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A meta-study of qualitative research on the junior-to-senior transition in sport

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ABSTRACT

The last decade has seen an increase in empirical research associated with the junior-to-senior transition in sport. Previous research has, however, been idiosyncratic in its nature, focused on understanding the process from domain specific perspective. The purpose of the current study, therefore, was to provide a systematic review of literature focused on the junior-to-senior transition. Specifically, this study: (a) provides an overview and critique of methodological and theoretical decisions which underpin current junior-to-senior transition literature; (b) systematically reviews, evaluates, and analyses literature on the junior-to-senior transition in sport regarding key factors that are perceived to impact the transition; and (c) provides a synthesis of findings regarding the factors that influence the junior-to-senior transition in sport. A total of 27 studies were included in this meta-study. Meta-method, meta-theory, meta-data analysis, and meta-synthesis analyses were conducted on data. Data highlighted that the main method used to research the junior-to-senior transition is cross-sectional individual interviews, with two theories (Stambulova, 2003; Wylleman & Lavallee, 2004) used as the main underpinning theories for data collection. Analysis identified 59 factors that were perceived to impact the junior-to-senior transition. These 59 factors fell into one of 13 themes, which were then categorized into 4 overarching themes: individual factors, external factors, cultural factors, and intervention strategies. A model of junior-to-senior transition, which synthesizes current knowledge, is proposed as a way to explain the process. The current study identifies gaps in current knowledge, highlights practical implications, and identifies future research directions (e.g., longitudinal designs).

Research has frequently cited the junior-to-senior transition as the most difficult within-career transition in athletes' careers (Stambulova, 2009). The junior-to-senior transition usually occurs when athletes progress from junior (under-20) to senior (all ages) competitions. Bennie and O'Connor (2006) described the transition years as falling between the ages of 18 and 24. However, this will vary depending on the sport, particularly in sports such as gymnastics where athletes are likely to reach peak-age in their teenage years (Law, Côté, & Ericsson, 2007). The transition can be particularly difficult as it can challenge young athletes across both athletic and non-athletic domains (Morris, 2013). For example, when moving from junior-to-senior competition athletes may experience increased competition levels and intensity of practices which may be both physically and mentally demanding. Concurrently, athletes may also be in the process of moving from adolescence into young adulthood that may coincide with general cognitive, social, psychological and physical developmental demands (Wylleman & Lavallee, 2004). Furthermore, athletes may simultaneously experience academic transitions when moving from secondary to higher education (Pummell, Harwood, & Lavallee, 2008). Each of these transitions can be demanding in their own right (Morris, 2013). When the demands of the junior-to-senior transition are combined with concurrent transitions, the demands can be exponentially increased (Morris, 2013). The junior-to-senior transition can be made more challenging by that fact that the transition may span across several years, with athletes in a continual period of uncertainty and challenge (Stambulova, 2009). Given the challenges the process can present, the junior-to-senior transition has been described as one of the most challenging, with many athletes failing to cope with the associated demands (Vanden Auweele, De Martelaer, Rzewnicki, De Knop, & Wylleman, 2004).

Given the increased understanding that the transition from junior-to-senior sport is demanding for athletes, there has been a notable increase in the number of studies conducted in the topic area - in particular within different sporting cultural and contextual settings - in order

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that better support can be put in place to support those going through this process (Hollings, 2014). Sport-specific studies on the junior-to-senior transition have included studies in football (e.g., Finn & McKenna, 2010; Morris, 2013), ice hockey (e.g., Bruner, Munroe-Chandler, & Spink, 2008), equestrian (e.g., Alge, 2008; Pummell et al., 2008), track and field (e.g., Bennie & O'Connor, 2006; Hollings, Mallett, & Hume, 2014), basketball (e.g., Čačija, 2007), and rugby (e.g., Jones, Mahoney, & Gucciardi, 2014). Studies have taken place in a number of countries across the World, including in the United Kingdom, New Zealand, Canada, and Australia. There have also been a series of studies which have focused on a mixture of individual and team sports in Russian and Swedish populations (e.g., Stambulova, 1994; Stambulova, Franck, & Weibull, 2012). Studies have used a variety of underpinning theories and methods to research the junior-to-senior transition, including qualitative approaches that were used to unpick the key features and factors underpinning successful and unsuccessful transitions.

The individual studies conducted on the junior-to-senior transition presents valuable insight into the junior-to-senior transition in context and culturally specific domains. Summarizing and consolidating this knowledge, via a synthesis of the current literature on the junior-to-senior transition, will add to the body of knowledge to inform and improve research, education, and clinical practice. Specifically, a synthesis will highlight areas that researchers and practitioners could focus future studies by identifying methods which may have been underutilized in previous work and highlight specific features of transition that have been understudied. A synthesis will also provide a more comprehensive and rigorous description of a phenomenon, identifying common areas that those supporting athletes moving to senior sport may target when providing provision to athletes. These outcomes from a synthesis of knowledge will help direct guidelines for future research and allow identification of key challenges athletes may face and the resources which may be developed through the delivery of intervention programs.

To date, there has been no systematic review of research on the junior-to-senior transition. The purpose of the current study, therefore, is to provide a systematic review of literature focused on the junior-to-senior transition. Specifically, this study will: (a) provide an overview and critique of methodological and theoretical decisions which underpin current junior-to-senior transition literature; (b) systematically review, evaluate, and analyze literature on the junior-to-senior transition in sport regarding key factors that are perceived to impact the transition; and (c) provide a synthesis of findings regarding the factors that influence the junior-to-senior transition in sport.

1. Method

As the current study was focused on systematically reviewing the literature associated with the junior-to-senior transition, a meta-study approach was decided as the method which would be used. A meta-study allows the systematic analysis of a substantive body of qualitative work, allowing the authors to generate or expand theoretical frameworks based upon consolidation of knowledge (Paterson, Thorne, Canam, & Jillings, 2001). The approach also allows authors to present the work in a useable and coherent way for researchers and practitioners to use it to inform their subsequent work (Paterson et al., 2001). To do this, a meta-study involves a systematic approach to the collation and evaluation of research (Anthony, Gucciardi, & Gordon, 2016) and consists of a number of steps including a systematic literature search, data extraction, meta-method (the analysis of methods), meta-theory (the analysis of theory), meta-data-analysis (the analysis of findings), and meta-synthesis (the integration of findings from the meta-data, meta-method, and meta-theory analyses; Barnett-Page & Thomas, 2009). The key steps undertaken in this meta-study are outlined below.

1.1. Inclusion and exclusion criteria

To ensure a broad spectrum of research attached to the topic area was included, studies had to be: (a) published in the English language to ensure consistency in the appraisal of articles, (b) available in full-text to allow for a detailed appraisal of findings, and (c) contain qualitative data specifically pertaining to factors associated with the junior-to-senior transition in sport. These inclusion criteria ensured that the study did not limit the types of research to be included - journal articles, dissertations, and grey literature could all be included. We excluded studies if they did not meet this inclusion criteria. If data from a study were published in multiple ways, then studies were reported with journal articles taking preference to dissertations. However, if it was found that dissertations contained additional findings that were not reported in the published journal article then both pieces of research were included in the review. Following the suggestion by Paterson et al. (2001) that individual meta-studies should determine whether or not to exclude studies based upon methodological quality, we used a Critical Appraisal Skills Programme (CASP, 2018) to systematically appraise the quality of all studies included in the meta-study. The CASP is a 10-item checklist is used to appraise qualitative research and includes items such as; was there a clear statement of the aims of the research?, was the recruitment strategy appropriate to the aims of the research?, have ethical issues be taken into consideration?, and is there a clear statement of findings?. The findings from these analyses are available online as supplementary material. Following CASP, no studies were excluded due to methodological quality.

1.2. Systematic literature search

To identify articles which were focused on the junior-to-senior transition in sport and which fulfilled the inclusion criteria, Google Scholar, PubMed, ProQuest, The World of Knowledge electronic databases were searched for appropriate titles and abstracts using the terms "within career transition", "junior-to-senior transition", "youth-to-senior transition", and "sport transition" or truncations thereof (e.g., sport tran*). The following journals were also examined: *The Sport Psychologist, International Journal of Sport and Exercise Psychology, Journal of Applied Sport Psychology, Journal of Sport & Exercise Psychology, Journal of Sport Behavior, Medicine and Science in Sport and Exercise, Journal of Sports Sciences, Sport and Exercise Psychology Review, Research Quarterly in Sport and Exercise, International Review of Sport and Exercise Psychology, Journal of Sport Psychology, and Psychology of Sport and Exercise*. The rationale for using these databases and journals relates to their prominent use within the field and their accessibility to the research team. PhD thesis studies were considered individually and are referred to as paper a, b, and c in the write up (Hollings, 2014; Morris, 2013; Pummell, 2008). There was no limit to search parameters in terms of publication date. Once an original list of articles which were associated with the junior-to-senior transition was developed, additional studies with a potential focus on the junior-to-senior transition were gathered through the reading the reference lists of these original articles and added to create a final list of articles for review. In total, 219 articles were identified for further review from the initial keyword, title, and abstract searches performed on the selected electronic databases (n = 201) and subsequent bibliographic screening of identified articles (n = 18). Following initial review and removal of duplicates, 41 articles were then identified as potentially achieving the inclusion criteria and focused specifically on the junior-to-senior transition - these studies were retained for screening. After a more detailed abstract review, articles (n = 30) underwent a full-text review, with 3 excluded from final analysis for employing exclusively quantitative methods (Chamorro, Torregrosa, Oliva, Calvo, & León, 2016; Eriksson, 2010; Stambulova et al., 2012), leaving a total of 27 studies included in the final meta-study. Among the 27 studies, data from three PhDs were included - one was a PhD containing two independent samples

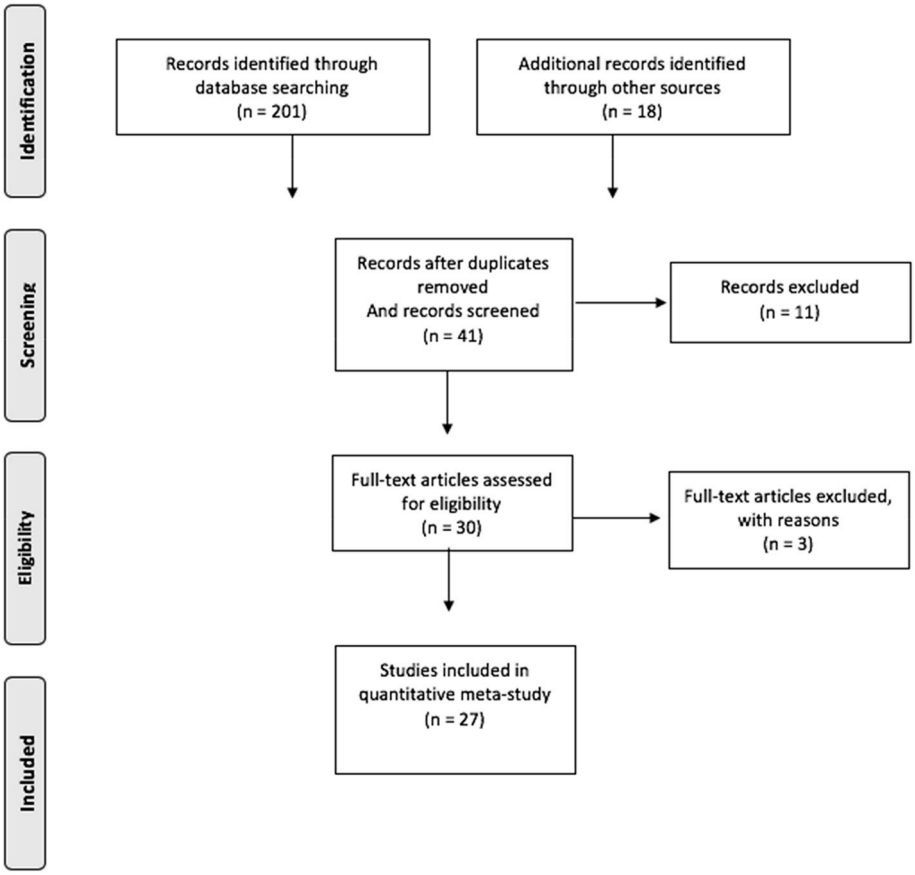

Fig. 1. *PRISMA flowchart of search and retrieval strategies.*
From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. https://doi.org/10.1371/journal.pmed1000097

(Hollings, 2014), while two PhD's contained three independent samples (Morris, 2013; Pummell, 2008). No grey literature was found. All 27 studies were published between 2004 and 2018. The search strategy was initiated in December 2016 and was regularly being reviewed and updated until October 2018. A flow diagram (PRISMA; Moher, Liberati, Tetzlaff, & Altman, 2009) of the search and retrieval strategies are depicted in Figure 1.

