University of Wollongong

Research Online

Faculty of Social Sciences - Papers (Archive)

Faculty of Arts, Social Sciences & Humanities

2013

The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players

Stewart A. Vella

University of Wollongong, stvella@uow.edu.au

Lindsay G. Oades

University of Wollongong, loades@uow.edu.au

Trevor P. Crowe

University of Wollongong, tcrowe@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/sspapers>

Part of the [Education Commons](#), and the [Social and Behavioral Sciences Commons](#)

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au

The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players

Abstract

Background: The goals of participation youth sports are primarily concerned with the facilitation of positive youth development as opposed to outright success. Consequently, there are strong theoretical and empirical links between sports coaching and athlete development. Transformational leadership behaviours, in particular, have been theoretically linked to positive developmental outcomes within a youth sport context, while the coach-athlete relationship is a key tool used by coaches who aim to teach life skills to young athletes. Outright team success has also been shown to correlate with important developmental variables such as a mastery climate and athlete perception of youth sports coaches.

Aims: The purpose of this study was to test the relationship between coach transformational leadership behaviours, the perceived quality of the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players. **Method:** Cross-sectional data were taken from 455 adolescent athletes aged between 11 and 18 years. Each participant was competing in a local soccer competition that is classified as a participation sport. Thus, the theoretical focus is on developmental and skill gains. Each participant completed the Differentiated Transformational Leadership Inventory for Youth Sport, the Coach-Athlete Relationship Questionnaire, and the Youth Experience Survey for Sport. Team success was measured by the total number of competition points accumulated during the season.

Findings: The results show that coach transformational leadership behaviour and the coach-athlete relationship have a moderate positive correlation with developmental experiences. Team success has no relationship with overall developmental experiences. The best predictor of developmental experiences is a combination of coach transformational leadership behaviour and the quality of the coach-athlete relationship. The most influential leadership behaviours are individual consideration, intellectual stimulation, and appropriate role modelling. **Discussion:** Transformational leadership and the quality of the coach-athlete relationship may work synergistically to influence positive athlete outcomes within youth sports. Importantly, coaches who practise within the youth sport context are able to facilitate positive developmental outcomes from both team success and team failure by taking advantage of naturally occurring teachable moments. The best way to take advantage of these may be to engage in intellectual stimulation, individual consideration, and positive role modelling, in addition to facilitating positive, developmentally appropriate coach-athlete relationships. Future coach education programmes should incorporate relevant interpersonal and intrapersonal skills that allow youth sports coaches to engage in these behaviours. Longitudinal work is needed in order to make causal inferences between transformational leadership behaviour, the quality of the coach-athlete relationship, and positive youth development through sports.

Keywords

soccer, adolescent, experiences, developmental, positive, players, success, relationship, team, athlete, leadership, coach, between

Disciplines

Education | Social and Behavioral Sciences

Publication Details

Vella, S. A., Oades, L. G. & Crowe, T. P. (2013). The relationship between coach leadership, the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players. *Physical Education and Sport Pedagogy*, 18 (5), 549-561.

This journal article is available at Research Online: <https://ro.uow.edu.au/sspapers/461>

**The relationship between coach leadership, the coach-athlete relationship, team success
and the positive developmental experiences of adolescent soccer players.**

Stewart A. Vella^a, Lindsay G. Oades^b, and Trevor P. Crowe^a

^aSchool of Psychology

University of Wollongong

Northfields Avenue, Wollongong

Australia, 2522

^bSydney Business School

University of Wollongong

Innovation Campus, North Wollongong

Australia, 2522

Corresponding Author: Stewart Vella

stvella@uow.edu.au

Date of Submission: 11 September 2011

Abstract

Background. The goals of participation youth sports are primarily concerned with the facilitation of positive youth development as opposed to outright success. Consequently, there are strong theoretical and empirical links between coach behaviour and developmental outcomes. Transformational leadership behaviours in particular, have been theoretically linked with positive developmental outcomes within a youth sport context, while the coach-athlete relationship is a key tool used by coaches who aim to teach life skills to young athletes. Outright team success has also been shown to correlate with important developmental variables such as a mastery climate and athlete perception of youth sport coaches.

Aims. The purpose of this study was to test the relationship between coach transformational leadership behaviours, the perceived quality of the coach-athlete relationship, team success, and the positive developmental experiences of adolescent soccer players.

Method. Cross-sectional data was taken from 455 adolescent athletes aged between 11 and 18 years of age. Each participant was competing in a local soccer competition that is classified as a participation sport. Thus, the theoretical focus is on developmental and skill gains. Each participant completed the Differentiated Transformational Leadership Inventory for Youth Sport, the Coach-Athlete Relationship Questionnaire, and the Youth Experience Survey for Sport. Team success was measured by the total number of competition points accumulated during the season.

Findings. Results show that coach transformational leadership behaviour and the coach-athlete relationship have a moderate positive correlation with developmental experiences. Team success has no relationship with overall developmental experiences. The best predictor of developmental experiences is a combination of transformational leadership behaviour and

the quality of the coach-athlete relationship. The most influential leadership behaviours are individual consideration, intellectual stimulation and appropriate role modelling.

Discussion. Transformational leadership and the quality of the coach-athlete relationship may work synergistically to influence positive athlete outcomes within youth sport. Importantly, coaches who practice with the youth sport context should not have team success as the primary aim of their coaching practice when developmental outcomes take precedence. The best way to increase positive developmental outcomes may be to engage in intellectual stimulation, individual consideration, and positive role modelling. Transformational leadership provides a sound theoretical and empirical basis for evidence-based coaching practice and coach-education initiatives. Future coach education programs should also incorporate relevant interpersonal skills to allow youth sport coaches to facilitate positive and developmentally-appropriate coach-athlete relationships. Longitudinal work is needed in order to make causal inferences between transformational leadership behaviour, the quality of the coach-athlete relationship and positive youth development through sport.

