). The original measure was developed “in order to tap children’s specific judgements of their competence, as well as a global perception of their worth or esteem as a person” (Harter, 1985, p. 5). The domains are Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Behavioral Conduct, and Global Self-Worth.

The SPPC has been widely used by researchers in Ireland, China, Australia, and the U.S. Reliabilities are acceptable and have improved substantially since the earlier edition and were based on four different normative samples (Harter, 1985).

Marsh & MacDonald Holmes (1990) tested the construct validity of Harter’s scale. Results supported convergent, discriminant, and criterion-related validities. In sum, the SPPC appears to be a psychometrically sound instrument suited for the purposes of the present study.

The Sports Participation and Attitudes Questionnaire for Children and Adolescents (SPAQC) was developed specifically for the purposes of the present study. The rationale for creating the questionnaire was that no other measure was available eliciting the sports information relevant to the study. The measure was developed by rational and theory-bound means through a search of the relevant literature.
Items in the SPAQC questionnaire related to types of sport and reasons for participation; some were adapted from the New Zealand Hillary Commission's (the primary administrative body responsible for oversight and funding of sports in New Zealand) "Life in New Zealand" study (1990). A list of sports played by New Zealand youth was based on this work. Several other new sports that have become popular in recent years (e.g., roller-blading) were also included. This section of the questionnaire elicited information on (a) type of sports played, and (b) frequency of participation. Both formal as well as informal levels of participation were included for assessment. A potential advantage of this questionnaire is the inclusion of informal participation because past research has been lacking in regard to such informal or leisure-based sports activities (Zaharopoulos & Hodge, 1991).

The questionnaire consists of four additional questions relevant to the present study. (Reading level and response formats were developed for ease of comprehension.)

In the first question, participants rated their sports participation on each sport listed. On the 3-point scale, 0 indicated little or no participation, 1 indicated some participation, and 2 indicated regular participation. A Total Participation score was calculated by summing the participation scores of each of the 24 sports in Question 1 to provide an estimation of involvement in all participation in sport, both informal and formal.

For additional correlational analyses and group-based comparisons, two groups were identified: High Total Participants (HTPs) were those whose score was in the upper third percentile while Low Total Participants (LTPs) were those whose score was in the bottom third percentile.

Question 2 asked participants to indicate if they played any of the sports listed in Question 1 for their school or another organization. This provided an indication of the number of formal sports in which they participated. The Number of Formal Sports score indicated the number of sports played for a school or club. The possible range for formal sports participation was 0-5. For additional correlational analyses and group-based comparisons, two groups were identified: High Formal Participants (HFPs) were those whose score was in the upper third percentile while Low Formal Participants (LFPs) were those whose score was in the bottom third percentile.

Question 3 requested participants to state how many years they had been engaged in each formal sport. The Total Years score is a sum of the length of time of participation in all formal sports. For example, a participant may have played three sports for his/her school, basketball for two years, running for four years, and cricket for a year. Therefore, the score would be 7 years). Question 4 provided the opportunity to
specify any achievements in formal sports, such as awards, prizes, team leader or captain, or representative of a region—the Number of Achievements score. The range was between 0-5 achievements. The alpha reliability for the SPAQC was .86.

The Teacher Global Rating Scale provides a general evaluation of behavior using a standardized format (Kazdin, 1980). This scale was designed as an independent rating of students’ sports abilities. Teachers were instructed to provide an estimate of each student’s overall ability at sports activities on a 5-point Likert scale.

Procedure and Plan of Analysis

Following the introduction and explanation of the study by a trained graduate-level student, participants who had consented to participate were administered the battery that included: (a) The Sports Participation and Attitudes Questionnaire for Children and Young Adolescents, (b) The Self-Perception Profile for Children, and (c) The Youth Self-Report. In total, the battery took 30 to 45 minutes to complete. The researcher was present during classroom administration to read instructions and answer questions. The classroom teacher was given the Teacher Global Rating Scale to complete at the same time participants were filling out self-reports.

The study was correlational in nature in which several relationships were examined. Responses to the SPAQC were compared to responses to the YSR and SPPC.

A correlational analysis was also carried out between demographic variables, sport participation responses, and scores on the SPPC and YSR. When the relationships between variables were calculated, the Pearson Product Moment correlation coefficient was derived unless otherwise stated. Demographic variables that correlated significantly with predictor or criterion variables were followed up with appropriate analyses to assess differences between relevant groups (i.e., either t-tests or one-way analysis of variance).

