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Williams, Charlotte, Neil, Rich, Cropley, Brendan, Woodman, Tim and Roberts, Ross

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1 A systematic review of sport-based life skills programs for young people: The quality of design
2 and evaluation methods

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5 Authors: Charlotte Williams¹, Rich Neil*¹, Brendan Cropley², Tim Woodman³, Ross Roberts³.

6
7 ¹Cardiff School of Sport and Health Sciences, Cardiff Metropolitan University

8 ²School of Health, Sport and Professional Practice, University of South Wales

9 ³School of Sport, Health and Exercise Sciences, Bangor University

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12 * Corresponding Author: Contact – rneil@cardiffmet.ac.uk

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34 **Abstract**

35 Over the past two decades, researchers have reported positive life skills outcomes for young people
36 participating in sport-based life-skills programs. However, to date, there has been a lack of
37 consideration in the literature regarding the quality of the programs designed and the evaluation
38 methods adopted. Therefore, we conducted a systematic review of the life skills literature to: (a) assess
39 the quality of sport-based life skills program design and evaluation methods; and (b) identify
40 characteristics relating to the quality of sport-based life skills programs where authors had evidenced
41 life skills development *and* transfer. Using the PRISMA guidelines, we searched six databases for
42 relevant research papers and applied inclusion and exclusion criteria to the papers returned, of which 13
43 papers met the criteria. We conducted two quality assessment exercises (design and evaluation
44 methods) and found two moderate-high quality life skills programs, ten moderate quality programs, and
45 one low quality program. We present the characteristics (regarding quality) of intervention designs and
46 methods, conclude with recommendations for designing quality sport-based life skills programs, and
47 provide guidelines for researchers to evaluate sport-based life skills programs.

48 Lay Summary: Through engaging in sport-based life skills programs, young people can develop
49 transferable skills. However, the quality of these life skills programs is unclear. We assess the quality of
50 the design and evaluation methods of sport-based life skills programs, present the characteristics of
51 moderate-high and moderate quality programs, and offer recommendations for future research and
52 practice.

53 Practical Implications:

- 54 • The characteristics identified can be used to aid the development of the content, delivery and
55 evaluation methods within future sport-based life skills programs.
- 56 • The quality assessment tool (QATID) that is embedded within this paper can be used by
57 applied researchers to ensure that the design of their life skills interventions is of high quality.
- 58 • By using the QATID and the Mixed Method Appraisal Tool (MMAT) when designing and
59 evaluating sport-based life skills programs, applied researchers can validate better subsequent
60 claims of program effectiveness.

61 **A Systematic Review of Sport-based Life Skills Programs for Young People: The Quality**
62 **of Design and Evaluation Methods**

63 Sport is a context in which young people can learn to develop functional skills that
64 could be used in most aspects of life (Fraser-Thomas & Côté, 2009). These functional skills are
65 often referred to by researchers in the field of Sport Psychology as *life skills*, and can be
66 categorized as *behavioral, cognitive, interpersonal, or intrapersonal* skills (Danish, Forneris,
67 Hodge, and Heke, 2004). Over the past three decades numerous researchers have developed,
68 implemented, and evaluated programs within sport and physical activity contexts to promote
69 the development of life skills in young people (under the age of 18). Indeed, programs such as
70 Going for Goal (GOAL; Danish, 1992), Sports United to Promote Education and Research
71 (SUPER; Danish, 2002), and The First Tee (Weiss, Stuntz, Bhalla, Bolter, & Price, 2013) have
72 been used as mechanisms to evidence the positive relationship between sport participation and
73 life skills development (e.g., Bean, Kendellen, & Forneris, 2016; Papacharisis, Goudas,
74 Danish, & Theodorakis, 2005; Weiss et al., 2013). As a result of taking part in these life skills
75 programs, researchers have proposed that young people can develop skills such as goal setting,
76 emotional regulation, and communication.

77 Whilst young people appear to glean life skills via participation in sport, the pathway
78 via which they do so remains unclear. To this end, Mahoney, Eccles, and Larson (2004)
79 proposed that the structure and delivery of youth-based activities can determine whether young
80 people experience positive or negative outcomes. Specifically, Mahoney (2000) noted that
81 intentionally structured programs with clear program outcomes tend to lead to more favourable
82 developmental results than non-structured programs. Advancing this perspective, researchers
83 introduced the notion of implicit and explicit life skills development and transfer (Bean,
84 Kramers, Forneris, & Camiré, 2018; Turnnidge, Côté, & Hancock, 2014). Specifically, an
85 implicit approach denotes the conditions coaches put in place to facilitate life skills
86 development and transfer, without those delivering the program having to discuss life skills

87 development or transfer (Turnnidge et al., 2014). In comparison, an explicit approach consists
88 of those delivering life skills programs drawing upon specific pedagogical strategies to
89 facilitate life skills development and transfer.

90 Researchers have claimed ‘effectiveness’ of these life skills programs through
91 illustrating that participants developed and/or transferred (to a different context from sport) life
92 skills. Each of these programs varies in relation to the design and evaluation methods adopted
93 by researchers. Due to the variations across programs, it is often difficult to synthesize
94 knowledge and, thus, compare life skills programs (Hodge, Danish, & Martin, 2012). In the
95 broader field of positive youth development, researchers have attempted to synthesise
96 knowledge through publishing an array of critical reviews. These include: a qualitative meta-
97 study of positive youth development through sport (Holt et al., 2017); a systematic review on
98 the impact of sport on the positive youth development of high performance athletes (Rigoni,
99 Beleem, & Vieira, 2017); an integrative review of sport-based youth development literature
100 (Jones, Edwards, Bocarro, Bunds, & Smith, 2017); a systematic review of life skills
101 development through sports programs serving socially vulnerable youth (Hermens, Super,
102 Verkooijen, & Koelen, 2017); a systematic review of sport-based youth development programs
103 in the United States (Whitley, Massey, Camiré, Boutet, & Borbee, 2019a); and a systematic
104 review of sport for development interventions across six cities (Whitley et al., 2019b). Each of
105 these reviews has enhanced our knowledge and understanding of positive youth development
106 within a sport context. However, an important stage within a systematic review is establishing
107 the quality of the papers included within the review and the quality of methods adopted by the
108 reviewer. In doing so, this helps to increase a reader’s level of confidence in the results
109 presented by the researchers who conducted the systematic review, and minimises risk of bias.
110 In reviewing the quality of the design of youth development programs and/or the quality of
111 evaluation methods adopted, those conducting systematic reviews can assess the strength of
112 researchers’ claims of intervention effectiveness. That is, through assessing quality we can start

113 to identify if the outcomes presented by researchers can be believed (Higgins, 2008). Whilst
114 evaluating the quality of papers within a review has been noted as an integral stage within the
115 systematic review process, few researchers in the domains of life skills development through
116 sport and positive youth development have focused their reviews entirely on assessing *quality*.
117 Rather, researchers have attempted to assess quality as a secondary aim within their review
118 (e.g., Holt et al., 2017) or have assessed the quality of papers as a means to determine which
119 papers to include/exclude within their review (e.g., Hermans et al., 2017). Indeed, only two
120 groups of authors have focused their review primarily on assessing the methodological quality
121 of youth development programs (e.g., Whitley et al., 2019a; 2019b). As such, only two of the
122 above review papers examined methodological quality in sufficient breadth and depth.

123 In 2017, both Holt and colleagues, and Hermans and colleagues attempted to assess the
124 methodological quality of the papers included within their review. To assess quality, Holt et al.
125 conducted a meta-method analysis whereby they appraised the strengths and weaknesses of the
126 methods employed by researchers. From this, Holt et al. concluded that the strengths of the
127 studies were attributable to “multiple data collection and validity techniques, which facilitated
128 the production of high-quality data” (Holt et al., 2017, p. 38). Whilst Holt et al. have attempted
129 to explore quality, the main purpose of their review was not to evaluate quality; rather, their
130 focus was on creating a model of positive youth development. Additionally, they drew
131 conclusions relating to ‘high-quality data’ without engaging in a formal analysis of ‘quality’.
132 Indeed, their conclusions are based on two aspects of methodological quality (i.e., data
133 collection methods and validation techniques, such as member checking). As such, it is
134 important for researchers to adopt explicit, validated strategies to assess a broad and
135 comprehensive range of methodological quality indicators in order to make valid claims in
136 relation to the quality of studies. It is important to note, that Holt et al. (2017) may not have
137 disclosed the specific protocols followed to evaluate quality due to publication restrictions (e.g.,
138 an 8000 word limit).

139 Hermens et al. (2017) adopted a different approach to assessing quality by evaluating
140 the ‘rigour’ of studies using the results as an inclusion criteria for their review. Specifically,
141 they utilised the TAPUPAS (Transparance, Accuracy, Purposivity, Utility, Propriety,
142 Accessibility, Specificity) framework (Pawson, Boaz, Grayson, Long, & Barnes, 2003) and
143 postulated that only papers with medium, or high rigour would be included within their review.
144 In adopting this approach, Hermens et al. made attempts to infer that the results of the papers
145 included within the review were valid. Recently, Whitley and colleagues (2019a; 2019b)
146 conducted two reviews of sport-based youth development programs and explicitly focused on
147 assessing the methodological quality of research. Specifically, Whitley et al. (2019a)
148 conducted a review of sport-based youth development programs, assessing the methodological
149 quality of evaluations of sport-based youth development programs in the USA, with the aim of
150 identifying characteristis of intervention efficacy. Their results, in relation to quality, reflected
151 “weak” and “incoherent” interventions. Due to the low quality of interventions, they were
152 unable to identify the characteristics of effective programs. Consequently, whilst researchers
153 have claimed that sport-based youth programs can enhance the development of life skills, the
154 quality of the evaluation methods used by researchers to evaluate the programs is weak. Whilst
155 Whitley and colleagues (2019a; 2019b) enhanced our understanding of quality and the
156 relationship between methodological quality and youth development program outcomes, they
157 did not consider the quality of the design of such programs. A lack of consideration for the
158 quality of program design is also evident within the broader context of the youth development
159 literature. Indeed, there has been no focus on whether the design of life skills interventions are
160 of high quality. Thus, researchers’ reports of intervention effectiveness is questionable.
161 Therefore, it is imperative to explore the quality of design and the quality of evaluations of
162 sport-based life skills programs.