1.3. Data extraction and management

After the initial review of all full-text articles was completed, hard copies of the studies were obtained, and data extraction commenced. Each article was read numerous times by the first author to ensure familiarity with the findings. Data were then extracted onto a custom-made data extraction form, which was then copied directly into an excel spreadsheet. This allowed the research team to record significant and relevant aspects of each individual study (e.g., samples characteristics, data analysis), and to ensure accuracy and consistency throughout the review process. Data from the data extraction were entered into the corresponding columns as the analysis progressed through each of the studies (e.g., participant gender, type of sport). A copy of the data extraction form and spreadsheet is available from the first author upon request.

1.4. Meta-method analysis

Following data extraction, a meta-method analysis took place. A meta-method analysis offers a means for researchers to review and evaluate the research design and methodologies used in studies of the research area to analyze the effect these choices have on the findings and outcomes of a particular study (Paterson et al., 2001). In this instance, a meta-method was used to consider how the methodology that has been applied to study the junior-to-senior transition has shaped the current knowledge. The meta-method procedure involves two phases: (a) the initial appraisal of primary research studies regarding research design and methodology, and (b) an overall appraisal of the themes within the primary research studies. The appraisal of the individual primary studies includes a review of the research question, the researcher and setting, the sampling procedure and data collection procedure (Paterson et al., 2001). During this phase of the meta-method analysis, the specific methodological characteristics of each research article were established. Specific characteristics that were recorded included research design, data collection techniques, sample size, gender and age of participants, type of sport, competitive level, and country of study. Following this, the next phase of the meta-method involved an overall appraisal of the body of work. As recommended by Paterson et al. (2001) tables were constructed to compare and contrast the primary studies. Tables contained all of the information which emerged in phase one of the meta-method, which enabled identification of themes and patterns within the literature. By identifying these features, the current study identifies potential sampling gaps and avenues for future research within the literature. Meta-method analysis was carried out by the first author, with critical friend review being provided by the second author of the study.

1.5. Meta-theory analysis

Alongside the meta-method analysis, a meta-theory also took place. The purpose of meta-theory was to analyze the theoretical frameworks and the implications this has on the current literature so that the

existing theory can be critically interpreted, assessed, and developed into new theory, as established in the current meta-synthesis (Paterson et al., 2001).

In this instance, meta-theory provides the researchers with a systematic method to understand and evaluate the theoretical underpinnings that drives qualitative research on the junior-to-senior transition. The initial procedure of meta-theory involved reading the primary research studies, taking note of the theoretical propositions and emergent theory that influenced the primary research. Following this, the theoretical underpinnings were identified, where possible, for the studies included in the meta-study and were documented in a table. This helped to identify prominent theory or paradigms that underlie the study of the junior-to-senior transition. Identifying the theoretical assumptions of each research study helped give a clearer understanding of how the diversity of theoretical underpinnings of the work and the way theoretical underpinnings influence the interpretation of the primary research findings. Meta-theory analysis was carried out by the first author, with critical friend review being provided by the second author of the study.

1.6. Meta-data analysis

Subsequently, a meta-data analysis took place. A meta-data analysis involves the examination of findings from the primary studies in order to identify common themes within the literature (Paterson et al., 2001). Data refers to the analysis and subsequent interpretation made by the authors of the primary research (Tamminen & Holt, 2010) - in this instance, the data captured related to factors that were perceived to impact the transition from junior-to- senior sport. As identified earlier, identification of the main themes which are prominent in the junior-to-senior transition literature provides a more comprehensive and rigorous understanding of the main features underpinning the process.

A six-step thematic synthesis, as outlined by Braun and Clarke (2006), was used to perform the meta-data analysis. This process of analysis involved: (1) familiarization of the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes and (6) writing up the process. Initial stages of data analysis involved the initial coding of the findings and developing descriptive themes. The raw data was collected for each primary study and assigned an initial code. Codes from each of the studies were initially noted on the custom-made review forms and then transferred to the corresponding spreadsheet as outlined above. After reviewing all 27 studies, a final spreadsheet was created containing a list of all of the initial codes identified in the literature (n = 561). Subsequent stages of the thematic synthesis involved the generation of themes, via a process of searching for themes and reviewing of themes. Groups of themes of similar meanings (e.g., determination to succeed, drive to achieve, work ethic and desire) were identified, with the first author ascertaining similarities and differences between the initial codes and categorizing them accordingly. Once the themes had been identified from the literature, the process of data analysis and findings were evaluated by the second author before they were discussed in detail by the first and second author in a face-to-face meeting. This involved the second author reading and re-reading corresponding articles, the themes that had been highlighted by the first author and critiquing the analysis which had been carried out. Any discrepancies highlighted by the evaluation process were discussed and a final list of pertinent themes that were highlighted in the meta-data analysis was created. Finally, theme names were created to encompass the meaning of the new groups (Braun & Clarke, 2006), before the thematic analysis was concluded by the writing up of the data.

1.7. Meta-synthesis

The final stage of the meta-study involved a meta-synthesis. The meta-synthesis brings together the interpretations drawn from the meta-method analysis, meta-theory analysis, and meta-data-analysis. A meta-synthesis of qualitative research is used to identify common themes and/or to compare differences on a particular subject that would not usually be available via a single study (Erwin, Brotherson, & Summers, 2011). Therefore, the purpose of the current meta-synthesis was to explore the key findings from primary research reports and integrate this into a coherent account. The aim of the synthesis was to contribute to a more complete understanding of the junior-to-senior transition in sport, with particular focus on the methods and theories that have been used to research the process and identifying key attributes that are perceived to be associated with a successful transition. An increased understanding of the key factors that impact the transition can help inform coaches, athletes, and other key stakeholders about the factors that may facilitate the transition and they may subsequently look to invest in and develop certain resources amongst transitioning athletes. It can also help inform researchers on the key features of previous research and areas for development. The process of conducting the meta-synthesis was carried out by the first author and was refined via critical review carried out by the second and third authors.

1.8. Rigor

In judging rigor, we would like the current meta-study to be evaluated by the following five criteria: (a) transparency – that is the approach taken is clear to the reader, (b) coherency – that is the way different that parts of the interpretation create a complete and meaningful picture, (c) width – that is the comprehensiveness of the evidence provided, (d) impact – that is do the results affect the reader and create new questions and ways of practicing, and (e) substantive contribution – that is, does this piece contribute to the understanding of life (Smith & Caddick, 2012). In an attempt to achieve rigor through these criteria, a numbers of means were used during the appraisal of the primary research reports. Firstly, the authors have described and explained the rational for the meta-study process including the purpose of the meta-study, sampling of primary research articles, data collection, and data interpretation, all of which can be found in the method section of the current study. In addition, the procedures used were documented throughout the meta-study process in order for the second author, and others, to determine the trustworthiness of the data. Authors continually questioned and attempted to discredit the interpretations of the data. Finally, through regular meetings, the research team compare and contrasted the meta-study findings, discussed any issues that arise and documented any decisions or changes that arise as a result of team meetings.

2. Results and discussion

2.1. Meta-method analysis

Please see table 1 for a breakdown of the key study characteristics of qualitative research which has focused on the junior-to-senior transition. Across the 27 studies analyzed in the current study, the majority of studies were carried out within European countries (n = 22) including Sweden, the United Kingdom, and Spain. Other studies were carried out in Australia, New Zealand, and Canada (n = 5). This focus of work which has been undertaken in Europe highlights the overriding dominance of participants coming from these countries. Research has supported the assumption that transitions within different countries and cultures can present athletes with unique challenges (Finn & McKenna, 2010). This, consequently, may mean that the junior-to-senior transition literature is dominated by these participants experiences, meaning results are not necessarily transferrable to contexts outside Europe, as cultural and contextual factors can impact athletes transition experiences. Stambulova, Alfermann, Statler, and Côté (2009) highlighted the impact that cultural values can have on transition research and how researchers can be influenced by the socio-cultural context in their

Table 1
Study characteristics of the primary research reports.

Author (year of publication)	Country	*N*	Mean Age	Type of Sport	Gender	Participant Breakdown	Method of Data Collection	Method of Data Analysis	Theory
Alge (2008)	Sweden	6	m = 27	Equestrian	Female (3) Male (3)	Elite athletes	Semi-structured interview	Deductive and inductive analysis	• The athletic career transition model (Stambulova, 1997; 2003) • The developmental model (Wylleman & Lavallee, 2004)
Bennie and O'Connor (2006)	Australia	20	Not identified	Track-and-field	Not identified	Current athletes (7) Ex-athletes (6) Elite coaches (2) Athletics administrators (5)	Semi-structured interview	Deductive content analysis	• Not identified
Bruner et al. (2008)	Canada	8	m = 17	Ice hockey	Male	Elite amateur athletes	Focus group	Phenomenological analysis	• The developmental model (Wylleman & Lavallee, 2004).
Čačija (2007)	Sweden	9	m = ? (range = 16–21)	Basketball	Female (5) Male (4)	Senior club athletes	Semi-structured interview	Sentence categorisation; deductive and inductive analysis	• The athletic career transition model (Stambulova, 2003) • The developmental model (Wylleman & Lavallee, 2004)
Finn and McKenna (2010)	UK	7	m = 45	Rugby league (2) Rugby union (2) Football (3) Cricket (1) *one coach worked in elite rugby union and football	Male	Coaches	Semi-structured interview	Deductive and inductive analysis	• The developmental model (Wylleman & Lavallee, 2004). • Cognitive theory of stress and coping (Lazarus, & Folkman, 1980)
Franck and Stambulova (2018a)	Sweden	2	m = 26	Swimming; Tennis	Female (1) Male (1)	Ex-athlete	Narrative Interview	Holistic-form structural analysis (Smith 2016)	• The athletic career transition model (Stambulova, 1997; 2009) • The holistic athletic career model (Wylleman et al., 2013) • The ecological model of human development (Bronnfenbrenner, 1979) • The athletic talent development environment model (ATDE; Henriksen, 2010)
Franck and Stambulova (2018b)	Sweden	2	m = 23	Football (1) Basketball (1)	Female (1) Male (1)	Ex-athletes	Narrative Interview	Holistic-form structural analysis (Smith 2016)	• The athletic career transition model (Stambulova, 1993; 2009) • The holistic athletic career model (Wylleman et al., 2013) • The ecological model of human development (Bronnfenbrenner, 1979) • The athletic talent development environment model (ATDE; Henriksen, 2010)
Hollings (2014a)	New Zealand	11	Not identified	Track-and-Field	Female (6) Male (5)	Elite junior	Semi-structured interview	Deductive and inductive analysis; hierarchical content analysis	• The athletic career transition model (Stambulova, 2003)
Hollings (2014b)	New Zealand; Australia	7	Not identified	Track-and-Field	Not identified	Not identified	Focus group	Deductive analysis	• The athletic career transition model (Stambulova, 2003)
Jones et al. (2014)	Australia	26	Players; m = 22 staff; m = 47	Rugby league	Male	Athletes (17) Coaches (9)	Semi-structured interview	Inductive thematic analysis	• Job-demands-resources model (Demerouti et al., 2001)