Key words: Youth Sport, Coaching, Transformational Leadership

The relationship between coach leadership, the coach-athlete relationship, team success and the positive developmental experiences of adolescent soccer players.

The focus on facilitating positive youth development through organised sporting programs has intensified gradually over recent years. This interest has been driven by a gradual shift in psychology from a deficit-based understanding of psychopathology and developmental trajectories to an asset-based understanding (Gould and Carson 2008). Consequently, positive youth is typically associated with the development of personal strengths and assets (Damon 2004). It is argued that the plasticity of adolescent development combined with a strengths-based approach to development leads to key developmental gains (Lerner et al. 2005). This asset-building approach has been highlighted by Benson (2007) as providing essential protection against high-risk and antisocial behaviours, and the enhancement of capabilities that allow youth to be successful in school and in the community.

While a wide range of approaches can result in positive youth development (Catalano et al. 2004), youth sport has been promoted as a unique social context with the potential to facilitate many developmental assets (Fraser-Thomas, Côté and Deakin 2005; Weiss 2008). In fact, youth sport participation is associated with many general indicators of development, including identity development, personal exploration, initiative, improved cognitive and physical skills, cultivating social connections, teamwork, and social skills (Hansen, Larson and Dworkin 2003). When compared to formal schooling, unstructured, or non-voluntary activities, organised leisure activities provide an appropriate combination of attention, motivation and challenge that makes youth more open to developmental gains (Larson 2000). In support of this, youth who participate in sports and other extracurricular activities have been shown to report higher rates of learning experiences and life skill gains than those who participate in regular schooling and unsupervised time (Dworkin, Larson and Hansen, 2003).

92 However, despite popular claims that sport facilitates positive development, there is a
93 dearth of empirical evidence to suggest that sport itself is a sufficient vehicle (Brunelle,
94 Danish and Forneris 2007). Studies of out-of-school activities have shown that sport was the
95 only activity that brought about both positive and negative developmental outcomes for youth
96 (Eccles and Barber 1999; Hansen, Larson and Dworkin 2003). Thus, sports participation does
97 not inherently facilitate positive development, but rather, under the right conditions sport can
98 be used as a vehicle to facilitate positive youth development. Fraser-Thomas et al. (2005)
99 argue that there are two contextual factors that are associated with either positive or negative
100 development through sport; program design and adult influence. Peterson (2004) extends this
101 by concluding that it is the personal characteristics of group leaders that are critical for the
102 success of programs of positive youth development. This is reinforced by Côté and Gilbert
103 (2009) who place the development of competence and self-esteem, along with the
104 development of character and social engagement, as the athlete outcomes of effective
105 coaching.

106 The training of youth sports coaches has shown to result in increases in positive
107 developmental outcomes such as self-esteem and personal and social skills (Coatsworth and
108 Conroy 2009; Macdonald, Côté and Deakin 2010; Smoll et al. 2003). Coatsworth and Conroy
109 (2009) have taken significant steps towards an understanding of how positive youth
110 development may take place within a 'real world' context. They concluded that the behaviour
111 of a coach in the form of praising autonomous behaviour results in increases to perceived
112 competence and self-esteem, which in turn lead to the positive developmental outcomes of
113 initiative, goal setting and identity reflection. Despite this, very little is known about the
114 causal mechanisms that explain the variability in developmental outcomes that are garnered
115 by young athletes as a result of sports participation. In particular, little is known about
116 specific qualities and behaviours of the coach that may impact these outcomes (Petitpas,

117 Cornelius, Van Raalte, & Jones, 2005). Consequently, this lack of evidence is manifested in
118 an inability to increase the consistency of systematic developmental benefits (Conroy &
119 Coatsworth, 2006). It is therefore important to begin to systematically explore the possible
120 coach behaviours that are associated with positive youth development.

121 A promising avenue for research has been the transformational leadership theory.
122 Transformational leadership is a form of leadership that occurs when leaders: broaden and
123 enlarge the interest of those whom they lead; act morally; motivate their followers to go
124 beyond individual self-interest for the good of the group and address and engage each
125 individual follower in true commitment (Avolio & Bass, 2002). Rowold (2006) has
126 demonstrated that the coach's transformational leadership behaviour is positively correlated
127 with satisfaction with the coach, and the effort that athletes put into training. The degree of a
128 coach's transformational leadership behaviour has also been shown to predict athlete
129 performance, task and social cohesion, and intrinsic motivation (Callow et al. 2009;
130 Charbonneau, Barling and Kelloway 2001). Further, Vallee and Bloom (2005) have argued
131 that a coach's transformational leadership behaviour provides the foundation for the holistic
132 development of athletes and successful University sporting programs. The culmination of this
133 research has led to the conclusion that transformational leadership is extremely important
134 within a participation youth sport context. Its' unique components such as intellectual
135 stimulation, facilitating positive motivation, and strengths-based individual consideration are
136 argued to be key determinants of positive developmental outcomes for young athletes (Vella,
137 Oades and Crowe in press).

138 Jowett and Chaundry (2004) have shown that positive athlete outcomes such as team
139 cohesion may better be predicted by coach leadership behaviours in conjunction with the
140 athlete's perception of the coach-athlete relationship. This is consistent with suggestions that
141 coach leadership aimed at facilitating positive outcomes for athletes may best be conceived of

as incorporating both coach behaviour and the coach-athlete relationship (Vella, Oades and Crowe 2010). Such suggestions are complemented by qualitative research that shows that the coach-athlete relationship was a necessary tool of youth sports coaches used to facilitate the positive developmental outcome of life skill development (Gould et al. 2007) and are consistent with the assertion that engaging relationships with adult role models is an essential component of positive youth development programs (Fraser-Thomas, Côté and Deakin 2005; Peterson 2004). The coach-athlete relationship may therefore be an important causal variable when considering positive youth development through sport, and it may be particularly valuable to examine the impact of the coach-athlete relationship in conjunction with transformational leadership behaviour. This approach would be consistent with recent work which has shown that relational variables mediate the relationship between transformational leadership and follower outcomes (Walumbwa and Hartnell 2011).

