Perceived Parental Engagement and Coach Support by Adolescents Within Organized Sports and the Association with Positive Psychological and Behavioral Outcomes

Anna Finnborg & Sandra Nyathi
Örebro Universitet

Abstract

The aim of this study was to better understand how the supportive role from coaches and engagement from parents is associated with behavioral and psychological outcomes for adolescents participating in organized sports. Behavioral adjustments were defined as youth delinquency and psychological outcomes as depressive symptoms and subjective well-being. The data used in this study were from the Youth and Sports (YeS) project, of which an analytical sample of N=421 7th graders participating in organized sports was selected. Results from a hierarchical regression analysis showed that 7.5% of parental engagement and coach support explained variance in adolescents’ subjective well-being and 3.4% explained depressive symptoms. The same pattern was not found in delinquent behavior, however, we did find an interaction effect, where coach support moderates the link between parents’ engagement and delinquency. Therefore, results suggest that adolescents participating in organized sports with engaged parents and support from their coach displayed better behavioral and psychological adjustments in adolescence.

Keywords: organized sports, adolescents, parenting, coach, psychological and behavioral outcomes
Upplevt föräldraengagemang och tränarstöd av ungdomar inom organiserad idrott och sambandet med posativa psykologiska och beteendemässiga faktorer

Anna Finnborg & Sandra Nyathi

Örebro Universitet

Sammanfattning

Syftet med denna studie var att bättre förstå hur en stödjande roll från tränare och engagemang från föräldrar är associerade med beteendemässiga och psykologiska faktorer för ungdomar som deltar i organiserad idrott. Beteendemässig faktor definierades som ungdomsbrottslighet och psykologiska faktorer som depressiva symtom och subjektivt välbefinnande. Datan som användes i denna studie var från projektet Youth and Sports (YeS), av vilket ett analytiskt urval av N=421 i årskurs 7 som deltar i organiserad idrott valdes ut. Resultatet från en hierarkisk regressionsanalys visade att 7,5 % av föräldrarnas engagemang och stöd från coachen förklarade variationer i ungdomarnas subjektiva välbefinnande och 3,4 % förklarade depressiva symtom. Samma mönster hittades inte i brottsligt beteende, men vi hittade en interaktionseffekt, där stöd från coachen modererar kopplingen mellan föräldrars engagemang och brottslighet. Därför tyder resultaten på att ungdomar som deltar i organiserad idrott med engagerade föräldrar och stöd från sin tränare har den mest fördelaktiga effekten på beteendemässiga och psykologiska anpassningar i tonåren.

Nyckelord: organiserade sportaktiviteter, tonåringar, föräldraskap, tränare, psykologiska och beteendemässiga faktorer

The Role of Parental Engagement and Coach Support in Predicting Adolescents’ Behavioral Adjustment in Organized Sports Activities

Adolescents' participation in organized sports is associated with their overall behavioral and psychological adjustment. Sports activities are part of the Swedish school curriculum and promoted in society, and it is well-established that physical activity is related to good physical and mental health (Folkhälsomyndigheten, 2018). In our society, physical activity is advocated for as well as participation in organized activities, such as sports associations. Many studies on organized sports participants (OSP) have been cross-sectional studies that focused on comparing participating youths with those who do not participate in such activities. These studies repeatedly showed that participating in organized sports is a statistically significant predictor of better mental health (Mahoney et al., 2002; Mahoney & Stattin, 2000; Torstveit et al., 2018). Torstveit et al. (2018) wrote that participation in organized sports was a predictor of more healthy life choices. For instance, those who participated in organized sports spent less time watching TV, were more physically active and consumed less unhealthy food, alcohol, and tobacco than those that did not participate in any organized sports activities. In addition, extracurricular and organized activities are positively correlated with social and behavioral adjustment, such as a decrease in youth delinquency, school dropout, and antisocial behavior (Mahoney, 2000). Structured activities after school, including sports, music, theater, and so on, also positively impacted psychological aspects of adolescents' adjustments, like lower levels of depression (Mahoney et al., 2002). Hence, research has many times shown a difference in adolescents' overall behavioral and psychological adjustment depending on whether they participate continuously in organized sports.