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Table 1 (*continued*)

Author (year of publication)	Country	*N*	Mean Age	Type of Sport	Gender	Participant Breakdown	Method of Data Collection	Method of Data Analysis	Theory
Lorenzo et al. (2009)	Spain	5	m = ? (range = 17–22)	Basketball	Not identified	Athletes	Semi-structured interview	Côté, Salmela, Baria, and Russell (1993); coding meaningful data, creating categories	• Not identified
Mills et al. (2012)	UK	10	m = 48	Football	Not identified	Coaches	Semi-structured interview	Deductive and inductive content analysis	• Differentiated model of giftedness and talent 2.0 (Gagné, 2009)
Morris et al. (2017)	UK	5	m = ? (range = 17–19)	Football	Male	Athletes	Semi-structured interview	Abductive thematic content analysis	• The developmental model (Wylleman & Lavallee, 2004). • The athletic career transition model (Stambulova, 2003)
Morris et al. (2015)	UK	17	m = 34	Football	Female (3) Male (14)	Coaches (4) Managers (2) Athletes (6) Parents (4) Sport psychologist (1)	Interview - unknown format	Deductive thematic content analysis	• The athletic career transition model (Stambulova, 2003)
Morris et al. (2016)	UK	28	m = 49	Football	Female (4) Male (24)	Coaches (12) Sport physiologists (2) Sport psychologists (4) Physiotherapists (3) Sport therapist (1) Parents (6)	Semi-structured interview	Abductive thematic content analysis	• The athletic career transition model (Stambulova, 2003) • The developmental model (Wylleman & Lavallee, 2004).
Morris (2013a)	UK	12	m = 49	Football	Male	Managers (5) Coaches (7)	Semi-structured interview	Thematic content analysis	• The athletic career transition model (Stambulova, 2003)
Morris (2013b)	UK	16	m = ? (range = 25–61)	Football	Female (4) Male (12)	Parents (6) Sport Physiologist (2) Sport Psychologist (4) Physiotherapists (3) Sport Therapist (1)	Semi-structured interview	Thematic content analysis	• The athletic career transition model (Stambulova, 2003)
Morris (2013c)	UK	11	m = 19	Football	Male	Athletes (11) Coaches (2) Managers (2)	Semi-structured interview	Thematic content analysis	• The athletic career transition model (Stambulova, 2003)
Olsson and Pehrson (2014)	Sweden	10	m = ? (range = 19–43)	Ice-hockey	Male	Athletes (7) Coaches (2) Ex-Athlete (1)	Semi-structured interview	Deductive and inductive content analysis	• The athletic career transition model (Stambulova, 2003)
Pummell (2008a)	UK	9	m = 25	Tennis (2) Squash (4) Equestrian (3)	Female (5) Male (4)	Athletes (8) Ex-athlete (1)	Semi-structured interview	Grounded theory	• Not identified
Pummell (2008b)	UK	1	m = 19	Tennis	Male	Athlete	Semi-structured interview	Pattern matching	• Not identified
Pummell (2008c)	UK	1	m = 19	Tennis	Male	Athlete	Semi-structured interview	Grounded theory	• Not identified
Pummell et al. (2008)	UK	10	m = 17	Equestrian	Female (8) Male (2)	Athletes (regional level)	Semi-structured interview	Deductive and inductive analysis	• The developmental model (Wylleman & Lavallee, 2004). • The model of human adaptation to transition (Schlossberg, 1981)
Pummell and Lavallee (2018)	UK	7	m = 15	Tennis	Female (3) Male (4)	Elite junior athletes	Mixed methods single-subject design (questionnaires and qualitative social validation)	Deductive content analysis	• The model of human adaptation to transition (Schlossberg, 1981) • The athletic career transition model (Stambulova, 2003) • The holistic athletic career model (Wylleman et al., 2013)

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Table 1 (*continued*)

Author (year of publication)	Country	*N*	Mean Age	Type of Sport	Gender	Participant Breakdown	Method of Data Collection	Method of Data Analysis	Theory
Røynesdal (2015)	UK	8	m = ? (range = 28–59)	Football	Male	Coaches	Semi-structured interview	Hierarchical content analysis	• Job demands-resources model (Jones et al., 2014)
Stambulova et al. (2017)	Sweden	7	m = ? (Range = 18–30)	Ice-hockey	Not identified	Athlete	Semi-structured interview	Deductive/theoretical thematic analysis	• The athletic career transition model (Stambulova, 2003) • The developmental model (Wylleman & Lavallee, 2004) • The holistic athletic career model (Wylleman et al., 2013)
Vujic (2004)	Sweden	2	m = 22	Swimming	Female (1) Male (1)	Athlete (1) Ex-athlete (1)	Semi-structured interview	Deductive and inductive analysis	• The sport career transition model (Stambulova, 1997)

respective countries. For example, a country, such as Sweden, that demonstrates a horizontal individualist culture, values the individual and supports low competitiveness. Whereas, vertical individualist cultures, such as the USA, encourages competition between individuals, in contrast to vertical collectivist cultures (e.g., China, Russia), which supports competition between groups and people and prioritises the interests of the state over the individual (Stambulova, et al., 2009). Stambulova et al. (2009) concluded that cultural idiosyncrasies, socio-historical context and geographical location can influence sport, sport system, and athletes in their respective countries (p. 400). Given this, future transition research should be more socio-culturally informed and could look to explore transition experiences of athletes involved in different contexts across the World. For example, the college system in America can present athletes with delayed junior-to-senior transitions, with athletes perhaps in their early 20s before making the move. Such work will help gain further understanding of the junior-to-senior transition across domains.

Apart from two studies which used focus groups as their method of choice, the primary data collection method was interviews (e.g., semi-structured; 25 studies; see Bennie & O'Connor, 2006; Jones et al., 2014)). Data analysis was carried out in a number of ways, including via inductive and deductive thematic analysis, phenomenological analysis, structural analysis, grounded theory analysis, pattern matching, and content analysis. The researchers of the primary research in the current meta-study were looking to understand the factors that influence athletes' transition into senior sport. However, a majority of the studies primarily used singular retrospective, semi-structured interviews. Not only does this method depend on participants ability to recall relevant information, but only provides data pertaining to a snapshot of the transition (e.g., Bennie & O'Connor, 2006; Lorenzo, Borrás, Sánchez, Jiménez, & Sampedro, 2009; Røynesdal, 2015). The use of this method does not acknowledge the transition process in its entirety and fails to recognise any potential changes athletes and key stakeholders might perceive during various points throughout the transition. In one study, football coaches' supported the notion that the transition process is constantly changing and dynamic process, with athletes continually have to cope with varying transition demands and barriers (Morris, 2013a). Three studies in the current meta-study analyzed the transition longitudinally, and also suggested that there are individual differences regarding athletes' approaches to the transition, including their preparation, coping, and perceptions of transition (Morris, 2013c). Therefore, much of the data collected around the transition from junior-to-senior transition may be idiosyncratic in nature, focused on specific elements of the process and failing to understand the whole experience. Given this, future work which goes beyond interview-based studies, perhaps focus groups (see Hollings, 2014b for an example), ethnographic studies (see Krane & Baird, 2005 for a description of this approach), and action research (see Bradbury-Huang, 2010; Richardson, Gilbourne, & Littlewood, 2004 for examples of studies using this method) studies may help unpick further transition experiences of athletes. Further use of narrative approaches (e.g., Franck & Stambulova, 2018b) and longitudinal approaches (e.g., Morris, 2013), which help give an understanding of individual experiences of transition, are also encouraged.

In total, 261 participants' experiences of the junior-to-senior transition were captured by the research. The participant profile was broken down into - current athletes (n = 127), coaches (n = 63), parents (n = 16), ex-athletes (n = 13), sport psychologists (n = 9), team managers (n = 9), physiotherapist (n = 6), athletics administrators (n = 5), sports physiologist (n = 4), and sport therapist (n = 2). The remaining participants (n = 7) were not identified. A total of 15 studies included solely athlete participants, 3 used exclusively coaches, with the remaining studies (n = 9) using a combination of various participants. Sample sizes across studies ranged from 1 to 28 participants. Across the studies, 11 papers contained participants of both genders, 11 studies contained solely male participants. The remaining studies

(n = 5) did not specify the gender of their participants. Participants studied came from a range of competitive sport levels including club/non-professional, elite, and professional. Studies analyzed participants' experiences from team sports (n = 16), individual sports (n = 10), or a sample consisting of a mixture of individual and team sport stakeholders (n = 1). Across the studies, there appears a broad perspective of key stakeholders involved in the junior-to-senior transition. However, a number of studies in the current review, combined participants perceptions of the transition (e.g., coach, athlete, ex-athlete, parents) with varying demographics (e.g., age, gender, stage of transition, sport) and failed to recognise individual differences when negotiating the transition (e.g., Bennie & O'Connor, 2006; Morris, Tod, & Eubank, 2017). For example, both Finn and McKenna (2010), and Pummell (2008a) explored the transition across multiple sports but did not consider how the type of sport might influence athletes' junior-to-senior transition. Previous research has suggested there are a number of different demands, barriers and resources which could influence the transition outcome and may vary according to sport (Bruner et al., 2008). For example, a football player negotiating the transition from the academy team to the first team, might experience a very different transition compared to an individual athlete in track-and-field. Teammates and managers are likely to play a more significant role in supporting a transitioning football player (Morris, 2013), whereas a track-and-field athlete might rely on their parents, or coach for support during the transition (Hollings, 2014b). Individual variation should be considered when making the transition into senior sport, instead of providing an overall, broad representation of a group of athletes transition experiences.

Furthermore, the data highlights that there is a lack of work which has focused on solely female participants. Similarly, there appears to be a lack of research exploring the junior-to-senior transition across diverse ethnicities and disabled or physically impaired athletes. Given the differences in experiences these athletes may have, due to the range of challenges they may experience, work which focuses on understanding the junior-to-senior transition with a more diverse participant sample (e.g., when athletes go through Ramadan or similar) will help advance knowledge in the research area.

2.2. Meta-theory

Meta-theory analysis was used to establish the theoretical underpinnings of the research articles included in the meta-study. The main theoretical models cited in the literature were: the athletic career transition model (Stambulova, 2003), the developmental perspective on transitions faced by athletes at athletic, individual, psychosocial, and academic/vocational levels (Wylleman & Lavallee, 2004), and the holistic athletic career model (Wylleman, Reints, & De Knop, 2013) which were used to underpin 19 studies. Other models used to underpin research included: the model of human adaptation to transition (Schlossberg, 1981); the differentiated model of giftedness and talent 2.0 (Gagné, 2009); job-demands-resources model (JD-R; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001); the athletic talent development environment model (ATDE; Henriksen, 2010); the ecological model of human development (Bronnfenbrenner, 1979); and the cognitive theory of stress and coping (Folkman & Lazarus, 1980).