For optimal developmental outcomes, it has been consistently suggested that coaches define success in terms of providing maximum effort, improving skills, and increasing positive interpersonal interactions, as opposed to outright success (Martens 2004; Smoll and Smith 2005). Thus sports participation is much more likely to lead to negative developmental outcomes for athletes if they are lead to believe that the only objective is to beat their opponents. In support of this, Cumming and colleagues have shown that winning percentage does not predict athlete enjoyment, plans to play sport for the following year, or how much young athlete's enjoyed playing for their coach (Cumming, Smoll, Smith and Grossbard 2007). However, the relationship between 'winning' and positive development remains unclear. It is plausible that those athletes with higher rates of personal and social skills, initiative and self-esteem may as a consequence be more successful athletes. Consequently, there may be a positive relationship between developmental experiences and team success. Alternatively, team success may be achieved at the expense of developmental experiences. In

167 this case, a coach may forego opportunities to teach life skills in order to teach technical and
168 tactical skills and therefore there may be a negative relationship between team success and
169 developmental experiences. Lastly, it is also plausible that the two are unrelated. In this case,
170 both winning and losing may be seen as opportunities to teach life skills and developmental
171 assets, rendering both team success and team failure as conducive to facilitating positive youth
172 development through sport.

173 Thus, this study sought to investigate the relationship between coach transformational
174 leadership behaviour, the coach-athlete relationship, team success, and the positive
175 developmental experiences of youth sports participants over a single sports season. Given the
176 theoretical benefits that are derived from the use of transformational leadership as a measure
177 of coach behaviour in participation youth sports (Vella, Oades and Crowe in press), of
178 particular interest is interaction between the components of transformational leadership and
179 specific developmental experiences. Extending results of previous research (Jowett and
180 Chaundry 2004), and consistent with the definition of coach leadership (Vella, Oades and
181 Crowe 2010), it is hypothesised that a combination of transformational leadership behaviour
182 and the perceived quality of the coach-athlete relationship will provide the most reliable
183 prediction of positive developmental experiences during sports participation. Team success is
184 hypothesised to have a positive relationship with positive developmental experiences, but is
185 hypothesised to account for a much smaller proportion of the variance in positive
186 developmental experiences than coach transformational leadership behaviour and the
187 perceived quality of the coach-athlete relationship. Further, this study will explore which
188 combination of transformational leadership behaviours provide the best prediction of positive
189 developmental experiences. This is important as certain components such as strengths-based
190 individual consideration are theoretically linked to the greatest developmental gains (Roth
191 and Brooks-Gunn 2003; Vella, Oades and Crowe in press). Lastly, as several sex differences

have been found in previous studies of community youth development programs (Lerner, Lerner, et al. 2005), this study also examined potential sex differences in these relationships.

Method

Participants

A total of 455 adolescent soccer players from one metropolitan soccer association in Sydney, Australia took part in the study. Two hundred and seventy-four participants were male (60%). Participants ranged from 11 to 18 years of age, with a mean age of 15.12 years ($SD = 1.77$). Participants had an average playing experience of 7.23 years ($SD = 3.27$). According to association rules, each player played and lived within one medium to high socio-economic status region of Sydney which is governed by one soccer association. Each coach also lived within this region. All participants were categorised as participation athletes engaged in team sport. Participation coaching is categorised by an emphasis that is not on competition or performance, and where participants are less intensively engaged with the sport. The objectives of participation coaches are characterised by short-term goals, enjoyment, and health-related outcomes (Côté and Gilbert 2009), however, winning may be a more likely goal in practice (Jones and Wallace 2005). Participation sport was chosen as it represents programs where the emphasis is on developmental outcomes, rather than team success, and as such they closely approximate community programs of positive youth development. Each participant was engaged in a season-long commitment to a team of same-aged athletes who were graded according to their ability. Each team competed weekly in a league against teams of their own or similar ability from the same metropolitan area. Each team trained once or twice weekly. In total, participants were drawn from 79 different teams, over 16 different clubs. All coaches were screened for specialised training, but none were found to have received any training other than the minimal coaching accreditation from the

national body. This course was reviewed and does not include any training that would exclude them from this study.

Measures

Transformational Leadership. Athletes' perceptions of their coach's transformational leadership behaviour was measured using the Differentiated Transformational Leadership Inventory for Youth Sport (Vella, Oades and Crowe in press). The DTLI-YS contains 22 items that form 6 subscales; individual consideration, inspirational motivation, intellectual stimulation, fostering acceptance of group goals and promoting team work, appropriate role model, and contingency reward. Each item is rated on a 5-point Likert scale ranging from 1 (*not at all*) to 5 (*all of the time*). Example items are 'My coach is a good role model for me to follow', 'My coach helps team members to develop their strengths', and 'My coach challenges me to think about problems in new ways'.

Coach-Athlete Relationship. The athlete's perceived quality of the coach-athlete relationship was measured using the Coach-Athlete Relationship Questionnaire (CART-Q; Jowett and Ntoumanis 2004). The CART-Q contains 11 items that form 3 subscales; closeness, commitment, and complementarity. However, the CART-Q is used as an overall measure of the perceived quality of the coach-athlete relationship and subscales are disregarded, as suggested by Lafreniere, Jowett, Vellerand and Carboneau (2011). Each item is rated on a 7 point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Example items are 'I like my coach', 'I trust my coach', and 'I respect my coach'.

Team Success. As per the Soccer Association's rules all teams played 16 games in the season. Each team received 3 competition points for a win, 1 point for a tie, and 0 points for a loss. Thus, the total number of competition points accumulated over the 16-game season provides an objective measure of team success. These totals ranged from 4 points (1 win, 1 tie and 14 losses) to 46 points (15 wins, 1 tie, and 0 losses).