163 **Purpose and Aim**

190 goals) in nature. Building on this definition, Gould and Carson (2008) proposed that life skills
191 are, “Those internal personal assets, characteristics and skills such as goal setting, emotional
192 control, self-esteem, and hard work ethic that can be facilitated or developed in sport and are
193 transferred for us in non-sport settings” (p. 60). Whilst the definitions offered by Danish,
194 Gould and associates provided a foundation for life skills research, no acknowledgement of the
195 life skills transfer process was included within their work. Consequently, we provide our own
196 definition of life skills to guide this review:

197 “[life skills] are functional skills that individuals develop and use effectively
198 in one context to manage demands (such as the home, school, sport,
199 community, workplace) and that are also used effectively in other contexts
200 beyond that in which they were learnt.”

201 **Search Strategy**

202 Prior to developing the search strategy, we consulted with the lead author’s institution
203 librarian who supported the identification of the databases listed below and the development of
204 the search terms used within this review. We employed an electronic search strategy for
205 published studies using the following databases: (i) EBSCOhost; (ii) SPORTDiscus; (iii)
206 Education Research Complete; (iv) PsycInfo; (v) PsychArticles; and (vi) Psych Source. We
207 chose these databases as they were deemed the most suitable databases for the topic and would
208 ensure that all relevant studies were detected. Keyword combinations used in the search
209 strategies included the following Boolean search terms: Life skills *OR* Life skills Development
210 *OR* Life skills Intervention *OR* Life skills Program *OR* (Positive Youth Dev* *OR* PYD) *AND*
211 Sport *OR* Physical activ*. Further, we also searched these databases for known authors in the
212 field (e.g., Danish). We also conducted a hand search of available literature to ensure that
213 eligible papers were not missed. To action this, we scanned the reference pages of all of the
214 included papers and published review papers in the field of life skills development through
215 sport (e.g., Gould & Carson, 2008; Holt et al., 2017) for further relevant research articles.

216 **Eligibility Criteria**

217 The criteria for inclusion in the systematic review were: (1) peer-reviewed journal
218 articles; (2) articles published in English between 1985 to the last search conducted in
219 November 2019; (3) young people under the age of 18 years old were reported as participants;
220 (4) sport-based life skills programs were the primary interventions reported. That is, sport
221 programs that were developed to specifically facilitate life skills development and/or transfer;
222 (5) life skills development and/or transfer was identified as the primary aim of the program;
223 and (6) life skills outcomes were assessed or described. That is, there was evidence (qualitative
224 or quantitative) of participants developing and/or transferring life skills.

225 We applied the following exclusion criteria: (1) adults over the age of 18 years old were
226 reported as participants; (2) abstracts, book chapters, conference proceedings, dissertation
227 abstracts, editorials, forewords, or review papers; (3) articles with life skills in the title, but
228 where no reference to life skills is provided in the full body of text; (4) sport-based programs
229 where the main aim was to develop outcomes such as well-being, academic improvement, or
230 drug prevention; (5) programs that solely claim implicit development of life skills; and (6) life
231 skills outcomes were not assessed or described (i.e., there was no qualitative or quantitative
232 evidence of participants of developing and/or transferring life skills).

233 **Procedure**

234 **Systematic review team.** Our review team consisted of the lead author, and the second
235 and third authors. At each stage of the process (search, screening, and data analysis), we met to
236 discuss and challenge key decisions. In total, we met four times, with the lead and second
237 author meeting a further four times.

238 **Search and reporting process.** Initial team discussions centered around the inclusion
239 of individual life skills, such as (but not limited to) ‘team work’ and ‘communication’. Due to
240 the vast array of individual life skills that there could potentially be, we (the review team)
241 decided to use the search term ‘life skills’ as an umbrella term to encapsulate all potential life

242 skills. The lead author conducted the electronic search exercise. Following this, all returned
243 articles were stored in an electronic folder in Mendeley, a reference management tool. Manual
244 search procedures were also conducted whereby the lead author searched peer-reviewed
245 journals and the reference lists of life skills review papers.

246 We followed the guidelines provided within the 27-item Preferred Reporting Items for
247 Systematic Reviews and Meta-Analyses (PRISMA) to conduct the systematic review and
248 report the findings of the review (Moher, Liberati, Tetzlaff, & Altman, 2009). In line with the
249 PRISMA guidelines, the lead author identified the studies and removed all duplicate papers.
250 Following this, the lead author screened all titles and abstracts. During the screening process,
251 discussions between the lead and second author took place, and centered on issues with one
252 particular criterion, that 'life skills are the main aim of the program'. Specifically, within some
253 papers we found it difficult to decipher the primary aim of the research. As a result of these
254 discussions, we (lead and second author) agreed to advance any ambiguous papers to the full
255 text stage. At full text stage we made the decision to remove any papers in which life skills
256 development as the primary aim could not be identified, and where it was unclear if life skills
257 outcomes were assessed or described. At this stage, the lead author applied the inclusion and
258 exclusion criteria to full texts ($n = 79$) to assess each paper's eligibility for inclusion. The lead
259 author then presented the eligibility of each of the full texts ($n = 79$) to the second and third
260 authors. Here, we discussed all papers and their eligibility for inclusion. It was at this point that
261 we reached consensus, which resulted in the inclusion of 15 papers (see Figure 1).

262 **Quality assessment.** We conducted two quality assessment exercises: (a) to assess the
263 quality of the design of each life skills program; and (b) to assess the quality of the evaluation
264 methods adopted by each research team.

265 **Design Quality.** Despite the existence of a body of research devoted to enhancing
266 program evaluation (cf. Wholey, Hatry, & Newcomer, 2010), there appears to be no formal
267 assessment tool that can be used to assess the quality of an intervention design. Therefore, we

268 used two existing quality assessment guides: The Consolidated Standards of Reporting Trials
269 (CONSORT) statement (Schulz, Altman, & Moher, 2010) and The *QualSyst* (Kmet, Lee, &
270 Cook, 2004) to develop our criteria for intervention design quality. These tools were developed
271 by researchers predominantly to assess the methodological quality of interventions. However,
272 the authors of the protocols identified the following indicators of good intervention design:
273 *theoretical underpinning* – intervention designs are informed by theory; *intervention*
274 *description* – interventions are described clearly and in depth; *duration of intervention* –
275 intervention duration is justified and appropriate for behavior change to occur; and,
276 *implementation fidelity* – the intervention is delivered as intended. These indicators have also
277 been identified as appropriate markers of intervention design quality by other authors (e.g.,
278 Davies, Walker, & Grimshaw, 2010; Jackson & Waters, 2005). We also searched the wider
279 literature base (i.e., sport & exercise psychology, health, health psychology, and education
280 journals) and found that some researchers had identified other criteria to assess intervention
281 design quality. These included: *individualization within program* – the intervention is bespoke
282 for each participant’s needs; *ongoing feedback* – each participant receives ongoing and tailored
283 feedback; *intervention piloted* – the intervention is piloted, reflected upon and, where required,
284 revised; and *intervention directed at intended outcomes (intervention focus)* – the intervention
285 is designed to improve the variables measured (Mullen, Green, & Persinger, 1985).
286 Collectively, these indicators formed the criteria for our quality assessment tool for
287 intervention designs (QATID): (a) *theoretically underpinned*; (b) *intervention description*; (c)
288 *duration of intervention*; (d) *implementation fidelity*; (e) *individualization within program*; (f)
289 *ongoing feedback*; (g) *pilot intervention*; and (h) *intervention focus*. The QATID was
290 developed specifically for use within this study, however, there is potential for the QATID to
291 be used on a wider scale to evaluate the quality of intervention designs.

292 As a review team, we reviewed existing quality assessment scoring systems and
293 calibrated scoring system according to the question, “Does the intervention adhere to the

294 *specific quality criteria?*” (Yes = 2, Partial = 1, No = 0; Kmet et al., 2004). To reduce bias, and
295 increase the reliability of the quality assessment, the lead author independently assessed each
296 paper ($n = 15$) against the quality of intervention design criteria, and the second author
297 followed the same process for all papers ($n = 15$). Mutual agreement was made between the
298 two reviewers. We recorded 93% agreement prior to discussion, and 100% post discussion.
299 Discussions here centered on determining the classification of a life skills theory (e.g.,
300 BNT/LDI, Hodge et al., 2012) and a framework or model (e.g., Positive Youth Development;
301 Petitpas, Cornelius, Van Raalte, & Jones, 2005). We assigned papers that used a life skills
302 theory to underpin the program with a score of 2 as a theory can be used to explain
303 relationships, and we assigned papers that incorporated a life skills framework or model with a
304 score of 1, as these are used to describe relationships. Once we had rated each criterion, we
305 attributed an overall score to each paper. Quartile cut-off points have been used by researchers
306 to categorize levels of quality (e.g., Robertson et al., 2018). Thus, we used the following cut-
307 off points to categorize levels of quality: overall scores from 13 to 16 were high quality, overall
308 scores of 9-12 were moderate-high quality, overall scores of 5-8 were moderate quality, and
309 overall scores of 1-4 were low quality.