With a clear body of work being underpinned by two theoretical frameworks, the developmental model (Wylleman & Lavallee, 2004) and the athletic career transition model (Stambulova, 2003), there is a risk that the work focused on the junior-to-senior transition may again become idiosyncratic in nature, with questions being asked and analysis taking place being guided by this work. Particularly, key features of the frameworks which influence the research on the junior-to-senior transition are the age at which athletes transition and the process that they will go through. For example, Wylleman and colleagues (2004; 2013) suggest that athletes will transition into senior sport at approximately 18 or 19 years old. Although this might be the case, in many sports (e.g., gymnastics or golf) the transition may occur much earlier or later in athletic careers. This shift to an earlier or later transition may mean more diverse factors may influence the process of transition. For example, Wylleman and colleagues (2004; 2013) also highlight that at earlier stages of athletes careers, they may experience additional challenges at the psychological, psychosocial, and academic/vocational levels, amongst others (e.g., the transition adolescence and to secondary education). If the transition occurs at a later time point, athletes may have other considerations, such as vocational development, which they need to consider, again influencing their transition (Wylleman and colleagues, 2004; 2013). Stambulova (2003) identified the transition to senior sport as a process by which athletes have to cope with a set of demands and barriers with a set of available resources in order to achieve a desired outcome. What other frameworks have proposed (see; Richardson, Relvas, and Littlewood, 2013) is that cultural considerations are also vital in this process. Richardson et al. (2013) contend that moving up to senior sport can often be moving from an environment which is extremely supportive of development to one which is bereft of appropriate support and extremely demanding of athletes. These cultural considerations are often missing from the junior-to-senior transition literature, with studies tending to focus on athletes' individual experiences.

Collectively, the use of the two main theoretical frameworks which have informed most of the data collection and analysis (Wylleman and colleagues, 2004; 2013; Stambulova, 2003) have meant that the focus of questioning has been, primarily, focused what might be considered in some sports as a normal pathway and the individual experiences of athletes, meaning questions which focus on other areas of development (e.g., the transition to adolescence, vocational development, cultural considerations) may have been excluded. Given this, future work which broadens the underpinning theories being used may help advance knowledge on the process of moving to senior sport.

2.3. Meta-data analysis

The meta-data analysis identified 59 factors in the literature that were perceived to impact the quality of athletes' junior-to-senior transition. All factors 59 were categorized into one of 13 themes: perceptions of the transition, psychological factors, personal development factors, performance development factors, social support, motivation, sources of stress, physical factors, organizational culture and values, youth culture and values, coping strategies, mentoring/modelling, and educational programs. Below, these 13 factors are discussed as one of 4 overarching themes, individual factors, external factors, cultural factors, and intervention strategies.

2.3.1. Individual factors

At the individual level, athletes' perceptions of the transition, psychological factors, and their personal development influence the junior-to-senior transition (see table 2).

2.3.1.1. Perceptions of transition. Research (e.g., Pummell et al., 2008) has highlighted that there is a belief that the junior-to-senior transition is characterized by a number of factors, including a lack of control over the transition process, an increase in stress and anxiety, and negative transitional experiences (i.e. reduction in confidence and poor performance). Čačija (2007) highlighted that some athletes perceived the transition as a negative event from the outset due to the increased number of demands it placed upon them. Conversely, positive transitional experiences (i.e. enjoyment, positive performance and gaining experience) were also highlighted by the research (e.g., Morris, Tod, & Oliver, 2015). Fundamentally, athletes' perception of the transition, and how accurate (or otherwise) this is, may determine the influence their perceptions have on transition outcomes. If athletes perceive the transition to be more difficult than it is or underestimate the challenge they are experiencing, they are likely to experience a more difficult process (Morris, 2013).

Table 2
Individual factors associated with the junior-to-senior transition.

Theme	Factors	Studies	*N*	Representative quote
Perceptions of Transition	Transitional expectations	Čačija (2007); Jones et al. (2014); Morris et al. (2015); Morris et al. (2017); Olsson and Pehrson (2014); Pummell (2008b); Pummell et al. (2008); Stambulova et al. (2017)	8	There's times when I think that, yeah this is how I expected it to go, but there's also times where I think I've been surprised by the depth of competition. (Pummell, 2008b)
	Understanding the transition process	Alge (2008); Franck and Stambulova (2018b); Jones et al. (2014); Morris et al. (2016); Olsson and Pehrson (2014); Pummell and Lavallee (2018)	6	[Understanding the transition] may help [athletes] to prepare more effectively as they won't assume that they will be successful straight away, and will work harder to ensure their success" (Morris et al., 2016, p. 382).
Psychological Factors	Determination to succeed and work hard	Alge (2008); Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018a); Jones et al. (2014); Mills et al. (2012); Morris et al. (2017); Morris et al. (2015); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Pummell et al. (2008); Stambulova et al. (2017); Vujic (2004)	18	The guys who are most motivated and have a high level of determination to succeed are the ones who are most successful long term (Morris, 2013a, p. 84)
	Awareness (self & others)	Alge (2008); Čačija (2007); Finn and McKenna (2010); Franck and Stambulova (2018a); Jones et al. (2014); Lorenzo et al. (2009); Mills et al. (2012); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Pummell (2008b); Pummell (2008c); Pummell et al. (2008); Pummell and Lavallee (2018); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	18	I just lost sight a bit of my own kind of journey and felt a bit somehow like meaningless compared to what he was doing, especially in that group environment. Yeah, so it just took me sort of, it took me a while to get my realistic perspective back because as I said, everybody has their own path and everybody's doing different things (Pummell, 2008b, p.174)
	Confidence	Alge (2008); Čačija (2007); Jones et al. (2014); Lorenzo et al. (2009); Mills et al. (2012); Morris et al. (2017); Morris et al. (2016); Pummell (2008b); Pummell (2008c); Pummell et al. (2008); Pummell and Lavallee (2018); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	14	If you can have that belief that you can do it or, even if you didn't do it the first time … you go and practice that and you're going to get it eventually (Jones et al., 2014, p. 36).
	Adaptability	Čačija (2007); Finn and McKenna (2010); Franck and Stambulova (2018a); Jones et al. (2014); Lorenzo et al. (2009); Morris et al. (2016); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	12	Think how quickly I adapted to that, because I was playing it all the time I was able to adapt to it so if I can get into that sort of level, and play those sort of players week in week out, there's no reason why it would take me any longer than it had in the Futures, just being able to get myself in to that position often enough (Pummell, 2008b, p.177)
	Intrinsic motivation	Alge (2008); Bennie and O'Connor (2006); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Hollings (2014a); Jones et al. (2014); Morris et al. (2017); Morris et al. (2016); Morris (2013c); Olsson and Pehrson (2014); Pummell et al. (2008)	11	I have to do it; because football makes me happy and this is the one thing I have always wanted to do (Morris et al., 2017, p. 12).
	Competence and responsibility	Alge (2008); Bruner et al. (2008); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Pummell (2008c); Pummell and Lavallee (2018); Røynesdal (2015); Stambulova et al. (2017)	9	You grow. Especially when I moved here then, when you move away from home and have to take responsibility on that level as well with everything from doing laundry, cleaning, cooking and job and own apartment" (Olsson & Pehrson, 2014, p. 22).
	Athletic identity	Franck and Stambulova (2018a); Hollings (2014a); Hollings (2014b); Jones et al. (2014); Pummell (2008a); Pummell (2008b); Pummell (2008c); Pummell et al. (2008)	8	You're not just an athlete, you're someone else as well … and you're not going to be the best at everything … knowing your strengths and weaknesses … having a vision of what you want to be (Jones et al., 2014, p. 36, p. 36)
	Good attitude	Alge (2008); Jones et al. (2014); Mills et al. (2012); Morris (2013a); Morris (2013b); Pummell (2008a); Røynesdal (2015); Stambulova et al. (2017)	8	It's about attitude. For example, you can't be the last one to arrive and the first one to leave. You should be the first to arrive at practices and the last one to leave" (Stambulova et al., 2017, p. 236).
	Focus	Čačija (2007); Mills et al. (2012); Morris et al. (2016); Morris (2013a); Morris (2013c); Olsson and Pehrson (2014); Stambulova et al. (2017)	7	The ability to shut out things external to the programme is vitally important (Mills, et al., 2012, p. 1598, p. 1598)
	Team-oriented	Čačija (2007); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Mills et al. (2012); Olsson and Pehrson (2014); Røynesdal (2015); Stambulova et al. (2017)	7	You then [need] to become part of the team and you feel like you're working toward a common aim because if you're going to be successful you need a good team spirit and togetherness (Røynesdal, 2015, p. 25, p.25)
	Mental strength/resilience	Čačija (2007); Mills et al. (2012); Olsson and Pehrson (2014); Pummell et al. (2008); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	7	It is necessary to be mentally strong and be prepared for potential setbacks in the senior ice hockey … It's not just moving full speed forward all the time" (Stambulova et al., 2017, p. 236).
	Commitment	Bennie and O'Connor (2006); Morris (2013a); Morris (2013b); Pummell et al. (2008); Pummell and Lavallee (2018); Stambulova et al. (2017)	6	A lot of the boys who play with [son's name] are lazy, and I think that gets exposed much more when they move to the first team. You can see just how lazy they are (Morris, 2013b, 138)
	Complacency	Jones et al. (2014); Morris (2013a); Olsson and Pehrson (2014); Røynesdal (2015); Stambulova et al. (2017)	5	[skillful player] but was lazy and did not carry out any additional training, which had hindered his development long term (Morris, 2013a, p. 88)
	Negative thoughts/beliefs about ability	Alge (2008); Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018a); Olsson and Pehrson (2014)	5	When you start performing worse you get these negative thoughts. You think you are worse than you really are. It becomes a downward spiral (Čačija, 2007, p. 11).
	Mental preparation	Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Stambulova et al. (2017)	4	If they don't prepare themselves mentally, they suffer the consequences when they do move up as they become overawed and some of them panic (Morris, 2013b, p.121)

(*continued on next page*)

Table 2 (*continued*)

Theme	Factors	Studies	*N*	Representative quote
	Coachability	Jones et al. (2014); Mills et al. (2012)	2	Your ability to absorb information, taking feedback, act on it and be prepared to keep working on it (Jones et al., 2014, p. 36).
Personal Development	Achieving a life balance	Alge (2008); Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018a); Hollings (2014b); Jones et al. (2014); Lorenzo et al. (2009); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008c); Pummell and Lavallee (2018); Vujic (2004)	12	Fitting athletics around university, I just find it's quite hard. It's annoying not having flexibility with classes. And now, when I'm going to World Juniors, I'm missing three weeks and the lectures (Hollings, 2014b, p. 106)
	Developing sport-specific knowledge	Jones et al. (2014); Mills et al. (2012); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008c); Pummell and Lavallee (2018); Røynesdal (2015)	10	It's all about the knowledge you have and bringing it forward when you move into the first team. Like, take a young right back, for example, he has been told what to do and what position he should be in for years, and he needs to bring that into the first team with him. (Morris, 2013a, p.85)
	Focus on personal growth and development	Alge (2008); Bruner et al. (2008); Jones et al. (2014); Morris et al. (2016); Pummell (2008a); Pummell (2008c); Pummell and Lavallee (2018)	7	It made me grow up pretty quickly … you've got no choice. No one's going to cook your dinner if you don't cook it (Jones et al., 2014, p. 34).
	Making the most of opportunities	Jones et al. (2014); Mills et al. (2012); Morris et al. (2017); Olsson and Pehrson (2014); Stambulova et al. (2017)	5	You have to be savvy enough to recognise an opportunity (Mills et al., 2012, p. 1599).