Positive Developmental Experiences. Positive developmental experiences have been measured using the Youth Experience Scale for Sport (YES-S; MacDonald et al. 2009). The YES-S has 37 items that form 5 subscales; Personal and Social Skills, Cognitive Skills, Goal Setting, Initiative, and Negative Experiences. Items are measured on a 4 point Likert scale ranging from 1 (*Not at all*) to 4 (*Yes, definitely*). Example items are ‘I set goals for myself in this activity’, ‘This activity increased my desire to stay in school’, and ‘I learned about helping others’.

Procedure

Each club within the Soccer Association was contacted at the start of the season with information about the study. In total, 16 different clubs agreed to participate in the study. These clubs were then responsible for disseminating information to players via email and their club website. Players under the age of 16 also required parental consent, and therefore their parents were also informed. Each club contacted every player from 11 to 18 years of age. Times were arranged for the researchers to collect data from each club during the last two weeks of the season. This time was chosen to ensure that each player had experienced a minimum of one season playing under their coach.

Research activity was carried out at the club house of participating clubs. In accordance with the approving institution ethics committee each participant, and their nominated caregiver, was given verbal and written information on the study. This was followed by a written consent form for participants under the age of 16. Participants aged 16 and over gave tacit consent by returning a completed survey. Each participant was given a booklet that contained the YES-S, DTLI-YS and the CART-Q. The anonymous questionnaires were completed in a quiet room, and took between 10 and 25 minutes to complete. Importantly, coaches were not present at this time, and each participant was

assured of complete confidentiality. This was aided by a box that the researchers took to each meeting for the participants to place their completed surveys in.

Data Analysis

All data were subjected to tests of normality and heterogeneity of variance. All data from the DTLI-YS and CART-Q appeared to be moderately negatively skewed (Skewness statistics ranging from -.14 to -1.34) and had moderate kurtosis values (Kurtosis statistics ranging from -.04 to 2.42). The only exception to this was the 'Inspirational Motivation' subscale of the DTLI-YS. For ease of interpretation, all data from these scales were transformed using the square root transformation as described by Tabachnick and Fidell (2001) for moderately negatively skewed data. Following this transformation, data proved to be normally distributed (Skewness statistics ranging from .01 to .80, and Kurtosis statistics ranging from -.09 to .78). Analyses were subsequently conducted using the transformed data. The 'Negative Experiences' subscale of the YES-S was reverse scored when computing total YES-S scores so that higher scores indicate more positive developmental experiences. All YES-S data was normally distributed.

Results

Descriptive Statistics and Scale Reliabilities

Means, standard deviations, and Cronbach Alpha coefficients for all scales are presented in Table 1. For understandability the untransformed statistics are presented. All scales and subscales showed acceptable internal consistency with all Cronbach Alpha values of greater than .70.

[Insert Table 1 here]

Correlations

Table 2 displays the Pearson correlation coefficients between the subscale and total scores on all measures. Overall measures of transformational leadership and the coach athlete

relationship are significantly positively correlated with overall positive developmental experiences. High levels of coach transformational leadership behaviour, and a good quality coach-athlete relationship were all associated with athletes who reported higher personal and social skill experiences, goal setting experiences, and initiative experiences, as well as lower rates of negative experiences. Only transformational leadership behaviour was associated with cognitive skill experiences. More specifically, each transformational leadership behaviour was significantly positively correlated with personal and social skills, goal setting, and initiative, and significantly negatively correlated with negative experiences. Cognitive skills had a positive correlation with intellectual stimulation and appropriate role modelling. The coach athlete relationship was associated with all developmental experiences except for cognitive skills. Further, team success had no relationship with overall positive developmental experiences or with any specific developmental experience, except for personal and social skill experiences.

[Insert Table 2 here]

Regression Analyses

Linear regressions were run to establish whether transformational leadership behaviour, the coach-athlete relationship and team success are significant predictors of positive developmental experiences. Transformational leadership behaviour ($F_{(1, 453)} = 55.89$, $p < .001$, adjusted $R^2 = .11$) and the coach-athlete relationship ($F_{(1, 453)} = 74.18$, $p < .001$, adjusted $R^2 = .14$) are significant predictors of positive developmental experiences. Team success ($F_{(1, 453)} = 2.54$, $p = .11$, adjusted $R^2 = .00$) does not predict developmental experiences.

A multiple regression analysis using backwards elimination was conducted in order to ascertain the best predictors of positive developmental experiences. Criteria for removal of predictors was set at a significance level of .10. Overall measures of coach transformational

leadership behaviour, the perceived quality of the coach-athlete relationship, and team success were entered as predictor variables, with total YES-S score as the dependent variable. Results show that a combination of coach transformational leadership behaviour and the perceived quality of the coach-athlete relationship provide the best predictor of positive developmental experiences ($F_{(2, 380)} = 46.58, p < .001$). The adjusted R^2 value indicated that this model accounts for 19% of the variance in positive developmental experiences.

A multiple regression analysis using backwards elimination was also conducted in order to ascertain the most influential transformational leadership behaviours in predicting positive developmental experiences. Removal of predictors was set at a significance level of greater than .10. All six transformational leadership behaviours were entered into the model as predictor variables, with total YES-S score as the dependent variable. Results confirm that a combination of individual consideration, intellectual stimulation and appropriate role modelling provide the best predictor of positive developmental experiences ($F_{(3, 451)} = 20.32, p < .001$). The adjusted R^2 statistic for this model shows that this model accounts for 11% of the variance in developmental experiences.

Sex Differences

In order to test for a differential effect of transformational leadership behaviour on positive developmental experiences as a function of sex, a multiple linear regression was used. In this model, sex was entered as the moderating variable. Transformational leadership behaviour was centred in order to address the issue of multicollinearity of the interaction term by converting the raw DTLI total scores to z scores. The interaction term was calculated using the DTLI total z scores and sex (male = 1, female = 2). Results confirm that there is no significant effect of the interaction between sex and transformational leadership behaviour on positive developmental experiences after controlling for each individually ($p > .05$).

