The Effects of Sport Participation on Young Adolescents’ Emotional Well-Being

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Abstract

Examined the relationship between children’s sports participation and emotional well-being including self-reported emotional and behavioural problems and multidimensional aspects of self-concept. Data was collected from 203 young adolescents using a multitrait-multimethod assessment methodology. Information was obtained using a sports questionnaire (Donaldson & Ronan, 1996) concerning participation in and perceptions about 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-concept. Results also showed children with increased perceptions of sport related competencies reported significantly fewer emotional and behavioral problems than 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 current findings are discussed alongside recommendations for future research.
Exercise and sport participation has well been established as an important factor in reducing the risk of many physical problems such as cardiovascular disease, blood pressure, and obesity (Schiffman, 1994). Current research now suggests 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 which has emerged from the adult literature is that, kept within healthy limits, a positive relationship often exists 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, sport 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 is appealing that exercise and sport participation may alleviate some emotionally related problems and improve self-concept.

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 research literature is also supportive of 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 anxiety and exercise are generally supportive, the evidence from studies is not as strong as those examining 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 children and adolescent exercise and sport participation and reduced emotional and behavioural problems. Research suggests the sport environment can provide socialisation opportunities and places adaptive demands that are similar to those of other important life settings (Smith & Smoll, 1991). Organised sport is believed to influence the development of important behaviours such as cooperation, unselfishness, beneficial attitudes toward achievement, stress management, perseverance, appropriate risk-taking and the ability to tolerate frustration and delayed gratification (Smith & Smoll, 1991). Through mixing and playing with others, children and adolescents can build co-operative relationships and the need to belong (affiliation) can also be met (Estrada, Geltand, & Hartmann, 1988). Similarly, youth gain key co-operation skills as they learn to work together and perform specific roles in the team. 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 a status among peers is to be good at activities valued by other youth. Sport provides an opportunity outside the classroom to do this, since having athletic ability is often considered by other children and adolescents to be a strong social asset (Brustad, 1992).

The idea that youth who participate in sport have fewer behaviour problems has been supported by a few empirical studies. For example, in a large American study, Jeziorski (1994) found that participants in sport earned better grades, behaved better in the classroom, had fewer behaviour problems outside the classroom, dropped out less frequently and attended school on a more regular basis with fewer unexcused absences compared to non-participants. Furthermore, Jeziorski found non-participants 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 sport participants. Segrave & Hastad (1982) also found a negative relationship between sport and delinquency in both early adolescents and college students. Increased sporting activity was associated with lower levels of delinquency. Other studies have reported similar findings and support the suggestion that sport and exercise are associated with reduced problem behaviours (Brown & Siegel, 1988).

The most recent evidence which supports a positive association between sports participation and emotional well-being is a British cohort study which assessed this association with over 4000 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 was positively associated with emotional well-being independently of sex, social class, or health status. By 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 of sports being positively related to delinquency. For example, students who played more “highly publicised, physically aggressive team sports” were involved in more seriously antisocial delinquent acts than those who participated in less publicised 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 aim of the study was to examine the hypothesis that involvement in sporting activity would later deter delinquent behaviour in later adolescence. One thousand and thirty seven adolescents were interviewed at age 15 years and again at 18 years 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 sport, were in fact associated with a subsequent and significant increase, rather than decrease, in delinquent behaviours. However, the best predictor of delinquent behaviour at age 18 years was found to be delinquency at age 15 years, irrespective of involvement in sporting 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 contain rules, regulations, 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 behavioural problems such as anxiety, depression, and externalising problems. More research is needed in this area.

An area of development that has received more attention with regard to exercise and sport participation is self-concept. Some researchers indicate 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 between ability in physical activity and increased self-concept (Harter & Jackson, 1993).

Generally, findings have supported the hypothesis that a positive relationship exists
between sport participation and self-concept, but it is an area not without its problems. One of the potential problems in this type of research concerns definition and measurement of self-concept. Typically, in the past, studies in this area have used a unitary concept of self-concept, where 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 showed higher self-concept scores and a positive relationship was found between gains in sport skill and increases in self-concept scores. However, the study used the Tennessee Self-Concept Scale (Fitts, 1964), 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 athlete’s 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 sporting 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 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 related to physical ability-related self-concept.

