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**Enhancing Parental Support through Parent-Education Programs in Youth Sport:
A Systematic Review**

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Abstract

1
2 Parent-education programs in youth sport appear to provide an appropriate avenue to
3 facilitate healthy parental involvement, enhance positive parental support, and help to relieve
4 stressors placed on parents, coaches, and youth athletes. However, little is known about the
5 efficacy, design, and evaluation methods utilised in parent-education programs in the youth
6 sport context. The aims of the present systematic review were to examine: (1) the outcomes
7 of parent-education programs which target psychosocial parental support; (2) the theoretical
8 underpinnings of parent-education programs; and (3) measures utilised to evaluate parent-
9 education programs in youth sport. A total of 12 articles met the inclusion criteria. All five
10 quantitative studies yielded significant results. All three qualitative studies reported
11 improvements in parents' knowledge and skills. Only one mixed-methods study reported a
12 significant result, however, qualitative data suggested positive changes in parent-athlete
13 relationships. An examination of underlying theoretical frameworks revealed five studies
14 (42%) explicitly stated how theory informed their interventions. Finally, there was an absence
15 of sport-specific measures utilised to evaluate changes in parents' behaviour and
16 involvement. Future researchers should consider adopting behaviour change theories when
17 designing and implementing parent-education programs, and seek to utilise validated sport-
18 specific measures to examine changes in parents' behaviours within the sporting context.

19 *Keywords:* Youth sport; parent-education; education-programs; parental support;
20 program evaluation

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Enhancing Parental Support through Parent-Education Programs in Youth Sport: A Systematic Review

The social support system in youth sport is made up of multiple stakeholders, such as coaches, parents, siblings, teammates, and sport officials (Dorsch et al., 2020; Jowett & Timson-Katchis, 2005). Parents are considered one of the more significant and influential members within this network (Stein et al., 1999), as they are a fundamental component of the youth sport system (Dorsch, 2017). Youth sport participation is predominately facilitated by parents, as they initiate children's involvement in sport (Côté, 1999) and provide them with the resources and support (i.e., practical, emotional, and financial) necessary to participate (Harwood & Knight, 2015). Parents also play a critical role in interpreting values and communicating life and sport skills to athletes (Fredricks & Eccles, 2004). By taking on such an all-encompassing role, parents are equipped with infinite opportunities to either positively or negatively influence their youth athlete's sporting experience.

The wide array of support provided by parents, such as informational support (e.g., provision of information regarding competitions and training), practical support (e.g., logistical and financial assistance), and emotional support (e.g., demonstrating understanding and unconditional love) plays a critical role in the development of youth athletes and has been linked to enhanced enjoyment, self-confidence, and perceived competence in youth athletes (Baker et al., 2003; Leff & Hoyle, 1995; Power & Woolger, 1994). Similarly, autonomy-supportive parenting styles, such as promoting personal autonomy, supporting decision making, and providing appropriate structure allows for more positive outcomes among athletes, such as increased motivation and satisfaction (Gagné, 2003; Holt et al., 2009; Juntumma et al., 2005).

Despite most parents providing appropriate support and having a positive influence on their children's sporting experience, there remains a minority of parents who exhibit

1 parental pressure and inappropriate behaviours (Dorsch et al., 2015; Kidman et al., 1999;
2 Knight, 2019). Gould et al. (2006) examined coaches' perceptions of parental behaviours in
3 junior tennis. The authors reported that while 59% of parents were seen to have a positive
4 influence on their youth athlete's sporting development, 36% of parents were perceived as
5 having a negative influence. Negative parent behaviours included over-emphasizing winning,
6 having unrealistic expectations, and criticizing the athlete (Gould et al., 2006). Observational
7 research conducted by Holt et al. (2008) provides further support, whereby they reported
8 negative and derogatory comments accounting for approximately 15% of the comments
9 directed at athletes. Such pressure often results in reduced enjoyment, increased levels of
10 amotivation, and heightened anxiety (Bois et al., 2009; O'Rourke et al., 2011; Sanchez-
11 Miguel et al., 2013).

12 However, Knight and Newport (2017) highlighted that parenting in sport is a much
13 more complex process than knowing how and when to provide support. Early research in the
14 area of parental involvement in youth sport, focused on the unidirectional influence of parents
15 on their children's sport participation (Greendorfer, 1992). However, the research progressed
16 and adopted a more parent-focused approach. For example, Snyder and Purdy (1982), Weiss
17 and Hayashi (1995), and Dorsch et al. (2009) have demonstrated the bi-directional and
18 reciprocal influence of parents and athletes on socialisation in sport, whereby athletes are not
19 only influenced by parents, but also influence their parents' thoughts and behaviours. In
20 recent years, researchers have continued to adopt this parent-focused approach, whereby they
21 sought to understand sport parents' experiences and stressors (e.g., Clarke & Harwood, 2014;
22 Harwood et al., 2010; Harwood & Knight, 2009a; Harwood & Knight, 2009b; Thrower et al.,
23 2016). Harwood and Knight (2009b) examined stressors experienced by tennis parents across
24 different development stages and identified that parents experienced a range of organizational
25 (e.g., finance, time, governing body systems), competitive (e.g., athlete's behaviour and

1 performance), and development stressors (e.g., athlete's education and future). Similarly,
2 Thrower et al. (2016) examined British tennis parents' education and support needs, which
3 demonstrated the importance of providing parents with education that again addresses their
4 introductory, organisational, developmental, and competitive needs. The results from these
5 studies highlight that despite best intentions, parents are sometimes unaware of how to
6 optimally support their youth-athletes.

7 The most recent developments in the area of parental involvement in youth sport have
8 seen the introduction of parent-education programs and interventions, which appear to
9 provide an appropriate avenue to both reduce inappropriate parental involvement and
10 improve athlete outcomes by alleviating some of the stressors experienced by parents,
11 coaches, and youth athletes. The aims of such programs were to promote and enhance
12 positive parental involvement in youth sport to facilitate a positive youth sport environment
13 (e.g., Dorsch et al., 2017; Tamminen et al., 2020; Thrower et al., 2017; Thrower et al., 2019).
14 Dorsch et al. (2017) developed, implemented, and evaluated an evidence-based education
15 program for American youth soccer parents. The program included a 22-page Sport Parent
16 Guide, and a 45-minute Sport Parent Seminar, both of which detailed evidence-based tips and
17 strategies for parenting in youth sport. Content included topics such as youth sport
18 participation, athlete development, communication strategies, working with coaches, and
19 positive sport parenting. Furthermore, Thrower et al. (2017) implemented an evidence-based
20 education program designed to meet the needs of British tennis parents. The program
21 educated parents on topics such as supporting your child during mini-tennis, the Lawn Tennis
22 Associations' mini-tennis organizational system, child and talent development, and
23 competition roles. Results illustrated that these interventions have had a positive impact,
24 improving parents' perceived knowledge and attitudes (Thrower et al., 2017), with children
25 also reporting higher perceptions of competence, and lower levels of stress (Dorsch et al.,

1 2017). However, despite the apparent positive impact of such programs in several sporting
2 contexts, there has been no systematic review conducted which utilizes a rigorous research
3 methodology to evaluate and appraise the impact of parent-education programs within youth
4 sport. This is surprising given that parent-education programs are the primary tool to promote
5 positive parental support.

6 Further, while parent-education programs offer opportunities to improve parental
7 involvement and enhance positive parental support to facilitate adaptive athlete outcomes,
8 very little is known about the theoretical underpinnings used to design and implement such
9 programs. Researchers in the field of sport and exercise psychology have expressed their
10 concerns at the lack of rigorous intervention research designs within the field (Schinke et al.,
11 2020). An important component of rigorous intervention design is the inclusion of a
12 theoretical underpinning. However, Prestwich et al. (2014) have previously highlighted that
13 many interventions do not utilize theory in their design or evaluation. Moreover, when theory
14 is mentioned, it is not applied extensively. Parent-education programs in youth sport appear
15 to provide an appropriate method to improve positive parental involvement, and address the
16 demands faced by parents of youth athletes. However, examining if such programs have been
17 guided by an underlying theoretical framework appears pertinent, given the noted lack of
18 rigorous intervention research design within the discipline.

19 Moreover, clear challenges remain when attempting to successfully examine the
20 effectiveness of such sport-parenting interventions. Knight (2019) states that issues remain in
21 examining the effectiveness of these interventions, as “currently there are few validated,
22 theory-grounded measures available, that can be used to specifically examine changes in
23 parents’ involvement, behaviour, or attitudes” (p. 256). Thrower et al. (2017) further
24 supported this claim by suggesting that future researchers should draw on measures which
25 evaluate the domain of learning targeted.

1 search, manual searches of sport and exercise psychology journals, were also carried out, to
2 ensure that no eligible papers were overlooked.

3 The inclusion criteria for this review are detailed in Table 1. Participants included
4 parents and/or carers of youth athletes aged between 5-18 years. The exposure or intervention
5 was parent-education programs, which aimed to enhance parents' knowledge of positive
6 psychosocial parental support. Parent-education programs conducted in a youth sport setting
7 only were included. For the purpose of this review, Loy's (1968) definition of sport was
8 adopted which is described as "competition whose outcomes is determined by physical skill,
9 strategy, or chance employed singly or in combination" (p. 1). Consequently, parent-
10 education programs where the focus was not on improving parents' knowledge of
11 psychosocial parental support (e.g., concussion parent-education), or programs which were
12 not conducted in a sport setting (e.g., physical activity or leisure setting) were excluded.
13 Although studies were limited to sport-based parent-education programs, no context
14 limitation was applied in terms of delivery method. For example, individual and group
15 interventions in a variety of environments (e.g., online and face-to-face) were included.