Therefore, the relationship between coach transformational leadership behaviour and positive developmental experiences is not influenced by the sex of the athlete.

Discussion

This study sought to investigate the relationship between coach transformational leadership behaviour, the perceived quality of the coach-athlete relationship, team success, and the positive developmental experiences of young athletes. Several important findings were recorded. Firstly, results demonstrate that team success has no relationship with the overall developmental experiences of young athletes. Secondly, overall ratings of coach transformational leadership behaviours are positively correlated with all positive developmental experiences, and are negatively correlated with negative developmental experiences. More specifically, all transformational leadership behaviours were associated with the development of personal and social skills, goal setting, and initiative. Only intellectual stimulation, and appropriate role modelling were associated with the development of cognitive skills. The perceived quality of the coach-athlete relationship is also positively correlated with positive developmental experiences. As hypothesised, a combination of transformational leadership behaviour and the quality of the coach-athlete relationship provides the best predictor of positive developmental experiences. Individual consideration, intellectual stimulation and appropriate role modelling were shown to be the most influential transformational leadership behaviours when considering positive developmental experiences.

Despite inconsistent results, programs of positive youth development have generally been shown to have a positive impact on the lives of young athlete participants (e.g., Danish, 2002; Weiss, 2008). It has been argued that the coach is the key figure in facilitating this impact (Fraser-Thomas, Côté and Deakin 2005; Peterson, 2004; Vella, Oades and Crowe 2011). Results of this study confirm that the coach plays a critical and influential role in

364 facilitating positive developmental outcomes for young athletes. Transformational leadership
365 and the quality of the coach-athlete relationship are significant predictors of positive
366 developmental experiences. In general, coaches who were low in transformational leadership
367 behaviour or who were reported to have poor quality coach-athlete relationships were more
368 likely to have athletes who had a greater number of negative experiences and a lower level of
369 personal and social skill, goal setting skill, cognitive skill, and initiative experiences.

370 Importantly, team success showed no relationship with overall ratings of positive
371 developmental experiences. This is problematic given that the sole criteria for judging the
372 effectiveness of most youth sports coaches is team success (Jones and Wallace 2005). This is
373 a promising and positive finding as it enables an opportunity for all coaches of youth sports to
374 become facilitators of positive developmental outcomes by demonstrating that the acquisition
375 of developmental assets is not dependent upon team success. The implication of this is that
376 coaches who practice within the participation youth sports context, where the emphasis of
377 participation is on making developmental gains (Côté et al. 2010), should emphasise the
378 acquisition of developmental assets, rather than focus their coaching practice on team
379 success. There is already some evidence to suggest that coaches within this context are aware
380 of this responsibility (Vella, Oades and Crowe 2011), however, how this knowledge
381 translates to 'real world' coaching practice is still unknown. Until youth sport coaches come
382 to value the acquisition of developmental assets over outright success as a measure of their
383 coaching effectiveness, coaching behaviour is unlikely to be transformed.

384 Coaches who value the acquisition of developmental assets are suggested to focus on
385 increasing transformational leadership behaviours and facilitating good coach-athlete
386 relationships that are developmentally appropriate. This follows the results of this study that
387 show that a combination of transformational leadership behaviour and the perceived quality
388 of the coach-athlete relationship provide the best predictor of positive developmental

experiences. Such results are consistent with previous research which has demonstrated that coach leadership accounted for more of the variance in social and task cohesion when combined with a measure of the coach-athlete relationship (Jowett and Chaundry, 2004). These results are also consistent with work which places the coach-athlete relationship as an inherent component of coach leadership (Vella, Oades and Crowe 2010). Further, this study serves to confirm coach leadership as inherently constituted by both coach behaviour and the quality of the coach-athlete relationship. Despite being separate constructs, there is a large proportion of the variance in positive developmental experiences that is common to both coach behaviour and the coach-athlete relationship. This suggests that the two constructs largely work synergistically, rather than cumulatively, when explaining variations in athlete outcomes.

The athletes' degree of perceived individual consideration, intellectual stimulation and coach role modelling behaviours can explain the highest proportion of the variance in positive developmental experiences. The individual consideration component of coach behaviour captures the extent to which the coach can recognise the strengths and abilities of each athlete and provide for their individual needs based on these strengths. It is unsurprising that this component should be one of the most important in facilitating positive developmental experiences given that positive youth development is underpinned by theory which promotes the development of strengths and developmental assets (Benson 2007; Damon 2004). A strengths and asset-based approach to developmental programs such as participation sports is argued to be the key ingredient in facilitating important developmental gains during a period of high developmental plasticity (Lerner, Almerigi et al. 2005). As such, Benson (2007) has noted that the development of strengths increases the likelihood young people to enhance key skills such as interpersonal and cognitive skills, which will encourage them to engage and flourish in school and in the community.

414 Organised leisure activities such as sports are argued to be an appropriate avenue for
415 developmental gains because they provide a unique combination of motivation, attention and
416 challenge that cannot be found in regular schooling, or in unsupervised or non-voluntary
417 activities (Larson, 2000). Thus, it is not surprising that intellectual stimulation is an important
418 predictor of developmental experiences. This is reinforced by the finding that a coach's
419 intellectual stimulation behaviours are associated with the cognitive skill experiences of
420 athletes in this study. This is a fascinating finding that is worthy of further study. Given that
421 sport has already been associated with cognitive competence and academic achievement
422 (Broh, 2002; Hansen, Larson and Dworkin, 2003), these findings lay a platform for research
423 into the causal mechanisms of such development by showing that the intellectual stimulation
424 of adolescent athletes is associated with cognitive skill development.

425 The extent to which the coach is seen as an appropriate role model is also important.
426 Peterson (2004) acknowledges that it is the personal characteristics of group leaders such as
427 coaches that are critical to the success of positive youth development programs. Coaches
428 hold a position of significant influence in youth sport, being seen as an expert and role model
429 by young participants (Coatsworth and Conroy 2006). Coaches also have a greater number of
430 interactions within the sporting context than other influential agents such as parents or policy
431 makers, and their influence is steadily strong from early adolescence through to late teens
432 (Chan, Lonsdale and Fung in press). These results confirm that the coach is indeed a strong
433 and influential role model within youth sports, with the perceived quality of the coach as a
434 role model linked with the development of positive developmental experiences.