Zaharopoulos & Hodge (1991) suggest a multidimensional view of self-concept is particularly important for studying sport because as 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 average effect size of 0.41. This means that those participants in studies experiencing a physical activity intervention displayed self-esteem scores nearly one half of 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 effects were found for youth with disabilities compared to children without disabilities: that is, children with disabilities experienced greater benefits. Furthermore, participation in an array of sporting activities was shown to have a beneficial influence on self-esteem. However, fitness-based activities (e.g. running) showed the most beneficial impact 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 youthful sporting activities. 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 behaviour (Harter, 1978, 1982). Success as judged by the individual is the crucial element. Thus, if an individual believed they did well despite what others say, then 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 examine if a positive relationship exists between sports participation and young adolescents’ emotional well-being. The major
hypothesis was that youth who engage in more sporting activity, whether it is formal or leisure
time sport, would report fewer emotional and behavioural problems and feel better about
themselves, compared to youth who engage in fewer sporting activities. Both formal sport
(organised sport by schools or clubs) and informal sport (leisure time sport) were examined,
as a limitation of previous studies has been the exclusion of an examination of informal sport
participation, typically being more focused on formal sport participation.

Past research examining youths’ sport and self-concept has frequently employed a
global model of self-concept rather than using a multidimensional model. Consequently, the
issue of the relationship between self-concept and sport 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 only affect 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 sport in order
to gain any psychological benefits from playing or whether their perceptions of their
competence in sport are more influential. Therefore, the present study tested the following
hypotheses: (a) young adolescents’ increased level of participation in sport would be
associated with fewer behaviour problems. That is, there would be a negative correlation
between sports participation and scores reflecting emotional and behavioural problem, (b)
those young adolescents who have higher rates 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 compared to children who were rated as more
competent at sport by an independent rater (the teacher involved with physical education).
Thus, perceptions of ability would beneficially impact problem behaviours more than would objective ability.

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 (one participant did not report gender) participated in the study. From the sample of students the following information was given concerning ethnic origin. One hundred and fifty two students identified themselves as Caucasian, 17 as Maaori, 6 as part Maaori, part Caucasian, 7 Pacific Islander, 1 Asian, and 10 identified as having “other” ethnic origins. 10 students did not report ethnicity. Information regarding socio-economic status indicated that most children’s socio-economic status fell within Category 2, 3 or 4 of the Socio-Economic Indices for New Zealand - Revised, where Category 1 is the highest of 6 socio-economic ratings. That is, children came 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 participant’s sporting ability.
The Youth Self Report (Achenbach, 1991)

The Youth Self-Report (YRS; Achenbach, 1991) is a widely used assessment instrument that was designed to assess aspects related to the social-emotional development of youth. The YSR is “designed to obtain 11-18 year-olds’ reports of their own competencies and problems in a standardised format” (Achenbach, 1991 p. 2). The YSR 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 behavioural problems of clinical relevance. For the purposes of the present study, only the problem scales were included in the current analysis. The reasons were as follows: Youths’ competencies of interest to the current research were being assessed using the Self-Perception Profile for Children (Harter, 1985). In addition, 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 behaviour problems areas.

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

Self-Perception Profile for Children (Harter, 1985)

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, p5). The domains are Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Behavioural Conduct and Global Self-Worth.

The SPPC has been widely used by researchers in Ireland, China, Australia and, the US. (Granleese & Joseph, 1993). Reliabilities are quite 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 summary, 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; Donaldson and Ronan, 1996)

Sport participation and attitudes surrounding participation was assessed by an endorsement questionnaire developed specifically for the purposes of the present study. The rationale for creating the questionnaire was simply that no other measure was available which could be employed to elicit the sporting information, which was relevant to the study. The measure was developed by rational and theory bound means through a search of the relevant literature, and is now described.

Items in the SPAQC questionnaire related to types of sport and reasons for participation and some were adapted from the New Zealand Hillary Commission’s1 “Life in New Zealand” study (1990). A list of sports played by New Zealand youth was derived based on this work. Several other new sports that have become popular in recent years, (e.g. rollerblading) 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 sports questionnaire is the inclusion of informal participation as past research has been lacking with regard to 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 participation.