2.3.1.2. Psychological factors. Psychological factors highlighted in the relevant literature as being variables positively associated with the junior-to-senior transition included - determination to succeed/work hard, awareness, confidence, adaptability, intrinsic motivation, competence/responsibility, athletic identity, good attitude, focus, team-oriented, mental strength/resilience, commitment, mental preparation, high-self expectations, and coachability. Athletes who possessed a 'never give up' attitude and a drive to achieve were believed to be more likely to transition successfully into senior sport (Bennie & O'Connor, 2006; Mills, Butt, Maynard, & Harwood, 2012). Having high levels of self-confidence, and the ability to adapt to changing situations during the transition were also identified as important resources in this regard (Jones et al., 2014; Lorenzo et al., 2009). In addition, a number of studies believe it was important for transitioning athletes to demonstrate a level of self-awareness, and awareness of others. Mills et al., highlighted the relationships between awareness and resilience, suggesting athletes who demonstrate self-awareness have the capacity to reflect on the challenges they experience and understand what is needed to succeed at a senior level. Pummell (2008a) suggests that self-perception is an evolving attribute that changes over the course of the transition. For example, breaking through to the next level of senior competition was found to increase athlete's perceptions of themselves, and their beliefs of becoming a successful senior athlete. However, one of the biggest setbacks an athlete faced during their transition into senior sport was due to comparing themselves unfavourably to other senior athletes, which ultimately had a negative impact on athletes self-esteem (Pummell, 2008c). Demonstrating an awareness of others is particularly important when performing as part of a sports team, with coaches believing that athletes who were socially competent and effective at building relationships were more likely to experience a smoother transition into senior sport (Mills et al., 2012).

Although certain psychological factors are highlighted as positive to the junior-to-senior transition, others, including athlete complacency and negative thoughts and beliefs about their own ability can also have a debilitative effect on transition outcomes (Bennie & O'Connor, 2006; Čačija, 2007; Franck & Stambulova, 2018a; Jones et al., 2014; Morris, 2013a; Olsson & Pehrson, 2014; Røynesdal, 2015; Stambulova, Pehrson, & Olsson, 2017).

2.3.1.3. Personal development. Personal development refers to athletes' desire for growth and improvement. The review identified four personal development factors as variables of transition, including – achieving a life balance, developing sport-specific knowledge, focus on personal growth and development, and making the most of opportunities. Collectively, these elements are considered positive to athletes' development and may support their transition to senior sport (Olsson & Pehrson, 2014; Pummell, 2008c; Pummell & Lavallee, 2018; Røynesdal, 2015). Development of sport-specific knowledge refers to athletes' desires to enhance their comprehension and understanding of key factors which may influence their sporting career, including key tactics and or skills. Such knowledge can ensure that athletes are not unaware of and unable to complete key approaches or skills as and when they do move to senior sport (Morris, 2013a; Morris, Tod, & Oliver, 2016). A number of studies identified the importance for athletes to achieve a positive balance between all the components in their lives, such as sport, work, education, and relationships (Hollings, 2014) Athletes described the need for a balance between managing training with work, managing free-time by having something outside of sport, as well as having a balanced mindset (Jones et al., 2014). Bennie and O'Connor (2006) found that athletes can maintain multiple identities during the transition process and achieve a positive life balance.

2.3.2. External factors

External factors influencing the junior-to-senior transition include

performance development factors, social support available, extrinsic motivation provided, sources of stress athletes encounter, and physical demands they experience (see table 3).

2.3.2.1. Performance development factors. Performance development factors were perceived to be both facilitative and debilitative towards the transition outcomes. Performance factors included readiness for the next level of competition, and technical proficiency. Additionally, if athletes are not able to earn competing time in the immediate period of moving up to senior sport, they are likely to view the transition as a negative and difficult challenge (Bruner, et al., 2008; Čačija, 2007; Stambulova et al., 2017). Conversely, however, if athletes achieve early success in the transition phase (e.g., by competing at senior level and achieving desired results), they are more likely to be successful in senior sport long term (Bennie & O'Connor, 2006; Franck & Stambulova, 2018a).

2.3.2.2. Social support. Social support is an external factor that can be facilitative of development of athletes during the junior-to-senior transition (Bennie & O'Connor, 2006). Junior athletes who are given positive support and encouragement without excessive pressure to perform are more likely to experience a positive transition into senior sport (Pummell et al., 2008). The quality and quantity of the support received is important, with athletes needing regular support and the opportunity to communicate their thoughts and feelings (Vujic, 2004). Eight providers of support were particularly salient during the transition - (1) family, (2) coaches (3) teammates, (4) peers, (5) sports science staff, (6) organizational support, (7) partners, and (8) managers (Bruner et al., 2008; Franck & Stambulova, 2018a; Franck & Stambulova, 2018b; Mills et al., 2012; Olsson & Pehrson, 2014; Čačija, 2007). Those providing social support provide emotional, informational, tangible, and esteemed support (Morris et al., 2016; Pummell et al., 2008). Coaches are often required to give informational and esteem support, parents and family are usually sought for emotional, esteem, and tangible support, and sports science staff often provide technical, informational and emotional support, although these roles are not exclusive (Morris, 2013a; Morris et al., 2016).

2.3.2.3. Motivation. Extrinsic motivation was identified as having the potential to have both a facilitative and debilitative impact on the junior-to-senior transition. Extrinsic motivation in this regard refers to doing something because it leads to a separable external outcome or reward (Ryan & Deci, 2000). For example, an athlete might want to perform well in a competition because they fear being punished by their coach. Whilst this might have a positive impact on athletes' performances, the fear of being punished can cause psychological harm to an athlete which could lead to a negative outcome on their mental health and wellbeing. On the other hand, a number of studies found extrinsic rewards, including being recognized as a senior athlete and increased wages when moving up to senior sport motivated athletes to transition successfully (Jones et al., 2014; Morris et al., 2017). In addition, athletes reported a change in priorities as they moved from junior-to-senior status. Pummell et al. (2008) found that athletes who had successfully transitioned into senior sport experienced an increase in the significance of their sport. This meant athletes were motivated to spend more time competing and training and would often prioritise their sport over their school/education commitments. In one study participants felt they had to prioritise their time better now they were transitioning into senior sport (Čačija, 2007). Athletes felt they had to make more choices about their priorities in order to cope with the demands of being a senior athlete.

2.3.2.4. Sources of stress. Across the literature, 10 sources of stress, which can have a negative influence on athletes' development and transition to senior sport were identified - substantial increase in standard between junior and senior, coach-athlete relationship, significant others, inadequate of support, time pressures, increased pressure to perform, setbacks/injuries, financial demands, organizational stressors, and lack of motivation. Significant others were seen as a source of stress for athletes because they often put additional pressure on athletes to be successful. This stress can come from any significant others involved in athletes' development including family, friends, and partners. Pummell et al. (2008) suggested that athletes felt that they constantly had to live up to others' expectations and felt an increased pressure from significant others to be successful when they moved to senior sport. Athletes also described their parents as a source of stress when they became overinvolved in their sport and criticized their performances (Morris et al., 2017).

Related, inadequate social support was another source of stress that was perceived to have a detrimental effect on the quality of the transition to senior sport. Research (e.g., Bruner et al., 2008; Morris et al., 2015) has suggested that athletes experience a loss of confidence in their ability, as well as an increase in stress if they believed to have insufficient social support during the transition process (Bruner et al., 2008). This feeling can be further exacerbated due to the belief that athletes should focus on their sport as they move up; Pummell et al. (2008b) highlighted that some athletes believed the transition into senior sport had a negative influence on their social life and restricted their ability to socialize outside of their sport. Athletes who have a lack of friends and feel isolated as a result may find this has a negative influence on their health, wellbeing, and performance, mainly because they do not have anyone to confide in when they are experiencing challenges (Morris, 2013c).

Conflict within the coach-athlete relationship was also cited as a source of stress for transitioning athletes. Examples of coach-athlete conflicts include poor relationships with a new coach, a change in coaching set-up, and not trusting the coaches training methods (Franck & Stambulova, 2018a). In Bruner et al.'s (2008) study, one athlete expressed difficulty in receiving criticism from their new senior coaches, stating that they felt it was excessively negative and critical:

> [When] they [the coaches] are criticizing you then you feel like they hate me. I suck out there. But they say they are doing it to make you a better player. It [constructive criticism] is hard to see at that time (p. 245).

This quote highlights that the junior-to-senior transition can come with additional pressure to perform and maintain consistent performances (Pummell, 2008a; Pummell et al., 2008; Røynesdal, 2015).

A substantial increase in standard between junior and senior was also highlighted in the literature as a source of stress. A number of studies referred to perceptions of a substantial increase in standards between junior and senior competition (e.g., Bennie & O'Connor, 2006; Čačija, 2007; Franck & Stambulova, 2018b; Hollings 2014a). This increased standard can lead to a lack of confidence and belief in athletes' ability to transition from junior-to-senior level because the gap in performance standards is too large (Bennie & O'Connor, 2006). Similarly, Hollings (2014) found that those athletes who failed to transition believed that the step up to senior sport was extremely difficult, with qualifying standards and expectations of external stakeholders very high.

2.3.2.5. Physical demands. Results identified that there is a substantial increase in the physicality of training when moving from junior-to-senior sport which can negatively influence the process. Morris (2013a) found that players were required to be stronger, faster, fitter and more powerful in order to make the step up to first-team football. Athletes who were transitioning into the senior team identified that there was a substantial increase in physical challenges during training and an increase in playing schedule. These demands were recognized as being particularly challenging for young transitioning athletes (Finn & McKenna, 2010).

Table 3
External factors associated with the junior-to-senior transition.