310 ***Evaluation Quality.*** To assess the methods adopted by researchers to evaluate life
311 skills programs within each study, we used the *Mixed Methods Appraisal Tool* (MMAT; Pluye
312 et al., 2011). As the researchers of the included studies used a variety of evaluation methods,
313 we determined that the MMAT was the most appropriate quality assessment tool to use. The
314 MMAT was designed to evaluate the methodological quality for three domains of research: (1)
315 qualitative research; (2) quantitative research (divided into three sub-domains; descriptive,
316 randomized control, and non-randomized control); and (3) mixed-methods research. The
317 qualitative criteria outlined in the MMAT includes: appropriateness of sampling procedure;
318 appropriateness of data analysis processes; consideration of context on data collection
319 procedures; and consideration of researchers’ philosophy (i.e., ontological and epistemological

320 beliefs). The quantitative descriptive criteria consisted of: relevance of sampling strategy;
321 appropriate representation of sample; appropriateness of measures; and acceptable response
322 rate. Finally, the quantitative non-randomized criteria within the MMAT includes:
323 minimization of selection bias; appropriateness of measures; comparable groups; and
324 acceptable response rate (for specific criterion requirements see Mixed Methods Appraisal
325 Tool guidelines; Pluye et al., 2011).

326 Each quality indicator is rated on a categorical scale (yes, no, and cannot tell), and the
327 number of yes answers are added together to create an overall score. The overall score
328 (reflected as an overall percentage) was calculated by adding the total number of 'yes' items,
329 dividing this by four, and multiplying this by 100. So, if two out of four were scored as 'yes'
330 we divided two by four, which gave 0.5 and multiplied this by 100 to get the percentage of
331 50%. Therefore, scores varied from 25% (one criteria met) to 100% (all four criteria met). In
332 line with Robertson et al. (2018), we categorized papers with overall scores of 100% as high
333 quality, overall scores of 75% as moderate-high quality, overall scores of 50% as moderate
334 quality and, overall scores of 25% as low quality. When testing the reliability and efficiency of
335 MMAT, researchers have reported that the consistency of the global score between reviewers
336 (ICC) is between 0.72 and 0.94 (Pace et al., 2012). In line with the design quality assessment
337 exercise, the lead author independently assessed each paper ($n = 15$) against the MMAT, and
338 the second author followed the same process for all papers ($n = 15$). We recorded an agreement
339 score of 87% agreement prior to discussion, and 100% post-discussion. Discussions centered
340 on the ambiguity of information (e.g., there were times when we assumed information within
341 the paper). Thus, we agreed to score the paper only if the information was present.

342 **Overall Quality.** To determine the overall quality of each paper, we converted the
343 QATID scores into percentages so that they were in line with the MMAT scores. We took the
344 total number scores, divided it by 16 (the total score available) and then multiplied this by 100.
345 We then calculated the mean percentage for the two quality scores for each paper (see Table 4).

371 Jacobs & Wright, 2019). The quantitative non-randomized studies and the quantitative
372 descriptive scores were all 50%. The scores for mixed method studies were 50% (see Table 2).

373 We combined the results from both of the quality assessment exercises (see Table 2)
374 and categorized papers into the following quartiles: high, moderate-high, moderate, or low
375 quality (Robertson et al., 2018). We categorized three papers as moderate-high quality (62.5%-
376 75%), 11 papers as moderate quality (34.5%-56.5%), and one paper as low quality (28%).
377 Furthermore, in line with our working definition of life skills whereby transfer is highlighted as
378 a crucial aspect within the life skills domain, we have provided overall quality scores for the
379 papers in which life skills development *and* transfer is evidenced (see Tables 2 and 4). These
380 included the three papers identified as moderate-high quality (i.e., Bean et al., 2016; Huysmans
381 et al., 2019; Jacobs & Wright, 2019); six of the 11 papers identified as moderate quality (i.e.,
382 Goudas & Giannoudis, 2010; Hodge Kanters, Forneris, Bocarro, & Sayre-McCord, 2017; Holt
383 et al., 2013; Waldron, 2009; Weiss et al., 2013; Weiss, Bolter, & Kipp, 2016); and the one
384 paper identified as low quality (i.e., Lee, Park, Jang, & Park, 2017).

385 **Summary of Studies**

386 In this section, we provide a descriptive overview of the design and evaluation quality
387 characteristics that we obtained through the data extraction process. Split into two sections, we
388 first provide an overview of the *quality of the design of sport-based life skills programs* and
389 then we offer insight into the *quality of evaluation of sport-based life skills programs*. Each
390 section is split further into sub-sections that illustrate the characteristics of either the design or
391 evaluation of life skills programs. Within each sub-section, we first provide an overview for all
392 of the papers that met the inclusion criteria ($n = 15$). Then, and in coherence with our working
393 definition that highlights transfer as an important factor within the life skills domain, we
394 illustrate the design and evaluation quality characteristics in relation to *only* the three
395 moderate-high and six moderate papers ($n = 9$) that we identified in the previous section, in
396 which the authors evidenced life skills development *and* transfer (see Table 3 & Table 4).

397 **Quality of the design of sport-based life skills programs.**

398 *Underpinned by theory.* We extracted data in relation to the *theoretical underpinning*
399 of the programs. Of the 15 papers included within this review, the authors of only five papers
400 referred to the program being underpinned by a ‘theoretical’ youth development framework.
401 The authors of the remaining ten papers did not make reference to the program being
402 underpinned by any theoretical framework. Of the nine moderate-high and moderate quality
403 papers in which the authors evidenced life skills development *and* transfer, two group of
404 authors made reference to using Hellison’s (1995) Teaching Personal and Social Responsibility
405 framework (TPSR; Bean et al., 2016; Huysmans et al., 2019) and two groups of authors made
406 reference to using Petitpas et al.’s (2005) Positive Youth Development framework as an
407 underpinning theoretical approach (Weiss et al., 2013; Weiss et al., 2016). The authors of the
408 remaining five moderate and moderate-high quality papers in which the authors evidenced life
409 skills development *and* transfer did not report a theoretical underpinning.

410 *Intentional focus.* The authors of each of the 15 papers included within this review
411 demonstrated an intentional focus on life skills development and/or transfer. We refer to
412 intentional focus as the designing of life skills programs to promote life skills development.
413 We identified three factors that contribute toward program focus: clear program goals; clear
414 session descriptions; and life skills embedded into the program content and delivery. Authors
415 of the nine moderate-high and moderate quality papers who evidenced life skills development
416 and transfer provided clear program goals, and embedded life skills into their program.
417 However, four of these authors also provided clear session descriptions that would permit a
418 practitioner to replicate the intervention (Bean et al., 2016; Goudas & Giannoudis, 2010;
419 Hodge et al., 2017; Huysmans et al., 2019).

420 *Program description.* We identified that there were a range of sport-based life skills
421 programs that have been developed, implemented, and evaluated in different parts of the world:
422 Canada (3); Eswatini (1); Greece (4); Korea (1); and, USA (6). Of the nine moderate-high and

423 moderate quality papers in which the authors evidenced life skills development *and* transfer,
424 five originated from the USA (Hodge et al., 2017; Jacobs & Wright, 2019; Waldron, 2009;
425 Weiss et al., 2013; Weiss et al., 2016); two originated from Canada (Bean et al., 2016; Holt et
426 al., 2013); one originated from Greece (Goudas & Giannoudis, 2010); and one originated from
427 Eswatini (Huysmans et al., 2019). Overall, the 15 programs were delivered across two
428 contexts, *Education* (9) and within the *Community* (6). The education context consisted of
429 physical education (3) and extra-curricular activities (sport; 6). Five of the nine moderate-high
430 and moderate quality programs in which the authors evidenced life skills development *and*
431 transfer were delivered within the Community (Bean et al., 2016; Hodge et al., 2017;
432 Huysmans et al., 2019; Jacobs & Wright, 2019; Waldron, 2009), two within Sport (Weiss et
433 al., 2013; Weiss et al., 2016), and two within Education (Goudas & Giannoudis, 2010; Holt et
434 al., 2017). Overall, the life skills included within the 15 programs were: goal setting (12),
435 positive thinking (4), problem solving (5), communication (5), teamwork (7), health skills (3),
436 leadership (5), social support (2), self-management (3), media skills (1), reflection (1),
437 planning (2), seeking help (2), self-talk (3), social skills (1), relaxation (3), and values (1). Of
438 the nine moderate-high and moderate quality programs in which the authors evidenced life
439 skills development *and* transfer, the life skills included were: goal setting (7), positive thinking
440 (1), problem solving (3), communication (4), teamwork (6), health skills (3), leadership (5),
441 social support (2), self-management (4), media skills (1), reflection (1), planning (2), seeking
442 help (2), self-talk (3), social skills (1), relaxation (3), and values (1).

443 ***Program duration.*** Within the 15 included papers, programs ranged from one week to
444 two years, of which the number of sessions ranged between 3-57 sessions, and the duration of
445 the sessions ranged between 10-100 minutes. With regards to the nine moderate-high and
446 moderate quality papers in which the authors evidenced life skills development *and* transfer,
447 the life skills programs were delivered: over three weeks (Huysmans et al., 2019); four weeks
448 (Waldron, 2009); between 11 and 17 sessions (Goudas & Giannoudis, 2010; Hodge et al.,

449 2017); over two years (Bean et al., 2016); and, over three months (Holt et al., 2013). The
450 authors of three of the moderate-high and moderate quality papers in which life skills
451 development *and* transfer were evidenced did not state the precise duration of the program
452 (Jacobs & Wright, 2019; Weiss et al., 2013; Weiss et al., 2016). This may reflect the type of
453 community programs that they are, with no definitive start or end point. Catalano, Berglund,
454 Ryan, and Hawkins, (2004) suggested that for youth development programs to foster change,
455 they should run for a minimum of nine months or 10 sessions. Of the 15 papers included in the
456 review, only one program ran for the minimum duration of nine months (Bean et al., 2016).
457 Further, seven programs ran for the minimum duration of 10 sessions (e.g., Bean et al., 2015;
458 Goudas & Giannoudis, 2008; 2010; Hodge et al., 2017; Holt et al., 2013; Huysmans et al.,
459 2019; Lee et al., 2017). Of the nine moderate and moderate-high quality papers in which the
460 authors evidenced life skills development *and* transfer, one program did not meet the duration
461 criteria (Waldron, 2009); three groups of authors did not state the duration of their programs
462 (Jacobs & Wright, 2019; Weiss et al., 2013; Weiss et al., 2016), and five programs met the
463 minimum duration of 10 sessions and/or 9 months (Bean et al., 2016; Goudas & Giannoudis,
464 2010; Hodge et al., 2017; Holt et al., 2013; Huysmans et al., 2019).