For additional correlational analyses and group-based comparisons, two groups were identified. High Total Participators (HTPs) were those participants whose Total Participation score was in the upper third percentile whilst Low Total Participators (LTPs) were those participators whose Total Participation 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 organisation. This provided an indication of the number of formal sports in which children participated. The Number of Formal Sports score indicated the number of sports children played for a school or club. The possible range for formal sports participation was 0-5 sports. For additional correlational analyses and group-based comparisons, two groups were identified. High Formal Participators (HFPs) were those participants whose Number of Formal Sports score was in the upper third percentile whilst Low Formal Participators (LFPs) were those participators whose Number of Formal Sports score was in the bottom third percentile.
Question 3 requested participants to state how long in years they had been playing 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 her school, basketball for two years, running for four years and cricket for a year. Therefore the Total Years of Formal Sport score would be \((2+4+1= 7\text{ years})\). Question 4 provided the opportunity to specify any sporting achievements participants had gained in formal sports, such as awards, prizes, been a team leader or captain, been a representative of a region, won a grade/tournament and so forth. The Number of Achievements score indicates the number of sporting achievements a participant has received to date. The range was between 0-5 achievements. The alpha reliability for the SPAQC was found to be .86.

**The Teacher Global Rating Scale**

A global rating provides a general evaluation of behaviour whilst using a standardised format (Kazdin, 1980). The Teacher Global Rating Scale was designed as an independent rating of students sporting abilities. Using a global rating was a summary indication of each participant’s general sporting ability. Teachers were instructed to provide an estimate of each student’s overall ability at sporting 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 (c) The Youth Self-Report. In total, the battery took 30-45 minutes to complete. The researcher was present during classroom administration to read instructions and answering questions. The classroom teacher was given the Teacher Global Rating Scale to complete at the same time participants were
filling out self-reports.

The present study was correlational in nature. In the present study, several relationships were being examined. Responses on the Sport Participation and Attitudes Questionnaire for Children (SPAQC) were compared to responses on the Youth Self-Report (YSR) and Self-Perception Profile for Children (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 by 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 ANOVA’s 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 participant’s responses on the three questionnaires together with the teacher ratings were used to conduct the preliminary and main analyses. Student’s raw scores were
used when analysing the problem scales section of the Youth Self-Report. The rationale for this is because frequently raw scores can 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

Comparison of Current Sample to Norm Groups on YSR

With respect to the YSR, comparisons of the two groups indicated that the two sample's scores were similar on the majority of the YSR subscales, with some differences apparent on Externalising Problems and Somatic Complaints. Analyses revealed females in the current sample had a significantly higher Externalising Problem mean score ($M = 11.6, SD = 8.2$) than girls in the norm group ($M = 10.3, SD = 6.3$), $t (779) = 2.68, p < .001$. For Somatic Complaints, the mean for girls 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.

Gender Differences on YSR

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

**Preliminary Analyses involving the SPPC**

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 scores of the normative groups with one exception. A difference was found between girls on Behavioural Competence. Girls in the current sample had significantly lower mean Behaviour Competence scores \((M = 17.79, SD = 3.15)\) than the norm group \((M = 18.36, SD = 3.36)\), \(t\) \((327) = 6.43, p < .01\).

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

No significant age effects were found on the YSR subscales, Internalising, Externalising or Total scores or the SPPC subscales for the sport sample (all \(F\)’s < 1).

**The Relationship between Sport Participation and Problem Behaviour**

Hypothesis (a) predicted that children’s increased level of participation in sport would be associated with fewer behaviour problems. That is, there would be a negative correlation
between scores on sports participation scales and scores on the YSR problem scales.