435 Demonstrated associations between coach transformational leadership behaviour and
436 positive developmental outcomes for athletes necessitate the consideration of coach training
437 as a primary source of promoting positive athlete outcomes. Following the results of this
438 study, coach training should focus on equipping coaches with the necessary skills to facilitate

positive, age- and context-appropriate relationships with athletes. It should also focus on leadership training in order to increase the positive leadership behaviours of coaches in this context, with transformational leadership providing a strong option on which to base such training. Another appropriate avenue in this type of training is the Pyramid of Teaching Success in Sports (Gilbert et al. 2010) which is a tool for promoting the professional development of youth sport coaches. It is based on John Wooden's pyramid of success (Wooden 2004), and incorporates many of the virtues and skills needed by youth sports coaches to establish positive coach-athlete relationships and coach behaviour.

Transformational leadership training for youth sport coaches would address a piece of the coaching education puzzle that has long been missing. Côté and Gilbert (2009) have shown that coaching effectiveness incorporates three core components; professional knowledge, interpersonal knowledge and intrapersonal knowledge. However, mainstream coach education courses have typically focussed on the professional knowledge component of effective coaching. As such, these coach education programs equip coaches with knowledge of the game and of the sports sciences, but effectively render them as inadequately qualified due to a lack of content that is relevant to real-world coaching practice (Cushion, Armour and Jones 2003). As such, coaches of participation sports are reluctant to engage with coach education courses because they lack relevant content, and would be more likely to attend formal coach education programs if areas such as leadership were addressed (Vargas-Tonsing 2007). Therefore, youth sport coaches seem to suggest that the current coach education systems are not capable of equipping them with the skills necessary to facilitate the theoretical goals of participation sports. This is evidenced by coach leadership training programs which have shown positive results following training coaches in interpersonal and intrapersonal skills (Smoll and Smith 2010) which are not currently addressed through formal coach education channels.

A significant limitation of this study is the homogeneity of the sample. The sample is relatively homogenous in terms of ethnicity and socio-economic-status. Generalisability is also restricted by the context in which this study was conducted. All participants were drawn from participation soccer clubs, where the focus (theoretically) is not on winning and success. In order to generalise to alternate sports and contexts, such as performance sports or individual sports, replication within these contexts is needed. Secondly, there is a possibility of social desirability bias being present in this data. Given that the data for the coach-athlete relationship and coach leadership measures showed a moderate negative skew it may be assumed that at the very least there were ceiling effects present. Therefore, some caution has been taken when examining results of this study. Further, in order to assert causality it is necessary for future research to take measures over multiple time periods. Baseline and follow up measures would go some way to providing evidence for the causal impact of coach leadership on positive youth development that this study is unable to provide. Future research may also wish to broaden the scope of analysis by incorporating contextual factors such as club policy, parental influence, or peer influence.

In summary, transformational leadership behaviours and the quality of the coach-athlete relationship have a strong association with the positive developmental experiences of young athletes. This provides evidence for the influence of coach leadership as it is currently defined (Vella, Oades and Crowe 2010). Importantly, team success had no impact on the overall developmental experiences of these athletes, providing evidence that the developmental goals associated with participation sports are not dependent upon team success. Future coach training interventions are suggested to incorporate education and training relating to relevant interpersonal and intrapersonal skills. Transformational leadership behaviours and the skills necessary to facilitate positive coach-athlete relationships should be a focus of future coach education. Particular attention should be paid to the

489 individual consideration and inspirational motivation components of transformational
490 leadership.
491

References

- Arbuckle, J.L. and W. Wothke. 1999. *Amos 4.0 user's guide*. Chicago, IL: SPSS.
- Avolio, B.J., F.O. Walumbwa and T.J. Weber. 2009. Leadership: current theories, research, and future directions. *Annual Review of Psychology* 60: 421-49.
- Benson, P.L. 2007. Developmental assets: An overview of theory, research and practice. In *Approaches to positive youth development*, ed. R.K. Silbereisen and R.M. Lerner, 3-58. Los Angeles: Sage Publications.
- Broh, B.A. 2002. Linking extracurricular programming to academic achievement: who benefits and why? *Sociology of Education*, 75:69–91.
- Brunelle, J., S.J. Danish and T. Forneris. 2007. The impact of a sport-based life skill program on adolescent prosocial values. *Applied Developmental Science* 11: 43-55.
- Callow, N., M.J. Smith, L. Hardy, C.A. Arthur and J. Hardy. 2009. Measurement of transformational leadership and it's relationship with team cohesion and performance level. *Journal of Applied Sport Psychology* 21: 395-412.
- Cameron, K.S. 2008. *Positive leadership: strategies for extraordinary performance*. San Francisco, CA: Berrett-Koehler.
- Catalano, R.F., M.L. Berglund, J.A.M. Ryan, H.S. Lonczak and J.D. Hawkins. 2004. Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Science* 591: 98-124.
- Chan, D.K., C. Lonsdale and H.H. Fung. In press. Influences of coaches, parents, and peers on the motivation patterns of child and adolescent athletes. *Scandinavian Journal of Medicine and Science in Sports*.