Sports participation variables that correlated significantly with criterion variables (e.g., YSR) were followed up with analyses using the upper third quartile and lower third quartile of sport participants as previously described. That is, high and low scorers on the predictor variable (sports participation) were compared on the criterion variables via t-tests.

When t-tests and ANOVAs were used to compare differences between group means, an initial check was made to ensure homogeneity of the sample variances for each analysis. The confidence level was set at $p < .05$. The term “significant” refers to analyses which indicate statistical significance. Findings which were still important (between .05 and .10) but not statistically significant were referred to as trends.
RESULTS

The 203 participants' responses on the three questionnaires together with the teacher ratings were used to conduct the preliminary and main analyses. Students' raw scores were used in analyzing the problem scales section of the YSR because raw scores can frequently reflect greater variability than t scores. Achenbach (1991) recommends that for statistical analysis of the syndrome scales "...it is usually preferable to use the raw scores rather than the t scores in order to take into account the full range of variation in these scales" (p. 166).

Preliminary Analyses

With respect to the YSR, comparison of the two groups indicated that they were similar on the majority of the YSR subscales, with some differences apparent on Externalizing Problems and Somatic Complaints. Analyses revealed that females had a significantly higher Externalizing Problem mean score ($M = 11.6, SD = 8.2$) than did females in the norm group ($M = 10.3, SD = 6.3, t (779) = 2.68, p < .001$). For Somatic Complaints, the mean for females in the current sample ($M = 4.1, SD = 3.2$) was higher than for the norm group ($M = 2.9, SD = 2.9$), $t (779) = 3.85, p < .01$. Males from the sport group also scored higher on Somatic Complaints ($M = 3.2, SD = 3.3$) than the norm group ($M = 2.2, SD = 2.3$), $t (728) = 3.67, p < .01$. All other comparisons were nonsignificant.

Comparisons between males and females indicated some gender differences on the YSR scales. Achenbach and colleagues found that females in their normative sample tended to score higher on the internalizing scales with males typically scoring higher on the externalizing scales. Our data show some similar differences on these scales. Females scored significantly higher on the internalizing scales of Withdrawn Problems ($M = 4.5, SD = 3.0$), compared to males ($M = 3.4, SD = 2.6$), $t (193) = 1.91, p < .05$, and Anxiety/Depressed Problems where the mean for females ($M = 6.7, SD = 5.8$) was greater than the mean for males ($M = 4.4, SD = 4.9$) $t (193) = 2.85, p < .01$. There was also a trend for females to score higher on Somatic Complaints ($M = 4.1, SD = 3.2$) compared to males ($M = 3.2, SD = 3.3$), $t (193) = 1.70, p < .10$. For the externalizing scales, males showed a greater mean for Delinquency Problems ($M = 3.8, SD = 3.1$) compared to females ($M = 2.7, SD = 2.4$), $t (193) = 2.34, p < .01$. No significant differences between gender groups were found on the Aggression Problem scale. The mean for males was ($M = 8.9, SD = 6.3$) and for females ($M = 8.8, SD = 6.2$), $t (193) = .79, p > .10$.

Comparisons between the SPPC scores for the current sample and the SPPC normative group were similarly conducted. The means and standard deviations for the sport sample are well within the range of

378
scores of the normative groups with one exception. A difference was found between females on Behavioral Competence. Those in the current sample had significantly lower mean Behavior Competence scores ($M = 17.79$, $SD = 3.15$) than did the norm group ($M = 18.36$, $SD = 3.36$), $t(327) = 6.43$, $p < .01$.

Examination of the current sample scores showed some gender differences. Males mean self-perception scores ranged from 17.15 to 18.83, and for females the range was from 16.54 to 18.36. For males, Athletic Competence was the domain with the highest mean score ($M = 18.83$, $SD = 3.48$) which was significantly higher than the mean for females ($M = 17.24$, $SD = 3.80$) $t(174) = 2.91$, $p < .05$. All other comparisons were nonsignificant.

No significant age effects were found on the YSR subscales, Internalizing, Externalizing, or Total scores on the SPPC subscales for the sport sample (all $Fs < 1$).

Relationship between Sport Participation and Problem Behavior

Hypothesis (a) predicted that increased level of participation in sport would be associated with fewer behavior problems.