Theme	Factors	Studies	*N*	
Performance Development Factors	Readiness for next level of competition	Alge (2008); Bruner et al. (2008); Franck and Stambulova (2018a); Jones et al. (2014); Morris et al. (2017); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Pummell (2008c); Pummell et al. (2008); Pummell and Lavallee (2018); Røynesdal (2015); Stambulova et al. (2017)	15	I think sometimes I might have been a bit early in playing some of the tournaments because obviously out there I got hammered all of the time, whereas if I'd have maybe left it for another year or so and gone on and played some junior events (Pummell, 2008a, p.82)
	Performance progression	Alge (2008); Bennie and O'Connor (2006); Hollings (2014a); Hollings (2014b); Jones et al. (2014); Morris et al. (2016); Olsson and Pehrson (2014); Pummell (2008b); Pummell (2008c); Pummell et al. (2008); Pummell and Lavallee (2018)	11	I think that I have become more stable in my performance over the years through my experiences (Stambulova et al., 2017, p. 238, p.238)
	Technical proficiency	Čačija (2007); Franck and Stambulova (2018a); Mills et al. (2012); Morris (2013a); Morris (2013b); Morris (2013b); Pummell (2008c); Pummell et al. (2008); Røynesdal (2015)	9	Sometimes, they are just not good enough technically and it shows when they move up (Morris, 2013a, p.89)
	Evaluation of performance	Bruner et al. (2008); Mills et al. (2012); Morris et al. (2016); Pummell and Lavallee (2018)	4	Reflect[ion] upon their mistakes and getting feedback on performance from coaches and fellow players (Morris et al., 2016, p. 384, p. 384)
	Early success in transition phase	Bennie and O'Connor (2006); Franck and Stambulova (2018a); Hollings (2014a); Hollings (2014b)	4	World Junior (position) to Commonwealth … Medallist, to am I going to the Olympics? Is that what's happening now?' (Hollings et al., 2014, p. 463, p. 463)
	Earning playing time	Bruner et al. (2008); Čačija (2007); Stambulova et al. (2017)	3	I want to move up in the lineup… Instead of playing fourth line try to move up to third line to get a little more ice time (Bruner et al., 2008, p. 244, p.244)
Support	**Stakeholder**			
	Family Support	Alge (2008); Bennie and O'Connor (2006); Bruner et al. (2008); Čačija (2007); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Hollings (2014b); Jones et al. (2014); Lorenzo et al. (2009); Mills et al. (2012); Morris et al. (2017); Morris et al. (2015); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008b); Pummell et al. (2008); Stambulova et al. (2017); Vujic (2004)	21	Without the parents it would never had worked (Alge, 2008, p. 16, p. 16)
	Coach Support	Alge (2008); Bennie and O'Connor (2006); Bruner et al. (2008); Čačija (2007); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Mills et al. (2012); Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Pummell (2008c); Pummell et al. (2008); Stambulova et al. (2017); Vujic (2004)	19	[When] they [the coaches] are criticizing you then you feel like they hate me. I suck out there. But they say they are doing it to make you a better player. It [constructive criticism] is hard to see at that time (Bruner et al., 2008, p. 245, p.245)
	Teammates/Training Partners	Bennie and O'Connor (2006); Bruner et al. (2008); Čačija (2007); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Jones et al. (2014); Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008a); Stambulova et al. (2017)	14	The captain has really helped, especially when I make mistakes, he takes me aside and offers alternatives or ways I could improve (Morris et al., 2017, p. 18).
	Peer support	Alge (2008); Čačija (2007); Jones et al. (2014); Lorenzo et al. (2009); Mills et al. (2012); Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Vujic (2004)	11	Having friends and family to support them away from the sport environment can have a massive positive effect on those moving up to senior sport (Morris et al., 2017, p. 17, p.17)
	Sport Science Staff	Bennie and O'Connor (2006); Franck and Stambulova (2018a); Morris et al. (2017); Morris et al. (2015); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Pummell (2008c)	9	The physio and sport science guys are a big help. The physio in particular helps, because when we go for a massage, we talk to him about things like how we are feeling as well (Morris et al., 2016, p. 19).
	Organizational Support	Alge (2008); Čačija (2007); Franck and Stambulova (2018a); Morris et al. (2017); Morris et al. (2015); Olsson and Pehrson (2014); Pummell et al. (2008); Vujic (2004)	8	My head-teacher, she just always wants to know what I've done this weekend and they want to publish it around school'' (Pummell et al., 2008, p. 440, p. 440)
	Partner	Čačija (2007); Jones et al. (2014); Mills et al. (2012); Stambulova et al. (2017); Vujic (2004)	6	Having key people on your side that actually care about you (Jones et al., 2014, p. 34).
	Managers	Morris et al. (2017); Morris et al. (2016); Morris (2013a)	3	I have started using much more support from the gaffer, and all the people at the club, and my parents have taken a back seat (Morris, 2013, p. 157, p.157)
	Type of Support			
	Financial support	Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018a); Hollings (2014b); Morris et al. (2017); Morris (2013b); Pummell et al. (2008); Pummell and Lavallee (2018)	8	My parents are so supportive. Dad just breaks his back working and stuff to pay for me to do my running (Hollings, 2014b, p.102)

(*continued on next page*)

Table 3 (*continued*)

Theme	Factors	Studies	*N*	
	Emotional	Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Pummell (2008c); Pummell et al. (2008)	7	My parents have really helped me, just being there for me whenever I have had a rough day or the likes, you know? (Morris et al., 2017, p. 18).
	Technical/informational	Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Pummell et al. (2008)	6	the captain has really helped, especially when I make mistakes, he takes me aside and offers alternatives or ways I could improve (Morris et al., 2017, p. 18, p.18)
	Tangible	Morris et al. (2017); Morris et al. (2016); Morris (2013a); Morris (2013b); Pummell et al. (2008)	5	Without the parents doing a lot of running around after them, they wouldn't be able to get places, and the petrol prices aren't cheap, so they deserve a lot of credit (Morris, 2013, p. 88, p.88)
	Esteem	Morris et al. (2016); Pummell et al. (2008)	2	Being confident in your own ability when moving to senior sport is crucial so anyone who can, should keep telling the players they have the ability to move up to keep their confidence boosted (Morris et al., 2016, p. 385, p. 385)
Motivation	Changes in priorities	Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Hollings (2014a); Hollings (2014b); Morris et al. (2017); Pummell et al. (2008); Vujic (2004)	9	You had to make a choice, either go out that Friday or go to the gym and lift some weights (Čačija, 2007, p. 9, p.9)
	Extrinsic motivation	Bennie and O'Connor (2006); Franck and Stambulova (2018a); Jones et al. (2014); Morris et al. (2017); Morris et al. (2016); Pummell et al. (2008)	6	We will get more money in when we move up, wont we… That ability to be able to afford things is important to me, as I want to be able to support my family." (Morris et al., 2017, p. 13).
Sources of Stress	Substantial increase in standard between junior and senior	Alge (2008); Bennie and O'Connor (2006); Čačija (2007); Franck and Stambulova (2018b); Hollings (2014a); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008a); Pummell et al. (2008); Røynesdal (2015); Stambulova et al. (2017)	14	All the qualifying standards are a bit of a joke, they're pretty hard. Open standards are too hard and they're not retaining athletes as a result, so the standards have to be brought back (Bennie & O'Connor, 2006, p. 63).
	Coach-athlete relationship/conflict	Bennie and O'Connor (2006); Bruner et al. (2008); Čačija (2007); Finn and McKenna (2010); Franck and Stambulova (2018a); Franck and Stambulova (2018b); Hollings (2014a); Hollings (2014b); Lorenzo et al. (2009); Olsson and Pehrson (2014); Røynesdal (2015); Vujic (2004)	12	I'm pretty bitter towards the coaches… Sometimes you want the coaches to show a little bit of confidence in you, if you don't have as much confidence in yourself (Bruner et al., 2008, p. 245, p.245)
	Significant others	Alge (2008); Čačija (2007); Finn and McKenna (2010); Morris et al. (2017); Morris (2013a); Morris (2013b); Morris (2013c); Morris et al. (2015); Pummell et al. (2008); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	12	My friends always want me to go for nights out, or spend time with them, and that's difficult to deal with 'cause you do want to spend time with them, but also you want to win!" (Morris et al., 2017, p. 16, p.16)
	Inadequate social support	Bennie and O'Connor (2006); Franck and Stambulova (2018a); Hollings (2014a); Jones et al. (2014); Morris et al. (2015); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013b); Olsson and Pehrson (2014); Pummell et al. (2008)	11	Sometimes the players are looking for support from coaches, and sport scientists, but they don't get it, with some coaches instead shouting at the boys (Morris, 2013, p. 89, p.89)
	Times pressures	Alge (2008); Bennie and O'Connor (2006); Čačija (2007); Finn and McKenna (2010); Hollings (2014a); Hollings (2014b); Lorenzo et al. (2009); Olsson and Pehrson (2014); Pummell et al. (2008); Stambulova et al. (2017); Vujic (2004)	11	Not much time for other things, not everyone understands how much time this takes, 365 days per year, seven days a week, it feels naturally, that's how it is when you work with horses (Alge, 2008, p. 20, p.20)
	Increase in pressure to perform	Čačija (2007); Finn and McKenna (2010); Franck and Stambulova (2018a); Morris et al. (2017); Morris (2013b); Morris (2013c); Morris (2013c); Pummell (2008a); Pummell et al. (2008); Røynesdal (2015)	10	I think there is a perception from families that if their son makes it, their [the families] whole life is made for them … but it hardly ever works like that, and it just results in the player getting [swear word] with their family and thinking they put too much pressure on them. (Morris, 2013, p. 82, p.82)
	Setbacks/injuries	Alge (2008); Bennie and O'Connor (2006); Franck and Stambulova (2018a); Hollings (2014a); Jones et al. (2014); Olsson and Pehrson (2014); Pummell (2008a); Pummell and Lavallee (2018); Stambulova et al. (2017); Vujic (2004)	10	There was so much pain and I just seemed to be getting injured and I wasn't able to enjoy other activities (Bennie & O'Connor, 2006, p. 64, p.64)
	Financial demands	Alge (2008); Bennie and O'Connor (2006); Finn and McKenna (2010); Franck and Stambulova (2018a); Morris (2013a); Morris (2013b); Olsson and Pehrson (2014); Pummell (2008a); Pummell et al. (2008)	9	There were increasing monetary cost associated with coach and that was a big influence on me not competing at all. I mean … being a student I cant afford much. I didn't have much money and I felt I couldn't sponge off my parents any longer (Bennie & O'Connor, 2006, p. 65, p.65)
	Organizational stressors	Bruner et al. (2008); Franck and Stambulova (2018a); Morris et al. (2017); Pummell et al. (2008)	4	There's no doubt we get criticized more in the first team (Morris, Tod, Eubank, 2016, p. 17, p.17)
	Lack of motivation	Franck and Stambulova (2018b); Olsson and Pehrson (2014); Stambulova et al. (2017)	3	It's easy to lose motivation because it's not as easy anymore (Stambulova, Perhson, & Olsson, 2017, p. 239, p. 239)
Physical	Greater physical/training demands	Čačija (2007); Finn and McKenna (2010); Jones et al. (2014); Lorenzo et al. (2009); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Olsson and Pehrson (2014); Pummell (2008b); Røynesdal (2015); Stambulova et al. (2017); Vujic (2004)	13	I have really struggled recently to keep up with the boys, 'cause the sessions are much longer and more physical which has really hindered how well I play (Morris, 2013, p. 143, p.143)

2.3.3. Cultural factors

At the culture and values level, two main factors were identified in the literature as being important transition variables - the overall organizational culture and values, and the youth development culture and values (see table 4).

2.3.3.1. Organizational culture and values. Studies (e.g., Jones et al., 2014; Mills, et al., 2012; Morris et al., 2016; Røynesdal, 2015) discussed the role of club culture, or the culture of the sport, and its impact on the junior-to-senior transition. If an organization considers talent development a key component of their organizational culture and values, athletes are more likely to be supported in this regard, meaning they are more likely to experience positive transitions (Morris et al., 2015). Conversely, if athletes are not in this type of environment, they may face the challenges of being in an environment bereft of support for talent development. For example, in such environments it has been identified that athletes often felt they did not know what to expect with regards to expected behaviors and culture of their senior club prior to moving up to senior sport. The level of uncertainty experienced impacted how ready athletes felt to transition (Jones et al., 2014). Consequently, when they move up to senior sport and are faced with a culture in senior sport which is often challenging for youth athletes, demanding of their skills and competencies, bereft of support, and "tests" their ability to integrate with senior athletes, they can experience the negative effects of this (Morris et al., 2016).

2.3.3.2. Youth culture and values. Youth culture away from sport was perceived to negatively influence the quality of athletes' transitions. Youth culture refers to problematic behavior that occurs outside of the sporting environment that can become a barrier to athletes by preventing them from focusing on their sport (Finn & McKenna, 2010). Particular aspects of youth culture which were believed to be detrimental to athletes' performances and could have a negative impact on their focus and physical development included partying and drinking alcohol. Participating excessively in certain youth activities was likely to lead to negative consequences for transitioning athletes and their long-term development (Olsson & Pehrson, 2014). One athlete in Stambulova et al.'s (2017) study highlighted that the youth culture made their adaptation into the senior team more challenging:

> A lot of peers are out partying and start drinking, using snuff, smoking, dealing with girls (…). There's a party each weekend but this was not the case for us. We had to abstain and be prepared for practices or games (p. 19).

These results highlight the challenges that may surface should athletes wish to engage in negative youth culture and values behavior.

2.3.4. Intervention strategies

In addition to the internal, external, and cultural factors identified, research has identified three intervention strategies which could facilitate the transition from junior-to-senior sport - coping strategies, mentoring/modelling, and educational programs (see table 5).