Focusing on the comparison of those who participate versus those who do not participate makes it challenging to draw conclusions about the importance of organized sport
by itself for positive outcomes. Longitudinal studies, like Wagnsson et al. (2013) indicate a relationship between positive adjustment outcomes among those participating in organized sports activities, but these findings might be because of pre-existing conditions, rather than actual sport participation. Pre-existing conditions that could affect the likelihood of participating in organized sports might be previous mental health and socioeconomic status (Wagnsson et al., 2013; Özdemir & Stattin, 2012). Therefore, the change in participation behaviors in adolescents could offer more convincing support and was examined by Özdemir and Stattin (2012). Their longitudinal study showed that adolescents who stopped participating in organized sports, showed higher levels of depressive symptoms, a decrease in self-esteem, and an increase in delinquency and alcohol intake compared to adolescents who continued or started participating in organized sports (Özdemir & Stattin, 2012). Hence, that participating in organized sports is associated with positive behavioral and psychological adjustment for adolescents is well established. However, these findings do not shed light on factors that promote positive adjustment outcomes among adolescents who participate in organized sports activities. This understanding requires focusing on within-group variations among the active adolescents and analysis of potential factors in relation to the sports context.

Adolescence is a period in life where youth are developing as a person and are likely influenced by various factors in one's developmental context and the interaction between the factors. Researchers have shown that an engaged parent and coach has a significant effect on self-esteem and motivation within an elite sport setting (O’Rourke et al., 2014). The same researchers also saw a significant difference between the effect of the coach and the parents, where the parents have the more crucial role (O’Rourke et al., 2014). When addressing and studying human development, it may be beneficial to consider how it might be influenced by mutual and complex interactions (i.e., proximal processes) which organized sports could be a great setting for. Within the organized sports context children and youths are offered a
structural and regular place to develop over time and interact with adults and peers. According to Bronfenbrenner's Ecological Theory, these reciprocations are part of the proximal processes, essential to human development (Rosa & Tudge, 2013). Parents and coaches are two factors that may have a key role in motivating, facilitating, and supporting youths’ engagement in organized sports activities. For adolescents, the interaction with the coach and parents within organized sports could have a significant impact on the experience of the sports and enjoyment for the participating youth (Averill & Power, 1995; Elliott & Drummond, 2015). Therefore, these two authoritative roles could be predictors for the developmental, psychological, and behavioral adjustments of the youth, in line with Bronfenbrenner's Ecological Theory (Berk, 2013).

**Parents’ Engagement in Youth Sports**

Parenting style and parental engagement play an essential role in adolescents’ psychological and behavioral adjustment. Parenting researchers have many times addressed and pointed out the positive effects of an authoritative parenting style. For example, Fletcher and Shaw (2000) have shown that adolescents who perceive their parents to have a warm and authoritative parenting style are more likely to take part in extracurricular and community-based activities, indicating better integration and social adjustment. Moreover, parents who were invested and involved in their children's sports- and extracurricular activities played a more important role in those who stayed in their organized activities, than when a parent was only a role model and practised their sports activities (Qunito Romani, 2020). In addition, Qunito Romani (2020) specified parental engagement as a key factor that had a greater impact on adolescents’ continuation with sports, than parents’ potential impact as role models. Studies focusing on prospective elite athletes showed a significant association between high parental engagement in elite sport context and higher self-esteem, lower anxiety, and higher autonomy regulation (O’Rourke et al., 2014). A qualitative interview
study conducted by Elliott and Drummond (2015) shed light on that the way a parent debriefed their youth after the game, had a great impact on how the youth experienced their parents’ involvement, and that the nature of the debriefing could affect their experience of the game and sport participation on a whole. A parent's critical comments to a child that's already feeling down due to their performance after a game amplified the negative feeling in the child while getting positive feedback after a loss created a feeling of being supported (Elliot & Drummond, 2015). To summarize, the current evidence suggests that the level and characteristics of parental engagement in sports activities of the youth can play a role in adolescents’ continued participation in sports and overall experience of sports as well as their psychosocial development and mental health.

Both parents and coaches may have an important role in how a child or adolescent experiences and enjoys their sport participation. Researchers have identified a curvilinear relationship between the involvement of a parent and the child's enjoyment and motivation of their sport (Averill & Power, 1995). This curvilinear relationship showed how too much involvement of parents can create a conflict for the child regarding the relationship with their coach and parents within the sports environment. This is also presented by Power and Woolger (1994) when examining the motivation and experience of parents' involvement with their children on a swim team, however, their sample was quite small with only 49 families. Yet this creates an interesting stepstone for further research within the scope of sport psychology and motivates us to widen our understanding of the role and interacting relationship between the coach and parents of an OSP.