16 There were three primary outcomes of interest for this review, which sought to
17 examine aspects of design, evaluation, and effectiveness of the included papers; (1) the
18 outcomes of parent-education programs which target psychosocial parental support in youth
19 sport; (2) the theoretical underpinnings of parent-education programs in youth sport; and (3)
20 measures utilised to evaluate parent-education programs in youth sport. Given the anticipated
21 scarcity of parent-education programs in youth sport, it was expected that the number of
22 parent-education programs which applied a randomized control design would be limited,
23 therefore no limitation was placed on study design. However, included papers were limited to
24 peer-reviewed publications in English only. Therefore, abstracts, book chapters, conference

1 proceedings, review papers, grey literature including non-peer reviewed papers, Masters
2 theses, and PhD dissertations were all excluded.

3 Utilizing the search strategy developed in consultation with the University's subject
4 librarian, a search of the chosen electronic databases (i.e., PsychInfo, Scopus, SportDiscus,
5 and Web of Science) was conducted in May 2020. Results were exported to the selected
6 citation management database, RefWorks, where duplicates were removed in line with
7 PRISMA guidelines (Page et al., 2021). Upon completion of the removal of duplicates, the
8 complete database of citations was exported to a Microsoft Excel file, for title and abstract
9 screening. Title and abstract screening were carried out by one member of the research team,
10 to identify potentially relevant papers. This phase included reading the title and abstracts of
11 all the articles retrieved from the search, screening them systematically and selecting those
12 that met the inclusion criteria. Having completed title and abstract screening, the full-text
13 screening was independently completed by all four members of the research team. This phase
14 included reading and screening the full text of all remaining articles for eligibility against the
15 inclusion and exclusion criteria. Each member of the research team utilised a standardised
16 screening template. Discrepancies in results were resolved through discussion. For example,
17 there was some disagreement around the inclusion of parent-education programs which
18 targeted mental health literacy. However, following discussions it was agreed that such
19 programs did not meet the inclusion criteria. For each paper that did not satisfy the inclusion
20 criteria, a rationale for omission was provided.

21 The Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018) was employed to
22 assess study quality. The MMAT was designed for the critical appraisal of systematic
23 reviews, which include qualitative research, randomized controlled trials, non-randomized
24 studies, quantitative descriptive, and mixed method studies. Given the diversity of methods
25 employed across the included papers, the MMAT was deemed an appropriate quality

1 assessment tool for this review. The first phase of quality assessment when using the MMAT
2 asks two questions, irrespective of study design: (1) Are there clear research questions? And
3 (2) Do the collected data address the research questions proposed? The second phase of
4 appraisal then further reviews the methodological quality using criteria specific to the
5 research design. Each criterion is scored with a 'yes', 'no' or 'can't tell'. Given the critical
6 appraisal process is somewhat subjective, the MMAT (Hong et al., 2018) suggests that at
7 least two reviewers should independently complete the appraisal process. Accordingly, two
8 members of the research team independently conducted the quality assessment of the
9 included articles. An agreement score of 89% was reached before discussion, with a 100%
10 agreement rate post-discussion. Within the MMAT, the first screening question asks "are
11 there clear research questions?". Many of the included papers in this review listed research
12 aims rather than questions, and so much of the disagreement centred around the scoring of the
13 first screening question. However, having sought clarification from the authors of the MMAT
14 tool, the research team made the decision to treat research aims and questions similarly.

15 Upon completion of the quality assessment, data extraction was completed. To guide
16 this process, a data extraction sheet was developed which included study information, such as
17 title, author, and year of publication. Further, the data extraction form included information
18 related to study characteristics (i.e., aims and objectives, study design, location, method of
19 recruitment, intervention description, duration, and frequency). Additionally, the data
20 extraction sheet also included demographic information (i.e., number of participants, age,
21 gender, sport type, and level of sport) and information pertinent to the outcomes of this
22 review such as the effectiveness of the parent-education programs (i.e., time points measured,
23 change from baseline), theoretical underpinnings, and finally measures used to evaluate the
24 programs (i.e., type of measure, reliability, and validity of measure).

1 criteria. For the mixed-methods studies, Hong et al. (2018) suggested that the overall quality
2 of a study, cannot exceed the quality of its weakest component. These criteria were applied to
3 all mixed-method studies included in this review.

4 **Study Characteristics**

5 In this section a descriptive overview is provided of the parent-education programs
6 included in this review. Of the 12 papers, three were qualitative (Lisinskiene & Lochbaum,
7 2019; McMahon et al., 2018; Thrower et al., 2017), five were quantitative (Dorsch et al.,
8 2017; Ford et al., 2012; Sampol et al., 2018; Smoll et al., 2007; Tamminen et al., 2020), and
9 four were mixed methods (Azimi & Tamminen, 2020; Harwood & Swain, 2002; Richards &
10 Winter, 2013; Thrower et al., 2019).

11 The included papers had parent-education programs across a range of sports including
12 soccer (Azimi & Tamminen, 2020; Dorsch et al., 2017; Sampol et al., 2013), tennis
13 (Harwood & Swain 2002; Thrower et al., 2017; Thrower et al., 2019), and ice-hockey (Azimi
14 & Tamminen, 2020; Tamminen et al., 2020). It is important to note that Ford et al. (2012) did
15 not state the sport in which the education program was delivered. Similarly, these programs
16 were delivered across a range of countries, including Canada (Azimi & Tamminen, 2020;
17 Tamminen et al., 2020), the United States (Dorsch et al., 2017; Ford et al., 2012; Smoll et al.,
18 2007) and the United Kingdom (Harwood & Swain, 2002; Richards & Winter, 2013;
19 Thrower et al., 2017; Thrower et al., 2019).

20 Looking more specifically at content, these programs sought to educate parents across
21 a variety of topics, such as athlete development (4); abuse (3); communication styles and/or
22 strategies (6); children's needs (3); developing safe environments (1); establishing and
23 maintaining relationships (5); injury management (1); managing expectations and misplaced
24 enthusiasm (1); motivational climate and/or achievement goals (3); parental behaviours (8);
25 types of parent involvement and/or support (3); the role and importance of parents (3); the

1 role and importance of coaches (3); and reasons for participation (2). The duration and
2 frequency of programs ranged from 25 minutes with one online-education module (Ford et
3 al., 2012) to 12 months, consisting of 12, 60-minute theory classes once a month (Lisinskiene
4 & Lochbaum, 2019). Of the 12 included studies, seven papers implemented a short, one off
5 education workshop or seminar, accompanied by supplementary materials such as
6 information guides, reflective practice, or practical tasks (Azimi & Tamminen, 2020; Dorsch
7 et al., 2017; Ford et al., 2012; McMahon et al., 2018; Sampol et al., 2019; Smoll et al., 2007;
8 Tamminen et al., 2020). The remaining five studies implemented multiple education
9 workshops (2-12 sessions), also accompanied again by a combination of information
10 booklets, practical tasks, and journal articles (Harwood & Swain, 2002; Lisinskiene &
11 Lochbaum, 2019; Richards & Winter, 2013; Thrower et al., 2017; Thrower et al., 2019). Of
12 the 12 included studies, three parent-education workshops were delivered online (Ford et al.,
13 2012; Tamminen et al., 2020; Thrower et al., 2019). The remaining nine parent-education
14 programs were delivered in person, face-to-face.

15 Sample sizes ranged from 14 (McMahon et al., 2018) to 366 participants (Tamminen
16 et al., 2020) (see Table 3). However, the total number of participants across all included
17 studies remains unclear, due to the lack of transparency in the reporting of a sample size by
18 Sampol et al. (2019). Attendance rates were noted as a limitation across three studies. For
19 example, Thrower et al. (2017) invited 150 British tennis parents to participate in a parent-
20 education program, designed to meet their needs. Over the course of the study, 31 parents
21 attended at least one workshop. However, only two parents completed all seven workshops,
22 with 22 parents completing four or more. Further, only 19 parents participated in post-
23 program focus groups, to evaluate the effectiveness of the program. Similarly, Thrower et al.
24 (2019) reported that while 38 parents provided consent and completed pre-program
25 questionnaires, only 13 parents completed post-program evaluation measures. Further, Azimi

1 and Tamminen (2020) provided a program to parents of 10 athletes. The small number of
2 participants may have prevented the data from yielding statistical significance in the results.

3 **Outcomes of Programs**

4 The impact and outcomes of the included parent-education programs were examined
5 (see Table 4). All five quantitative studies, which all included pre- and post-program
6 evaluation methods reported significant changes. Dorsch et al. (2017) utilized repeated
7 measures analyses of variance to examine the equality of variable means for participants
8 across three conditions (full, partial, and non-implementation) at two time points (pre- and
9 post-program). Results indicated a significant group x time interaction for Parental Support
10 ($F(2, 54) = 7.08, \alpha = .002$); Parental Pressure ($F(2, 54) = 12.87, \alpha < .001$); Parent-Child
11 Warmth ($F(2, 54) = 4.99, \alpha = .010$); Parent-Child Conflict ($F(2, 54) = 3.27, \alpha = .046$); Child
12 Enjoyment ($F(2, 54) = 4.40, \alpha = .017$); Child Competence ($F(2, 54) = 3.85, \alpha = 0.27$); and
13 Child Stress ($F(2, 54) = 6.66, \alpha = .003$). Ford et al. (2012) reported a significant increase in
14 parents' sportspersonship behaviours from pre- to post-test ($t(94) = 3.84, p = .000, d = .433$).
15 Sampol et al. (2019) also reported a significant decrease in negative parental comments for
16 the experimental group ($t = 3.145, p = .026$), however no significant changes were reported
17 for positive and neutral parental comments from pre- to post-program.