2.3.4.1. Coping strategies. Coping strategies have been identified as an effective tool for junior athletes to utilize when transitioning into senior sport. Coping is defined as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them" (Folkman & Lazarus, 1980, p. 223). With regards to the junior-to-senior transition, this is the process whereby an athlete draws upon their internal resources (e.g., blocking out negative thoughts) to manage the demands of the transition period that they are experiencing (Jones et al., 2014). Some examples of coping strategies discussed in the literature include; emotional regulation, listening to music, ability to problem solve, and problem-focused coping. One athlete discussed their coping strategy which was to block out negative thoughts and think positively, "What did I do? I just simply stopped listening to the negative things I was saying to myself. I simply ignored the negative

Table 4
Cultural factors associated with the junior-to-senior transition.

Organizational Culture and Values	Culture of club/team/ sport	Jones et al. (2014); Mills et al. (2012); Morris et al. (2016); Røynesdal (2015)	4	The culture changes, they now need to perform to the best of their ability every day. If they don't, they are out the door. The pressure on them is immense (Morris et al., 2016, p. 381, p.381)
Youth Culture and Values	Youth Culture	Finn and McKenna (2010); Olsson and Pehrson (2014); Stambulova et al. (2017)	3	we have a lot of athletes going to university A but this university is centred around academic and social; beer, sex, chips and gravy basically. So we've got a massive conflict with these young lads and lasses who are 18, going in to an environment that reinforces these cultural elements (Finn & McKenna, 2010, p. 269, p.269)

Table 5
Intervention strategies associated with the junior-to-senior transition.

Coping strategies	Mental strategies	Alge (2008); Čačija (2007); Finn and McKenna (2010); Hollings (2014b); Jones et al. (2014); Morris et al. (2016); Morris (2013a); Morris (2013b); Morris (2013c); Pummell and Lavallee (2018); Stambulova et al. (2017); Vujic (2004); Bennie and O'Connor (2006); Bruner et al. (2008); Franck and Stambulova (2018a); Hollings (2014a); Hollings (2014b); Pummell (2008b); Vujic (2004)	12	I just simply stopped listening to the negative things I was saying to myself. I simply ignored the negative thoughts and tried to think positive to bread the downward spiral (Čačija, 2007, p. 12, p.12)
Mentoring/modelling	Modelling senior athletes	Morris et al. (2016); Olsson and Pehrson (2014); Pummell (2008a); Pummell (2008b); Pummell and Lavallee (2018); Stambulova et al. (2017)	6	probably be done to get [athletes] to sit themselves down and speak to boys who have been through it (Morris et al., 2015, p. 383, p.383)
Educational programmes	Educating athletes on the transition	Hollings (2014b); Morris et al. (2015); Morris (2013a); Pummell and Lavallee (2018)	4	[Education programmes were important as] very few players actually are successful in making the transition to the senior team long term (Morris, 2013a, p.91)

thoughts and tried to think positive to break the downward spiral." (Čačija, 2007, p. 12).

2.3.4.2. Mentoring/modelling. The use of mentoring/modelling has also been highlighted as a useful strategy when negotiating the transition from junior-to-senior sport. Junior athletes may learn aspects such as expected behaviors and the key skills and knowledge they will require in senior sport, through observation and modelling during the different phases of the transition (Morris et al., 2016). Pummell and Lavallee (2018) delivered an intervention to support junior tennis players making the transition into senior competition. In this study, mentors/role models were tasked with teaching junior athletes relevant skills they may require in senior sport and impart the appropriate knowledge and guidance on how to behave at a senior level. Athletes who have exposure to a role model or senior mentor are more likely to experience a successful transition because they develop a better understanding of what is expected of them (Bruner et al., 2008).

2.3.4.3. Educational programs. Finally, educational programs have also been identified as an effective coping strategy that could facilitate the junior-to-senior transition. These programs can be used to educate young athletes on how to cope with the demands of the transition and utilize and develop their coping resources. Educational programs in addition to athletes, can include key stakeholders such as coaches, parents, sports science staff, friends and teammates, and educate on their role in facilitating athletes through the transition successfully. Hollings (2014b) suggested that it is necessary to educate and prepare coaches to be more effective in meeting the needs of their athlete during the transition process. In Pummell and Lavallee's (2018) intervention highlighted earlier, the authors delivered an intervention to academy tennis players which included educating athletes in a number of areas including - mental skills, scheduling tournaments, developing independence and responsibility, and performance and lifestyle adjustments. Athletes who took part in the intervention program demonstrated an increase in readiness and knowledge of the junior-to-senior transition.

2.4. Meta-synthesis

By synthesizing the findings of the meta-methods, meta-theory analysis and meta-data analysis, we present a model of junior-to-senior transition (see Figure 2), which we have called the individual, external, cultural model of the junior-to-senior transition. In bringing together the literature associated with the junior-to-senior transition, we are able to provide a model which represents the main findings and can be further tested in future research and used as a basis for practitioners working with athletes about to or going through the process. Although individual qualitative studies are often criticized for their homogeneous and small sample sizes, bringing together the literature associated with a number of papers in the research area can help to develop a more rigorous understanding of the research area in comparison to one study (Estabrooks, Field, & Morse, 1994). In the current review, we have synthesized the experiences of 261 key stakeholders involved in or who have a knowledge of the transition. In doing so, we provide a framework which can be used by practitioners to understand athletes' transition experiences, the challenges they are experiencing, and intervene appropriately. Equally, we do so to provide a testable model which we would encourage other researchers and practitioners to challenge and adapt dependent upon further research in the area.

Based upon our meta-synthesis, we propose that there are three underpinning features of the junior-to-senior transition, transition preconditions, transition variables, and transition outcomes. Alongside these, there may (or may not) be interventions which supports athletes as they go through the process. We do not propose that the model is stage based, instead, we suggest that the junior-to-senior transition is a complex and dynamic process which may occur over a period of months

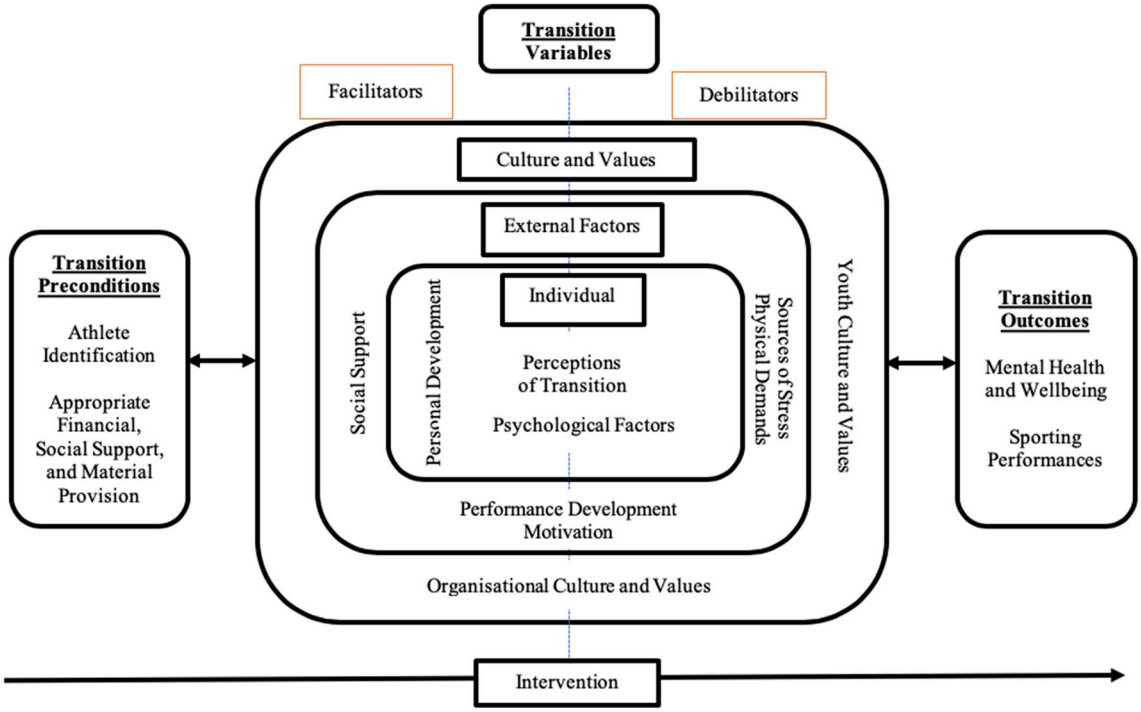

Fig. 2. The individual,external, culture model of the junior-to-senior transition.

or years, with athletes experiencing and being influenced by various variables at different times throughout transition. For example, athletes may be identified as being talented and start training in senior sport - meaning they are influenced by transition variables and are going through the process of moving to senior sport - but then move back down to junior sport because their coaches do not feel they are coping with the process particularly well. This may lead to an extended transition period, where the variables influencing the transition of athletes becomes dynamic and ever-changing.

2.4.1. Transition preconditions

Transition preconditions are key underpinning features which are required prior to transition. Specifically, there is an identification of the athlete as potentially having the opportunity to be successful as a senior athlete or wanting to compete as a senior athlete. This identification varies between sports and can be identification by coaches or other appropriate staff or, in the case of sports such as golf, may be self-identification (i.e., they decide they would like to become professional). It is proposed that athlete identification is the first phase of the junior-to-senior transition (Morris, et al., 2015).

Further, in the transition preconditions, there is also identification that appropriate financial, social, and material provision is required prior to transition. Again, this will vary between sports, but could include aspects such as appropriate financial provision to allow athletes the opportunity to turn professional, appropriate contracts, or access to coaching support (Čačija, 2007; Morris, 2013b). In essence, prior to moving to senior sport, the provision provided to athletes needs to give them the opportunity to focus on moving to senior sport successfully. For example, in professional football or rugby, athletes are never provided with the opportunity to move to senior sport without a contract outlining their sport status as senior athletes, owing to league regulations. Additionally, they often receive extensive support provision throughout their youth career aimed at developing key skills and competencies they will require as they move to senior sport - this support may include coaching support in a youth academy, for example (Morris, 2013).

2.4.2. Transition variables

Once athletes have satisfied transition preconditions, we propose that they are then elevated into a situation where a number of variables, as identified in the meta-data analysis above, influence their transition experience. Specifically, we propose that the individual and their key characteristics, external factors, and the culture and values of the organization may have an influence on athletes' experiences. The variables are identified as either facilitative (left-hand side of variables diagram), debilitative (right-hand side of the diagram), or neither (in the center of the diagram). The variables identified as neither can become either a facilitative or debilitative in individual contexts dependent upon the way these are viewed and approached, as explained below.

At the individual level, personal development is considered facilitative to transition according to relevant literature. Specifically, achieving a life balance, developing sport-specific knowledge, focus on personal growth, and development and making the most of opportunities are personal development factors considered facilitative to transition (Alge, 2008; Jones et al., 2014; Mills et al., 2012; Pummell, 2008a; Stambulova, et al., 2017). Athletes' perceptions of the transition and their key psychological competencies, including for example, intrinsic motivation to be successful and confidence, can be either facilitative or debilitative to athletes' transitions. If athletes have an accurate perception of the transition process, they are more likely to experience a successful transition (Morris, et al., 2016). Conversely, if they have inaccurate perceptions of the transition (i.e., they consider it more difficult or easy than it is in reality) or perceive it to be a negative event, this can be debilitative to transition outcomes (Čačija, 2007). Equally, if athletes have appropriate psychological resources, they can overcome any psychological deficiencies they may experience (or experience the negative consequences of this if this is not the case).