**The Importance of the Relationship to the Coach**

Adolescents who perceive their coach as someone who made an important positive difference in their life (so-called mentor) showed better abilities to manage high school and academic success, compared with youth having any other types of natural mentors or none at
all (Christensen et al., 2021). Christensen et al. (2021) also reflect that the sport itself was a predictor of good academic outcomes, but that the coach was an influential part in the mental adjustments of the students. A longitudinal study (Lemelin et al., 2022), examined whether parental and coach autonomy support had an interaction effect on athletes' well-being. Findings showed that, rather than interactive, the positive effects of parental support and coach autonomy support were additive. That is, both parents and coaches may play an important role on their own. Even when parental support is low, the coach’s support may have a significant effect on athletes' subjective well-being and basic psychological needs (Lemelin et al., 2022). Attachment style and the relationship between athletes and their coaches have been shown by Davis and Jowett (2014) to have a significant impact on how young athletes report their level of subjective well-being. In their study, they show that secure attachment and close relationships are possible predictors of positive effects on psychological well-being. The interacting factors of the youth’s relationship with their coach may be affected by the way the parent interacts with their child within sports settings and to what level the parent is involved in their sport (Averill & Power, 1995). In some cases, the involvement of the parents seemed to even undermine the coach’s relationship with the sporting youth when too high (Averill & Power, 1995). Thus, the coach plays an influential role in the adolescents’ behavioral and psychological adjustments during childhood and could be interacting with parental engagement.

**Limitations to earlier research and purpose of the present study**

In previous research, there are some limitations in this area, due to who has been studied and where the comparison has been done. Most of the focus has been on comparing participants in organized sports with those who do not participate, and studies with adolescents participating in organized sports examined their relationship to their coach focused on elite athletes. Lemelin et al.’s (2022) study, for example, addresses the effects of
parental and coach autonomy support on academic outcomes among elite athletes similar to most other studies in the field of psychology. On the other hand, very limited evidence exists regarding the role of parental engagement and coach support on the psychological and behavioral outcomes of regular organized sport participants (OSP). The studies conducted in Scandinavia do tend to include non-professional sports participants. However, as pointed out, they tend also to focus mainly on comparing OSP to non-OSP and the beneficial outcomes in relation to participation versus non-participation. Longitudinal studies have done a great job of addressing the processes happening with those who participate in organized sports (Lemelin, 2022; Wagnsson et al., 2013), and those who dropped out or changed their pattern of participation over time (Özdemir & Stattin, 2012). Overall, we see an opportunity to add to the knowledge by closely examining two potentially important factors that may contribute to positive psychological and behavioral outcomes. The main goal of this study was to examine if parental engagement and the relationship with the coaches could be associated with behavioral and psychological adjustments of adolescents who participate in organized sports activities. Behavioral and psychological adjustments were defined in this study as youth delinquency, subjective well-being, and depressive symptoms. We aimed to address what is missing in current research – a within-group analysis. Thus, we examined the factors that could be associated with the behavioral and psychological adjustment outcomes in adolescents that participate in organized sports activities, rather than comparing them with those who are not participating.

In this study, we first examined whether the adolescents in organized sports that experience high parental engagement report higher levels of subjective well-being, lower levels of depression, and less delinquent behaviors, compared to those experiencing lower levels of support and engagement. Second, we examined whether adolescents who experience a good relationship with their coach report higher levels of subjective well-being, lower
levels of depression, and less delinquent behaviors, compared to those experiencing lower levels of support and engagement. Further, we also examined if adolescents who experience a high level of parental engagement combined with a good relationship with a coach report higher level of subjective well-being, lower levels on depression and delinquent behaviors, than those who does not experience the same combination of support and engagement.

Method

Participants

The data used in this current study were from the Youth and Sports (YeS) project, which is a three-year longitudinal study with the overall aim of understanding how children and early adolescents who are involved, or not, in organized leisure activities (e.g., sports), develop over time. The data were collected from public-sector schools in a medium-sized city in central Sweden. The schools were selected from different neighborhoods to match the sociodemographic characteristics of the city.

The sample of the YeS project was 675 students in grade 7 that participated in the first data collection sequence in 2015. The analytic sample for the current thesis is the 62.4% (N = 421) students who responded that they were participating in organized sports (and did not have their parents as their coach) of whom 39% were girls and 61% boys (M = 14.06, SD = 0.33). About one-third (29.9%) of the students responded that they themselves, one or both of their parents were born outside a Nordic country (Sweden, Denmark, Finland, or Norway) and 6.9% did not respond to these questions. 79.4% of the students responded that they perceive their family’s economic situation to be equal to or better than their classmates, 8.8% did not respond to this question.

