

Abstract

1
2 **Purpose:** Youth sport has the potential to be one of the healthiest and most beneficial structures
3 that children can partake in. Participation in a combination of adult-led and peer-led sport
4 structures appears to lead to favorable outcomes such as enhanced physical fitness as well as
5 social and emotional development (Fraser-Thomas, Côté, & Deakin, 2005). The purpose of the
6 present study was to examine the subjective and objective experiences of 27 recreational male
7 soccer players between the ages of 10 and 12 ($M = 10.11$, $SD = 0.32$) across adult-led and peer-
8 led sport structures. **Method:** Direct video observation and experience rating scales were utilized
9 in an effort to shed light on the impact of adult-led and peer-led sport structures on the same
10 athletes. **Results:** In the adult-led structures, youth experienced high levels of effort and
11 concentration, and spent more time being physically or mentally engaged. Meanwhile, youth
12 experienced high rates of prosocial behaviors, sport-related communication, as well as general
13 communication during the peer-led structures. **Conclusions:** The results of the present study
14 indicate that rather than one approach being superior to the other, both adult- and peer-led sport
15 structures have the potential to yield unique benefits towards children's positive experiences in
16 sport.

17 *Keywords:* positive development, prosocial behavior, group dynamics, child interactions
18

19 **Examining Young Recreational Male Soccer Players' Experiences in Adult- and Peer-led**
20 **Structures**

21 To engage youth, researchers and practitioners have been steadfast in attempting to
22 identify and create environments that promote physical and psychological well-being. Sport is
23 often suggested as a potential contributor to positive youth experiences, as during sport, youth
24 experience enjoyment, effort, and concentration toward challenging goals (Larson, 2000). For
25 these reasons, sport represents a fertile ground for examining the developmental experiences of
26 youth. The general purpose of the present study was to examine the subjective and objective
27 experiences of the same athletes across adult- and peer-led sport structures.

28 Although there is a litany of research on issues that influence the quality of children's
29 experiences in sport such as participation motivation (Allen, 2003), peer acceptance (Daniels &
30 Leaper, 2006), and coach behavior (Erickson, Côté, Hollenstein, & Deakin, 2011), the structures
31 of youth sport (i.e., adult- versus peer-led) have largely been ignored. This may explain why the
32 majority of interventions aimed at improving youth sport programs have focused on altering the
33 behaviors of adult (e.g., instruction, reinforcement) rather than changing the setting in which
34 youth sport occurs, which may be more effective for improving interpersonal interactions and
35 experiences. In fact, it has recently been asserted that research exploring how positive youth
36 development is facilitated through sport ought to be conducted (Taylor & Bruner, 2012).
37 Furthermore, the researchers noted that, to date, few studies have been conducted regarding the
38 specific factors (e.g., enjoyment, effort, and concentration) that affect developmental experiences
39 in youth sport. The need to investigate the influence of sport structures (adult- versus peer-led) is
40 further underscored by the fact that youth sport consists of a wide range of structures that might

41 lead to different experiences and outcomes. For example, youth might engage in playful games,
42 practices, or competitions, each of which might facilitate different developmental results.

43 One way to distinguish the different structures of youth sport is by considering the
44 amount of instructional control and input that adults have over the structure (Côté, Erickson, &
45 Abernethy, 2013). At one end of the continuum are structures in which adults have total
46 authority in a completely controlled environment, such as an adult-led practice. At the other end
47 of the continuum are structures in which there is no formal instruction from adults and youth are
48 left to govern themselves in a peer-led setting. After a review of literature, Côté et al. (2013)
49 noted that youth sport structures that include both adult- and peer-led settings may be most
50 favorable, particularly towards children's motivation for continued participation. A combination
51 of adult- and peer-led structures may also nurture talent by fostering different aspects of an
52 athlete's performance. Specifically, informal structures led by children may encourage creativity
53 on the part of the participants as they adapt the rules and roles of the game. More formal
54 structures led by adults may facilitate discipline as children must meet the demands of the
55 structure. Thus, diverse participation in a wide range of sport structures may expose youth to
56 quality early learning experiences that are critical for fostering motivation to continue
57 participation in later years. In spite of these potential benefits, little is known regarding the
58 potential differences in how youth experience adult-led and peer-led sport structures.