Pearson product coefficients ($r$) were calculated between scores on the sports participation scales: Total Participation, Number of Formal Sports, and Total Years of Formal Sport with the YSR subscales. No significant correlations were found for Total Participation, but moderate and significant negative correlations ($p < .01$) were consistently found for Formal Sport and Total Years of Formal Sport with YSR problem subscales of Externalizing Problems ($r = -.24$, $r = -.24$), Social Problems ($r = .24$, $r = -.20$), Aggression Problems ($r = -.20$, $r = -.19$), and Delinquency Problems ($r = -.25$). All other correlations were nonsignificant. Correlations were also calculated for Number of Achievements and YSR scales. All correlations were nonsignificant.

These correlations were followed up by conducting $t$-tests between scores for High Total Participation (HTPs) and Low Total Participants (LTPs) and the YSR scales. Those classified as HTPs had lower scores ($M = 3.69$, $SD = 3.12$) on the Somatic Complaints subscale compared to those classified as LTPs ($M = 4.11$, $SD = 3.63$), $t(152) = 2.49$, $p < .05$. All other comparisons were nonsignificant.

Similar analyses were conducted for HFPs and LFPs. Results showed several significant differences between these two groups on the YSR scales. HFPs had significantly lower means compared to LFPs on the broad-band Externalizing Scale and the following problem scales: Anxious/Depressed Problems, Social Problems, Aggression Problems, and Delinquency Problems. For Externalizing Scores, the mean for the HFP ($M = 10.56$, $SD = 6.55$) was significantly less than the mean for the LFPs ($M = 16.43$, $SD = 12.14$), $t(35) = 2.40$, $p <
.05. For Social Problems, the HFP mean ($M = 2.46$, $SD = 2.16$) was significantly less than the LFP mean ($M = 4.19$, $SD = 3.00$), $t (47) = 2.91$, $p < .01$. For Anxious/Depressed Problems, the HFP mean ($M = 4.84$, $SD = 4.26$) was significantly lower than the LFP mean ($M = 7.66$, $SD = 6.87$), $t (38) = 2.03$, $p < .05$. For Aggression Problems, the HFP mean ($M = 7.85$, $SD = 4.87$) was significantly lower than the LFP mean ($M = 11.75$, $SD = 9.10$), $t (34) = 2.13$, $p < .05$. Finally, for Delinquency scores, the HFPs had a significantly lower mean ($M = 2.65$, $SD = 2.49$) compared to the LFP mean ($M = 4.53$, $SD = 3.47$), $t (46) = 2.75$, $p < .01$. All other comparisons were nonsignificant.

The above findings provided some evidence to support Hypothesis (a). In particular, a consistent, negative relationship was found between number of formal sports, length of participation in formal sports, and reduced social and externalizing problems. However, results regarding sports participation and internalizing behaviors were generally found to be nonsignificant. The exception was that those high in formal participation had significantly lower levels of self-reported Anxiety/Depression compared to low participants.

**Relationship between Sports Participation and Self-Concept**

Hypothesis (b) predicted that those with higher rates of sports participation would have higher levels of Athletic Competence, Social Competence, Physical Competence, and Global Self-Worth.

Analyses involved performing $t$-tests between means of Low and High Total Participants on the self-concept subscales. HTPs had significantly higher means than LTPs on Athletic Competence $t (112) = -2.98$, $p < .001$, Social Competence $t (108) = -3.57$, $p < .001$ and Global Self-Worth $t (126) = -2.41$, $p < .05$. There was also a trend for higher total participants to have higher levels of Physical Competence $t (114) = -1.89$, $p < .10$. All other comparisons were nonsignificant.

Analyses were also conducted using $t$-tests between means of Low and High Formal Participants on the self-concept subscales. Higher formal participants had significantly higher means on Athletic Competence $t (136) = 2.11$, $p < .05$ and Behavior Competence $t (134) = -1.97$, $p < .05$. All other comparisons were nonsignificant.