Measures

Supportive Coach Relations
To examine the level of perceived support we used a four-item measure that assessed the perceived relationship to and support from the coach. The response scale was in five levels (1 = Not at all true, 5 = Very true). The questions asked were: “Treats me fairly”, “Tells me I did a good job when I played well”, “Shows me how I can do things better” and “Helps me develop my skills”. Cronbach’s alpha was .75.

**Parents’ Engagement in Youths’ Sports**

Participants were asked about their parents' engagement in their sports activities and a measure that contains four different questions, three of them using a five graded scale for answers (1 = Never, 5 = My parents are the coach) and the last one is using a four graded scale (1 = Never, 4 = Always). The first three questions are: “How often do your parents come and watch you practicing?”, “How often do your parents come and watch your match/games?” and “How often do your parents talk to your coach about your performance?”. The fourth question is: “Do your parents tell their friends and relatives about your involvement in sports?”. Cronbach’s alpha was .64.

**Youth Delinquent Behaviors**

The questions about youth delinquent behaviors asked in this study were originally developed for the IDA study by Magnusson et al. (1975) and later updated by Kerr and Stattin (2000). There are 13 questions about youth delinquent behaviors and the participants graded their answers in five different levels (1 = No it has not happened, 5 = More than 10 times). Two examples of questions are “Have you taken things from a store, stand, or shop without paying – during the last 6 months?” and “Have you taken money from home that didn’t belong to you - during the last 6 months?”. Cronbach's alpha was .74.

**Subjective well-being**

The classic scale by Diener (1985) was used to assess subjective well-being among adolescents. The response scale of the original measure was ranging from 1 to 7. In the
current study the response scale was reduced to 1 to 5, (1 = Strongly disagree, 5 = Strongly agree) to make it easily understandable following the practice of earlier research using this measure with young children. Amongst the scale item you can find questions such as “In most ways my life is close to my ideal.”, “I am satisfied with my life” or “So far I have gotten the important things I want in life”. Cronbach’s alpha was .78.

**Depressive symptoms**

A 16-item version of the Center for Epidemiological Studies Depression Scale for Children (CES-DC) was used in the study. In the present study’s version, the positively worded items were not included because they tend to load on a separate factor, and do not add to the psychometric quality of the measure in Swedish samples. The items were rated on a 4-point response scale ranging from “1 = Not at all to 4 = Often”. Example items were “I was bothered by things that usually don’t bother me”, “I felt down and unhappy (this week)”, “Felt like things I did before didn’t work out right” and “I didn’t sleep as well as I usually sleep (this week)”. Cronbach’s was alpha .92.

**Procedure**

Guardians to adolescents in grade 7 of the selected schools received a letter by post with information and description of the project. They were asked to reply via a pre-paid envelope if they don't want their dependent child to be a part of the study. Data collection from the participants was done during two regular class hours (about 90 minutes) and was overseen by trained research assistants. The project was thoroughly described and presented, and clarification about the nature of research ethics was made (that it is voluntary, confidential and that they could quit at any point and withdraw their participation). The research protocol was reviewed and approved by the ethical authority (DNR: 2015/330).

**Statistical analyses**

**Missing data analysis**
The greater part of our analytic sample had valid values on all items, that is, 80% of the participants had responded to all questions. Missing data ranged from 0-8.8% in the different variables, 98.1% of the cases with missing values had two or less missing information at the same time. The remaining 1.9% of the cases with missing information, had three or more variables missing at the same time. We compared the cases with and without missing information and found significant differences in subjective well-being, parents’ engagement, and coach support. Missing values were estimated by using a regression-based missing data estimation technique (IBM Corporation, 2021), which can produce a relatively unbiased estimate of the missing values compared to other data treatments, such as deletion or mean imputation. The result showed that the differences between the means, standard deviations, and correlations before and after missing data replacement were only observed in the second decimal points, suggesting that the key statistical estimates were not influenced by the missing data replacement procedure.