59 **Adult-led and Peer-led Structures**

60 While youth sport advocates might endorse an adult- or peer-led sport structure, objective
61 comparisons of the benefits of these unique sport structures are scarce. One study that attempted
62 to shed some light on this issue examined four high quality adult-led and peer-led programs
63 outside of sport (Larson, Walker, & Pearce, 2005). In each program, 10 to 13 youth and one to

64 two adult supervisors were interviewed and observed. In the adult-led programs, the adults
65 effectively facilitated the development of specific skills and talents, while the peer-led programs
66 led to high degrees of ownership and empowerment for youth, and also enhanced leadership and
67 planning skills. In the end, the researchers concluded that both approaches offer unique benefits
68 and may be useful in creating optimal youth programs. Although this study provided insight
69 about the potential benefits of adult- and peer-led sport structures, the researchers were only able
70 to examine four programs using qualitative interviews with a subset of the participants.
71 Therefore, further research is required to make more generalizable conclusions about the
72 influence of adult- and peer-led sport structures.

73 In one of the few studies to examine adult- and peer-led structures, Chalip and colleagues
74 (Chalip, Csikszentmihalyi, Kleiber, & Larson, 1984) monitored the experiences of 75
75 adolescents during their daily lives, part of which included organized sport, informal sport, and
76 physical education classes. Data was collected using the experience sampling methodology,
77 which aims to provide systematic reports of individuals' subjective experiences at various time
78 points (Csikszentmihalyi & Larson, 1987). Compared to other daily structures, participants
79 reported more positive moods during informal sport and gym. Participants also reported higher
80 levels of challenge during all sport structures compared to non-sport structures. In regards to the
81 specific differences between the three sport structures, youth reported feeling more at stake
82 during organized sport structures. Although this study provided some interesting preliminary
83 findings regarding the subjective experiences of youth operating in different sport structures, it
84 failed to provide an in depth description of the objective behaviors to which youth are exposed in
85 such sport structures. Hence, a study isolating the subjective and objective experiences of the

86 same youth sport athletes in distinct sport structures could substantially add to the existing
87 knowledge base.

88 **Subjective Experiences**

89 It has been argued that in order for youth structures to lead to positive experiences,
90 children must find meaning in the structures which they find most intrinsically motivating
91 (Csikszentmihalyi & Larson, 1984). Hence, structures that are highly enjoyable, require high
92 levels of concentration, and challenge the participants to exert high levels of effort have the
93 potential to result in optimal developmental experiences. It has been reported that youth report
94 their lowest levels of intrinsic motivation in places that are most structured and led by adults
95 (Csikszentmihalyi & Larson, 1984). In contrast, they report their highest levels of intrinsic
96 motivation in the places that are furthest from any adult control (Csikszentmihalyi & Larson,
97 1984). Along with these general findings, youth's subjective experiences also appear to differ
98 across the various domains that make up their daily lives.

99 When children are in school, they report high levels of concentration, but intrinsic
100 motivation is extremely low (Csikszentmihalyi & Larson, 1984). During leisure structures such
101 as socializing with friends and watching television, youth feel alert and report high levels of
102 affect and intrinsic motivation, but relatively low levels of concentration and challenge. Hence,
103 similar to schoolwork, leisure structures appear to offer youth some positive experiences, but fail
104 to provide adequate opportunities to experience high levels of enjoyment, concentration and
105 effort in concordance with one another.

106 One setting that simultaneously offers high levels of enjoyment, concentration, and effort
107 is sport (Larson, 2000). By combining the discipline and concentration required in school with
108 the intrinsic enjoyment that is experienced during leisure time with friends, sport distinguishes

109 itself from many other structures by offering a rare blend of intrinsic motivation and concerted
110 effort that is virtually unmatched in all other aspects of children's daily lives (Larson). Although
111 these findings highlight the potential of sport to be used as a vehicle towards promoting positive
112 developmental experiences, the reality is that sport can be experienced in many distinct contexts
113 and more research is required on the impact of different sport structures (e.g., adult- and peer-led
114 sport) on the subjective experiences of youth sport participants.

115 **Objective Experiences**

116 Although the behaviors of coaches and parents have garnered considerable attention from
117 researchers (e.g., Côté, 1999, Turnnidge, Côté, Hollenstein, & Deakin, 2013), the behaviors of
118 peers in sport remains a relatively unexplored topic. This is unfortunate because peer
119 interactions play a major role in the developmental experiences of youth, especially in late
120 childhood and adolescence (Brustad, Babkes, & Smith 2001). In sport, positive and negative
121 peer interactions can have a major impact on children's physical competence (Weiss & Duncan,
122 1992), global self-esteem (Daniels & Leaper, 2006), and motivation towards physical activity
123 (Allen, 2003).