Hypothesis (c) predicted that those who had higher perceptions of Athletic Competence would have lower scores on the YSR problem scales compared to those who were rated as competent at sport by an independent rater. Pearson correlations were performed between the independent rating and YSR scores and between Athletic Competence and YSR scores to test this premise. Moderately significant negative correlations were found between Athletic Competence and Total Problems ($r = - .32$, $p < .01$), Internalizing Problems ($r = - .42$, $p < .001$), Withdrawn ($r = - .39$, $p < .001$), Somatic Complaints ($r = - .28$, $p < .01$), Social Problems ($r = - .32$, $p < .01$), and Delinquency ($r = - .35$, $p < .001$).
.001, Anxious/Depressed ($r = -.46, p < .001$), Social Problems ($r = -.39, p < .001$) and Attention Problems ($r = -.30, p < .001$). All other correlations were nonsignificant. For independent ratings, only one significant negative correlation was found—with Attention Problems ($r = -.22, p < .01$). Comparison using Fisher’s $Z$ Transformation indicated a significant difference between this correlation and the correlation between Attention Problems and perceived Athletic Competence, $[z = .69 > 1.96, p < .05]$.

These results indicate that perceived Athletic Competence had a significant negative relationship with the majority of the YSR subscales, whereas independent ratings generally did not show a significant relationship with YSR subscales, with the one exception reported. However, even in this case, the negative correlation between Athletic Competence and Attention Problems was found to be significantly greater than the correlation between teacher ratings and Attention Problems. Hypothesis (c) was generally supported. It was more strongly supported in terms of the consistent relationship found between increased levels of perceived Athletic Competence and reduced internalizing problems.

**DISCUSSION**

The main aim of the present study was to examine if there was a positive relationship between sports participation and young adolescents’ emotional well-being. The major prediction was that youth who participated more in sports, whether formal or leisure time, would report fewer problem behaviors and increased perceptions of competencies as compared with youth with lower levels of sports participation.

The present study found that greater participation in sports was related to enhanced emotional and behavioral well-being. They reported significantly lower levels of externalizing and social problems as compared to those who engaged in fewer formal sports. There was also a positive relationship between higher levels of total sports participation (both informal and formal sports) and perceived competence.

Further, there is also the important implication that young adolescents may not necessarily have to be competent at sports in order to gain psychological benefits from participation. The findings were that participants who perceived themselves to be competent at sport (i.e., reported a high levels of perceived athletic competence) reported fewer emotional and behavioral problems, particularly related to internalizing and social problems, as compared to those rated by an external observer as athletically competent. In addition, perceptions were also
found to be more important than achievements in terms of negative relationships with problem behavior.

**Relationship between Sports Participation and Self-Concept**

As hypothesized, a positive relationship was found between sports participation and some domains of self-concept. Young adolescents who were classified as high participators in a range of formal and informal sports activities reported significantly higher levels of perceived athletic competence, social competence, and global self-worth as compared to low participators. A similar trend was found between these groups on physical competence. Those classified as high participators in formal sporting activities also reported significantly higher levels of perceived athletic and behavioral competence as compared to low participators.

Self-concept has been cited by some researchers as the variable with the most potential to reflect positive psychological gains (Sonstroem & Morgan, 1988). The findings in the present study provide evidence to support this view. These findings are similar to others which found that high school athletes reported higher levels of self-concept than did non-athletes (Zaharopoulos & Hodge, 1991). The current study findings were also consistent with those of Anshel, Muler, and Owens (1986); see also Gruber, 1986) who found that the areas of self-concept most positively impacted by sport participation were also those hypothesized within the literature (i.e., athletic, physical, and social) athletic and social competence and, to a lesser extent, physical competence is positively related to increased sports participation.

The current study also found global self-worth to be positively related to total sport participation as hypothesized. However this finding is contrary to those of studies cited earlier which found sport was not related to global self-concept or other nonsport-related domains of self-concept. With regard to formal sport participation, a positive relationship was found between increased participation and perceived athletic competence and perceived behavioral competence. Taken together, these findings are consistent with other research which has suggested that sport can have a positive impact not only on specific domains, but on overall self-concept (e.g., Salokum, 1994). Overall, the current study supports the view that sport participation is associated with self-concept-related benefits.

The results of the current study also found evidence in support of the view that sport participation is more likely to influence particular domains of self-concept (i.e., athletic, social, and physical; see Anshel et al., 1986). One of the reasons some studies may have failed to find
a relationship between sport participation and self-concept is because global conceptualization and measurement of the construct was used while the current study used a multidimensional measure of self-concept.