**Data analysis**

To examine the effect of the predictor variables parental engagement and coaches support on the behavioral and psychological adjustment of adolescents we used a hierarchical regression analysis in SPSS for each of our three outcome variables: depressive symptoms, subjective well-being (SWB), and delinquency. Control variables in our analyses were the chosen demographic variables (age, gender, immigrant background, and perceived family income) and were included in the first step of the hierarchical regression model. For step two we used our two computed scale scores: parental engagement and coach support, as predictor variables. Furthermore, to address the aim of this study, we used the PROCESS macro 4.0 (Hayes, 2017) in SPSS to test a moderation model and examine if the level of coach support moderated the effect of parental engagement. We inspected the interaction effect between parental engagement and coach support.
Results

Three hierarchical regression models were fitted to examine whether parental engagement and coach support could be associated with behavioral and psychological adjustment of youth in organized sports activities. In step one for all the regression models we used the variables age, gender, perceived family income, and immigrant background as control variables that we wanted to keep constant.

Table 1

*Means (M), standard deviations (SD), and range of values for the study variables (N = 421)*.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>14.06</td>
<td>.33</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Gender</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Perceived family income</td>
<td>3.23</td>
<td>.82</td>
<td>.85</td>
<td>5.22</td>
</tr>
<tr>
<td>Parents’ engagement</td>
<td>2.72</td>
<td>.64</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Coach support</td>
<td>4.65</td>
<td>.48</td>
<td>2.25</td>
<td>5.17</td>
</tr>
<tr>
<td>Delinquency</td>
<td>1.09</td>
<td>.19</td>
<td>.98</td>
<td>3.08</td>
</tr>
<tr>
<td>Subjective well-being</td>
<td>3.73</td>
<td>.74</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Depressive symptoms</td>
<td>1.72</td>
<td>.55</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Gender is coded 0 = Female, 1 = Male. Immigrant background is coded 0 = Swedish background, 1 = Immigrant-mixed background.

In the first hierarchical regression model, delinquency was used as the outcome variable (see Table 2). The result showed that the control variables (e.g. age, gender,
immigrant background and perceived family income) did not explain a significant amount of variations in adolescents’ delinquent behaviors, $R^2 = .003, F(4, 416) = .36, p = .84$. Similarly, the variables in the second step (i.e., parents’ engagement and coach support) did not contribute to the explained variations in adolescents’ delinquency, $\Delta R^2 = .01, \Delta F(2, 414) = 2.05, p = .13$. Consistently, neither parents’ engagement, $\beta = -.09, p = .10$, nor coach support, $\beta = -.04, p = .37$, had significant unique effect on delinquent behaviors.

Table 2

The results from the hierarchical regression model predicting delinquent behaviors.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.05</td>
<td>.04</td>
</tr>
<tr>
<td>Gender</td>
<td>-.01</td>
<td>-.02</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>.00</td>
<td>-.01</td>
</tr>
<tr>
<td>Perceived family income</td>
<td>.02</td>
<td>-.01</td>
</tr>
<tr>
<td>Parents’ engagement</td>
<td>-</td>
<td>-.09</td>
</tr>
<tr>
<td>Coach support</td>
<td>-</td>
<td>-.04</td>
</tr>
</tbody>
</table>

$$
\begin{align*}
\text{Model } R^2 & = .003 & \quad & R^2 \text{ change} & = .01 \\
\end{align*}
$$

Note: None of the regression coefficients or $R^2$ estimates were statistically significant.

Subsequently, in the second hierarchical regression model, subjective well-being (SWB) was used as the outcome variable (see Table 3). The result showed that the control variables (e.g. age, gender, immigrant background and perceived family income) can explain a significant amount of variations in adolescents’ SWB, $R^2 = .083, F(4, 416) = 9.47, p < .001$. 


The variables in the second step (i.e., parents’ engagement and coach support) also contribute to the explained variation in adolescents’ SWB, $\Delta R^2 = .075$, $\Delta F(2, 414) = 18.44$, $p < .001$. Both parents’ engagement, $\beta = .24$, $p < .001$, and coach support, $\beta = .13$, $p = .006$, had significant unique effects on adolescents’ SWB. Overall, parents’ engagement in their adolescents’ sports and the perceived coach support, explain the variance in SWB with 16% together with the demographic control variables. Parental engagement and coach support predict 7.5% of the variance in the youth’s subjective well-being.