124 Recently, researchers have begun to study the impact of social interactions across various
125 sport structures. For example, Bruner and colleagues examined the influence of athletes'
126 perceived social identity within a sports club on prosocial and antisocial interactions with
127 teammates and competitors. Results indicated that athletes' within-group affect (i.e., positive
128 feelings accompanying team membership) at the onset of a season positively predicted prosocial
129 behaviors with teammates at the end of the season (Bruner, Boardley, & Côté, 2014). Therefore,
130 an initial positive outlook towards certain sport structures may foster future positive experiences
131 among youth. Group dynamics and social influence might also play a critical role in the

132 developmental experiences of youth in individual sports, as even in sports where athletes
133 compete on their own, feedback and resources from peers during training nurtures
134 interdependence and cooperation (Evans, Eys, & Bruner, 2012). Together, this new line of
135 research highlights the importance of examining group dynamics and peer interactions across
136 various sport structures.

137 In one of the rare studies to examine athlete experiences using an observational approach,
138 Flett, Gould, and Lauer (2012) investigated coach and athlete interactions in a sample of
139 underserved boys and girls participating in various baseball structures. The researchers found
140 that programs in the under-14 age group were rated as having significantly less safety, support,
141 and engagement compared to the under-18 and under-12 age groups. Gender differences also
142 emerged as girls softball provided a more positive sporting experience compared to boys
143 baseball. Finally, no differences emerged between the game and practice structures. This
144 innovative study was one of the first to use field observations to directly examine the
145 developmental experiences of young athletes. However, this study examined the experiences of
146 different athletes varying in age and gender. A study examining the experiences of the same
147 athletes participating in various sport structures may add to this growing body of literature. In
148 the few other studies that have examined athlete behaviors in sport, factors such as prosocial and
149 antisocial behavior (e.g., Kavussanu, Seal, & Phillips, 2006), sport-related communication (e.g.,
150 Hanin, 1992), and the amount of time spent being engaged during the activity (e.g., McKenzie,
151 1986) have been identified as important determinants of athletes' experiences in sport.

152 **Direct Behavioral Observation**

153 The interactions and behaviors that occur in youth sport structures play a major role in
154 how participants experience sport. However, specific research efforts designed to evaluate and

155 understand the behaviors that make up these interactions are lacking. To address this gap in the
156 literature, Brustad and colleagues (2001) suggested that researchers should draw from a variety
157 of methods and approaches including direct observation to build on existing knowledge.
158 Unfortunately, the coding systems developed for studies examining athlete behaviors have been
159 designed to focus only on a specific set of behaviors such as prosocial and antisocial behavior
160 (Kavussanu et al., 2006), athlete communication (Hanin, 1992), and levels of engagement
161 (McKenzie, 1986). As a result, there is currently no observational system capable of capturing a
162 broad spectrum of athlete behaviors with the sport psychology literature.

163 In developmental psychology, however, there has been a long tradition of observing and
164 coding youth behaviors in naturalistic and experimental play settings. For example, Dodge
165 (1983) developed a comprehensive event recording coding system designed to capture the breadth
166 of peer interactions in youth play groups. The observational system was composed of 18 main
167 categories spanning five overarching themes: (a) solitary structures, (b) interactive play, (c)
168 verbalizations, (d) physical contact with peers, and (e) interactions with group leader. A similar
169 coding system was developed by Rubin (2001) to assess youth free play behaviors in early and
170 middle childhood. Rubin's Play Observation Scale includes five cognitive play categories: (a)
171 functional (e.g., repetitive motor movements with or without objects), (b) constructive (e.g.,
172 manipulating objects to construct or create something), (c) exploration (e.g., reading), (d)
173 dramatic (e.g., taking on a role of someone else), (e) games-with-rules (e.g., basketball) that
174 youth can engage in alone, parallel to other children, or in a group. The main difference between
175 these coding systems and the ones from the sport psychology literature is that the former cover a
176 wide range of behaviors that may occur in both structured and unstructured youth activities. A

177 synthesis of these coding systems with the coding systems from the sport psychology literature
178 will likely facilitate our understanding of athlete behaviors in various sport structures.