- 515 Charbonneau, D., J. Barling and E.K. Kelloway. 2001. Transformational leadership and
 516 sports performance: The mediating role of intrinsic motivation. *Journal of Applied Social*
 517 *Psychology* 31: 1521-34.
- 518 Coatsworth, J.D. and D.E. Conroy. 2009. The effects of autonomy-supportive coaching, need
 519 satisfaction, and self perceptions on initiative and identity in youth swimmers.
 520 *Developmental Psychology* 45: 320-8.
- 521 Conroy, D.E. and J.D. Coatsworth. 2006. Coach training as a strategy for promoting youth
 522 social development. *The Sport Psychologist* 20: 128-44.
- 523 Côté, J. and W. Gilbert. 2009. An integrative definition of coaching effectiveness and
 524 expertise. *International Journal of Sports Science and Coaching* 4: 307-23.
- 525 Cumming, S.P., F.L. Smoll, R.E. Smith and J.R. Grossbard. 2007. Is winning everything?
 526 The relative contributions of motivational climate and won-lost percentage in youth
 527 sports. *Journal of Applied Sport Psychology* 19: 322-36.
- 528 Cushion, C.J., K.M. Armour and R.L. Jones. 2003. Coach education and continuing
 529 professional development: experience and learning to coach. *Quest* 55: 215-30.
- 530 Damon, W. 2004. What is positive youth development? *The Annals of the American Academy*
 531 *of Political and Social Science* 591: 13-24.
- 532 Danish, S.J. 2002. Teaching life skills through sport. In *Paradoxes of youth and sport*, ed.
 533 M.J. Gatz, M.A. Messner and S.J. Ball-Rokeach, 49-60. New York: State University of
 534 New York Press.
- 535 Danish, S.J., A. Meyer, J. Mash, C. Howard, S. Curl, J. Brunelle, et al. 1998. *Going for the*
 536 *goal: student activity book* (2nd ed.). Virginia: Virginia Commonwealth University.
- 537 Dworkin, J.B., R. Larson and D. Hansen. 2003. Adolescents' accounts of growth experiences
 538 in youth activities. *Journal of Youth and Adolescence* 32: 17-26.

- 539 Eccles, J.S. and B.L. Barber. 1999. Student council, volunteering, basketball, or marching
 540 band: what kind of extracurricular involvement matters? *Journal of Adolescent Research*
 541 14: 10-43.
- 542 Ewing, M.E. and V. Seefeldt. 2002. Patterns of participation in American agency-sponsored
 543 youth sports. In *Children and youth in sport: A biopsychosocial perspective*, ed. F.L.
 544 Smoll and R.E. Smith, 39-56. Dubuque: Kendall/Hunt.
- 545 Fraser-Thomas, J.L., J. Cote and J. Deakin. 2005. Youth sport programs: An avenue to foster
 546 positive youth development. *Physical Education & Sport Pedagogy*: 10, 19-40.
- 547 Gagne, M., R.M. Ryan and K. Bargmann. 2003. Autonomy support and need satisfaction in
 548 the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology* 15: 372-
 549 90.
- 550 Gilbert, W., S. Nater, M. Siwik and R. Gallimore. 2010. The pyramid of teaching success in
 551 sport: Lessons from applied science and effective coaches. *Journal of Sport Psychology in*
 552 *Action* 1: 1-9.
- 553 Gould, D. and S. Carson. 2008. Life skills development through sport: Current status and
 554 future directions. *International Review of Sport and Exercise Psychology* 1: 58-78.
- 555 Gould, D., K. Collins, L. Lauer and Y. Chung. 2007. Coaching life skills through football: A
 556 study of award winning high school coaches. *Journal of Applied Sport Psychology* 19: 16-
 557 37.
- 558 Hansen, D.M., R.W. Larson and J.B. Dworkin. 2003. What adolescents learn in organised
 559 youth activities: A survey of self-reported developmental experiences. *Journal of*
 560 *Research on Adolescence* 13: 25-55.
- 561 Hellison, D. 2003. *Teaching responsibility through physical activity* (2nd ed.). Champaign:
 562 Human Kinetics.

- 563 Hu, L., and B.M. Bentler. 1999. Cutoff criteria for fit indexes in covariance structure
564 analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A*
565 *Multidisciplinary Journal* 6: 1-55.
- 566 Jellicic, H., D.L. Bobek, E. Phelps, R.M. Lerner and J.V. Lerner. 2007. Using positive youth
567 development to predict contribution and risk behaviours in early adolescence: findings
568 form the first two waves of the 4-H study of positive youth development. *International*
569 *Journal of Behavioural Development* 31: 263-73.
- 570 Jones, R.L., and M. Wallace. 2005. Another bad day at the training ground: Coping with
571 ambiguity in the coaching context. *Sport, Education and Society* 10: 119-34.
- 572 Jowett, S., and N. Ntoumanis. 2004. The coach-athlete relationship questionnaire
573 (CART-Q): Development and initial validation. *Scandinavian Journal of Medicine*
574 *& Science in Sports* 14: 245-57.
- 575 Jowett, S., and V. Chaundy. 2004. An investigation into the impact of coach leadership and
576 coach-athlete relationship on group cohesion. *Group Dynamics: Theory, Research and*
577 *Practice* 8: 302-11.
- 578 Lafreniere, M.-A., S. Jowett, R.J. Vallerand, and N. Carboneau. 2011. Passion for coaching
579 and the quality of the coach-athlete relationship: The mediating role of coaching
580 behaviors. *Psychology of Sport and Exercise* 12: 144-52.
- 581 Larson, R.W. 2000. Toward a psychology of positive youth development. *American*
582 *Psychologist* 55: 170-83.
- 583 Lerner, R.M., J.B. Almerigi, C. Theokas, and J.V. Lerner. 2005. Positive youth development:
584 A view of the issues. *Journal of Early Adolescence* 25: 10-16.
- 585 Lerner, R.M., J.V. Lerner, J.B. Almerigi, C. Theokas, E. Phelps, S. Gestsdottir, et al. 2005.
586 Positive youth development, participation in community youth development programs,