465 ***Individualization.*** Ten out of the 15 teams of authors referred to individualization of
466 the sport-based life skills program. Of the nine moderate and moderate-high quality papers in
467 which authors evidenced both life skills development *and* transfer, six made reference to
468 individualization within the program (i.e., Bean et al., 2016; Goudas & Giannoudis, 2010;
469 Hodge et al., 2017; Holt et al., 2013; Huysmans et al., 2019; Jacobs & Wright, 2019).
470 Individualization was illustrated through authors providing insight to the adaptations made to
471 SUPER for respective contexts (Goudas & Giannoudis, 2010; Hodge et al., 2017); providing
472 participants with the choice of activities that would be carried out as part of the program (Bean
473 et al., 2016); creating bespoke core values (Jacobs & Wright, 2019); or adapting the life skills
474 program based on the needs of the participants (Holt et al., 2013; Huysmans et al., 2019).

475 **Ongoing feedback.** Six out of the 15 teams of authors indicated opportunities for
476 ongoing feedback within the life skills programs. These six papers were also moderate-high
477 and moderate quality papers in which life skills development *and* transfer was evidenced. The
478 feedback strategies that these six adopted to evidence life skills development *and* transfer
479 included: debriefs to support progress (e.g., Bean et al., 2016; Jacobs & Wright, 2019); coach
480 reinforcement to remind young people of the life skills that they were developing (e.g., Hodge
481 et al., 2017; Jacobs & Wright, 2019; Weiss et al., 2013); ongoing feedback from parents
482 through reinforcement through setting homework (e.g., Goudas & Giannoudis, 2010); and
483 reflective practice (Huysmans et al., 2019).

484 **Pilot.** Of the 15 included papers, only one group of authors provided information
485 pertaining to implementing pilot versions of the sport-based life skills program. This paper was
486 of moderate quality and one in which the authors evidenced life skills development *and*
487 transfer. Specifically, Holt et al. (2013) conducted an action research based study whereby they
488 used data collected from the first phase of the study to influence changes made to the second
489 phase of the study.

490 **Intervention fidelity.** Due to the integral role coaches play in the development of life
491 skills in young people and the lack of formal training provided to those delivering youth sport
492 programs (Petitpas et al., 2005), we specifically focused on coach training as an indicator of
493 intervention fidelity. Only four out of the 15 groups of authors referred to any form of coach
494 training. Of the nine moderate-high and moderate quality papers in which the authors
495 evidenced life skills development *and* transfer, three groups of authors referred to coach
496 training. Specifically, Weiss et al. (2013) outlined that coaches attended a two-day workshop,
497 whereby they were taught four ‘deliberate teaching methods’. In addition, Jacobs and Wright
498 (2019) made reference to ‘facilitators’ engaging in annual coach training through a national
499 youth development sport organization. Huysmans et al. (2019) highlighted that coaches
500 attended three days of training through a train-the-trainer approach. Whilst insight is given into

501 the teaching methods covered in the workshop, little insight is given into the detailed content
502 and delivery of the workshop.

503 **Quality of evaluation of sport-based life skills programs.**

504 *Sampling process*

505 *Sample size.* Of the 15 studies, sample sizes ranged between six and 564. Samples
506 ranged between six and 145 for the qualitative studies, between 72 to 564 for the quantitative
507 studies, and between 15 and 36 for the mixed method studies. For the nine moderate-high and
508 moderate quality papers in which the authors evidenced life skills development *and* transfer
509 sample sizes ranged from 8-145 for the qualitative papers, 192-564 in the quantitative paper,
510 and 36 within the mixed method study.

511 *Participants.* We extracted data related to the participants included within each of the
512 15 life skills programs. Participants were both male and female, aged between seven and 18
513 years old. In the nine moderate-high and moderate quality papers in which authors evidenced
514 both life skills development and transfer, two groups of authors used only female participants
515 between 11 and 16 years old (Bean et al., 2015; Waldron, 2009), and in the remaining seven
516 papers, male and female participants between 11 and 17 years old were included.

517 *Data Analysis*

518 *Domain and methods.* We extracted the *domains* (i.e., qualitative or quantitative) and
519 the *methods* that authors used to evaluate each of the 15 life skills programs. Authors adopted a
520 qualitative approach and used methods such as interviews or focus groups in ten papers and
521 adopted a quantitative approach and used methods such as questionnaires in the seven papers
522 (figures inclusive of both mixed method studies). Of the nine moderate-high and moderate
523 quality papers in which the authors evidenced life skills development *and* transfer, one team of
524 authors (Weiss et al., 2016) used quantitative methods, seven teams of authors used qualitative
525 methods (Bean et al., 2016; Goudas & Giannoudis, 2010; Hodge et al., 2017; Holt et al., 2013;

526 Jacobs & Wright, 2019; Waldron, 2009; Weiss et al., 2013), and one team of authors used
527 mixed methods (Huysmans et al., 2019).

528 *Frequency of evaluation.* Of the 15 papers, authors conducted evaluations across four
529 time points: pre-intervention (6); during the intervention (4); post-intervention (14); and during
530 a follow-up period (5). In four of the nine moderate-high and moderate quality papers in which
531 the authors evidenced life skills development *and* transfer, data was collated post-intervention
532 (Bean et al., 2016; Holt et al., 2013; Waldron, 2009; Weiss et al., 2013). Two sets of authors of
533 the nine moderate-high and moderate quality papers collated data during the intervention and
534 post-intervention (Goudas & Giannoudis, 2010; Jacobs & Wright, 2019); one set of authors
535 collated data during the intervention and after a follow up period (Hodge et al., 2017); one set
536 of authors collected data pre intervention, post intervention and after a follow up period
537 (Huysmans et al., 2019); and another collated data during the intervention, post-intervention,
538 and after a follow-up period (Weiss et al., 2016).

539 *Appropriate measures.* We extracted data relating to the tools that authors used to
540 measure life skills development and/or transfer. Specifically, of the 15 papers included in the
541 review there were 15 different scales used to assess program effectiveness and, therefore, life
542 skills development and/or transfer (see Table 4). Of the nine moderate-high and moderate
543 quality papers in which the authors evidenced life skills development *and* transfer, one group
544 of authors used a valid measure to evaluate life skills development (Huysmans et al., 2019).
545 Further, of the nine moderate-high and moderate quality papers in which authors evidenced life
546 skills development *and* transfer, only one group of authors used a valid measure specifically
547 designed to evaluate life skills transfer, the Life Skills Transfer Scale (LSTS; Weiss, Bolter, &
548 Kipp, 2014). Of the 15 papers included in the review, the authors of nine papers relied solely
549 on self-report data, whilst the authors of six papers also included parent, coach, and/or
550 facilitator perspectives of life skills development. Each of the authors of the nine moderate-
551 high and moderate quality papers in which life skills development *and* transfer collected self-

552 report data, with the authors of five papers relying solely on self-report data. Authors of two of
553 the moderate quality papers also considered parent responses (Hodge et al., 2017; Weiss et al.,
554 2013), one group of authors considered coach responses to assess life skills development and
555 transfer (Weiss et al., 2013), one group of authors also considered teacher responses to life
556 skills development and transfer (Holt et al., 2013), and one group of authors considered both
557 coach and teacher responses to life skills development and transfer (Huysmans et al., 2019).

558 ***Comparable groups***

559 *Control group.* Authors of only five of the 15 papers within this review included a
560 control group. Of these, only two were of moderate quality and evidenced life skills
561 development and transfer (Waldron, 2009; Weiss et al., 2016).

562 **Discussion**

563 Through this systematic review, our aim was to assess the quality of *design* and
564 *evaluation methods* of sport-based life skills programs in order to better understand the quality
565 of existing life skills research, and to influence the quality of future research in the area of life
566 skills development through sport. In doing this, we hoped to encourage researchers and
567 practitioners to consider and/or improve the quality of the life skills program design and the
568 methodological quality of the evaluations they conduct. As a result of considering quality,
569 researchers and practitioners can assess the strength of their claims of intervention
570 effectiveness and, thus, provide more credible findings. Fifteen papers met the inclusion
571 criteria on which we conducted two quality assessment exercises. As a result of combining
572 both design and evaluation quality, we determined three papers as moderate-high quality, 11
573 papers as moderate quality, and one paper as low quality. We then considered which of these
574 studies evidenced life skills development *and* transfer. Those included in this analysis were the
575 three moderate-high quality, six of the 11 moderate quality, and the one low quality paper.
576 Whilst the number of papers in the moderate quality and above category reflects an increase in
577 quality compared to the “weak” quality inferred by Whitley et al. (2019a; 2019b), it is

578 important to note that the quality score within our study is an indication of the quality of both
579 design and evaluation methods. Further, of the 15 papers included in this review, only three
580 were of moderate-high quality. As such, claims of effectiveness for those papers whereby
581 quality is lacking should be interpreted with caution. Through a rigorous process of data
582 extraction and analysis, synthesized within a narrative description, we have provided a
583 descriptive overview of the characteristics of design and evaluation quality for moderate-high
584 and moderate quality papers in which life skills were proposed to be developed *and* transferred.
585 In this section we provide a discussion of these characteristics and then offer recommendations
586 on how researchers and practitioners can increase the design quality of life skills program and
587 the evaluation methods used.