18 Smoll et al. (2007) revealed significant reductions for the experimental group in
19 overall sports anxiety ($t = 3.24, p = .001$), somatic anxiety ($t = -3.35, p = .001$), worry ($t = -$
20 $2.34, p = 0.21$), and concentration disruption ($t = -2.56, p = .011$), when compared to the
21 control group. Finally, Tamminen et al. (2020) reported that athletes in leagues that had
22 implemented the program showed fewer antisocial behaviours towards opponents over time
23 ($\beta_{10} = -0.37, p = .047$). Further, analyses indicated significant differences ($F(3, 328) = 2.68,$
24 $p < .05, \eta^2 = .02$) in prosocial behaviours towards teammates between athletes in leagues
25 which had implemented the parent-program at different time points. Post-hoc results

1 indicated that athletes in leagues which had implemented the program for a longer period of
2 time showed improvements in prosocial behaviours towards teammates, however these
3 differences were only marginally significant, Tukey's $p = .08$. Lastly, there was a non-
4 significant trend among athletes in leagues which had implemented the program whereby
5 they reported more opportunities to develop personal and social skills. There were no
6 significant differences in parental support and pressure, opportunities for goal setting or
7 initiative, perceived negative experiences, and enjoyment and commitment.

8 One mixed-methods study reported no significant changes from pre- to post-program
9 (Azimi & Tamminen, 2020). Harwood and Swain (2002) adopted an idiographic approach,
10 whereby they combined individual case studies with multiple baseline design features and
11 cross-case analyses to examine intraindividual changes in achievement goal involvement
12 responses. They reported that participants in the experimental group showed increases in self-
13 directed task involvement, composite self-regulation, self-efficacy, and reductions in social
14 approval ego involvement. Interestingly, all participants in the experimental group either
15 maintained or increased task orientation and maintained or decreased ego orientation, while
16 the control participant reported decreases in task orientation. Further, qualitative findings
17 reported that all participants felt the support they received from their parents played an
18 important role in their improvements and reported that the importance they placed on
19 personal performance and winning had changed for the better. Additionally, all parents noted
20 positive changes in their relationship with their child, for example one parent noted being
21 able to talk more openly to their child-athletes. Richards and Winter (2013) implemented a
22 post-intervention program evaluation form. Results indicated that 100% of parents found the
23 program very useful, while 75% of parents indicated that they would use the strategies
24 provided. Further, qualitative findings suggest that the program improved parents' knowledge

1 of the benefits of task orientation, helped parents to see issues from their child's perspective,
2 and raised parents' awareness of the impact of inappropriate reactions.

3 Thrower et al. (2019) reported significant improvements in Parent-Parent
4 Relationship Efficacy ($t(12) = -3.53, p = .004$), however there were no significant changes for
5 any of the other variables measured (i.e., emotional experiences, task and ego goal
6 orientations, tennis parent efficacy). Thrower et al. (2019) did highlight however, that the
7 lack of significant changes may be a result of the low number of participants who completed
8 pre- and post-program questionnaires. Qualitative results highlighted that the online program
9 was more accessible to parents, and that the design of the online program improved the
10 efficacy of the intervention.

11 Results from the qualitative findings demonstrated how programs allowed parents to
12 develop new skills and acquire new knowledge. Lisinskiene and Lochbaum (2019) reported
13 that the educational component of the intervention allowed parents to develop new skills and
14 understanding such as communication and social skills. The program also allowed parents to
15 gain new knowledge such as positive sport parenting strategies and perceptions of positive
16 and negative youth sport parenting. Similarly, Thrower et al. (2017) noted improvements in
17 parents' knowledge, as parents reported an improved understanding of tennis, the youth sport
18 environment, and children's psychosocial needs. The program also enabled change in
19 parents' attitudes, beliefs, and values in relation to their own reasons for involvement, the
20 goal of junior tennis, and causes of stress among junior tennis players. Lastly, the program
21 was effective in improving parents' behaviours, such as communication skills. Following the
22 delivery of a narrative pedagogy parent-education program, McMahon et al. (2018) also
23 reported that parents were able to identify unacceptable coaching practices in youth sport.

24 **Theoretical Underpinning**

1 Given the lack of rigorous research intervention design within the field of sport and
2 exercise psychology (Schinke et al., 2020), the theoretical underpinnings of each of the
3 included interventions were examined, which yielded a variety of results. Smoll et al. (2007)
4 translated theoretical principles of Achievement Goal Theory (i.e., task mastery-involving
5 motivational climate; Nicholls, 1984) into a practical and educational approach to reduce
6 anxiety among athletes. The education program promoted a task mastery-involving
7 motivational climate which placed an emphasis on giving maximum effort, individual
8 improvement, and enjoyment. Further, Harwood and Swain (2002) translated factors which
9 underpin the socialization of goal orientations and the activation of task and ego involvement
10 (Harwood & Swain, 2002) into a series of athlete, parent, and coach intervention techniques,
11 in order to improve athletes' task and ego orientations.

12 Thrower et al. (2017) and Thrower et al. (2019) also made references to theory in the
13 development and implementation of their interventions. The Loughborough Tennis Parent-
14 Education Program (Thrower et al., 2017; Thrower et al., 2019) was adopted from a grounded
15 theory of British tennis parents' needs and other relevant tennis parent literature (Harwood &
16 Knight, 2009a; Harwood & Knight, 2009b; Harwood & Knight, 2015; Knight & Holt, 2013a;
17 Knight & Holt, 2013b; Thrower et al., 2016). The grounded theory highlighted the
18 importance of providing tennis parents with education that addresses their introductory,
19 organizational, developmental, and competition needs, across two development stages.
20 Further, the theory notes the importance of on-going support and a supportive learning
21 environment, when addressing parents support needs. Thrower et al. (2017) and Thrower et
22 al. (2019) provided education sessions, each one addressing the needs of parents (i.e.,
23 introductory, organizational, developmental, and competition needs) outlined in the grounded
24 theory. Both programs concluded with a workshop which helped parents to identify their
25 social support network and provided information about developing and maintaining healthy

1 relationships. These concluding sessions satisfied the importance of providing parents with
2 on-going support, an important component of the theory. Azimi and Tamminen (2020)
3 utilized evidence-based research to educate parents regarding positive parental involvement
4 and support in the youth sport setting, athletes' preferences for parental behaviours, athlete
5 development, and parent-child communication in and out of sport. However, Azimi and
6 Tamminen (2020) also incorporated Gibbs' (1988) reflective cycle to enhance parents'
7 awareness of their communication with their children, in the youth sport context.

8 McMahon et al. (2018) utilized narrative pedagogy as a tool to educate parents about
9 abuse in sport. Within the paper, McMahon et al. (2018) made reference to narrative
10 pedagogy being based on a theory of social constructivism, whereby knowledge is gained
11 through the reciprocal sharing of stories. One could argue that narrative pedagogy is an
12 education tool, grounded in social constructivism. However, Nelson et al. (2016) identified
13 narrative pedagogy as a modern theory of learning and social interaction in itself. Although
14 McMahon et al. (2018) make reference to narrative pedagogy being based on a theory of
15 social constructivism, it remains unclear which theory of social constructivism was utilised.

16 Dorsch et al. (2017) utilized Bronfenbrenner's (2005) ecological theory to guide their
17 hypothesis. They claimed that parents who are provided with an evidence-based education
18 program will alter their behaviour in order to strengthen parent-child relationships and
19 enhance children's experiences in sport. Despite Dorsch et al. (2017) reporting that
20 Bronfenbrenner's (2005) Ecological Theory guided their hypotheses, it is unclear if this
21 theory was used to help guide the development and implementation of the program.

22 Similarly, Lisinskiene and Loachbaum (2019) sought to improve parent-child attachment in
23 youth sport through utilising Bowlby's Attachment Theory (Bowlby, 1988). However, they
24 too failed to report if this theory was used to guide the development of the program.

1 The remaining four studies did not make any reference to theory in the development
2 or implementation of their programs (Ford et al., 2012; Richards & Winter, 2013; Sampol et
3 al., 2020; Tamminen et al., 2020). However, the aim of Richards and Winter (2013) was to
4 enhance parents' knowledge and awareness of their child's goal orientation and to provide
5 parents with effective strategies to modify and create a motivational climate which fosters
6 high task orientation. Therefore, it could be argued that Achievement Goal Theory (Nicholls,
7 1984) did play a role in the development and implementation of the intervention.

8 **Evaluation Measures**

9 Table 5 provides an overview of the measures used to evaluate the included studies.
10 A total of 25 different assessment tools were utilized across the nine quantitative and mixed-
11 method studies. The Parental Involvement in Activities Scale (PIAS; Anderson et al., 2003)
12 was the most frequently used tool, which examined changes in parental support and pressure
13 displayed by parents pre- and post-program (Azimi & Tamminen, 2020; Dorsch et al., 2017;
14 Tamminen et al., 2020). Internal consistency reliability scores for the PIAS ranged from .56
15 for the support scale and .68 for the pressure scale (Azimi & Tamminen, 2020) to .79 for the
16 support and .76 for the pressure scale (Dorsch et al., 2017). However, no information was
17 provided on the validity of this measurement tool.