Higher levels of participation in formal sport were also related to higher levels of perceived behavioral competence. This is not typically a domain that past research has found to be associated with sport participation. For instance, Zaharopoulos & Hodge (1991) found that sport affected only physical ability self-concept. This finding obviously has to be linked to other current findings (discussed later in more detail) that formal sport is associated with fewer emotional and behavioral problems, particularly externalizing and social problems. Taken together, these findings suggest that children who participate in higher levels of organized sport through their school or club may perceive themselves to be acting both competently and appropriately (see also Begg et al., 1994).

Another implication of the current study is that young adolescents may not necessarily have to be competent at sport in order to gain psychological benefits from participation. Results showed that participants who perceived themselves to be more competent at sport, also reported fewer emotional and behavioral problems as reflected in significantly lower scores on the YSR problem scales as compared to those objectively scored by an independent rater as competent. Results showed perceived athletic competence to be significantly and negatively related to Total Problems, Internalizing Problems, Withdrawn Problems, Somatic complaints, Anxiety/Depression Problems, Social Problems, and Attention Problems. In contrast, the teacher rating was negatively correlated only with Attention Problems. One note of caution: teachers' ratings must be considered, since this form of measurement does not represent a comprehensive indication of children's ability at sports. However, this study also included potential studies of objective ability: number of sporting achievements and formal sports participation. Similar to the teacher ratings, number of achievements was not found to be associated with problem behaviors.

From these findings it appears that while perceived athletic competence was clearly related to reduced emotional and behavioral problems, the findings for young adolescents who are actually competent at sport are more mixed. Taken together, the results relating to self-concept and problem behaviors indicate that participating in sports, particularly those that are organized, may help young adolescents gain confidence and acquire competent behaviors (e.g., social skills). This efficacy-based learning may in turn help make them feel better about
themselves. Participating in sports may also provide a socially accepted way to release energy and aggression rather than through negative acting-out behaviors. Furthermore, rather than focusing solely on increasing young adolescents' actual competence at sport, efforts may be directed at enhancing their perceptions of athletic competence. Current findings suggest increased perceptions of athletic competence may help youth not only feel more competent but act more competently.

An alternative interpretation of these findings should be considered. The possibility exists that young adolescents with higher self-concept or perceived competence choose to participate in higher levels of total sport and more formal sport. However, even here, this interpretation supports the idea that sport is a positive option for youth with higher levels of self-concept.

**Relationship between Sports Participation and Problem Behaviors**

Results provided some evidence in favor of the hypothesis that young adolescents' level of participation would be associated with fewer behavior problems. Results showed that the more formal sports participation and the longer the participation, the lower the scores on Externalizing Problems, Social Problems, Aggression Problems, and Delinquency Problems. This finding is consistent with a large British study (Steptoe & Butler, 1996) which concluded that emotional well-being was positively associated with extent of participation in sports by older adolescents. The present study was able to replicate aspects of that study and extend it by using a different and younger adolescent sample. The implication is that engaging in more organized sports may act as a deterrent to some behavioral or emotional problems and enhance young adolescents' social and other life skills. Alternatively, some less well-behaved youth may be “gated” at early stages and prevented from participating in more organized sports.

Stronger evidence was found that showed a consistent relationship between an increased number of sports and amount of time spent in them reduced externalizing and societal behavior problems. Those who engaged in more formal sports and for a greater length of time reported significantly lower levels of delinquent behavior, aggression, and peer-related problems. They also reported significantly lower levels of anxiety and depression-related problems as compared to nonparticipants. These findings are consistent with some studies that have found a negative relationship between sport participation and problem behaviors (Steptoe & Butler, 1996; Jezierski, 1994). The specific finding that increased formal sport participation was negatively related to externalizing problems is consistent with findings by Segrave and Hastard (1982).
Differential effects were found as a function of formal sports versus total sport participation. Formal sport participation showed a stronger relationship with reduced externalizing problems as well as a positive relationship with perceived athletic and behavioral competence. Evidence regarding total participation was stronger in the area of perceived competence and weaker in the area of reduced problems. Results indicated that while total participation may be associated with higher perceived competence in a number of areas, this type of participation is not necessarily associated with fewer behavior problems. The reasons for this pattern are not readily apparent. It may indicate that like adults, sports for youth may need to be of certain duration and intensity in order to achieve certain psychological benefits (Weinberg & Gould, 1995). Formal sports are likely to involve longer duration, greater intensity, frequency, and discipline than do informal activities (e.g., kicking a ball around after school). Literature has suggested that formal sport is also more likely to influence important behaviors such as cooperation, tolerance, teamwork, lack of selfishness, stress management, perseverance, and risk taking (Smith & Smoll, 1991; Estrada, Geltand, & Hartmann, 1988). The present findings provide some evidence in support of these views.