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 Sports and Total Years of Formal Sport with YSR problem subscales of Externalising Problems ($r = -.24, r = -.24$), Social Problems ($r = .24, r = -.20$), Aggression Problems ($r = -.20, r = -.19$) and Delinquency Problems ($r = -.25, r = -.25$). 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 Participators (HTPs) and Low Total Participators (LTPs) (defined earlier) and the YSR scales. Children classified as HTPs had lower scores ($M = 3.69, SD = 312$) on the Somatic Complaints subscale compared to children 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 High Formal Participators (HFPs) and Low Formal Participators (LFPs). Results showed there were several significant differences between these two groups on the YSR scales. HFPs had significantly lower means compared to LFP’s on the (a) broad-band Externalising Scale and the following problem scales: (b) Anxious/Depressed Problems, (c) Social Problems, (d) Aggression Problems and (e) Delinquency Problems. For Externalising Scores, the mean for the HFP group ($M = 10.56, SD = 6.55$) was significantly less than the mean for the LFP group ($M = 16.43, SD = 12.14$), $t (35) = 2.40, p < .05$. 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 less 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 less than the LFP mean ($M = 11.75, SD = 9.10$), $t (34) = 2.13, p < .05$. Finally, for Delinquency scores, the HFP group 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 externalising problems. However, results regarding sport participation and internalising behaviours were generally found to be nonsignificant. The exception here was that participants high in formal participation had significantly lower levels of self-reported Anxiety/Depression compared to low participators.

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

Hypothesis (b) predicted children who had 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 Participators 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 participators 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 Participators on the self-concept subscales. Higher formal participators had significantly
higher means on Athletic Competence $t(136) = 2.11, p < .05$ and Behaviour Competence $t(134) = -1.97, p < .05$. All other comparisons were nonsignificant.

Hypothesis (c) predicted children who had higher perceptions of Athletic Competence would have lower scores on the YSR problem scales compared to children who were rated as competent at sport by an independent rater (the classroom teacher or physical education teacher). Pearson correlations were performed between the teacher rating and YSR scores and between Athletic Competence and YSR scores to test this suggestion. Moderate significant negative correlations were found between Athletic Competence and (a) Total Problems ($r = -.32, p < .01$), (b) Internalising Problems ($r = -.42, p < .001$), (c) Withdrawn ($r = -.39, p < .001$), (d) Somatic Complaints ($r = -.28, p < .001$), (e) Anxious/Depressed ($r = -.46, p < .001$), (f) Social Problems ($r = -.39, p < .001$) and (g) 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 there was 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 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 internalising problems.
Discussion

Summary of Major Findings

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

The results of the present study found that young adolescents who played more sport showed some indications that increased sport participation is related to enhanced emotional and behavioural well-being. Young adolescents who participated in a greater number of formal sports reported significantly lower levels of externalising and social problems compared to those who engaged in fewer numbers of formal sports. There was also a positive relationship between higher levels of total sports participation (children who participated in higher levels of both informal and formal sport) and perceived competence. That is, those who had higher levels of total sport participation also reported significantly higher levels of perceived athletic, social, and physical (trend only) competence and global self-worth compared with those young adolescents who had low levels of total sports participation.

Related to the current findings also is the important implication that young adolescents may not necessarily have to be competent at sport in order to gain psychological benefits from sport participation. Results showed participants who perceived themselves to be more competent at sport (i.e., reported higher levels of perceived athletic competence) reported fewer emotional and behavioural problems, particularly related to internalising and social problems, compared to children rated by an external observer (teacher) as athletically
competent. In addition, perceptions were also found to be more important than achievements in terms of negative relationships with problem behaviour. We now turn to closer examination of specific findings and integrating them within the literature.

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

As hypothesised, 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 sporting activities reported significantly higher levels of perceived athletic competence, social competence, and global self-worth compared to low participators. A trend indicated a similar difference between these groups on physical competence. Young adolescents classified as high participators in formal sporting activities also reported significantly higher levels of perceived athletic competence and behavioural competence 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 provided evidence to support this potential. These findings are similar to other research, which found high school athletes reported higher levels of self-concept than non-athletes (Zaharopoulos & Hodge, 1991). The current study was also consistent with Anshel, Muller & Owens (1986; see also Gruber, 1986) who found that the areas of self-concept most positively impacted by sport participation were also those hypothesised within the literature (i.e., athletic, physical and social). That is, present findings showed athletic and social competence and, to a lesser extent, physical competence to be positively related to increased sporting participation (i.e., a combination of informal and formal sports).

The current study also found global self-worth to be positively related to total sport participation. While this finding confirmed the current study’s hypothesis, it is contrary to the
studies cited earlier that 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 (a) perceived athletic competence and (b) perceived behavioural competence. Taken together, these findings are consistent with other research which has suggested that sport can positively impact not only specific domains, but also overall self-concept (e.g. Salokum, 1994). Overall, the current study supported the idea that sport participation is associated with self-concept-related benefits.