Table 3

The results from the hierarchical regression model predicting subjective well-being.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.11***</td>
<td>-.07</td>
</tr>
<tr>
<td>Gender</td>
<td>.19***</td>
<td>.21***</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>-.004</td>
<td>.03</td>
</tr>
<tr>
<td>Perceived family income</td>
<td>.17***</td>
<td>.13***</td>
</tr>
<tr>
<td>Parents’ engagement</td>
<td>-</td>
<td>.24***</td>
</tr>
<tr>
<td>Coach support</td>
<td>-</td>
<td>.13***</td>
</tr>
<tr>
<td>Model $R^2$</td>
<td>.083***</td>
<td>.158***</td>
</tr>
</tbody>
</table>

$R^2$ change                -                        .075***

* $p < .05$, ** $p < .01$, *** $p < .001$

In the third hierarchical regression model, we used depressive symptoms as the outcome variable (see Table 4). The results showed that the control variables can explain a significant amount of variations in adolescents’ depressive symptoms, $R^2 = .10$, $F(4, 416) =$
11.54, \( p < .001 \). The variables in the second step (i.e., parents' engagement and coach support) also contribute to the explained variation in adolescents’ depressive symptoms, \( \Delta R^2 = .034, \Delta F(2, 414) = 8.03, p < .001 \). Both parents' engagement, \( \beta = -.10, p = .046 \), and coach support, \( \beta = -.15, p = .002 \), had significant unique effects on adolescents’ depressive symptoms. Altogether, the age, gender, perceived family income, and immigrant background together with the level of parental engagement and the coach’s support explain the variance in depressive symptoms with 13.4%, and of that, the parental engagement and coach support accounts for the variance in depressive symptoms with 3.4%.

**Table 4**

*The results from the hierarchical regression model predicting depressive symptoms.*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.60</td>
<td>.04</td>
</tr>
<tr>
<td>Gender</td>
<td>-.30***</td>
<td>-.31***</td>
</tr>
<tr>
<td>Immigrant background</td>
<td>-.03</td>
<td>-.04</td>
</tr>
<tr>
<td>Perceived family income</td>
<td>-.06</td>
<td>-.04</td>
</tr>
<tr>
<td>Parents’ engagement</td>
<td>-</td>
<td>-.10*</td>
</tr>
<tr>
<td>Coach support</td>
<td>-</td>
<td>-.15**</td>
</tr>
<tr>
<td>Model ( R^2 )</td>
<td>.10***</td>
<td>.134***</td>
</tr>
<tr>
<td>( R^2 ) change</td>
<td>-</td>
<td>.034***</td>
</tr>
</tbody>
</table>

*\( p < .05 \), **\( p < .01 \), ***\( p < .001 \)
Does Parents’ Engagement and Coach Support Interact in Predicting Adolescents’ Adjustment?

Further the hypothesized moderated model was tested using multiple regression analysis via PROCESS macro 4.0 (Hayes, 2017). Our hypothesis proposed that parents’ engagement is moderated by the level of coach support, that is, the higher the perceived support from the coach, the more would the parental engagement be associated with the dependent variables: delinquency, subjective well-being, and depressive symptoms. The results showed that no statistically significant moderating effect was found for depressive symptoms, $B = .10, t = 1.30, p = .19$, and subjective well-being $B = -.01, t = -.10, p = .92$.

**Figure 1**

*Interaction between parental engagement and coach support in predicting adolescents’ delinquent behaviors.*

As seen in the results from the first hierarchical regression model (Table 2), the effect of the predictor variables on delinquency were not significant. However, the results from the
moderated regression analysis showed that there was a statistically significant interaction effect between parental engagement and coaches’ supportive behaviors in predicting adolescents’ delinquency, $B = -0.07, t = -2.19, p = .03, 95\% \text{ CI: } -.12, -.01$. Overall, this interaction effect itself explained an additional 1% of variations in delinquent behaviors of sports engaged adolescents, $\Delta R^2 = .01, \Delta F(1, 413) = 4.78, p = .03$. The test of simple slope effects showed that when adolescents’ who were active in organized sports enjoy a high level of support from their coach, parental engagement negatively predicted delinquent behaviors, $B = .06, p = .007, 95\% \text{ CI: } -.10, -.02$ (see Figure 1). In contrast, parents’ engagement did not significantly predict delinquent behaviors among adolescents when the coach support was low, $B = .00, p = .87, 95\% \text{ CI: } -.04, .04$.

**Discussion**

The purpose of this study was to examine the role of perceived parental engagement and coaches' support on behavioral and psychological adjustment of adolescents who are engaged in organized sports. It has been demonstrated that adolescents who participate in organized sports display more positive adjustment outcomes than their peers who do not participate in such activities (Mahoney & Stattin, 2000; Torstveit, 2018; Özdemir & Stattin, 2012). However, there are also variations in the adjustment outcomes of adolescents who participate in organized sports activities even though pre-existing conditions could affect who might participate in sports. For example, better adjusted youth could be on average more likely to participate in sports activities (Wagnsson et al., 2013). Despite these potentially pre-existing differences, there are still substantial variations among the adolescents who participate in sports, and it is important to understand the factors that may explain these variations. Consistently, we expected that adolescents who perceive high parental engagement and coaches’ support would display even stronger positive adjustment outcomes in line with
other studies (Christensen et al., 2021; Fletcher & Shaw, 2000), but in this current study, we focused only within the group of OSP.