588 **Characteristics of Design Quality**

589 From our synthesis, we observed that for the moderate-high and moderate quality
590 programs whereby life skills were developed and transferred, the program goals were clear and
591 life skills activities were embedded within the programs, illustrating a *focused intervention*.
592 Further, supporting the work of Jones and Lavalley (2009), young people believed that the life
593 skills included in the programs were important, and relatable to external contexts. Researchers
594 of the moderate and moderate-high quality programs in which authors evidenced life skills
595 development *and* transfer provided *program descriptions*, in which the following life skills
596 were included: *communication, goal setting, teamwork, relaxation, self-talk, seeking help,*
597 *leadership, planning, self-management, health, social support, reflection, media skills, social*
598 *skills, positive thinking, problem solving, and values*. By collating these life skills, we have
599 provided researchers and practitioners with a list of skills (derived from the moderate and
600 moderate-high quality peer reviewed papers included within this review in which authors
601 evidenced life skills development *and* life skills transfer) that are deemed valuable to the
602 functional development of young people. We have also found support for Catalano et al.'s
603 (2004) findings that effective youth development programs should be delivered for a minimum

604 of 10 sessions *or* 9 months to facilitate behavior change. Indeed, of the nine moderate-high and
605 moderate quality papers whereby life skills development and transfer were evidenced, four
606 groups of authors specifically stated that their respective programs ran for at least 10 sessions.
607 Further, one group of authors stated their program ran for a minimum of nine months and
608 specifically used Catalano's recommendations as a guide.

609 There were a number of design characteristics that were not demonstrated, which
610 affected the quality of the research. Indeed, by failing to evidence these design characteristics,
611 the overall quality score for program design was lower than what it would have been should
612 these characteristics have been evidenced. First, only one of the nine teams of authors of the
613 moderate-high or moderate life skills programs in which the authors evidenced life skills
614 development *and* transfer presented information pertaining to a pilot intervention (i.e., Holt et
615 al., 2013). Pilot interventions are important indicators of quality as they encourage researchers
616 to review program content, evaluation methods against the desired program aims, and make
617 necessary changes to ensure that the program is addressing the reported aims (McBride, 2016).
618 Second, with the exception of three teams of researchers, authors provided no insight into the
619 training offered to those delivering the life skills programs. Whilst we acknowledge that
620 facilitator training is not the only indicator of program fidelity, insight into facilitator training
621 is essential to support claims of effectiveness. Without this information it is unclear as to
622 whether the facilitator delivering the program had the appropriate knowledge and
623 understanding to deliver the program effectively. Researchers have also noted that facilitator
624 training is important as it can help coaches to develop an awareness of their role in facilitating
625 life skills in young people, and the strategies they can use to deliver life skills development and
626 transfer (Camiré, Kendellen, Rathwell, & Charbonneau, 2018). Third, and similar to the low
627 numbers reported within Holt et al. (2017) and Whitley et al.'s (2019b) reviews, only five life
628 skills programs were theoretically underpinned. By utilizing theory to underpin their work,
629 researchers may identify and then test hypotheses that help improve understanding on the

630 mechanisms that influence behavior. Such improved understanding may also help inform what
631 content and strategies researchers/practitioners should include in programs to better facilitate
632 life skills development and transfer (Prestwich et al., 2015). Our findings support Whitley et
633 al.'s (2019b) call for researchers to begin to test intervention theories as opposed to
634 intervention outcomes in order to identify the conditions and mechanisms that explain life
635 skills development outcomes. Last, we also observed a lack of involvement from parents in the
636 delivery and evaluation of life skills programs. Whilst researchers within the field of life skills
637 development have focused on the role of the coach in delivering sport-based life skills
638 programs (Camiré et al., 2012), very few researchers have explored the role of parents in sport-
639 based life skills programs (e.g., Hodge et al., 2017). The role of parents is important as
640 researchers have highlighted that the facilitation of life skills development in young people is
641 the collaborative role of parents, coaches, and significant others such as teachers (Bowley,
642 Cropley, Neil, Hanton, & Mitchell, 2018), as all these collaborators may have an influence on
643 young people across many contexts.

644 **Characteristics of Evaluation Quality**

645 In the moderate-high and moderate quality papers in which authors evidenced
646 development and transfer of life skills, there were aspects of the evaluation methods that were
647 relatively consistent (e.g., sampling strategy [sample size and participants]; data analysis [e.g.,
648 domain, methods]; and appropriate measure [e.g., self-report data]). However, there were also
649 notable differences, and missing information in relation to the evaluation methods (e.g., data
650 analysis [frequency of evaluation]; appropriate measures [e.g., measuring life skills; multiple
651 sources]; and comparable groups [e.g., use of control groups]; researcher philosophy).
652 Specifically, researchers predominantly collated data post intervention, most likely due to the
653 nature of the research (i.e., qualitative). In that sense, there appears to be an over reliance on
654 qualitative research, potentially due to the lack of validated sport-specific measures that were
655 available to researchers at the time of publishing, an issue first identified by Gould and Carson

656 in their review in 2008. In addition, there also appears to be an over-reliance on self-report
657 data, which may be contaminated by such reliability related issues as memory recall and social
658 desirability. Only two of the nine moderate-high and moderate quality papers in which the
659 authors evidenced life skills development *and* transfer included a control group, which enabled
660 them to infer that young people developed and transferred life skills as a specific result of
661 participating in the life skills program. Thus, these researchers were able to evidence a causal
662 relationship between life skills development and the life skills program. Further, researchers
663 failed to describe the demographics of groups, and illustrate how they accounted for any
664 differences between groups.

665 **Future Research Recommendations**

666 We recommend that those designing and evaluating life skills programs take steps
667 towards ensuring their research is of high quality. We reported only three papers as moderate-
668 high quality. From a design perspective, researchers wishing to publish a high-quality paper
669 should ensure that they provide a detailed description of the life skills intervention alongside
670 providing a clear program focus. Such a description would include providing insight into the
671 theory used to underpin the program, the duration of the program, and the structure of the life
672 skills program. Further, authors and/or practitioners should present the steps they took to
673 individualize the life skills program, and if and how ongoing feedback was integrated within
674 the program. Researchers should look to pilot their programs and share with readers the effects
675 of the pilot intervention. Lastly, it is important that researchers who want to evidence high
676 quality papers provide the reader with insight into life skills program fidelity. Whilst there are
677 a number of indicators of program fidelity, we have identified facilitator training as an
678 important avenue to enhance quality. That is, researchers should provide information about the
679 training that facilitators of life skills programs undergo prior to delivering the programs.

680 From an evaluation perspective, researchers wishing to evidence high quality
681 evaluations should look to include a control group which would enable researchers to compare

682 program effects. Furthermore, researchers should utilize the quality assessment criteria (as
683 reported in this paper) to guide the development and evaluation of life skills programs.
684 Specifically, those adopting qualitative approaches should, at minimum, “identify their
685 disciplinary affiliation, what brought them to the question, and the assumptions they make
686 about the topic of interest” (Caelli, Ray, & Mill, 2003, p. 5). This supports Whitley et al.’s
687 (2019a; 2019b) suggestion that researchers must consider philosophical, theoretical,
688 methodological, and analytical perspectives. In addition, those adopting quantitative
689 approaches should consider presenting information relating to complete outcome data,
690 including withdrawal/dropout. By illustrating this information, researchers may reinforce the
691 strength of the methodological design and administration they have engaged with, and as such,
692 the results of the study can be better generalized.

693 **Limitations**

694 When assessing the quality of studies, we acknowledge that there is a risk of evaluating
695 too harshly, as the researchers whose studies we are evaluating may not have had the *space*
696 (page limit) to disclose all relevant information. Further, when designing sport-based life skills
697 programs, they may have been governed by external organizations who can restrict the scope
698 of what is implemented. Given that the assessment of the quality of the design and evaluation
699 methods adopted by researchers relies on sufficient information being provided, the results of
700 our study should be considered with potential restrictions in mind. In addition, whilst we
701 identified six databases that we felt were relevant and would provide the best opportunity for
702 detecting relevant studies, it is important to note that it is difficult to identify all relevant
703 studies. In order to minimize the risk of not including appropriate studies, we enlisted the
704 support of the institution librarian to support with the development of the search strategy,
705 included a search for known authors in the field, and hand-searched the reference list of
706 relevant review papers and all included papers. Whilst these strategies were put in place to
707 ensure that we did not miss any papers, there is always a risk of eligible papers being missed.

708 Indeed, we did not hand search the reference list of every single published review paper related
709 to positive youth development and/or life skills. As such, relevant research papers may have
710 been missed. Finally, we acknowledge that when designing and evaluating any intervention
711 program there are numerous difficulties that researchers may face that may impact the
712 evaluation methods adopted. For example, researchers' access to participants and/or the
713 willingness of participants to engage fully in the research may influence how the intervention
714 is designed and then delivered, and how it is evaluated throughout the program. In line with
715 our recommendations, it is, therefore, important that researchers provide sufficient information
716 related to the design and evaluation methods adopted, along with any restrictions and issues
717 faced, to help readers make their own decisions about researcher statements of quality and
718 intervention effectiveness.

719 **Applied Implications**

720 Schinke et al. (2020) recently identified a lack of rigor in relation to intervention design
721 within the Sport Psychology domain. Schinke et al. also made reference to a lack of specific,
722 high quality interventions within the field, highlighting that often high-quality research is
723 perceived to be difficult to conduct. Throughout this review, we have made practice-related
724 recommendations to researchers and practitioners proposing ways in which they can develop
725 high quality program designs and evaluations. Indeed, researchers and practitioners can draw
726 upon the quality guidelines outlined in the QATID to design high quality life skills
727 interventions. Specifically, researchers/practitioners should use frameworks, such as the
728 BNT/LDI (Hodge et al., 2012), to underpin the design of life skills programs in order to
729 identify how and why specific outcomes of life skills programs arise (Whitley et al., 2019b). In
730 addition, researchers/practitioners should ensure that life skills programs meet the minimum
731 duration recommendations for behavior change of 9 months or 10 sessions (Catalano et al.,
732 2004). Researchers/practitioners should conduct and evaluate pilot interventions whereby they
733 assess the content and delivery methods of the program and make changes if necessary.