179 **Purpose**

180 The purpose of the present study was to determine whether the subjective (i.e.,
181 enjoyment, concentration, and effort) and objective (i.e., prosocial and antisocial behavior, sport-
182 related and non-sport-related communication, and levels of engagement) experiences of the same
183 athletes varied in adult- and peer-led sport structures. Specific hypothesis are as follows: (a) In
184 light of the fact that intrinsic motivation and affect appear to be relatively higher in unstructured
185 structures compared to those structured and led by adults (Csikszentmihalyi & Larson, 1984), it
186 is hypothesized that enjoyment will be significantly higher in the peer-led structures compared to
187 the adult-led structures; (b) During adult-led sport structures, youth focus their energy on
188 performing well and winning (Coakley, 1983), which requires high levels of concentration and
189 effort. Therefore, it is hypothesized that both effort and concentration will be significantly
190 higher in the adult-led structures compared to the peer-led structures; (c) Youth report
191 significantly higher rates of negative influences and negative group dynamics in unstructured
192 leisure structures compared to adult supervised structures such as organized sport (Larson et al.,
193 2006). At the same time, overt displays of affection and prosocial behavior are also diminished
194 in highly structured structures led by adults (Coakley, 1983). Thus, we expect significantly
195 higher rates of both prosocial and antisocial behaviors in the peer-led structures compared to the
196 adult-led structures; (d) Structured sport structures are effective at engaging youth over an
197 extended period of time (Larson, 2000). Thus, we expect levels of engagement to be
198 significantly higher in the adult-led structures compared to the peer-led structures; (e) Finally, it
199 is hypothesized that the flexibility and choice that youth are afforded in peer-led structures will

200 enhance self-expression and lead to significantly higher rates of both sport-related and general
201 communication among athletes (Coakley, 1983).

202 **Methods**

203 **Participants**

204 Participants were recruited from four recreational male soccer teams in Ontario, Canada.
205 All players ($N = 27$) were between the ages of 10 and 12 ($M = 10.11$, $SD = 0.32$) and played in
206 one youth soccer league. One female instructor also played a prominent role in the study by
207 leading the adult-led structures and supervising the peer-led structures. The instructor was a
208 former varsity women's soccer player at a Canadian university and had accumulated more than
209 18 years of playing experience over the course of her career. Furthermore, she had coached
210 youth soccer with a similar age group as the study sample for over 9 years.

211 **Procedure**

212 Ethical clearance was obtained and all athletes, along with the athletes' parents, were
213 required to provide written assent/consent prior to participation in the study. Each participating
214 team was videotaped using two wide-angle video cameras, which were set up on opposite sides
215 of the soccer field in order to capture all athlete behaviors and interactions. Athletes'
216 verbalizations were captured using microphones attached to the video cameras and a mobile
217 parabolic microphone. Each team was videotaped participating in three soccer structures, for a
218 total of 12 videotaped sessions. For each team, the first videotaped session was used to (a)
219 acclimatize the athletes to the presence of the research team and being videotaped, and (b) act as
220 a pilot video to test and refine the observational coding system. The two subsequent videotaped
221 sessions were used for data analysis and consisted of one adult-led and one peer-led soccer
222 structure. All sessions lasted approximately 45 minutes, typical of a youth sport practice. To

223 counterbalance the effect of which structure the athletes experienced first, two teams were
224 videotaped participating in the adult-led structure first, while the other two teams were
225 videotaped participating in the peer-led structure first.

226 To limit variance within the videotaped sessions, one instructor led all sessions. The
227 instructor followed the same outline for each structure. Each adult-led structure began with a
228 quick introduction by the instructor in regards to the goals and formal rules of the structure.
229 Following, the instructor led each team in 15 minutes of ball control drills. After a short water
230 break, each team participated in 15 minutes of passing drills typical of a youth soccer practice.
231 After a second water break, the instructor concluded the adult-led structure with a controlled
232 scrimmage that included frequent stoppages and debriefings intended to provide feedback and
233 instruction to the players. Similarly, the instructor initiated each peer-led structure by outlining
234 regulations of the structure. Each team was then supplied with all of the equipment that was
235 utilized in the adult-led structures (e.g., balls, cones). The players were instructed to stay within
236 the field of play in order to ensure they were observable to the cameras. Apart from these
237 general guidelines, the participants were given complete freedom during the peer-led structure.
238 To monitor safety, the instructor remained on the sidelines; however, the instructor was
239 explicitly told to refrain from intervening or influencing the structure in any other manner.

240 Along with the video observation, the athletes were administered an experience sampling
241 rating scale designed to assess their subjective experiences twice during each structure. The
242 rating scales were administered during two water breaks, approximately 15 minutes and 30
243 minutes into each structure. The scores were averaged for each individual to obtain a more
244 consistent measure of the athletes' experiences during each structure.