In this study, our findings suggest that parental engagement together with the coach support statistically significantly was associated with the variations in adolescents in subjective well-being. The results in this current study did not show an interaction effect between parental engagement and coach support in explaining SWB. In other words, the effect parental engagement and coach support have on subjective well-being is additive, rather than interactive, which is in line with the results of Lemelin et al., (2022), who focused on elite athletes. These findings support our hypothesis that parental engagement and coach support could promote SWB of adolescents who participate in organized sports activities. These findings are also consistent with previous literature which has shown that the relationship with the coach has a significant impact on elite athletes' subjective well-being (Davis & Jowett, 2014). The items of the SWB measures addresses how adolescents view their life and how they rate their satisfaction in life in general. One possible explanation for the finding may be that the support and feedback from the coach and engaged parents within the sport context, contributes to how the adolescents experience themselves as important, seen, more satisfied, and at ease which leads them to rate higher on SWB. Previous literature suggests that the nature of feedback from parents after a game may strengthen the youth’s own experience of the game (Elliott & Drummond, 2015), which may also possibly strengthen the child's psychological well-being. In summary, our findings suggest that the positive effects of organized sport could partly be enhanced by how engaged a parent is in their youth’s sport participation and how high the coach support is.

Regarding depressive symptoms, our findings suggest that parental engagement together with the coach support statistically significantly was associated with the variations in adolescents’ depressive symptoms. That means, perceived parental engagement and support
from the coach may explain the level of depression in a youth participating in organized sport. Our results are consistent with other studies proposing that engaged parents and coaches have a noteworthy impact on adolescents’ self-esteem and motivation (O'Rourke et al, 2014). Low self-esteem could be a symptom of depression (Vårdguiden, 2021; Nguyen et al., 2015). Therefore, the parent and the coach may be two influential figures in the adolescents' life by helping them build self-esteem as a protector of depressive symptoms. Researchers have shed light on a link between extracurricular activity (like organized sports) and a decrease in depressive symptoms (Mahoney et al., 2002), which our findings are supporting. When assessing depressive symptoms, participants were asked among others how often during the past week they have felt lonely, felt like others did not like them and felt down or unhappy. Subjective well-being and depressive symptoms are both psychological constructs in this study. Our findings in the outcomes of them both, support the hypothesis of the importance of parental engagement and coach support for youth psychological adjustments. In our view, the most compelling explanation for the present set of findings is that the two constructs are distinctly connected, that is, individuals who rate high on SWB are less likely to rate high on depressive symptoms. Together with the control variables in this study (gender, age, immigrant background, and perceived family income), parental engagement and coach support could explain 13.4% of the variance in the depressive outcome. One interpretation of this could be that there are numerous factors involved in the development of depressive symptoms, which is in line with Bronfenbrenner's Ecological Theory that several elements are important in human development and well-being. Furthermore, it can be argued from these findings that organized sports provide a structural and reciprocal context for adolescents to develop within, even though many factors are involved in human development (Berk, 2013). With many factors involved, that may also explain why the findings of statistically significant results are quite small explanatory percentages in variance. Engaged parents and supportive
coaches are according to our findings impactful parts of this contextual positive setting and may help decrease depressive symptoms in adolescents participating in organized sports.

In this study, we examined possible interaction and moderating effects of coach support and parents’ engagement and did find an interaction effect between coaches’ support and parental engagement in explaining delinquent behaviors. Specifically, this finding suggests that the level of coaches’ support had a moderating effect on the link between parental engagement and delinquent behaviors. That is, when an OSP is enjoying both high coach support and high parental engagement, they are less likely than other OSP to participate in delinquent behavior. The finding is interesting because the results of the first hierarchical regression model (see Table 2) did not reveal any significant effects of parents’ engagement or coaches’ support on youths' delinquency. However, this interaction should be interpreted with caution. It is hard to generalize from this moderation effect since we had a skewed distribution in the variable for delinquent behavior. Our sample had mostly low scores ($M = 1.09, SD = .19$) on the delinquency measure where the items were rated on a scale from 1 = No it has not happened, 5 = More than 10 times. The participants were already engaged in organized sports and this involvement could likely be linked to lower levels of behavioral problems (Jaf et al., 2020; Özdemir & Stattin, 2012). The interaction effect was also small, although statistically significant. Despite all these issues, the interaction finding may suggest a trend, that when both the coach support and parental engagement is high, adolescents participating in sports could benefit from exposure to these two positive environmental factors. Through our results, we perceived a link between high coach support and parental engagement with positive behavioral outcomes for the OSP. This could be added to previous literature where researchers have identified parental engagement as a key factor in staying in sports (Qunito Romani, 2020). To continue participating and participating in organized sports and/or structural activities is linked to a decrease in delinquent behavior (Mahoney, 2000;
Nevertheless, the findings in this current study about the interaction effect need replication in other data sets and samples to ensure the robustness of this effect and be able to establish more conclusions.