734 Finally, researchers/practitioners should consider how they will attempt to ensure programs are
735 delivered as intended. We recommend that researchers/practitioners provide training for those
736 delivering life skills programs to facilitate program fidelity and increase the quality of the life
737 skills program. By using an intervention design-related quality assessment tool when designing
738 sport-based life skills programs, researchers may be better able to validate subsequent claims
739 of program effectiveness. Additionally, researchers and those practitioners wishing to assess
740 the effectiveness of sport-based life skills programs must ensure they conduct quality
741 evaluations, considering: (a) sampling procedures; (b) data analysis processes; (c)
742 appropriateness of measures to evaluate life skills development; (d) inclusion of control
743 groups; and (e) the role of the researcher in the context. These indicators are important to
744 increase the quality in design and evaluation of sport-based life skills programs and should be
745 used by researchers, practitioners, academics and reviewers in their development and
746 assessment of papers to ensure that the issues relating to quality recently outlined by Schinke et
747 al. (2020) are addressed.

748 **Conclusion**

749 We have conducted the first systematic review that has explored the quality of sport-
750 based life skills development programs. Whilst it was difficult to compare these sport-based
751 programs due to the significant variations in program design and evaluation methods, the
752 present review provides insight into some important characteristics that influence the quality of
753 sport-based life skills programs. From a practical application perspective, we highlight that
754 these quality guidelines should be used by researchers and practitioners when designing and
755 evaluating future sport-based life skills programs.

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References

- 758 Bean, C., Forneris, T., & Fortier, M. (2015). Girls just wanna have fun: Understanding
759 perceptions of effective strategies and outcomes in a female youth-driven physical activity-
760 based life skills programme. *Journal of Sport for Development*, 3, 28-40.
- 761 Bean, C., Kendellen, K., & Forneris, T. (2016). Moving beyond the gym: Exploring life skill
762 transfer within a female physical activity-based life skills program. *Journal of Applied Sport*
763 *Psychology*, 28, 274-290.
- 764 Bean, C., Krammers, S., Forneris, T., & Camiré, M. (2018). The implicit/explicit continuum of
765 life skills development and transfer. *Quest*, 70, 1-15.
- 766 Bowley, C., Cropley, B., Neil, R., Hanton, S., & Mitchell, I. (2018). A life skills development
767 programme for youth football coaches: Programme development and preliminary
768 evaluation. *Sport & Exercise Psychology Review*, 14, 3-22.
- 769 Boyatzis, R. (1998). *Transforming qualitative information: Thematic analysis and code*
770 *development*. Thousand Oaks, London: SAGE Publications
- 771 Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in*
772 *Psychology*, 3, 77-101.
- 773 Brunelle, J., Danish, S., & Forneris, T. (2007). The impact of a sport-based life skills program
774 on adolescent prosocial values. *Applied Developmental Science*, 11, 43–55.
- 775 Caelli, K., Ray, L., & Mill, J. (2003). ‘Clear as mud’: Toward greater clarity in generic
776 qualitative research. *International Institute for Qualitative Methodology*, 2, 1-13.
- 777 Camiré, M., Trudel, P., & Forneris, T. (2012). Coaching and transferring life skills:
778 Philosophies and strategies used by model high school coaches. *The Sport Psychologist*, 26,
779 243-260.
- 780 Camiré, M., Kendellen, K., Rathwell, S., & Charbonneau, E. (2018). Evaluation of the pilot
781 implementation of the coaching for life skills program. *International Sport Coaching*
782 *Journal*, 5, 227-236.

- 783 Catalano, R., Berglund, M., Ryan, J., & Hawkins, J. (2004). Positive youth development in the
784 United States: Research findings on evaluations of positive youth development programs.
785 *The Annals of the American Academy*, 591, 98-124.
- 786 Danish, S. J. (2002). Teaching life skills through sport. In M. Gatz, M. Messner & S. Ball-
787 Rokeach (Eds.), *Paradoxes of youth and sport* (pp. 49-60). Albany, NY: State University of
788 New York Press.
- 789 Danish, S. J., Petitpas, A., & Hale, B. (1993). Life development intervention for athlete's life
790 skills through sports. *The Counseling Psychologist*, 21, 352-385.
- 791 Danish, S., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through
792 sport. *World Leisure Journal*, 46, 38-49.
- 793 Danish, S. J., Mash, J., Howard, C., Curl, S., Meyer, A., & Owens, S. (1992a). *Going for the*
794 *goal leader manual*. Richmond, VA: Virginia Commonwealth University.
- 795 Davies, P., Walker, A., & Grimshaw, J. (2010). A systematic review of the use of theory in the
796 design of guideline dissemination and implementation strategies and interpretations of the
797 results of rigorous evaluations. *Implementation Science*, 5, 1-6.
- 798 Fraser-Thomas, J., & Côté, J. (2009). Understanding adolescents' positive and negative
799 developmental experiences in sport. *The Sport Psychologist*, 23, 3-23.
- 800 Goudas, M., & Giannoudis, G. (2008). A team-sports-based life-skills program in a physical
801 education context. *Learning and Instruction*, 18, 528-536.
- 802 Goudas, M., & Giannoudis, G. (2010). A qualitative evaluation of a life-skills program in a
803 physical education context. *Hellenic Journal of Psychology*, 7, 315-334.
- 804 Goudas, M., Dermizaki, I., Leondari, A., & Danish, S. (2006). The effectiveness of teaching a
805 life skills program in a physical education context. *European Journal of Psychology of*
806 *Education*, 21, 429-438.
- 807 Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and
808 future directions. *International Review of Sport and Exercise Psychology*, 1, 58-78.

- 809 Hellison, D. (1995). *Teaching responsibility through physical activity*. Champaign, IL: Human
810 Kinetics.
- 811 Hermens, N., Super, S., Verkooijen, K., & Koelen, M. (2017). A systematic review of life skill
812 development through sports programs serving socially vulnerable youth. *Research*
813 *Quarterly for Exercise & Sport*, 88, 408-424.
- 814 Higgins, J., & Green, S. (2011). *Cochrane handbook for systematic reviews of interventions*,
815 Version 5.1.0. The Cochrane Collaboration, available from: www.cochrane-handbook.org
- 816 Hodge, K., Danish, S. J., & Martin, J. (2012). Developing a conceptual framework for life
817 skills interventions. *Counselling Psychologist*, 41, 1-28.
- 818 Hodge, C., Kanters, M., Forneris, T., Bocarro, J., & Sayre-McCord, R. (2017). A family thing:
819 Positive youth development outcomes of a sport-based life skills program. *Journal of Park*
820 *and Recreation*, 35, 34-50.
- 821 Holt, N. L., McHugh, T., Tink, L., Kingsley, B., Coppola, A., Neely, K., & McDonald, R.
822 (2013). Developing sport-based after-school programmes using a participatory action
823 research approach. *Qualitative Research in Sport, Exercise & Health*, 5, 332-355.
- 824 Holt, N. L., Neely, K., Slater, L., Camiré, M., Côté, J., & Fraser-Thomas, J. (2017). A
825 grounded theory of positive youth development through sport based on results from a
826 qualitative meta-study. *International Review of Sport & Exercise Psychology*, 10, 1-49.
- 827 Huysmans, Z., Clement, D., Whitley, M., Gonzalez, M., & Sheehy, T. (2019). “Putting kids
828 first”: An exploration of the teaching personal and social responsibility model to youth
829 development in Eswatini. *Journal of Sport for Development*, 7, 15-32.
- 830 Jackson, N., & Waters, E. (2005). Criteria for the systematic review of health promotion and
831 public health interventions. *Health Promotion International*, 20, 367-374.
- 832 Jacobs, J., & Wright, P. (2019, online). Thinking about the transfer of life skills: Reflections
833 from youth in a community-based sport programme in an underserved urban setting.
834 *International Journal of Sport & Exercise Psychology*.

- 835 Jones, M. I., & Lavelle, D. (2009). Exploring the life skills needs of British adolescent athletes.
836 *Psychology of Sport and Exercise, 10*, 159-167.
- 837 Jones, G., Edwards, M., Bocarro, J., Bunds, W., & Smith, J. (2017). An integrative review of
838 sport-based youth development literature. *Sport in Society, 20*, 161-179.
- 839 Kendellen, K., & Camiré, M. (2017) Examining the life skill development and transfer
840 experiences of former high school athletes. *International Journal of Sport and Exercise*
841 *Psychology, 15*, 395-408.
- 842 Kmet, L., Lee, R., & Cook, L. (2004). Standard quality assessment criteria for evaluating
843 primary research papers from a variety of fields. *HTA Initiative, 13*, 1-20.
- 844 Lee, O., Park, M., Jang, K., & Park, Y. (2017). Life lessons after classes: Investigating the
845 influence of an afterschool sport on adolescents' life skills development. *International*
846 *Journal of Qualitative Studies on Health and Well-Being, 12*, 1-10.
- 847 Mahoney, J. (2000). School extracurricular activity participation as a moderator in the
848 development of antisocial patterns. *Child Development, 71*, 502-516.
- 849 Mahoney, J., Eccles, J., & Larson, R. (2004). Processes of adjustment in organized out of
850 school activities: Opportunities and risks. *New Directions for Youth Development, 101*,
851 115-144.
- 852 McBride, N. (2016). *Intervention research: A practical guide for developing evidence-based*
853 *school prevention programmes*. Singapore: Springer.
- 854 Moher, D., Liberati, A., Tetzlaff, J., Altman, D., & Group, T. (2009). Preferred reporting items
855 for systematic reviews and meta-analyses: The PRISMA statement. *Annual of Internal*
856 *Medicine, 151*, 264-269.
- 857 Mullen, P., Green, L., & Persinger, G. (1985). Clinical trials of patient education for chronic
858 conditions: A comparative meta-analysis of intervention types. *Preventative Medicine, 14*,
859 753-781.