245 **Measures**

246 **Subjective experiences measure.** Athletes' experiences were assessed using a three-
247 item rating scale designed to capture their levels of enjoyment (1 item; "How much do you enjoy
248 what you are doing?"), effort (1 item; "How hard are you working?"), and concentration (1 item;
249 "How hard are you concentrating?") during each sport structure. The rating scale was adapted
250 from the experience sampling methodology (Csikszentmihalyi & Larson, 1987). The three
251 questions were derived from previous research using a similar methodology with youth
252 participants (Vandell et al., 2005). The athletes responded to each question using a scale ranging
253 from 1 (*not at all*) to 9 (*very*). A short three-item scale was utilized in order to maximize
254 efficiency during each 45 minute session. By using this quick measure, the research team was
255 able to efficiently collect data during the structure with minimal disruption.

256 **Objective experiences measure.** Athlete behaviors were coded using a new,
257 contextually based coding system designed to capture the breadth of athlete behaviors across
258 various sport structures. The development of this coding system was in accordance with the
259 process recommended for creating a valid and reliable observational instrument for use in sport
260 (Brewer & Jones, 2002). Brewer and Jones emphasized that the behavioral categories of existing
261 coding systems must be carefully reviewed and adapted to the context of use in order minimize
262 the frequency of "uncodable" behaviors and to capture a complete and accurate record of the
263 event under study. The newly developed Revised Athlete Behavior Coding System (R-ABCS) is
264 intended for observation of youth soccer players across varying adult- and peer-led sport
265 structures. The R-ABCS provides an exhaustive list of mutually exclusive behavioral categories.
266 A description of how the behavioral categories were selected for inclusion is discussed below.

267 **Athlete behavior categories.** The process of developing the R-ABCS began with the
268 modification of the Athlete Behavior Coding System (ABCS; Vierimaa, 2013). The ABCS

269 utilizes continuous time sampled recording to measure both the frequency and duration of athlete
270 behaviors. The ABCS is comprised of eight behavioral content categories: (a) prosocial
271 communication, (b) technical/tactical communication, (c) directive communication, (d) general
272 communication, (e) engaged, (f) non-cooperative/disruptive, (g) antisocial communication, and
273 (h) uncodable. In light of the fact that the ABCS was designed to provide an in-depth description
274 of the behavioral profiles of competitive female volleyball players, amendments were required in
275 order to adapt the ABCS to the context of male youth soccer players participating in adult- and
276 peer-led sport structures. First, pilot videos of adult- and peer-led youth soccer practices were
277 reviewed to ensure no behaviors were given undue prominence and no behaviors were
278 mistakenly absent from the original coding system. Moreover, an extensive review of previous
279 coding systems examining participant interactions in sport (Hanin, 1992; Kavussanu et al., 2006;
280 McKenzie, 1986) and non-sport (Dodge, 1983; Rubin, 2001) guided the modification process.
281 The behavior content categories of the adapted coding system included (a) prosocial (e.g., giving
282 teammate high-five), (b) antisocial (e.g., pushing opponent), (c) sport-related communication
283 (e.g., giving instructions to teammates), (d) general communication (e.g., talking about a movie),
284 (e) engaged (e.g., participating in a drill), (f) disengaged (e.g., sitting on sideline), and (g)
285 uncodable (e.g., athlete is out of sight). A summary of the behavioral categories is presented in
286 Table 1, and an in-depth description of the complete coding manual is available from the
287 corresponding author upon request.

288 *Establishing context validity.* Members of a panel consisting of a varsity university
289 soccer player, local youth soccer coaches, and a research team including a professor, post-
290 doctoral fellow, and three graduate students with extensive experience in the field of systematic
291 observation were consulted independently and asked to provide feedback regarding the

292 appropriateness of the behavioral categories contained in the R-ABCS. Upon debriefing, each
293 individual approved the specificity of the behavioral categories.

294 ***Coder training and reliability.*** The primary researcher and an independent coder
295 engaged in an extensive process to establish the reliability of the R-ABCS. Following an
296 extensive review of the coding manual, the coders viewed multiple pilot videos while informally
297 discussing how they would code particular behaviors using the R-ABCS. Next, to establish
298 intercoder reliability, each coder coded multiple 10-minute video clips of the pilot footage until
299 an acceptable standard for frequency agreement was achieved. Frequency agreement refers to
300 the total number of times that all coders activate the same behavioral codes within a three second
301 window. The coders were required to meet a minimum agreement of 75% on frequency on two
302 consecutive video segments before being allowed to code videos intended for data analysis
303 (Erickson et al., 2011). The coders successfully met the criteria, averaging 94.5% agreement on
304 frequency between the two consecutive segments.

305 **Data Analysis**

306 To compare the subjective experiences of each athlete between the adult-led and peer-led
307 sport structures, dependent *t* tests were utilized to examine whether the two groups scored
308 significantly differently on enjoyment, effort, and concentration between the two structures.
309 Additionally, effect sizes were calculated to indicate the respective strengths of the observed
310 relationships. Effect sizes of 0.20, 0.50, and 0.80 were considered small, medium and large
311 effects, respectively (Cohen, 1988).