- 587 and community contributions of fifth-grade adolescence. Findings from the first wave of
 588 the 4-H study of positive youth development. *Journal of Early Adolescence* 25: 17-71.
- 589 Luthans, F. and B.J. Avolio. 2003. Authentic leadership development. In *Positive*
 590 *organizational scholarship*, ed. K.S. Cameron, J.E. Dutton and R. E. Quinn, 241-58. San
 591 Francisco, CA: Berrett-Koelher.
- 592 MacDonald, D.J., J. Côté and J. Deakin. 2010. The impact of informal coach training on the
 593 personal development of youth sport athletes. *International Journal of Sports Science and*
 594 *Coaching* 5: 363-372.
- 595 MacDonald, D.J., J. Deakin, M. Eys, and J. Côté. 2009. Psychometric properties of the Youth
 596 Experience Survey with young athletes. *Paper presented at the Canadian Society for*
 597 *Psychomotor Learning and Sport Psychology, Toronto, ON.*
- 598 Markland, D. 2007. The golden rule is that there are no golden rules: A commentary on Paul
 599 Barrett's recommendations for reporting model fit in structural equation modeling.
 600 *Personality and Individual Differences* 42: 851-58.
- 601 Park, N. 2004. Character strengths and positive youth development. *The Annals of the*
 602 *American Academy of Political and Social Science* 591: 40-54.
- 603 Park, N., and C. Peterson. 2003. Virtues and organizations. In *Positive organizational*
 604 *scholarship*, ed. K.S. Cameron, J.E. Dutton and R. E. Quinn, 33-47. San Francisco, CA:
 605 Berrett-Koelher.
- 606 Peterson, C. 2004. Preface (to the positive youth development issue). *The Annals of the*
 607 *American Academy of Political and Social Science* 591: 6-12.
- 608 Petitpas, A.J., J.L. Van Raalte, A.E. Cornelius and J. Presbrey. 2004. A life skills
 609 development program for high school student athletes. *The Journal of Primary Prevention*
 610 24, 325-34.

- 611 Roth, J.L. and J. Brooks-Gunn. 2003. What exactly is a youth development program?
612 Answers from research and practice. *Applied Developmental Science* 7: 94-111.
- 613 Rowold, J. 2006. Transformational and transactional leadership in martial arts. *Journal of*
614 *Applied Sport Psychology* 18: 312-25.
- 615 Smoll, F.L. and R.E. Smith. 2010. Conducting psychologically-oriented coach training
616 programs: A social-cognitive approach. In *Applied sport psychology: personal growth to*
617 *peak performance* (6th ed.), ed. J.M. Williams, 392-415. Boston, MA: McGraw Hill
618 Publishers.
- 619 Smoll, F.L., R.E. Smith, N.P. Barnett and J.J. Everett. 2003. Enhancement of children's self-
620 esteem through social support training for youth sport coaches. *Journal of Applied*
621 *Psychology* 78: 602-10.
- 622 Tabachnick, B.G. and L.S. Fidell. 2001. *Using multivariate statistics* (4th ed.). Needham
623 Height: Allyn & Bacon.
- 624 Vallee, C.N. and G.A. Bloom. 2005. Building a successful university program: key and
625 common elements of expert coaches. *Journal of Applied Sport Psychology* 17: 179-96.
- 626 Vargas-Tonsing, T.M. 2007. Coaches preferences for continuing coaching education.
627 *International Journal of Sports Science and Coaching* 2: 25-35.
- 628 Vella, S.A., L.G. Oades and T.P. Crowe. 2011. The application of coach leadership models to
629 coaching practice: Current state and future directions. *International Journal of Sports*
630 *Science & Coaching* 5: 425-34.
- 631 Vella, S.A., L.G. Oades and T.P. Crowe. 2011. The role of the coach in facilitating positive
632 youth development: moving from theory to practice. *Journal of Applied Sport Psychology*
633 23: 33-48.

- 634 Vella, S.A., L.G. Oades and T.P. Crowe. In press. Validation of the Differentiated
635 Transformational Leadership Inventory as a measure of coach leadership in youth soccer.
636 *The Sport Psychologist*.
- 637 Weiss, M.R. 2008. 'Field of Dreams': sport as a context for youth development. *Research*
638 *Quarterly for Exercise and Sport* 79: 434-49.
- 639 Wooden, J.R. and S. Jamison. 2004. *My personal best: Life lessons from an All-American*
640 *journey*. New York, NY: McGraw-Hill.
- 641
- 642

Table 1

Untransformed means, standard deviations and Cronbach Alpha coefficients for each subscale of the DTLI-YS, CART-Q, and YES-S.

	M	SD	α
DTLI	88.55	14.31	.93
Individual Consideration	16.52	3.03	.75
Inspirational Motivation	16.65	2.76	.72
Intellectual Stimulation	11.17	2.64	.74
Fostering Acceptance of Group Goals	12.09	2.17	.70
Appropriate Role Model	15.37	3.59	.84
Contingent Reward	16.74	3.13	.81
CART-Q	60.56	14.19	.95
YES-S	112.72	12.61	.86
Personal and Social Skills	43.60	6.24	.81
Cognitive Skills	9.31	3.64	.82
Goal Setting	11.13	2.67	.73
Initiative	13.92	2.04	.71
Negative Experiences	15.24	5.50	.84

648 Table 2
 649 *Pearson correlation coefficients between the subscale and total scores of the DTLI, CART-Q,*
 650 *YES-S, and team success.*

	Personal & social skills	Cognitive skills	Goal setting	Initiative	Negative Experiences	YES-S Total
Individual consideration	.25**	.03	.12**	.22**	-.21**	.29**
Inspirational motivation	.22**	.07	.14**	.20**	-.21**	.28**
Intellectual stimulation	.31**	.14**	.15**	.20**	-.08	.30**
Contingent reward	.19**	.01	.12*	.21**	-.20**	.24**
Fostering group goals	.23**	.06	.11*	.13**	-.10*	.22**
Appropriate role model	.27**	.15**	.17**	.17**	-.14**	.30**
DTLI-YS Total	.30**	.10*	.17**	.23**	-.19**	.33**
Coach-Athlete relationship	.34**	.06	.17**	.28**	-.25**	.38**
Team Success	.10*	.06	.04	.06	.01	.08

651 *Note. * $p < .05$, ** $p < .01$*

652