18 There were a number of measures utilized to examine changes in parents' behaviour
19 following the delivery of parent-education programs. Azimi and Tamminen (2020) used the
20 Parent-Adolescent Communication Scale (PACS; Barnes & Olson, 1985) and Parental
21 Authority Questionnaire (PAQ; Buri, 1991) to assess quality of communication and parenting
22 styles displayed by parents. Dorsch et al. (2017) used The Sport Friendship Quality
23 Questionnaire (Weiss & Smith, 1999) and Child's Report of Parental Behaviour Inventory
24 (Schwartz, 1985) to assess parent-child conflict and parent-child warmth pre- and post-

1 that it is critical for future research to explore unexamined populations (Dorsch et al., 2021;
2 Knight, 2019). The results from the present review highlight that sports such as tennis and
3 soccer in American and British samples, also dominate the parent-education literature. A
4 move beyond these samples in future parent-education programs may help enhance parental
5 involvement and athlete outcomes in under investigated populations, and further our
6 understanding of the complex phenomenon that is the parent-athlete relationship.

7 Of the 12 included studies, seven papers implemented a short, one-off education
8 workshop, while the remaining five studies implemented multiple education workshops. Due
9 to the diversity of evaluation methods (i.e., qualitative and quantitative methods), it was
10 difficult to draw conclusions about the efficacy of programs which implemented multiple
11 workshops, in contrast to programs which delivered one short educational session. Programs
12 which did implement multiple workshops appeared to suffer from higher levels of attrition
13 (e.g., Thrower et al., 2017; Thrower et al., 2019), however, given the competing demands and
14 stressors that sport parents experience (e.g., Clarke & Harwood, 2014; Harwood et al., 2010;
15 Harwood & Knight, 2009a, Harwood & Knight, 2009b; Thrower et al., 2017), this is
16 unsurprising. Parent-education programs which delivered one educational session
17 experienced greater parent participation (e.g., Dorsch et al., 2017; Ford et al., 2012; Smoll et
18 al., 2007; Tamminen et al., 2020) and appeared to be a more time and cost-efficient means of
19 delivering parent-education. However, such programs are often short and instructive in
20 nature, which fail to promote parent interaction with both researchers and fellow parents. One
21 must question the long-lasting impact, effectiveness, and behaviour change associated with
22 such programs.

23 Future researchers and practitioners should continue to develop and implement
24 longitudinal educational programs, with multiple sessions and forums to promote extended
25 parental involvement and interaction, in addition to long-term follow-up support. In doing

1 this, researchers and practitioners should also consider the various demands sport parents
2 experience (e.g., time constraints, childcare) in the planning stage of the intervention and
3 implement strategies to promote greater participation. One strategy which may be appropriate
4 is flexible engagement methods (e.g., an option of in person face-to-face or virtual recorded
5 sessions) and family friendly delivery environments. Further, increased support from
6 National Governing Bodies (Richards & Winter, 2013), and incentives for participation
7 (Thrower et al., 2019) may also reduce attrition rates. However, even implementing such
8 strategies it is possible that such longitudinal programs will still experience lesser
9 participation, but as researchers and practitioners we must take into consideration the long-
10 lasting impact and behaviour change associated with such programs, in contrast to short, one-
11 off education sessions.

12 Additionally, future researchers could also consider adopting randomized controlled
13 trials and evaluating athlete outcomes. Many of the parent-education programs included in
14 this review examined changes in parents' knowledge and behaviours (e.g., Thrower et al.,
15 2017; Thrower et al., 2019). Given that the aim of such programs is to improve parent's
16 knowledge and attitudes, examining parents experiences of such interventions is appropriate.
17 Future research should consider the impact of parent-education programs on athlete
18 outcomes, post-intervention and at follow-up. Examining the impact of such programs on
19 athlete's experiences and outcomes would advance study designs in this area, and also allow
20 researchers and practitioners to unpack the impact of such programs on athletes too. Further,
21 many of the existing parent-education programs reported changes in parent's knowledge as a
22 result of participation. However, previous research (Dorsch et al., 2009, Dorsch et al., 2015)
23 has documented that parent's develop both technical and context-specific sport knowledge as
24 a result of their children's sport participation. Implementing randomized control trials when
25 developing future parent-education programs will allow researchers to identify changes and

1 improvements that are occurring as a result of the implementation of any interventions, in
2 contrast to changes occurring as a results of parent's time spent in the youth sport
3 environment.

4 All of the quantitative studies included in the review produced some significant
5 effects, with qualitative results indicating improvements in parents' knowledge and skills.
6 However, again due to the diversity in program design and evaluation methods, it was
7 difficult to draw concrete conclusions on the overall efficacy of these programs. Further,
8 when examining the results of the included programs, there were some noteworthy
9 limitations. Firstly, Ford et al. (2012) assessed parents' self-perceived sportpersonship
10 behaviours immediately after completion of the education module. An observation of parents'
11 sportpersonship behaviours in the youth sport context or indeed an examination of athletes'
12 perceptions of their parents' behaviours pre- and post-program would have been more
13 beneficial. Additionally, there were a number of programs that implemented multiple
14 components (Harwood & Swain, 2002; Lisinskiene & Lochbaum, 2019; Smoll et al., 2007).
15 For example, Smoll et al. (2007) delivered a systemic program, designed to help coaches and
16 parents reduce athlete anxiety, by adopting a task mastery-involving motivational climate.
17 Similarly, Harwood and Swain (2002) implemented an intervention which incorporated
18 educational, strategy, and skills-based exercises for tennis players, parents, and coaches to
19 enhance the motivational climate. Despite these interventions significantly reducing athletes'
20 anxiety (Smoll et al., 2007) and improving athletes task orientation (Harwood & Swain,
21 2002), due to the systemic nature of the programs it is hard to conclude which component led
22 to these positive outcomes.

23 A critical component of rigorous intervention design is the inclusion of a theoretical
24 underpinning in its design and evaluation. The explicit use of theory has many advantages.
25 First, theory can help inform the development of interventions, by identifying theoretical

1 constructs which influence behaviour. Further, theory-based interventions can also help
2 researchers and practitioners identify why interventions are effective or ineffective (Michie &
3 Prestwich, 2010). As a result, theory-based interventions can help further develop and refine
4 the underlying theory (Prestwich et al., 2015). Despite the well documented benefits of the
5 inclusion of an underlying theoretical framework, there were variable results with regards
6 theoretical underpinnings in the included studies.

7 Azimi and Tamminen (2020), Smoll et al. (2007), Harwood and Swain (2002),
8 Thrower et al. (2017), and Thrower et al. (2019) all explicitly stated how theory informed the
9 development of their programs. However, there were three studies included in the review
10 which lacked clarity on how theory was utilised. For example, Dorsch et al. (2017) cited
11 Ecological Theory (Bronfenbrenner, 2005) when discussing their hypothesis. However, it
12 remained unclear how this theory informed the development and/or implementation of the
13 program. Similarly, Lisinskiene and Lochbaum (2019) cited Attachment Theory (Bowlby,
14 1988), but again failed to explain how it influenced the development of the intervention.
15 Michie and Prestwich (2010) have previously highlighted that simply citing theory-based
16 literature in relation to the intervention is not sufficient, and that it is imperative of
17 researchers and practitioners to explain how theory has guided the intervention.
18 Additionally, there were four studies which failed to make reference to any theory (Ford et
19 al., 2012; Richards & Winter, 2013; Sampol et al., 2019; Tamminen et al., 2020). Such an
20 observation can be linked to Prestwich et al. (2014) who have previously noted a lack of
21 theory in the design and evaluation of intervention research. Further, when theory is
22 embedded within an intervention, it is not applied extensively (e.g., Dorsch et al., 2017;
23 Lisinskiene & Lochbaum, 2019). Researchers in the field of sport and exercise psychology
24 have expressed their concerns at the lack of rigorous intervention research designs within the

1 field (Schinke et al., 2020). The lack of explicit use of theory within the included parent-
2 education programs lends weight to this claim.

3 In terms of future directions and advancing research design, the application of
4 behaviour change theory (e.g., Social Learning Theory; Transtheoretical Model of Behaviour
5 Change) (Bandura, 1977; Prochaska & Velicer, 1997) appears to provide a fruitful avenue to
6 help achieve positive changes in behaviour among sport parents. Behaviour change theory
7 allows researchers and practitioners to identify the specifics of “why, when, and how
8 behaviour does or does not occur, and the important sources of influence to be targeted in
9 order to alter the behaviour” (Michie et al., 2014, p. 33). In a recent review of coach
10 development programs, Allan et al. (2018) highlighted that a theory which only identifies
11 optimal behaviours for producing certain outcomes cannot be classified as a behaviour
12 change theory. Instead, behaviour change theories go beyond this by providing an
13 explanation on how and why human behaviours change or the conditions that lead to
14 behaviour change. Tamminen et al. (2020) has recently suggested that parent-education
15 programs would benefit from the inclusion of behaviour change theories. Further, looking
16 beyond parent-education, coach development programs have previously implemented
17 behaviour change theories successfully, with positive outcomes (e.g., Cheon et al., 2015;
18 Zakrajsek & Zizzi, 2008). We acknowledge that the aim of many of the programs included in
19 this review was to examine the effects of parent-education on parents’ attitudes and
20 cognitions, and therefore such programs did not lend themselves to the adoption of behaviour
21 change theories. However, given the documented benefits of using behaviour change
22 theories, as suggested by Tamminen et al. (2020) future researchers may benefit from
23 advancing research designs and adopting appropriate behaviour change frameworks (e.g.,
24 Transtheoretical Model; Theory of Planned Behaviour) in the development and

1 implementation of parent-education programs in youth sport, to promote positive behaviour
2 change among sport parents and to illustrate how this change occurs.