312 The second analysis examined the objective experiences of the same athletes across
313 adult-led and peer-led sport structures. The Observer XT Software was utilized to continuously
314 code the behaviors of each athlete in both adult and peer-led sport structures (Noldus, Trienes,

315 Hendriksen, Jansen, & Jansen, 2000). Frequencies of prosocial behavior, antisocial behavior,
316 sport-related communication, and general communication were summed independently to
317 provide a total score for each behavioral category. For engagement and disengagement, the
318 amount of time that each individual spent in each category was summed for both structures. To
319 account for the slight differences in structure durations, all of the scores were standardized by
320 dividing the total frequency or duration of each behavioral category by the number of minutes
321 the structure lasted and multiplying by 60 to get a rate per hour. Finally, dependent *t* tests were
322 employed to determine if the frequency of each behavior displayed per hour by each individual
323 differed between the adult-led and peer-led structures. Likewise, dependent *t* tests were also
324 used to determine if the amount of time that each individual spent being engaged and disengaged
325 per hour differed between the two structures. Moreover, effect sizes were calculated to indicate
326 the strength of each relationship.

327 **Results**

328 **Preliminary Analysis**

329 There were no univariate outliers found in the *z*-score distribution of the subjective
330 experiences scores ($z < \pm 3.29$; Tabachnick, Fidell, & Osterlind, 2001). Furthermore, the
331 distribution of subjective experiences difference scores between the adult-led and peer-led
332 structures was normal ($z < \pm 2.58$; Tabachnick et al., 2001). As for the objective experiences
333 data, eight video segments consisting of approximately 21,600 seconds of data were coded for
334 each individual athlete. With a sample of 27 athletes, there were approximately 40.5 hours of
335 video coded. Each segment included an average of 1599.63 behavioral events ($SD =$
336 380.76), or a total of 12,797 behavioral events. Of these 12,797 total events, there were only
337 four incidences of disengaged behavior displayed by the athletes across both adult- and peer-led

338 structures. All four of these disengaged occurrences involved athletes leaving the playing field
339 and sitting on the sidelines. In light of these extremely rare occurrences, the disengaged variable
340 was deemed irrelevant and removed from any subsequent analysis. One univariate outlier was
341 found in each of the adult-led antisocial behavior and adult-led general communication variables
342 ($z > \pm 3.29, p < .001$; Tabachnick et al., 2001). Moreover, the distribution of the objective
343 experiences difference scores was abnormal ($z > \pm 2.58, p < .01$; Tabachnick et al., 2001) for
344 each of these variables. To remedy the data, square root transformations were carried out on the
345 raw scores of the adult-led antisocial behavior and adult-led general communication variables.
346 The transformations proved successful, as no univariate outliers were found and the data for both
347 variables were normally distributed following the transformations. It should be noted that for
348 ease of interpretation, the raw mean and standard deviation scores will be displayed herein for all
349 of the variables; however, the transformed scores were utilized when conducting the statistical
350 analysis.

351 **Main Analysis**

352 **Subjective experiences across sport structure.** In general, participants rated both sport
353 structures very highly in terms of enjoyment, effort, and concentration. The results from the
354 dependent *t* tests revealed that, on average, participants did not experience a statistically
355 significant difference in enjoyment between the adult- ($M = 8.05, SD = 1.10$) and peer-led
356 structures ($M = 7.66, SD = 1.02$), $t(25) = 1.59, p > .05, d = 0.37$. For effort, there was a
357 statistically significant increase in the adult-led ($M = 8.11, SD = 1.05$) compared to the peer-led
358 structures ($M = 7.63, SD = 1.07$), $t(25) = 2.12, p < .05, d = 0.45$. Likewise, the participants
359 reported statistically significant higher rates of concentration in the adult-led ($M = 7.98, SD =$
360 0.91) as opposed to the peer-led structures ($M = 7.60, SD = 0.96$), $t(25) = 2.30, p < .05, d = 0.41$.

384 our hypotheses included higher rates of prosocial behavior, sport-related communication, and
385 general communication in the peer-led structures, as well as higher levels of physical and mental
386 engagement in the adult-led structures. Finally, our hypothesis regarding the frequency of
387 antisocial behaviors was not supported, as youth displayed significantly higher rates of antisocial
388 behaviors in the adult-led structures. Collectively, the analysis indicates that rather than one
389 approach being superior to the other, both adult-led and peer-led sport structures have the
390 potential to yield unique benefits towards children's positive experiences in sport. Additionally,
391 scores in each sport structure were quite high relative to their respective scales, indicating an
392 overall positive experience across all structures.