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

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

Another implication of the current study was that young adolescents may not necessarily have to be competent at sport in order to gain psychological benefits from sport
participation. Results showed participants who perceived themselves to be more competent at sport (i.e., had higher athletic competence) also reported fewer emotional and behavioural problems as shown by significantly lower scores on the YSR problem scales compared to children objectively rated by an independent rater as competent. Here, perceptions of ability were found to be more important to emotional well-being than actual ability. Results showed perceived athletic competence to be significantly and negatively related to Total Problems, Internalising Problems, Withdrawn Problems, Somatic Complaints, Anxiety/Depression Problems, Social Problems and Attention Problems. In contrast, the teacher rating was only negatively correlated with Attention Problems. One caution to note here, the teacher’s ratings must be considered, since this form of measurement does not represent a comprehensive indication of children’s abilities at sport.

However, this study also included potential indices 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 any problem behaviours.

From these findings it appears that while perceived athletic competence was clearly related to reduced emotional and behavioural problems, the findings for young adolescents who are actually competent at sport are more mixed. Taken together, the present results relating to self-concept and problem behaviours indicate that playing sport particularly those that are organised, may help young adolescents gain confidence and learn various competent behaviours (e.g. social skills). This efficacy-based learning may in turn help make these youth feel better about themselves. Playing sport may also provide a socially accepted way to release energy, and aggression rather than through more negatively valenced acting out behaviours. Another implication of these findings is that sport may be used to help young adolescents achieve a sense of competence in not only the sporting domain but also other
domains important to their psychological and social development. These include feeling confident about their physical appearance, feeling they have adequate social skills and relations with peers and, overall simply feeling good about themselves. Furthermore, rather than focusing solely on increasing young adolescents’ actual competence at sport, efforts may also 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 also act more competently.

An alternative interpretation of the just reported 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.

The Relationship between Sports Participation and Problem Behaviours

Results provided some evidence in favour of the hypothesis that predicted that young adolescents’ level of participation would be associated with fewer behaviour problems. Results showed the more formal sports participants played and the longer they had been playing them, the lower their scores on Externalising 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 sport among older adolescents. The present study was able to replicate aspects of this study and extend it by using a younger adolescent sample from a different sample. The implication here is that playing more organised sport may act as a deterrent to some behavioural or emotional problems and enhances young adolescents’ social and other life skills. Alternatively, some lesser-behaved youth may be “gated” at early stages
and prevented from participating in more organised sports.

Stronger evidence was found showing a consistent relationship between increased numbers and length of time in formal sports and reduced externalising and socially-related behaviour problems. Participants who played more formal sports and for a greater length of time reported significantly lower levels of delinquent behaviour, aggression, and peer-related problems. The youth who were participators in formal sport also reported significantly lower levels of anxiety and depression-related problems compared to non-participators. These findings are consistent with some studies that have found a negative relationship between sport participation and problem behaviours (Steptoe & Butler, 1996; Jeziorski, 1994). The specific finding that increased formal sport participation was negatively related to externalising problems is consistent with findings by Segrave & 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 externalising problems and other problems as well as a positive relationship with perceived athletic and behavioural competence. Evidence regarding total participation was stronger in the area of perceived competence and weaker in the area of reduced problems. Results indicated while total participation may be associated with higher perceived competence in a number of areas, that this type of participation is not necessarily associated with fewer behaviour problems. The reasons for this pattern of findings are not immediately clear. These finding may indicate that like adults, sport for youth may need to be of certain duration and intensity in order for certain psychological benefits to be achieved (Weinberg & Gould, 1995). Formal sport is likely to involve longer duration, more intensity and require more frequent participation and discipline than informal activities (e.g. kicking a ball around after school). Literature has suggested that formal sport is also more likely to influence important
behaviours such as co-operation, tolerance, learning to be a team member, unselfishness, stress management, perseverance and risk taking (Smith & Smoll, 1991; Estrada, Geltand & Hartmann, 1988). The present findings provide some evidence in support of these suggestions.