3 When designing behaviour change interventions, it is imperative that careful
4 consideration is given to the theoretical basis of the intervention and that such interventions
5 target and measure theoretically relevant constructs, both at baseline and follow-up (Michie
6 & Johnston, 2012). Further, of particular pertinence is the implementation of Behaviour
7 Change Techniques (BCT). A BCT is an observable, replicable and irreducible component
8 designed to alter behaviour. Michie et al. (2015) developed an extensive hierarchically
9 structured taxonomy of behaviour change techniques, which included techniques such as
10 goal setting, problem-solving, monitoring of behaviour, and social support. Future
11 researchers may consider this taxonomy when designing and implementing behaviour change
12 interventions. Examining papers included in this review, Azimi and Tamminen (2020)
13 utilised reflective practice to help parents reflect on their communication with their children
14 in sport contexts. Further, Thrower et al. (2019) utilised an online discussion forum for
15 parents to interact with other parents. Although the authors did not present such strategies as
16 BCT's, one could argue that they are forms of self-monitoring of behaviour and social
17 support, both of which are behaviour change techniques listed by Michie et al. (2015).
18 Moving forward, it is important that there is alignment between both the constructs of
19 behaviour change and the chosen behaviour change techniques (Michie & Johnston, 2012).
20 Complementing earlier discussions, it is unlikely that short, one-off parent-education sessions
21 will achieve such behaviour change, supporting the need for future programs to design and
22 implement longitudinal, multiple session and interactive programs, which consider the
23 multitude of demands placed on parents of youth athletes.

24 When examining the measures used to evaluate the programs included in the current
25 review, there appears to be a clear absence of sport-specific measures available to examine

1 changes in parents' behaviour. For example, the Parent-Adolescent Communication Scale
2 (PACS; Barnes & Olson, 1985) and the Parental Authority Questionnaire (PAQ; Buri, 1991)
3 were used to assess quality of communication and parenting styles displayed by parents,
4 despite not being developed or validated for use in a sport specific context. Gill (1997)
5 reported that one of the most significant advances in the field of sport and exercise
6 psychology was the move away from general psychometric measures, towards sport-specific
7 measures pertinent to sport and exercise behaviours. Despite this progress being
8 acknowledged decades ago, it is somewhat surprising to still see general measures of parent
9 behaviours being used to evaluate parent-education programs in youth sport. Further, with the
10 exception of the Parental Involvement in Activities Scale (Anderson et al., 2003), sport-
11 specific measures utilised focused more on examining parents' self-efficacy or experiences
12 within sport (e.g., Tennis Parent Efficacy Scale; Tool to Measure Parenting Self-Efficacy;
13 Sports Emotion Questionnaire) rather than aspects of parental involvement, such as support
14 or communication. Although we encourage researchers and practitioners to consider
15 validated and sport-specific measures of parental involvement when evaluating future parent-
16 education programs. The results from this review suggest that such measures are sparse,
17 supporting Knight's (2019) claim that there is currently an absence of psychometrically
18 sound, sport-specific measures available to examine changes in parents' behaviours in youth
19 sport.

20 The Parental Involvement in Activities Scale (Anderson et al., 2003) was the most
21 utilised measure among the included studies. This is not surprising given that it appears to be
22 the only sport-specific scale which measures parental support. The PIAS was developed to
23 assess children's perceptions of their parents' involvement in their extracurricular activity
24 participation and is a 16-item measure of parental support and pressure. Despite its extensive
25 use, there are some notable issues with this measure. Firstly, when examining the reliability

1 of the PIAS there was a great deal of variability in the reported internal consistency reliability
2 scores. Azimi and Tamminen (2020) reported poor reliability and encouraged readers to
3 carefully interpret the results for the PIAS and went on to urge future researchers and
4 practitioners to consider alternative measures of parental involvement in sport. However,
5 Dorsch et al. (2017) reported acceptable reliability for the measure. Looking beyond the
6 included studies to other research which has made use of the PIAS, Anderson et al. (2003)
7 reported acceptable reliability for the development of the tool (Cronbach's alpha .70 for the
8 support scale and .71 for the pressure scale). Despite reporting acceptable reliability scores,
9 Anderson et al. (2003) noted that further research and psychometric testing on the PIAS is
10 required, including an examination of its convergent and divergent validity. To our
11 knowledge, no further rigorous psychometric testing has been completed for this measure.
12 Further, it is well documented that theory plays an imperative role in the development of
13 scales, particularly in the social sciences (Tenenbaum et al., 2012). However, the PIAS does
14 not identify any theoretical framework or evidence-based literature which guided its
15 development. Such an observation again supports Knight (2019) regarding the lack of any
16 theory-grounded measures within the area.

17 **Future Research Directions**

18 Collins and Cruickshank (2017) discussed how measures should be designed for a
19 specific purpose, population, and event. Similarly, Harwood et al. (2019) discussed the
20 importance of giving consideration to specific youth sport contexts in which parents are
21 present (i.e., competition and training) and specific youth sport types (i.e., individual or team
22 sports), when developing measures of parental involvement. The results from the current
23 review confirm that there are challenges when evaluating parent-education programs in youth
24 sport (Knight, 2019). Although scale development research requires complex and systematic
25 procedures that require theoretical and methodological rigour (Morgodo et al., 2017), given

1 the lack of sport-specific measures of parental involvement in youth sport which can be used
2 to specifically examine changes in parents' behaviours, future research would certainly
3 benefit from the development and validation of theory-informed measures of parental
4 involvement and support, which give thought to the development stage of athletes (Knight,
5 2019; Thrower et al., 2019). The development and validation of such measures, will allow
6 future researchers to specifically examine changes in parents' behaviours (Knight, 2019) and
7 also measure the domain of learning targeted in future parent-education programs (Thrower
8 et al., 2019).

9 Although the application of behaviour change theories is more prominent in health
10 psychology interventions, the application of such theories has shown positive effects in
11 coaching development programs and appear to provide an appropriate avenue to further
12 advance the parent-education literature. Lastly, in line with Harwood and Knight (2015),
13 Knight (2019) and Dorsch et al. (2021) researchers and practitioners should diversify
14 population samples, when delivering and evaluating future parent-education programs, to
15 help develop a better understanding of the topic.

16 **Limitations**

17 Due to the variability in study designs and evaluation methods, it was not possible to
18 conduct a meta-analysis to draw conclusions on the overall effect of the included parent-
19 education programs on psychosocial parental support. Further, while there were apparent
20 issues with measures utilised to evaluate the programs, it is important to consider that there is
21 a lack of measures available to examine changes in behaviour within this area. As a result,
22 researchers and practitioners are utilising the most appropriate available scales.

23 **Conclusion**

24 The present systematic review sought to examine the efficacy of parent-education
25 programs which target psychosocial parental support in youth sport. Theoretical frameworks

1 and psychometric measures utilised in the design and evaluation of the included programs
2 were also examined. Quantitative studies yielded significant results for the efficacy of the
3 parent-education programs, with qualitative results also indicating improvements in parents'
4 skills and knowledge. Future researchers should look towards adopting explicit use of theory
5 when designing and evaluating parent-education programs. Further, the use of behaviour
6 change theories provides an appropriate avenue to advance this research area. Lastly, future
7 research developing and evaluating parent-education programs within the context of youth
8 sport should consider validated and sport-specific measures of parent involvement. However,
9 results from the present review suggest that such measures are sparse.

10

References

- 1
2 References marked with an asterisk indicate studies included in the systematic review.
- 3 Allan, V., Vierimaa, M., Gainforth, H.L., & Côté, J. (2018). The use of behaviour change
4 theories and techniques in researched-informed coach development programmes: A
5 systematic review. *International Review of Sport and Exercise Psychology*, *11*(1), 47-
6 69.
- 7 Anderson, J. C., Funk, J. B., Elliott, R., & Smith, P. H. (2003). Parental support and pressure
8 and children's extracurricular activities: Relationships with amount of involvement
9 and affective experience of participation. *Journal of Applied Developmental*
10 *Psychology*, *24*(2), 241-257.
- 11 *Azimi, S., & Tamminen, K. A. (2020). Parental communication and reflective practice
12 among youth sport parents. *Journal of Applied Sport Psychology*, 1-24.
- 13 Baker, J., Horton, S., Robertson-Wilson, J., & Wall, M. (2003). Nurturing sport expertise:
14 Factors influencing the development of elite athlete. *Journal of Sports Science and*
15 *Medicine*, *2*(1), 1-9.
- 16 Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- 17 Barnes, H. L., & Olson, D. H. (1985). Parent-Adolescent Communication and the Circumplex
18 Model. *Child Development*, 438-447.
- 19 Bois, J. E., Lalanne, J., & Delforge, C. (2009). The influence of parenting practices and
20 parental presence on children's and adolescents' pre-competitive anxiety. *Journal*
21 *of Sports Sciences*, *27*(10), 995-1005.
- 22 Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. Routledge.
- 23 Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on*
24 *human development*. Sage Publications Ltd.
- 25 Buri, J. R. (1991). Parental Authority Questionnaire. *Journal of Personality Assessment*,

- 1 57(1), 110-119.
- 2 Carpenter, P. J., Scanlan, T. K., Simons, J. P., & Lobel, M. (1993). A test of the sport
3 commitment model using structural equation modelling. *Journal of Sport & Exercise*
4 *Psychology, 15*(2), 119-133.
- 5 Cheon, S. H., Reeve, J., Lee, J., & Lee, Y. (2015). Giving and receiving autonomy support in
6 a high- stakes sport context: A field-based experiment during the 2012 London
7 Paralympic Games. *Psychology of Sport and Exercise, 19*, 59–69.
- 8 Clarke, N. J., & Harwood, C. G. (2014). Parenting experiences in elite youth football: A
9 phenomenological study. *Psychology of Sport and Exercise, 15*(5), 528-537.
- 10 Clarke, N. J., Harwood, C. G., & Cushion, C. J. (2016). A phenomenological interpretation of
11 the parent-child relationship in elite youth football. *Sport, Exercise, and Performance*
12 *Psychology, 5*(2), 125-143.
- 13 Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress.
14 *Journal of Health and Social Behavior, 24*, 385-396.
- 15 Collins, D., & Cruickshank, A. (2017). Psychometrics in sport: The good, the bad and the
16 ugly. *Psychometric testing: Critical perspectives*, 145-156.
- 17 Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport*
18 *Psychologist, 13*(4), 395-417.
- 19 Dorsch, T. E. (2017). Optimising family involvement in youth sport. In C. J. Knight, C. G.
20 Harwood, & D. Gould (Eds.) *Sport psychology for young athletes*, (pp. 106-115).
21 Routledge.
- 22 *Dorsch, T. E., King, M. Q., Dunn, C. R., Osai, K. V., & Tulane, S. (2017). The impact of
23 evidence-based parent education in organized youth sport: A pilot study. *Journal of*
24 *Applied Sport Psychology, 29*(2), 199-214.