393 **Benefits of Adult-led Sport Structures**

394 One of the most interesting findings from the present study was the lack of differences in
395 enjoyment between the adult-led and peer-led sport structures. In fact, each structure was rated
396 very highly, suggesting that youth perceive adult- and peer-led sport structures to be equally
397 enjoyable. The high levels of enjoyment experienced in the adult-led structures are somewhat
398 surprising considering the fact that youth have reported higher levels of intrinsic motivation in
399 unstructured peer-led structures compared to those under adult control (Csikszentmihalyi &
400 Larson, 1984). One possible explanation for these results could be that sport is a rare exception
401 to this trend. That is, unlike highly structured adult-led structures from other domains such as
402 school, sport might yield high levels of effort and concentration in addition to enjoyment.

403 Another possible explanation for the high levels of enjoyment in the adult-led structures
404 concerns the role of the instructor. Adult influence has been identified as a major determinant of
405 children's positive and negative experiences in sport (Fraser-Thomas, Côté, & Deakin, 2005).
406 Recently, Gould and colleagues reported that a caring sporting environment was associated with

407 positive developmental outcomes among a group of 239 urban youth from underserved
408 communities (Gould, Flett, & Lauer, 2012). The instructor's extended experience in the sport of
409 soccer, both as a player and as a coach, may have allowed her to create a positive sport
410 atmosphere that was deemed highly enjoyable by the athletes. Indeed, research has shown that
411 having a competent, caring adult leader in youth sport can contribute considerably towards
412 participants experiencing high levels of enjoyment (MacDonald, Côté, Eys, & Deakin, 2011).

413 Another benefit of the adult-led structures was that effort, concentration, and engagement
414 were higher compared to the peer-led structures. These findings are consistent with previous
415 research highlighting the ability of adult-led structures to provide youth with an organized
416 environment that encourages engagement and concerted effort over an extended period of time
417 (Csikszentmihalyi & Larson, 1984). Similarly, it has been shown that youth report experiencing
418 higher levels of challenge while they are participating in organized sport structures compared to
419 baseline levels from other daily activities (Chalip et al., 1984).

420 High levels of effort, concentration, and engagement experienced by youth in the adult-
421 led structures could be the result of formal organization. Indeed, research has shown that young
422 athletes are attracted to order and clearly defined limits in sport, while being deterred by
423 unpredictability and lack of boundaries (Turnnidge et al., 2013). Thus, adult-led structures
424 which follow consistent, orderly patterns (e.g., consistent format, interactions, and discipline)
425 can be attractive to youth athletes. In the light of these findings, Smith and Smoll (1997)
426 recommended that youth sport coaches should organize sport in a way that athletes can predict
427 what they will be expected to do and can comfortably progress through drills and frequent
428 stoppages. Adult-led sport structures may be well equipped to provide these features because
429 they are typically composed of sequences of individual and collective responses to

430 predetermined adult orders (Coakley, 1983). This point is especially relevant to the present
431 study as the instructor followed a detailed outline during all of the adult-led structures.

432 **Benefits of Peer-led Sport Structures**

433 One of the most noteworthy findings from the present study is that the rates of prosocial
434 behaviors were higher in the peer-led compared to the adult-led structures. In fact, the frequency
435 of prosocial behaviors displayed per hour was nearly three times greater in the peer-led
436 structures. In stark contrast, athletes engaged in more than three times as many antisocial
437 behaviors per hour in the adult-led structures. These results are in line with Coakley's (1983)
438 assertion that visible displays of affection and prosocial behaviors are more likely to occur in
439 peer-led structures due to their informal atmosphere. One possible explanation for this finding is
440 that the flexibility and choice youth were afforded during the peer-led structures may have
441 afforded them more opportunities to engage in positive interactions with peers, rather than
442 simply following directions from an adult. Indeed, children have cited reasons such as wanting
443 to be with friends and the desire to be part of a team among their primary motives for sport
444 participation sport (Allen, 2003). Opportunities to freely interact with peers and develop
445 friendships might be more readily available in peer-led structures, contributing to the greater
446 frequency of prosocial behaviors. Moreover, athletes may have been inclined to engage in
447 positive interactions to ensure the longevity of each structure. Since the adult leader's only
448 responsibility during the peer-led structure was to monitor safety (not conflict resolution),
449 athletes had to resolve or avoid conflict themselves. By independently dealing with their issues,
450 youth quickly realize that they must interact positively to avoid skirmishes that may have
451 detrimental side effects that jeopardize the short-and long-term future of the structure (Coakley,
452 1983). Indeed, researchers have suggested that individuals will be more likely to adhere to social