Limitations and strengths

There are at least three possible limitations concerning the results of this study. Firstly, this is a cross-sectional study, which usually brings limitations on its own since we cannot capture changes over time like a longitudinal design would. With a cross-sectional design, we could however in a satisfactory way address our research questions in this study and therefore chose to limit our design. Another limitation in this study was the skewness of data in the outcome variables, this was especially evident in the delinquent behavior measure, which could have affected the results of the analysis. The delinquent behavior was also expected to present a skewed distribution since the study focused on a group that exhibited lower levels of delinquent behavioral problems from the start (Jaf et al., 2020; Özdemir & Stattin, 2012). The third limitation of our study is the limited number of adjustment outcomes. The psychological and behavioral adjustment could be assessed in many ways and be specified by numerous variables. In our study, we chose to only focus on three of them, subjective well-being, depressive symptoms, and delinquent behaviors. Beyond the chosen outcomes in this study, one could for instance use anger, alcohol consumption, skipping classes, or loitering as potential outcomes of interest in addition to delinquency, and self-esteem could be an interesting addition to a comprehensive conceptualization of the psychological and behavior adjustment.

One of the strengths of the current study was the focus within the group of adolescents participating in organized sports activities. This gave us a unique aspect compared to other studies, which most often compared those who participate with those who do not participate. In the current study, we focused more specifically on parental engagement
and coach support and if they was associated with the adolescent's outcomes within OSP. Another important strength is that this study focused on both behavioral and psychological adjustment. Even though other outcome variables could be added, this is an advantage because most other studies have focused on either the psychological perspective or the behavioral. This gave a broader perspective in comparing outcomes in both perspectives within the same study. The sample of the present study also differs in some ways from most of the international studies we have found. In many studies within sports psychology (Averill & Power, 1995; Elliot & Drummond, 2015; Davis & Jowett, 2014; O’Rourke et al., 2014), the sample was often recruited via elite athletics or a pro-track sports setting, which are potentially distinct from the ordinary sports settings in communities. The current study used data which were collected from youth who were actively participating in sports activities in settings that is widely attended by adolescents in Sweden.

**Conclusion**

In the present study, we examined whether parents’ engagement and coach support in the context of organized sports activities explained behavioral and psychological adjustments for adolescents. Our overall findings showed that the role of parental engagement and coach support is important for the adolescents’ psychological and behavioral adjustment. Such as when adolescents experience their parents being engaged in their organized sports activities and perceive their coach to be supportive, they rate higher on subjective well-being and lower on depressive symptoms. In the delinquent behavior, we could not draw similar conclusions. However, it was with the delinquency outcome we could detect a small interaction effect when the coach support and parents’ engagement were both rated high. This was an interaction effect where the coach support moderates the parental engagement’s effect on their adolescent’s delinquent behavior. With this study, we can see indications of which elements of participation in organized sports contribute to positive psychological and behavioral
development. Based on the knowledge we have acquired in this study, we can suggest that participation itself is not the only factor that contributes to the positive adjustment outcomes among youth, but the quality of the inter-personal relations and support in sports context matters. The level of parental engagement is important for adolescents in organized sports and the relationship with their coach is important as well. It is not only the physical activities within the sports context that contributes to positive outcomes for adolescents. For significantly better outcomes, adolescents need a supportive and engaged adult figures, such as parents and coaches. For practical implications, sports associations could provide more support and information to the coaches and parents about the importance of their engagement. In the sports context, their engagement will contribute to the psychological well-being and behavioral adjustment of the youth. However, it should be noted that stronger practical implications required more robust methods such as longitudinal design which could give a deeper insight into the potential role of parents and coaches in promoting adjustment of youth in organized sports context.
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