- 1 Dorsch, T. E., Smith, A. L., Blazo, J. B., Coakley, J., Côté, J., Wagstaff, C. R., Warner, S., &
2 King, M. Q. (2020). Toward an integrated understanding of the youth sport system.
3 *Research Quarterly in Exercise and Sport*, 1-15.
- 4 Dorsch, T. E., Smith, A. L., Wilson, S. R., & McDonough, M. H. (2015). Parent goals and
5 verbal sideline behavior in organized youth sport. *Sport, Exercise, and Performance*
6 *Psychology*, 4, 19-35.
- 7 Dorsch, T. E., Vierimaa, M., & Plucinik, J. (2019). A citation network analysis of research on
8 parent-child interactions in youth sport. *Sport, Exercise, and Performance*
9 *Psychology*, 8, 145-162.
- 10 Dorsch, T. E., Wright, E., Eckardt, V. C., Elliott, S., Thrower, S. N., & Knight, C. J. (2021).
11 A history of parent involvement in organized youth sport: A scoping review. *Sport,*
12 *Exercise, and Performance Psychology*, 1-22.
- 13 *Ford, D. W., Jubenville, C. B., & Phillips, M. B. (2012). The effect of the STAR
14 Sportsmanship education module on parents' self-perceived sportsmanship
15 behaviors in youth sport. *Journal of Sport Administration & Supervision* 4(1), 114-
16 126.
- 17 Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports.
18 In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: A lifespan*
19 *perspective* (pp. 145–164). Fitness Information Technology.
- 20 Fredricks, J. A., & Eccles, J. S. (2005). Family socialization, gender, and sport motivation
21 and involvement. *Journal of Sport & Exercise Psychology*, 27(1), 3-31.
- 22 Gagné, M. (2003). Autonomy support and need satisfaction in the motivation and well-being
23 of gymnasts. *Journal of Applied Sport Psychology*, 15(4), 372-390.
- 24 Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Further
25 Education Unit.

- 1 Gill, D. L. (1997). Measurement, Statistics, and Research Design issues in Sport and Exercise
2 Psychology. *Measurement in Physical Education and Exercise Science*, 1(1), 39-53.
- 3 Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2006). Understanding the role
4 parents play in tennis success: a national survey of junior tennis coaches. *British*
5 *Journal of Sports Medicine*, 40(7), 632-636.
- 6 Greendorfer, S.L. (1992). Sport Socialization. In T.S. Horn (Ed) *Advances in Sport*
7 *Psychology*, (pp. 201-218). Human Kinetics.
- 8 Gunnell, K., Poitras, V. J., & Tod, D. (2020). Questions and answers about conducting
9 systematic reviews in sport and exercise psychology. *International Review of Sport*
10 *and Exercise Psychology*, 13(1), 297-318.
- 11 Harwood, C. G., Caglar, E., Thrower, S. N., & Smith, J. M. (2019). Development and
12 validation of the parent-initiated motivational climate in individual sport competition
13 questionnaire. *Frontiers in Psychology*, 10, 128.
- 14 Harwood, C., Drew, A., & Knight, C. J. (2010). Parental stressors in professional youth
15 football academies: A qualitative investigation of specialising stage parents.
16 *Qualitative Research in Sport and Exercise*, 2(1), 39-55.
- 17 Harwood, C., & Knight, C. (2009a). Stress in youth sport: A developmental investigation of
18 tennis parents. *Psychology of Sport and Exercise*, 10(4), 447-456.
- 19 Harwood, C., & Knight, C. (2009b). Understanding parental stressors: An investigation of
20 British tennis-parents. *Journal of Sports Sciences*, 27(4), 339-351.
- 21 Harwood, C. G., & Knight, C. J. (2015). Parenting in youth sport: A position paper on
22 parenting expertise. *Psychology of Sport and Exercise*, 16, 24-35.
- 23 Harwood, C. G., & Knight, C. J. (2016). Parenting in sport. *Sport, Exercise, and Performance*
24 *Psychology*, 5(2), 84-88.
- 25 *Harwood, C., & Swain, A. (2002). The development and activation of achievement goals

- 1 within tennis: II. A player, parent, and coach intervention. *The Sport Psychologist*,
2 16(2), 111-137.
- 3 Holt, N. L., Tamminen, K. A., Black, D. E., Mandigo, J. L., & Fox, K. R. (2009). Youth sport
4 parenting styles and practices. *Journal of Sport & Exercise Psychology*, 31(1), 37-59.
- 5 Holt, N. L., Tamminen, K. A., Black, D. E., Sehn, Z. L., & Wall, M. P. (2008). Parental
6 involvement in competitive youth sport settings. *Psychology of sport and exercise*,
7 9(5), 663-685.
- 8 Hong, Q. N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P.,
9 Gagnon, M-P., Griffith, F., Nicolau, B., O’Cathain, A., Rousseau, M-C., & Vedel, I.
10 (2018). Mixed methods appraisal tool (MMAT), version 2018. McGill University.
- 11 Jowett, S., & Timson-Katchis, M. (2005). Social networks in sport: Parental influence on the
12 coach-athlete relationship. *The Sport Psychologist*, 19(3), 267-287.
- 13 Juntumaa, B., Keskiivaara, P., & Punamäki, R. L. (2005). Parenting, achievement strategies
14 and satisfaction in ice hockey. *Scandinavian Journal of Psychology*, 46, 411–420.
- 15 Kidman, L., McKenzie, A., & McKenzie, B. (1999). The nature of target of parents'
16 comments during youth sport competitions. *Journal of Sport Behavior*, 22(1), 54-75.
- 17 Knight, C. J. (2019). Revealing findings in youth sport parenting research.
18 *Kinesiology Review*, 8(3), 252-259.
- 19 Knight, C.J., & Holt, N.L.(2013a). Factors that influence parents’ experiences at junior
20 tennis tournaments and suggestions for improvement. *Sport, Exercise, and*
21 *Performance Psychology*, 2, 173–189.
- 22 Knight, C. J., & Holt, N. L. (2013b). Strategies used and assistance required to facilitate
23 children’s involvement in tennis: parents’ perspectives. *The Sport Psychologist*, 27,
24 281–291.
- 25 Knight, C. J., Little, G. C., Harwood, C. G., & Goodger, K. (2016). Parental involvement in

- 1 elite junior slalom canoeing. *Journal of Applied Sport Psychology*, 28(2), 234-256.
- 2 Knight, C. J., Neely, K. C., & Holt, N. L. (2011). Parental behaviors in team sports: How do
3 female athletes want parents to behave? *Journal of Applied Sport Psychology*, 23(1),
4 76-92.
- 5 Knight, C. J., & Newport, R. A. (2017). Understanding and working with parents of young
6 athletes. In C. J. Knight, C. G. Harwood, & D. Gould (Eds.) *Sport psychology for*
7 *young athletes*. (pp. 303-314). Routledge.
- 8 Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). Parental behaviours that affect junior
9 tennis player development. *Psychology of Sport and Exercise*, 11(6), 487-496.
- 10 Leff, S. S., & Hoyle, R. H. (1995). Young athletes' perceptions of parental support
11 and pressure. *Journal of Youth and Adolescence*, 24(2), 187-203.
- 12 *Lisinskiene, A., & Lochbaum, M. (2019). A qualitative study examining parental
13 involvement in youth sports over a one-year intervention program. *International*
14 *Journal of Environmental Research and Public Health*, 16(19), 3563.
- 15 Loy, J. (1968). The Nature of Sport: A Definitional Effort. *Quest*, 10, 1-15.
- 16 *McMahon, J., Knight, C., & McGannon, K. (2018). Educating Parents of Children in Sport
17 About Abuse Using Narrative Pedagogy. *Sociology of Sport Journal*, 35(4), 313-323.
- 18 Michie, S., Atkins, L., & West, R. (2014). The behaviour change wheel. *A guide to designing*
19 *interventions*. (1st ed., pp. 1003-1010). Silverback Publishing.
- 20 Michie, S., & Johnston, M. (2012). Theories and techniques of behaviour change: Developing
21 cumulative science of behaviour change. *Health Psychology Review*, 6(1), 1-6.
- 22 Michie, S., & Prestwich, A. (2010). Are interventions theory-based? Development of a theory
23 coding scheme. *Health Psychology: Official Journal of the Division of Health*
24 *Psychology, American Psychological Association*, 29(1), 1-8.
- 25 Michie, S., Wood, C. E., Johnston, M., Abraham, C., Francis, J., & Hardeman, W. (2015).