476 The results of the present study illustrate that adult- and peer-led structures offer unique
477 experiences for youth. However, like any empirical study, the present work contains some
478 limitations which need to be considered. Firstly, all of the adult-led structures were led by the
479 same individual, which is atypical of most youth sport programs. Although this was purposely
480 done in order to minimize variation between the sessions, it must be acknowledged that adult-led
481 structures are in large part a product of a variety of leaders who all influence these structures
482 uniquely. Thus, the results of the present study cannot be generalized to all adult-led structures.
483 Future research may address this limitation by examining the experiences of young athletes
484 participating in sport under the direction of a diverse group of adult leaders who differ in
485 experience and teaching style. A similar limitation of the present study is that the results of the
486 peer-led structures cannot be generalized to all peer-led activities. Indeed, even in the absence of
487 an adult leader, peer-led structures may differ based on group dynamics and the characteristics of
488 the youth involved. Therefore, the results from the present study may not be an inherent
489 representation of all peer-led structures. That being said, the present study highlights the need
490 for more research examining these important issues in order to conclude more generalizable
491 findings. Another limitation is that we were only able to record and examine one adult-led
492 structure and one peer-led structure per team. Coding multiple structures for each team may
493 have helped increase the reliability of the present findings. Moreover, coding multiple structures
494 may help address the previously mentioned limitations by examining variables such as the
495 influence of varying adult leaders and youth within the same structure. It will likely take
496 multiple studies examining the experiences of youth across these diverse settings in order to
497 reach reliable conclusions. We hope that the present studies provides researchers with the
498 foundation need to begin examining these important questions.

499 To advance the present findings, youth experiences must also be examined across
500 different sports to further test the generalizability of the findings. Moreover, it is conceivable
501 that athletes participating in elite levels may have different experiences than non-elite athletes.
502 As such, investigating athlete experiences across varying competitive levels may prove to be a
503 worthwhile endeavor. Furthermore, future researchers may also want to examine female sports,
504 as well as individual sports. Finally, future studies may benefit from using longitudinal designs
505 to investigate how the subjective and objective experiences of the same athletes change over the
506 course of a sport season. This line of research would help to build on the existing knowledge
507 base regarding how youth experience sport and aid in developing sport environments that are
508 most conducive for the psychological and physical wellness of children.

509 The analysis from the present study suggests that rather than one approach being superior
510 to the other, both adult- and peer-led sport structures have the potential to yield unique benefits
511 for positive youth experiences, a finding that is consistent with the positive youth development
512 literature (Larson et al., 2005). These results may inform sport programmers about the
513 developmental quality of the experiences athletes are exposed to in various sport structures. In
514 turn, this information may be utilized to offer youth a sport experience that combines adult- and
515 peer-led structures. For example, sport programs could incorporate peer-led components into
516 already existing adult-led practices. By offering youth a mix of both adult- and peer-led sport
517 structures, sport programs may be able to appeal to a larger group of individuals. In turn, this
518 may enhance participation as well as reduce dropout across youth sport programs.

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604 Table 1.

605 *The Revised Athlete Behavior Coding System (R-ABCS)*

Behavior Category	Behavior Description
(a) Prosocial behavior	Behaviors explicitly aimed at helping or benefiting others. Can be both verbal and non-verbal: E.g., giving a teammate a high-five; "good job, bud!"
(b) Antisocial behavior	Behaviors explicitly aimed at harming or disadvantaging others. Can be both verbal and non-verbal: E.g., pushing an opponent; "you guys suck at soccer!"
(c) Sport-related communication	Any communication between two participants that is related to the sport structure: E.g., giving instruction to teammates; "pass me the ball"
(d) General Communication	Any communication between two participants that is unrelated to the sport structure: E.g., making a comment about a car that just drove by; "have you seen that movie?"
(e) Engaged	Athlete is physically or mentally engaged in the structure and not directly communicating with another participant: E.g., athlete is participating in a drill; athlete is listening to the coach's instructions between drills
(f) Disengaged	Athlete is not physically or mentally engaged in the structure and not directly communicating with another participant: E.g., athlete refuses to participate in a drill; athlete purposely goes against the coach's instructions
(g) Uncodable	Athlete is out of view for an extended period of time and no reasonable assumption can be made about his behavior: E.g., athlete leaves the field and does not return for the remainder of the practice

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