- 860 Pace, R., Pluye, P., Bartlett, G, Macaulay, A., Salsberg, J., Jagosh, J., & Seller, R. (2012).
861 Testing the reliability and efficiency of the pilot mixed methods appraisal tool (MMAT) for
862 systematic mixed studies review. *International Journal of Nursing Studies*, 49, 47-53.
- 863 Papacharisis, V., Goudas, M., Danish, S. J., & Theodorakis, Y. (2005). The effectiveness of
864 teaching a life skills program in a sport context. *Journal of Applied Sport Psychology*, 17,
865 247-254.
- 866 Pawson, R., Boaz, A., Grayson, L., Long, A., & Barnes, C. (2003). *Types and quality of*
867 *knowledge in social care knowledge review 3*, SCIE: London UK.
- 868 Petitpas, A., Cornelius, A., Van Raalte, J., & Jones, T. (2005). A framework for planning youth
869 sport programs that foster psychosocial development. *The Sport Psychologist*, 19, 63-80.
- 870 Pierce, S., Gould, D., & Camiré, M. (2016). Definition and model of life skills transfer.
871 *International Review of Sport and Exercise Psychology*, 10, 186-211.
- 872 Pluye, P., Robert, E., Cargo, M., Bartlett, G., O’Cathian, A., Griffiths, F., Boardman, F.,
873 Gagnon, M., & Rousseau, M. (2011). *Proposal: A mixed methods tool for systematic mixed*
874 *studies reviews*. Available online at: <http://mixedmethodsappraisaltoolpublic.pbworks.com>
875 (Accessed August 2017)
- 876 Prestwich, A., Webb, T., & Conner, M. (2015). Using theory to develop and test interventions
877 to promote changes in health behavior: Evidence, issues, and recommendations. *Current*
878 *Opinion in Psychology*, 5, 1-5.
- 879 Rigoni, P., Belem, I., & Viera, L. (2017). Systematic review on the impact of sport on the
880 positive youth development of high performance athletes. *Journal of Physical Education*,
881 28, 1-13.
- 882 Robertson, E., Wakefield, C., Signorelli, C., Cohn, R., Patenaude, A., Foster, C., Pettit, T., &
883 Fardell, J. (2018). Strategies to facilitate shared decision-making about pediatric oncology
884 clinical trial enrolment: A systematic review. *Patient Education and Counseling*, 101, 1157-
885 1174.

- 886 Schinke, R., Mellalieu, S. D., Ntoumanis, N., Kavussanu, M., Standage, M., Strauss, B., &
887 Papaioannou, A. (2020, online). Getting published: Suggestions and strategies from editors
888 of sport and exercise psychology journals. *Journal of Applied Sport Psychology*.
- 889 Schulz, K., Altman, D., & Moher, D. (2010). CONSORT 2010 statement: Updated guidelines
890 for reporting parallel group randomised trials. *British Medical Journal*, *340*, 697-702.
- 891 Turnnidge, J., Côté, J., & Hancock, D. (2014). Positive youth development from sport to life:
892 Explicit or implicit transfer? *QUEST*, *66*, 203-217.
- 893 Waldron, J. (2009). Development of life skills and involvement in the girls on track program.
894 *Women in Sport and Physical Activity*, *18*, 60-73.
- 895 Weiss, M., Bolter, N., & Kipp, L. (2016). Evaluation of the first tee in promoting positive
896 youth development: Group comparisons and longitudinal trends. *Research Quarterly for*
897 *Exercise and Sport*, *87*, 271-283.
- 898 Weiss, M., Stuntz, C., Bhalla, J., Bolter, N., & Price, M. (2013). More than a game: Impact of
899 the first tee life skills program on positive youth development: Project introduction and year
900 1 findings. *Qualitative Research in Sport, Exercise and Health*, *5*, 214-24.
- 901 Whitley, M., Massey, W., Camiré, M., Boutet, M., & Borbee, A. (2019a). Sport-based youth
902 development interventions in the united states: A systematic review. *BMC Public Health*,
903 *19*, 1-20.
- 904 Whitley, M., Massey, W., Camiré, M., Blom, L.C., Chawansky, M., Forde, S. ... Darnell, S.
905 (2019b). A systematic review of sport for development interventions across six global cities.
906 *Sport Management Review*, *22*, 181-193.
- 907 Wholey, J., Hatry, H., & Newcomer, K. (2015). *Handbook of practical program evaluation*.
908 Jossey-Bass: San Francisco

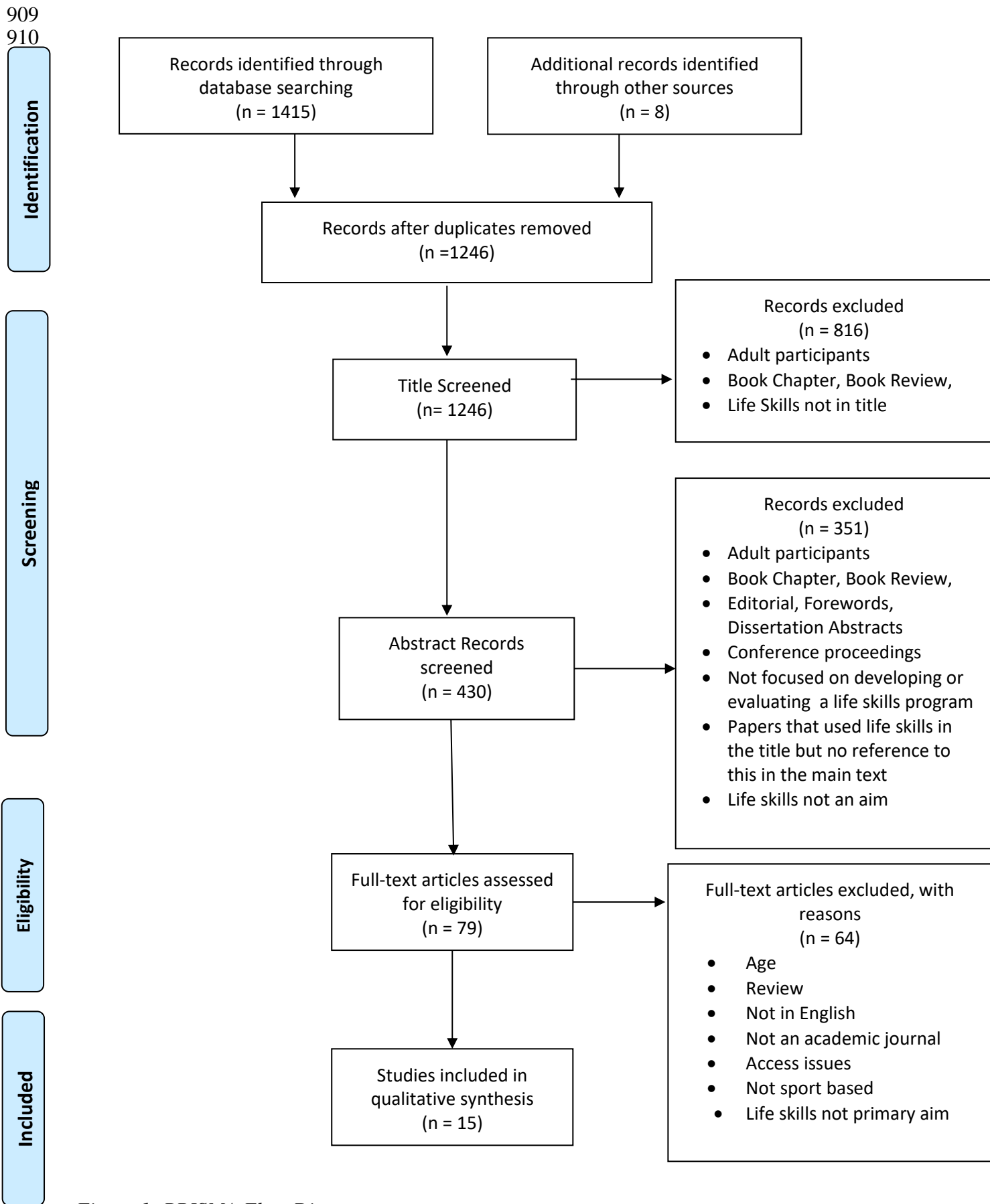


Figure 1: PRISMA Flow Diagram

Table 1: Intervention Design Quality Assessment Scores

Name	THEO	INTFOC	DET	DUR	INDIV	ONFEED	PILOT	FID	Overall Score	%
Bean et al., (2015)	1	2	1	2	1	0	0	1	8	50%
Bean et al. (2016)	1	2	1	2	1	2	0	0	9	56%
Brunelle et al. (2007)	0	2	1	0	0	0	0	0	3	19%
Goudas et al. (2006)	0	2	1	0	1	0	0	0	4	25%
Goudas & Giannoudis, (2008)	0	2	1	2	1	1	0	0	7	44%
Goudas & Giannoudis, (2010)	0	2	1	2	1	1	0	0	6	38%
Hodge et al. (2017)	0	2	1	2	1	1	0	0	7	44%
Holt et al. (2013)	0	1	1	2	1	1	0	0	7	44%
Huysmans et al. (2019)	2	2	1	2	2	1	0	1	11	69%
Jacobs & Wright (2019)	0	2	1	1	1	2	0	1	8	50%
Lee et al. (2017)	0	2	0	2	0	0	0	1	5	31%
Papacharisis et al. (2005)	0	2	0	0	1	0	0	0	3	19%
Waldron, (2009)	0	2	1	0	0	0	0	0	3	19%
Weiss et al. (2013)	1	2	0	0	0	1	0	1	5	31%
Weiss et al. (2016)	1	2	0	0	0	0	0	0	3	19%

THEO = theoretically informed; INTFOC = intervention focus; DET = detail described; DUR = duration justified; INDIV = individualization; ONFEED = ongoing feedback; PILOT = pilot implementation; FID = fidelity.