- 1 Behaviour change techniques: the development and evaluation of a taxonomic method
2 for reporting and describing behaviour change interventions. *Health Technology*
3 *Assessment*, 19(99).
- 4 Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A., & Ferreira, M. E. (2017). Scale
5 development: ten main limitations and recommendations to improve future research
6 practices. *Psicologia: Reflexão e Crítica*, 30(3), 1-20.
- 7 Nelson, L., Groom, R., & Potrac, P. (Eds.). (2016). Learning in sports coaching: *Theory and*
8 *application*. Routledge.
- 9 Nicholls, J. G. (1984). Achievement motivation: conceptions of ability, subjective
10 experience, task choice, and performance. *Psychological Review*, 91(3), 328-346.
- 11 O'Rourke, D. J., Smith, R. E., Smoll, F. L., & Cumming, S. P. (2011). Trait anxiety in
12 young athletes as a function of parental pressure and motivational climate: is parental
13 pressure always harmful? *Journal of Applied Sport Psychology*, 23(4), 398-412.
- 14 Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D.,
15 Shamseer, L., Tetlaff, J. M., & Moher, D. (2021). Updating guidance for reporting
16 systematic reviews: development of the PRISMA 2020 statement. *Journal of Clinical*
17 *Epidemiology*, 134, 103-112.
- 18 Power, T. G., & Woolger, C. (1994). Parenting practices and age-group swimming: A
19 correlational study. *Research Quarterly for Exercise and Sport*, 65(1), 59-66.
- 20 Prestwich, A., Sniehotta, F. F., Whittington, C., Dombrowski, S. U., Rogers, L., & Michie, S.
21 (2014). Does theory influence the effectiveness of health behavior interventions?
22 Meta-analysis. *Health Psychology*, 33(5), 465-474.
- 23 Prestwich, A., Webb, T. L., & Conner, M. (2015). Using theory to develop and test
24 interventions to promote changes in health behaviour: evidence, issues, and
25 recommendations. *Current Opinion in Psychology*, 5, 1-5.

- 1 Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior
2 change. *American Journal of Health Promotion, 12*(1), 38–48.
- 3 *Richards, K., & Winter, S. (2013). Key reflections from “on the ground”: Working with
4 parents to create a task climate. *Journal of Sport Psychology in Action, 4*(1), 34-44.
- 5 Ryan, R. (2013). Cochrane Consumers and Communication Review Group: data synthesis
6 and analysis.
- 7 *Sampol, P. P., Salas, D. P., Rotger, P. A. B., & Verdager, F. J. P. (2019).
8 A socioeducational intervention about parental attitudes in grassroots football and its
9 effects. *Sustainability, 11*(13), 3500.
- 10 Sánchez-Miguel, P. A., Leo, F. M., Sánchez-Oliva, D., Amado, D., & García-Calvo, T.
11 (2013). The importance of parents’ behavior in their children’s enjoyment and
12 amotivation in sports. *Journal of Human Kinetics, 36*(1), 169-177.
- 13 Schinke, R. J., Mellalieu, S., Ntoumanis, N., Kavussanu, M., Standage, M., Strauss, B., &
14 Papaioannou, A. (2020). Getting published: Suggestions and strategies from editors of
15 sport and exercise psychology journals. *Journal of Applied Sport Psychology, 1*-14.
- 16 Schwartz, J. C., Barton-Henry, M. L., & Pruzinsky, T. (1985). Assessing child-rearing
17 behaviors: A comparison of ratings made by mother, father, child, and sibling on the
18 CRPBI. *Child Development, 56*(2), 462-479.
- 19 Snyder, E. E., & Purdy, D. A. (1982). Socialization into sport: Parent and child reverse and
20 reciprocal effects. *Research Quarterly for Exercise and Sport, 53*(3), 263-266.
- 21 Smith, R. E., Smoll, F. L., Cumming, S. P., & Grossbard, J. R. (2006). Measurement of
22 multidimensional sport performance anxiety in children and adults: The Sport Anxiety
23 Scale-2. *Journal of Sport & Exercise Psychology, 28*(4), 479-501.

- 1 *Smoll, F. L., Smith, R. E., & Cumming, S. P. (2007). Effects of coach and parent training on
2 performance anxiety in young athletes: A systemic approach. *Journal of Youth*
3 *Development, 2*(1), 19-36.
- 4 Stein, G. L., Raedeke, T. D., & Glenn, S. D. (1999). Children's perceptions of parent sport
5 involvement: It's not how much, but to what degree that's important. *Journal of Sport*
6 *Behavior, 22*, 1-8.
- 7 *Tamminen, K. A., McEwen, C. E., Kerr, G., & Donnelly, P. (2020). Examining the impact
8 of the Respect in Sport Parent Program on the psychosocial experiences of minor
9 hockey athletes. *Journal of Sports Sciences, 38*(17), 2035-2045.
- 10 Tenenbaum, G. E., Eklund, R. C., & Kamata, A. E. (2012). *Measurement in sport and*
11 *exercise psychology*. Human Kinetics.
- 12 Thrower, S. N., Harwood, C. G., & Spray, C. M. (2016). Educating and supporting tennis
13 parents: A grounded theory of parents' needs during childhood and early adolescence.
14 *Sport, Exercise, and Performance Psychology, 5*(2), 107-124.
- 15 *Thrower, S. N., Harwood, C. G., & Spray, C. M. (2017). Educating and supporting tennis
16 parents: an action research study. *Qualitative Research in Sport, Exercise, and*
17 *Health, 9*(5), 600-618.
- 18 *Thrower, S. N., Harwood, C. G., & Spray, C. M. (2019). Educating and supporting tennis
19 parents using Web-based delivery methods: A novel online education
20 program. *Journal of Applied Sport Psychology, 31*(3), 303-323.
- 21 Weiss, M. R., & Hayashi, C. T. (1995). All in the family: Parent-child influences in
22 competitive youth gymnastics. *Pediatric Exercise Science, 7*(1), 36-48.
- 23 Weiss, M. R., & Smith, A. L. (1999). Quality of youth sport friendships: Measurement
24 development and validation. *Journal of Sport & Exercise Psychology, 21*(2), 145-166.

- 1 Zakrajsek, R. A., & Zizzi, S. J. (2008). How do coaches' attitudes change when exposed to a
- 2 sport psychology workshop?. *Journal of Coaching Education, 1*(1), 66-83.

Table 1

Inclusion Criteria

PICO	Inclusion Criteria	Limitations	Exclusion Criteria	Keywords
Participants	<ul style="list-style-type: none"> ○ Parents and/or carers who have children participating in youth sport. 	<ul style="list-style-type: none"> ○ English Language ○ Peer Review 	<ul style="list-style-type: none"> ○ Parents and/or carers who do not have children participating in youth sport. ○ Parent-education programs delivered outside the domain of sport e.g., Physical activity, leisure. 	<ul style="list-style-type: none"> ○ Parent ○ Carers ○ Education ○ Program ○ Intervention ○ Workshop ○ Athlete ○ Team ○ Player ○ Sport
Intervention	<ul style="list-style-type: none"> ○ Parent-education programs delivered to parents and/or carers of youth athletes. 			
Comparators	<ul style="list-style-type: none"> ○ None. 			
Context	<ul style="list-style-type: none"> ○ The parent-education program delivered within a sport setting. 			
Outcomes	<ul style="list-style-type: none"> ○ Changes in positive parental support/involvement following the delivery of parent-education programs. ○ Theories utilized in the design of parent-education programs. ○ Measures utilized in the evaluation of parent-education programs. 			

Table 3*Study Characteristics*

Reference	Research Design	Sample Size; Participant Details	Sport	Intervention
Azimi & Tamminen (2020)	Mixed methods	$N = 20$ parents and youth athletes	Hockey & Soccer	1 x 45- minute workshop; Handbook; 6-week period of reflective practice
Dorsch et al. (2017)	Quantitative	$N = 162$ parents and youth athletes	Soccer	1 x 45-minute seminar; 33-page Guide
Ford et al. (2012)	Quantitative	$N = 95$ parents	Unknown	1 x 25- minute education module
Harwood & Swain (2002)	Mixed methods	$N = 16$ parents, coaches, and youth athletes	Tennis	2 x 90-minute education sessions; 3 weeks; Booklet; 3 practical tasks
Lisinskiene & Loachbaum (2019)	Qualitative	$N = 20$ parents and youth athletes	Martial Arts	12 x 60-minute theory classes; 12 months
McMahon et al. (2018)	Qualitative	$N = 14$ parents	Gymnastics & Swimming	Narrative pedagogy: 3 narratives of abuse; reflection on narratives; information sheet
Richards & Winter (2013)	Mixed methods	$N = 21$ parents	Swimming	6 x 20–30-minute education session; 6-week period
Sampol et al. (2019)	Quantitative	$N = 12$ soccer teams; parents	Soccer	1 x 40-minute formative session; information leaflets; posters, fair play cards
Smoll et al. (2007)	Quantitative	$N = 327$ parents, youth athletes and coaches	Basketball	1 x 60-minute parenting workshop; 50-page booklet; Reminder Card
Thrower et al. (2017)	Qualitative	$N = 31$ parents	Tennis	6 x 60-minute workshops; 12 weeks
Thrower et al. (2019)	Mixed methods	$N = 38$ parents	Tennis	8 x 6–30-minute online videos; Journal articles & information sheets; Practical tasks; Discussion forum
Tamminen et al. (2020)	Quantitative	$N = 366$ athletes	Hockey	1 x 60-minute online modules; supplementary materials