Another suggestion 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’ behaviour to be of a standard, which will allow for team cohesion and participation without too many disruptions due to the behaviour of individual participators. Therefore, in formal sports, youth generally have to be better behaved when participating than during informal participation where rules and requirements may not so important. The implication of this suggestion is that young adolescents with higher levels of emotional and behavioural problems may either be discouraged to participate or choose not to be involved with formal sports where they have to conform to a certain level of ‘good behaviour’. 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 non-delinquent youth. However, for the delinquent young adolescent, who by definition “violates the rules and norms of society,” these activities may offer little appeal.

Considerations and Limitations of the Study

When drawing conclusions from the findings of the present study, it is important to consider several factors, which may have placed limitations on the study. First, the correlational nature of the study precludes definitive conclusions about causal relationships. On the other hand, the covariation seen in relevant variables nevertheless has implications for assisting youth. Second, the sports questionnaire (SPAQC) was devised by the researcher and was not an apriori empirically tested psychometric instrument. Therefore, the validity of the measure was previously untested, though internal reliability was found to be quite
adequate. In addition, whilst the SPAQC was not empirically supported prior to this study, many of the questions were based on past literature and provided adequately reliable information to assess sports participation.

While a teacher rating was included, the study relied on self-report reasons. Information from multiple informants would provide a more comprehensive picture of participants and might be included in future studies.

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

Future Directions

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

Whilst many youth are involved in some kind of sports participation, others either are reluctant to become involved, perhaps because of low self-perceptions of ability or because they haven’t been given the opportunity to try the many sports that are available or because of
low interest. As with any activity, exercise or sport may not represent “everyone’s cup of tea.” However, with so many different sports available, it may be a matter of some people finding a sport or exercise that suits them as an individual. Educators should be aware of individual preferences: being pressured to participate in certain sports may do more harm than good for some youth.

“Look Sharp” is a New Zealand holiday sport programme where youth get a chance to try a variety of physical activities (Kidman & Handcock, 1995). The goal is to have youth adopt exercise habits as core life skills. Participants get a chance to try sports in small groups in a safe, non-threatening environment where they are grouped together with peers of similar ability. So far, the programme has been met with enthusiasm and has been informally reported as being successful. Other programmes such as Kiwisport which adapt adult sports to children and adolescent skill and ability levels also provide increased opportunities for youth to succeed at many types of sporting activities. However, systematic research that assesses the potential surrounding anecdotal reports of success is needed in similar programmes in the U.S. and worldwide.

Sports educators need to become aware of the importance of self-perceptions. The assumption from the present study is that if youths’ self perceptions of athletic competence can be enhanced, then not only will more participate in sport and for a longer period, but they may be more likely to have improved emotional well-being. To achieve this, the emphasis on participating in sport for competitive purposes might be de-emphasised, with educators encouraging a co-operative learning environment, while promoting autonomy. Success defined in terms of mastery-based and personal-based goals rather than simply on winning may have long-term psychological benefits for children. From this perspective, learning is enhanced as feedback is based on the individual’s performance and progress and is quite
specific in nature. Additionally, educators are important role models who are likely to influence children’s self-perceptions of their sporting ability. As coaches, teachers, and parents begin to focus on individual progress and de-emphasise the notion of winning and losing, children very likely will do the same.

The current findings that greater participation in sport is positively associated with emotional well-being in the current sample contributes to the expanding evidence that links exercise and sport across the ages with psychological health. Recommendations for future research would include conducting another study using children from an early age, which would involve an experimental or longitudinal design. Such a study could provide more conclusive evidence of the psychological effects on children and adolescents from sports participation, particularly the connection between sport and problem behaviours (see also Beggs et al., 1996). To extend research in this area, future studies might also include higher proportions of other ethnic and cultural minority groups to examine the role of cultural influence. The nature of conducting a correlational cross-sectional study meant it was not possible to conclude definitely that sports participation reduces the risk of mental-health problems and improves self-concept in children. In fact, the possibility exists that youth who have higher levels of problem behaviours more often simply choose not to play sport or do exercise. Longitudinal and intervention-based studies and would be particularly valuable to clarify whether sport predisposes youth to enhanced emotional well-being (e.g., part of interventions for at risk children) or whether youth with more enhanced emotional well-being play more sport, or whether it is a combination of these factors that underlies the current findings.

References


Authors Note

1 The primary administrative body responsible for oversight and funding of sports in New Zealand.