Table 2: Mixed Methods Appraisal Tool (MMAT; Pluye et al., 2011)

	Qualitative				Quantitative Non-Randomized				Quantitative Descriptive				Mixed Methods			Results	Combined %
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3		
Bean et al. (2015)	✓	✓	x	x					✓	x	✓	✓	✓	✓	x	50%	50%
Bean et al. (2016)	✓	✓	✓	x												75%	65.5%
Brunelle et al. (2007)									x	x	✓	✓				50%	34.5%
Goudas et al. (2006)					✓	✓	x	x								50%	37.5%
Goudas & Giannoudis, (2008)					✓	✓	x	x								50%	47%
Goudas & Giannoudis, (2010)	✓	✓	✓	x												75%	56.5%
Hodge et al. (2017)	x	✓	x	x												25%	34.5%
Holt et al. (2013)	✓	✓	✓	x												75%	56.5%
Huysmans et al. (2019)	✓	✓	✓	✓					x	✓	✓	x	x	x	x	50%	62.5%
Jacobs & Wright (2019)	✓	✓	✓	✓												100%	75%
Lee et al. (2017)	x	✓	x	x												25%	28%
Papacharisis et al. (2005)					✓	✓	-	-								50%	34.5%
Waldron, (2009)	✓	✓	-	x												50%	34.5%
Weiss et al. (2013)	✓	✓	x	x												50%	40.5%
Weiss et al. (2016)					✓	✓	x	-								50%	34.5%

Table 3: Characteristics of Design

	Theory	Intentional Focus			Program Description					Dur.	Indiv.	Feedback	Pilot	Program Fidelity		
		CPG	CSD	LSE	Prog.	Loc.	Cont.	Struct.	Life skills					Delivery	Train.	
Bean et al., (2015)	PYD	Y	N	Y	None	Canada	Com.	30 Session 75mins	Communication Confidence Respect Goal Setting Seeking Help Relaxation	Teamwork Self-Talk Focus Leadership Planning Responsibility	8 months	Y	N	N	Program Staff	Not Stated
Bean et al., (2016)	TPSR	Y	Y	Y	SUPER	Canada	Com.	57 sessions Once per week 75mins & 90mins	Communication Goal Setting Leadership Seeking Help	Teamwork Relaxation Planning Self-Talk	2 years	Y	Debrief	N	Researcher as leader	Not Stated
Brunelle et al., (2007)	None	Y	Y	Y	SUPER	USA	Com.	5 Sessions 45mins	Goal Setting		One week	N	N	N	Life skills Staff	Not Stated
Goudas et al., (2006)	None	N	Y	Y	SUPER	Greece	Edu.	8 Sessions Twice per week 10-15mins	Goal Setting	Positive Thinking	4 weeks	Y	N	N	Research Assistant	Not Stated
Goudas & Giannoudis, (2008)	None	N	Y	Y	SUPER	Greece	Edu.	17 Sessions	Goal Setting Problem Solving	Positive Thinking	Not Stated	Y	N	N	PE Teacher	Not Stated
Goudas & Giannoudis, (2010)	None	N	Y	Y	SUPER	Greece	Edu.	17 Sessions 3 times per week	Goal Setting	Positive Thinking	2 months	Y	Parent reinforce Homework	N	PE Teacher	Not Stated
Hodge et al., (2017)	None	Y	Y	Y	SUPER	USA	Com.	Once per week 15-25mins	Problem Solving Communication Emotional Man.	Teamwork Goal Setting	11 weeks	Y	Coach reinforce	N	Peer Students	Not Stated
Holt et al., 2013	None	Y	N	Y	TRY-Sport	Canada	Sch.	Twice per week	Teamwork Confidence	Leadership	3 months	Y	Debrief Reflection	Y	Researcher Fieldworker	Not Stated
Huysmans et al., (2019)	TPSR	Y	Y	Y		Eswatini	Com.	Every weekday 75-100mins	Social skills Emotional reg. Teamwork Leadership Relaxation	Self-Talk Decision making Communication Goal Setting Multiple Values	3 weeks	Y	Reflection	N	Local Coaches	3 days Train-the-trainer
Jacobs & Wright (2019)	None	Y	N	Y	None	USA	Com.	Not stated	Perseverance Leadership Responsibility	Community Respect Teamwork	Season bi-weekly	Y	Debrief Coach reinforce	N	Program Coaches	Annual training
Lee et al., (2017)	None	Y	N	Y	None	Korea	Sport	Once per week	Communication Goal Setting	Teamwork	12 weeks	N	N	N	Coaches	3 sessions
Papacharisis et al., (2005)	None	Y	N	Y	SUPER	Greece	Sport	Once per week 15mins	Goal Setting Problem Solving	Positive Thinking Self-Regulation	8 weeks	Y	N	N	Researcher & Coach	Not Stated
Waldron, (2009)	None	Y	N	Y	None	USA	Com.	4 weeks 3 sessions	Problem Solving Health	Reflection Media	4 weeks	N	N	N	Volunteer Coaches	Not Stated
Weiss et al., (2013)	PYD	Y	N	Y	First Tee	USA	Sport	Not stated	Self-Mgmt. Social Support	Health Goal Setting	Not stated	N	Coach reinforce	N	Trained Coaches	2-day workshop
Weiss et al., (2016)	PYD	Y	N	Y	First Tee	USA	Sport	Not stated	Self-Mgmt. Social support	Health Goal Setting	Not stated	N	N	N	Trained Coaches	Not Stated

Transf. Exp. = Transformative experience; CPG = Clear program goals; CSD = Clear session descriptions; LSE = Life skills embedded; Prog. = Program; Loc. = Location; Cont. = Context; (Com. = community; Edu. = education; Sch. = school); Struct. = Structure; Dur. = Duration; Indiv. = Individualization; Feedback = Ongoing feedback; Train. = Training for those delivering intervention.

Table 4: Characteristics of Evaluation Methods

	Sampling		Data Analysis			Appropriate Measure			Comp. groups	Outcome
	Sample Size	Program Participants	Domain	Method	Freq. of Eval.	Instrument	Valid Meas.	Self-Report	Cont. Group	
Bean et al., (2015)	10 Youth 5 Leaders	Girls Avg. Age 11.75	Mixed Method	Interviews Questionnaire	Post	Semi-structured Interviews Youth Experience Survey (YES) 2.0	Y	Youth Leaders	No	Development
Bean et al. (2016)	8	Girls Age 11-16	Qualitative	Interview	During Post	Semi-Structured	N/A	Youth	No	Development & Transfer
Brunelle et al. (2007)	100	Boys & Girls Age 13–17	Quantitative	Questionnaire	Pre/Post Follow up	SPRS, IRI, SIS, Goal Knowledge, Goal Self Efficacy, Comm service	Y	Youth	No	Partial Development
Goudas & Giannoudis (2010)	86	Boys & Girls Age 11-14	Qualitative	Interviews, Field Notes Workbooks	Post	Semi-Structured	N/A	Youth	No	Development & Transfer
Goudas & Giannoudis (2008)	130	Age 12-14	Quantitative	Questionnaire	Pre/Post	Knowledge Test, Self-belief of ability & Sport Skills test	Y	Youth	Yes	Development
Goudas et al. (2006)	73	Boys & Girls Avg. age 12	Quantitative	Questionnaire	Pre/Post Follow up	Physical Fitness Test, Knowledge Test, Self- Belief of ability	Y	Youth	Yes	Partial Development
Hodge et al. (2017)	36	Boys & Girls Age 7–15	Qualitative	Interviews	During Follow up	Semi-Structured	N/A	Youth Parents	No	Development & Transfer
Holt et al. 2013	Study 1: 28 +2 Study 2: 14 +3	Boys & Girls Age 7-9	Qualitative	Interviews	Post	Semi-structured	N/A	Youth Teachers	No	Development & Transfer
Huysmans et al., 2019	33 youth 2 coaches 1 Teacher	Boys & Girls Age 11-15	Mixed Method	Focus Groups Questionnaire Interview	Pre/Post Follow up	Focus Groups, Interview PSRQ, MSPSE Learning quiz	Y	Youth Coaches Teachers	No	Development & Transfer
Jacobs & Wright (2019)	11	Boys & Girls Age 12-18	Qualitative	Focus Group Interviews Observations Field journal	During Post	N/S	N/A	Youth	No	Development & Transfer
Lee et al. (2017)	6 2 instructors	Boys & Girls Avg. age 11.5	Qualitative	Interviews	Pre Post	N/S	N/A	Youth Facilitator	No	Development & Transfer
Papacharisis et al. (2005)	72	Boys & Girls Age 10-12	Quantitative	Questionnaire	Pre Post	Knowledge Test, Self-belief of ability & Sport Skills test	Y	Youth	Yes	Development
Waldron (2009)	19	Girls Age 11-13	Qualitative	Interviews	Post	Semi-Structured	N/A	Youth	Yes	Development & Transfer
Weiss et al. (2013)	95 youth 26 coaches 24 parents	Boys & Girls Age 11- 17	Qualitative	Interviews Focus Groups	Post	N.S	N/A	Youth Parents Coaches	No	Development & Transfer
Weiss et al. (2016)	Study 1: 564 Study 2: 192	Boys & Girls Age 10-17	Quantitative	Questionnaire	During Post Follow up	LSTS, SPP, SPPa, Character Dev. scale, SSE; Preference for challenge scale	Y	Youth	Yes	Transfer

SPRS = social personal responsibility scale; IRI = Interpersonal Reactivity Index; SIS= Social Interest Scale; PSRQ = Personal and Social Responsibility Questionnaire; MSPSE = Multidimensional Scales of Perceived Self-Efficacy; LSTS = Life skills Transfer Scale; SPP = Self Perception Profile; SPPa = Self Perception Profile for Adolescent; SSE = Scale for Self-Efficacy.