Table 4
Outcomes and Theoretical Underpinnings of Programs

Reference	Aims	Theory/Framework	Result(s)
Azimi & Tamminen (2020)	To examine whether increasing parents' awareness of their communication would influence parent-athlete communication behaviours	Reflective Cycle (Gibbs, 1988)	No significant changes Reflective practice increased parents' awareness of their communication behaviours Most athletes perceived positive changes in parental communication Some athletes perceived negative or no changes in parental communication
Dorsch et al. (2017)	To design, implement, and assess an evidence-based education program for parents in youth sport	Ecological Theory (Bronfenbrenner, 2005)	Group X Time Interaction: <ul style="list-style-type: none"> - Sig. increase in Parent Support ($a = 0.002$) - Sig. decrease in Parent Pressure ($a < .001$) - Sig. increase in Parent-Child Warmth ($a = .01$) - Sig. decrease in Parent-Child Conflict ($a = .046$) - Sig. increase in Child Enjoyment ($a = .017$) - Sig. increase in Child Competence ($a = .027$) - Sig. decrease in Child Stress ($a = .003$)
Ford et al. (2012)	To examine how the STAR Sportsmanship education module will affect parental sportsmanship behaviours	None Reported	Sig. increase in Parents' Sportsmanship behaviours from Pre-test to Post-test $t(94) = 3.84, p = .000, d = .344$
Harwood & Swain (2002)	To examine the effect of the multi-component intervention on athlete's task and ego involvement profiles, self-	Achievement Goal Theory (Nicholls, 1984)	Implementation Group: <ul style="list-style-type: none"> - Participant 1 & 3 showed increases in self-directed task involvement

regulation, and cognitive cognition

- All 3 participants maintained high levels of self-directed ego involvement & reductions in social approval ego involvement
- All 3 participants showed increases in self-regulation.
- 2 participants reported increases in self-efficacy
- All 3 participants maintained or increases task orientation and maintained or decreased ego orientation

Control Group:

- Increase in self-directed ego
- Decrease in self-directed task orientation

Qualitative:

- Support received from parents influenced improvements
- Reported improvements in performances.
- Meaning and value placed on performance and winning changed
- Parents reported positive changes in parent-child relationship

Lisinskiene & Loachbaum (2019)

To develop a one-year intervention program for parents in youth sport to strengthen parent-child interactions

Attachment Theory (Bowlby, 1988)

- Educational component allowed parents to develop new skills and to acquire new knowledge

McMahon et al. (2018)

To examine if parents identify in athletes' stories of abuse as a result of engaging in narrative pedagogy

Theory of Social Constructivism

- Post program parents were able to identify unacceptable coaching practices
- Parents acknowledged that unacceptable practices are necessary for competitive performances

Richards & Winter (2013)

To enhance parents' awareness of the development of their child's goal orientation and to provide parents with effective

None Reported

- 100% of parents found the program very useful
- 75% of parents indicated they would utilize the strategies provided

	strategies to create a motivational climate which fosters high task orientation		<ul style="list-style-type: none"> - Improved parents' knowledge of the benefits of task orientation - Helped parents to see issues from the child-athletes perspective - Raised parents' awareness of the impact of inappropriate reactions
Sampol et al. (2019)	To determine the effects of a socio-educational intervention on parental attitudes in grassroots football	None Provided	<p>Experimental Group:</p> <ul style="list-style-type: none"> - Sig. decrease in negative comments ($t = -3.145, p = .026$) - No Sig. changes in positive ($p = .558$) and neutral comments ($p = .450$) <p>Control Group:</p> <ul style="list-style-type: none"> - No sig. changes in positive, negative or neutral comments
Smoll et al. (2007)	To develop, implement, and evaluate a systemic parent-coach intervention utilizing Achievement Goal Theory, to reduce anxiety in athletes	Achievement Goal Theory (Nicholls, 1984)	<p>Time X Condition Interaction:</p> <ul style="list-style-type: none"> - Sig. decrease in overall anxiety ($t = -3.24, p = .001$) - Sig. decrease in somatic anxiety ($t = -3.35, p = .001$) - Sig. decrease in worry ($t = -2.34, p = .021$) - Sig. decrease in concentration disruption ($t = -2.56, p = .011$) <p>Experimental Group:</p> <ul style="list-style-type: none"> - Sig. decrease in overall anxiety ($t = -3.24, p < .001$) - Sig. decrease in somatic anxiety ($t = -3.35, p < .001$) - Sig. decrease in worry ($t = -2.57, p < .02$) - Sig. decrease in concentration disruption ($t = -2.34, p < .03$) <p>Control Group:</p> <ul style="list-style-type: none"> - Sig. increase in overall anxiety ($t = 2.68, p < .01$) - Sig. increase in somatic anxiety ($t = 3.85, p < .01$) - Sig. increase in concentration disruption ($t = 2.80, p < .01$) - No Sig. change in Worry

Thrower et al. (2017)	To develop, implement, and evaluate the effectiveness of a field-based tennis parent education program	A Grounded Theory of British Tennis Parents' Needs (Thrower et al., 2016)	<ul style="list-style-type: none"> - Improvements in parents' knowledge - Program was effective in changing parents' attitudes, beliefs, and values - Program was effective in improving parents' skills and behaviours - Parents' confidence to support their children acted as a buffer against the stressors experienced by sport parents
Thrower et al. (2019)	To evaluate the effectiveness of a large-scale online education program for British Tennis parents	A Grounded Theory of British Tennis Parents' Needs (Thrower et al., 2016)	<ul style="list-style-type: none"> - Sig. improvement in parent-parent relationship efficacy ($t(12) = -3.53, p = .004$) - No sig. changes in other variables measured - Greater support required from NGB's to promote parent-education programs - Not all parents believe they require parent-education - Important to incentivize programs in future - Design of program improved effectiveness and accessibility of program
Tamminen et al. (2020)	To evaluate the impact of the Respect in Sport Parent Program on psychosocial outcomes among minor hockey athletes	None Reported	<ul style="list-style-type: none"> - Participants' perceptions of opportunities for goal setting in hockey significantly improved during the study ($p = .02$) - Participants' perceptions that hockey offered opportunities to develop initiative significantly improved across the study ($p = .01$) - Antisocial behaviours towards opponents significantly decreased during the study ($p = .003$)

Table 5
Evaluation Measures

Reference	Evaluation Tool	Reliability	Validity
Azimi & Tamminen (2020)	Parental Involvement in Activities Scale (PIAS)	Support Scale $\alpha = .56$ Pressure Scale $\alpha = .68$	Not Reported
	Parent Adolescent Communication Scale (PACS)	Communication $\alpha = .83$ Problems $\alpha = .77$	Not Reported
	Parental Authority Questionnaire (PAQ)	Permissive $\alpha = .80$ Authoritative $\alpha = .65$ Authoritarian $\alpha = .84$	Not Reported
Dorsch et al. (2017)	Parental Involvement in Activities Scale (Adapted)	Support Scale $\alpha = .79$ Pressure Scale $\alpha = .76$	Not Reported
	Child's Report of Parental Behaviour Inventory (Adapted)	Adapted measure $\alpha = .80$	Not Reported
	Sport Friendship Quality Scale	Adapted measure $\alpha = .78$	Not Reported
	Sport Commitment Model	Enjoyment Subscale $\alpha = .94$	Not Reported
	Sport Competence Scale	$\alpha = .89$	Validated by Fredricks & Eccles (2005)
	Perceived Stress Scale (Adapted)	Adapted Scale $\alpha = .84$	Not Reported
Ford et al. (2012)	Parent Experiences in Youth Sport	$\alpha = .70$	Content validity, Known Group validity
Harwood & Swain (2002)	The Profile of Goal Involvement Questionnaire (PGIQ)	Not Reported	Content & Face validity reported
	Components of Tennis Performance Questionnaire (CTPQ)	Not Reported	Not Reported

	Two-item measure of match specific self-efficacy	Not Reported	Not Reported
	Two single item questions of Threat & Challenge	Not Reported	Not Reported
Smoll et al. (2007)	Sport Anxiety Scale (SAS-2)	Somatic Anxiety, Worry & Disruption Subscales & Total Anxiety $\alpha = .74 - .93$	Not Reported
Thrower et al. (2019)	Sport Emotion Questionnaire (SEQ) (Adapted version)	Jones et al. (2005) SEQ scales $\alpha = .81-.90$	Not Reported
	Achievement Goal Scale for Youth Sport (AGSYS)	Task Orientation $\alpha = .78$ Ego Orientation $\alpha = .88$	Factorial validity reported by Cumming et al. (2008)
	Tennis Parent Efficacy Scale (TPES)	Not Reported	Face & Construct validity reported
	Tool to Measure Parenting Self-Efficacy (TOPSE)	$\alpha = .94$	Noted additional research needed for validity
Tamminen et al. (2020)	Parental Involvement in Activities Scale (PIAS)	Not Reported	Not Reported
	Prosocial & Antisocial behaviours towards teammates & opponents	$\alpha = .75 - .89$ (Bruner et al., 2014)	Factorial validity reported by Bruner et al. (2014) Construct validity reported by Kavussanu & Boardley (2009)
	Measure of Sport Enjoyment & Commitment	Sport Enjoyment Subscale $\alpha = .94$ (Tamminen et al., 2016) Sport Commitment $\alpha = .83$ (Tamminen et al., 2016)	Not Reported
	Youth Experiences Survey for Sport (YES-S)	$\alpha = .80 - .94$ (Sullivan et al., 2015)	CFA reported by Sullivan et al. (2015)

Figure 1

PRISMA Flow Chart