Another view relates to the requirements of young adolescents who participate in formal sport as compared to informal sport. Coaches and sports educators usually expect sport participants' behavior to be of a standard which will allow for team cohesion without too many disruptions due to the behavior of individuals. Therefore, in formal sports, youth generally have to be better behaved than in informal sports where rules may not so important. The implication is that young adolescents with higher levels of emotional and behavioral problems may either be discouraged from participating or choose not to be involved in formal sports where they have to conform to a certain level of “good behavior.” For instance, as Begg et al. (1996) suggest, conventional sports which incorporate many aspects of the broader society (e.g., rules, authority figures) may appeal to nondelinquent youth. For the delinquent young adolescent, who by definition “violates the rules and norms of society,” these activities may have little appeal.

Considerations and Limitations of the Study

When drawing conclusions from the findings of the present study, it is important to consider several possible limitations. First, the correlational nature of the study precludes definitive conclusions as to causal relationships. On the other hand, the covariation seen in relevant variables has implications for assisting youth. Second, the sports question-
naire (SPAQC) was devised by the researcher and was not an empirically tested psychometric instrument. However, in spite of this lack of proven validity, internal reliability was found to be quite adequate. In addition, many of the questions were based on past literature and provided adequately reliable information for assessing sports participation.

While a teacher rating was included, the study relied on self-reported information which provided useful information, a more comprehensive picture of participants that might be included in future studies. One issue here, of course, is reducing the impact of method variance.

A global rating by teachers was used as an indicator of actual sport ability. However, a limitation of this rating is that it provided only a general indication of ability. This meant that it may not have reliably differentiated between a youth who excelled only at a particular sport versus one who may have some ability in many sports. The advantage of the global rating was that the response rate from teachers was very high (with all but one teacher providing ratings of their students). Such a response rate would probably not have been likely if teachers had been requested to undertake further ratings or use checklists such as the Teacher's CBCL. It is also the case that we did include other objective indicators of ability (e.g., type and number of achievements).

FUTURE DIRECTIONS

The present study provided some evidence to support the psychological value of sports participation for young adolescents. More research is needed to examine the relationship of young adolescents' participation in sport and particular emotional or behavioral disorders. In the future, sport may be a useful alternative therapy for improving young adolescents' self-concept and help prevent problem behaviors.

While many youths are involved in some kind of sports, others either are reluctant to become involved, perhaps because of a low self-perceptions of their ability or because they have not been given the opportunity to try any of the sports available or because their interest has not been stimulated. As with any activity, exercise or sport may not be "everyone's cup of tea." However, with so many different sports available, it may be a matter of being exposed to a sport or exercise that meets an individual's needs or interests. Educators should try to determine individual preferences, but to be aware that applying undue pressure to participate in certain sports may do more harm than good.
"Look Sharp" is a New Zealand holiday sport program in which youth get a chance to try a variety of physical activities (Kidman & Handcock, 1995). The goal is to have youth adopt exercise habits as part of their life skills. Participants get a chance to try sports in small groups of peers of similar ability in a safe, nonthreatening environment. So far, the program has been met with enthusiasm and has been informally reported as being successful. Other programs such as Kiwisport which adapt adult sports to children and adolescent skill levels also provide opportunities for youth to succeed in sport activities. However, systematic research on the success of similar programs in the U.S. and worldwide is needed.

Sports educators need to become aware of the importance of self-perception. The assumption from the present study is that if youths' self-perceptions of athletic competence can be enhanced, then not only will more of them participate in sport and for a longer period, but they may improve their emotional well-being. To achieve this, emphasis on competition might be lessened, with educators encouraging a cooperative learning environment while promoting autonomy. Success defined in terms of mastery-based and personal-based goals rather than on winning may have long-term psychological benefits. From this perspective, learning is enhanced because feedback is based on the individual's performance and progress. Additionally, educators are important role models. As coaches, teachers, and parents begin to focus on individual progress, children are likely to do the same.

REFERENCES