Externally, social support, as highlighted earlier, is considered facilitative to transition (Bennie & O'Connor, 2006). If appropriate and continual support is provided throughout the transition, athletes will experience the benefits of this, hence this being identified as a potential facilitator in the model of transition. Identified earlier, there are also a number of sources of stress and physical demands which are considered

debilitators to junior-to-senior transitions. Specifically, coach-athlete relationship demands/conflict (Bruner et al., 2008), injuries (Bennie & O'Connor, 2006), organizational stressors (Franck & Stambulova, 2018a), and the increased physical exertions expected and required in senior sport (Morris, 2013a) are some examples of external debilitators. In such instances, if athletes are presented with a number of external sources of stress or physical demands (combination of a number of debilitators), or if one or a number of these demands is of particular difficulty for the individual and results in heightened associated stress or anxiety for the athlete, they can be debilitative to transition outcomes. Performance development factors, including the perceived readiness for the next level of competition and earning playing time, were identified as potentially facilitative or debilitative in associated literature. For example, if athletes move to senior sport and are given instant playing time as a senior athlete, this may be facilitative to performance. Conversely, if athletes, as commonly happens, move to senior sport yet do not achieve instant playing time, they may experience this as a debilitator to their transition (Bruner et al., 2008).

At the culture and environmental level, organizational culture and values can be considered either facilitative or debilitative according to the associated literature. Youth culture and values are considered debilitative to transition outcomes (Finn & McKenna, 2010). Consequently, these elements are outlined as such in the associated model of transition. For example, if an organization has a youth development environment which is considered facilitative of talented athletes and this is reflective of the first team environment which supports youth development, it can become facilitative (Morris et al., 2015). Conversely, if talent development is not a key component of an organization does not view youth development as a key component of their approach, their talent development approach may be facilitative of this, making these cultures and values debilitative to talent development. As highlighted above, the associated literature also highlights that the move to senior sport can be characterized by a senior team environment which is often challenging for youth athletes, demanding of their skills and competencies, bereft of support, and "tests" their ability to integrate with senior athletes. This environment may be different from a youth environment which is designed to facilitate talent development and extremely supportive of athletes, making the process harder for individuals. Ensuring greater parity between youth and senior environments, as has been highlighted, can help overcome this challenge and make the organizational culture and values and youth development culture and values more facilitative of development and the transition from junior-to-senior sport (Morris, 2013).

2.4.3. Intervention

Throughout the junior-to-senior transition literature, a number of interventions have been proposed as ways to facilitate the process. These include interventions that occur prior, during, and post-the move to senior sport, as outlined earlier (e.g., mentorship scheme). The model presented is reflective of this, identifying that interventions can be implemented across the transition process. It is also proposed that intervention can occur across the different transition features, including at the individual or organizational level.

2.4.4. Transition outcomes

Transition outcomes in the model outlined are defined by two overriding categories: athlete mental health and wellbeing and sporting performances. Much of the previous research on within-career transitions (e.g., Morris et al., 2017) has focused on how successful athletes are in senior sport. This narrow definition may be appropriate for organizations who are focused on talent development and achieving a high junior-to-senior transition rate which may help with financial gain (e.g., selling players who have come from their youth system for financial profit). Contrastingly, psychological governing bodies, such as the Health and Care Professions Council (2012) in the United Kingdom, stipulate that psychology practitioners should be concerned with enhancing the psychological health and wellbeing of those they work with. This stipulation suggests that a definition of successful transition which focuses on purely performance outcomes is limited because it may not consider if athletes are psychologically healthy.

Acknowledging these contrasting standpoints, it is proposed in the current paper that a definition which clearly combines these aspects may be used to determine the outcomes of transition, with a successful junior-to-senior transition defined as when athletes are able to effectively cope with the transition variables identified previously and both perform competently in senior sport and attain positive psychological health and wellbeing. Any other youth to senior transition is considered unsuccessful. For example, athletes may be performing well in senior sport, but may not have good psychological health and wellbeing - this is considered unsuccessful in the current work. Exit transition is when athletes leave professional sport. It is conceivable that there may be similar aspects associated with transition out of sport when compared with the junior-to-senior transition. However, it is beyond the scope of this work to discuss which factors are associated with the exit from sport transition, and the model presented does not claim to represent this process.

It is also important to consider at what time an athlete has a successful transition. As soon as athletes move up to senior sport, they may start to show signs that they are performing well in senior sport (e.g., competing against senior athletes; playing for the senior team in competitive matches; showing improvements in skill proficiency). However, when a transition can be classed as a successful one is open for interpretation. For example, it may be the situation that some athletes who perform well in junior sport may not subsequently perform well in senior sport. Contrastingly, athletes who may have struggled towards the end of their junior career but over time could manage the demands associated with the change may perform well and be more successful in senior sport. Specifically, in sports such as swimming and track-and-field, where athletes' performances can be objectively measured (e.g., times, distances), a successful transition could be considered when an athlete achieves a personal best within a senior competition. Considering these viewpoints, the final outcome of transition may be best judged by coaches, managers, or athletes themselves at the end of the first year in senior sport, where athletes may or may not be retained or decide to continue in their sport.

The proposed model is offered as a progression of previous models of transition. For example, Stambulova's (2003) model suggested athletes are required to cope with a number of demands associated with the transition, which is dependent upon the resources available and barriers to the transition. Similarly, our new model proposes that athletes are met with numerous transition variables including individual and external factors, all of which may have a dynamic influence on athletes' transition into senior sport. However, crucially, the new model recognizes that these individual and external variables are acting within a youth development and organizational culture, which can be facilitative or debilitative towards the transition outcome and athletes' development. Previous research has failed to fully understand the impact that culture may have on the junior-to-senior transition, whereas the current review underlines the fundamental impact that organizational culture may have on athletes' development.

As identified earlier, by proposing this model of the junior-to-senior transition based upon a meta-synthesis of the associated literature, we are doing so as a guide for practitioners working with athletes about to undertake or currently undergoing the junior-to-senior transition. Practitioners can use this model as a way to guide consultancy questions, identify potential facilitators and debilitators to transition in their current context, and identify possible periods where intervention and support may be required and where this support should be targeted. This model of transition also provides testable relationships that may guide future research. To this end, the following hypotheses are proposed:

1. Athletes with appropriate financial, social support, and material provision prior to transition are more likely to have successful junior-to-senior transitions.
2. Athletes who are supported at one of three levels, either at an individual level, external level, or are in an environment where the organizational culture and values and the youth development culture and values match, are more likely to experience successful junior-to-senior transitions than if no support is provided.
3. Combined provision, where focus prior to transition is on support at individual, external, and cultural levels as combined provision, will lead to a more positive outcome than support at one of these levels alone.
4. If athletes experience negative performance transitions, they are more likely to experience negative mental health and wellbeing transitions, and vice versa; and if athletes experience positive performance transitions, they are more likely to experience positive mental health and wellbeing transitions, and vice versa.

3. Conclusions

The primary purpose of this study was to provide a systematic review of literature focused on the junior-to-senior transition. Specifically, this study: (a) provides an overview and critique of methodological and theoretical decisions which underpin current junior-to-senior transition literature; (b) systematically reviews, evaluates, and analyses literature on the junior-to-senior transition in sport regarding key factors that are perceived to impact the transition; and (c) provides a synthesis of findings regarding the factors that influence the junior-to-senior transition in sport.

As identified, from a meta-methods perspective this study has identified several important methodological considerations for the development of the junior-to-senior transition literature. First, a majority of studies have been conducted in European countries, meaning results are not necessarily transferable outside of a European context. Second, researchers have primarily utilized interviews as their method of data collection. Many of these studies, due to their nature of being retrospective, have specified memory and recall bias as a limitation of their study (e.g., Finn & McKenna, 2010; Jones et al., 2014; Pummel, 2008a). Finally, a broad range of participants have been used in studies including athletes and key stakeholders. Data, however, highlighted a lack of research which has focused exclusively on female athlete participants. Future research may look to utilize narrative and longitudinal approaches in order to give an understanding of individual experiences of the junior-to-senior transition. Longitudinal studies will also add to the transition literature, avoiding the limitations associated with retrospective research designs (Park, 2012). In addition, ensuring a diversification of samples by including a variety of cultures and female athletes in studies may add to the knowledge of the impact of environmental contexts on the quality of athletes' junior-to-senior transition. Such knowledge can be crucial in developing the sport, culture, and gender specific knowledge needed to provide tailored support to transitioning athletes.

Meta-theory analysis showed that studies were primarily underpinned by two theoretical frameworks, the athletic career transition model (Stambulova, 2003) and the developmental perspective on transitions faced by athletes at athletic, individual, psychosocial, and academic/vocational levels (Wylleman & Lavallee, 2004). As these theoretical frameworks identify particular aspects of transition which underpin the process, it is understandable that literature which uses these theories as guiding frameworks will produce results akin to these key aspects. As is highlighted by the meta-data analysis, however, there are some key aspects of the junior-to-senior transition (e.g., the culture of the organization) which are not highlighted in these underpinning models. Given this, future work which broadens the underpinning theories being used may help advance knowledge on the process of moving to senior sport. Specifically, more research which uses frameworks which focus on areas of transitions highlighted in this review as being important to the process, but that have not been readily used (e.g., Henriksen's, 2010, athletic talent development environment model), and models which have been more recently proposed as underpinning the junior-to-senior transition, could help give a greater understanding of the process.

From the meta-data analysis conducted in this study, we identified 59 factors that were perceived to impact the quality of athletes' junior-to-senior transition. These 59 were categorized into one of 13 themes: perceptions of the transition, psychological factors, personal development factors, performance development factors, social support, motivation, sources of stress, physical factors, organizational culture and values, youth culture and values, coping strategies, mentoring/modelling, and educational programs, which were then categorized into one of 4 overarching themes, individual factors, external factors, cultural factors, and intervention strategies. The meta-data analysis gives rigor and comprehension to the current understanding of the junior-to-senior transition and provides both researchers and practitioners with a detailed understanding of the process which can be used to underpin their work. From a researcher perspective, future work may wish to focus on specific variables identified in this review as important to explore in more detail. For example, external motivators are seen as key to the junior-to-senior transition. To date, however, their role in supporting athlete development through the junior-to-senior transition has yet to be fully explored (e.g., if external motivators are removed, does this mean athletes are less likely to be successful during the transition process). From a practitioner perspective, the meta-data analysis gives comprehension to our understanding of the junior-to-senior transition, meaning that practitioners can work with athletes to identify areas they consider important to their transition process, drawing from the list identified above. Practitioners can use this knowledge to identify potential facilitators and debilitators to the transition in their current practice and identify where intervention and support may be required in order to facilitate a successful transition outcome. This can mean that support is more individually tailored to athletes' needs.

By synthesizing the findings of the meta-methods, meta-theory analysis and meta-data analysis, we produced a model of junior-to-senior transition, the individual, external, cultural model of the junior-to-senior transition. Based on the meta-synthesis, we proposed that there are three underpinning features of the junior-to-senior transition, transition preconditions, transition variables, and transition outcomes. Transition preconditions are the conditions which are required prior to the start of the move from junior-to-senior sport and can include appropriate selection (or self-selection) and tangible support. Transition variables includes individual variables, external factors, cultural factors, and interventions. Transition outcomes includes the suggestion that a successful transition is only considered such when there are positive outcomes in terms of athlete mental health and wellbeing and sporting performances. By presenting data from the meta-synthesis in this way, in the current study we are able to provide a model which represents the main findings and understanding of the junior-to-senior transition and provides a testable model which researchers and practitioners are encouraged to challenge and adapt dependent upon further research in the area. The current study also provides a framework which can be used by practitioners to understand athletes' transition experiences, the challenges they are experiencing, and intervene appropriately.

As highlighted, the new model is presented as an advancement, based upon relevant literature, of previous models describing sport transitions. For instance, Stambulova's (2003) model predicted that there are a number of demands, resources, barriers and coping mechanisms that interact throughout a sporting transition. Similarly, our new model proposes that athletes are faced with a number of transition variables that influence their transition experience including individual and their key characteristics and external factors, all of which may have a dynamic influence on athletes' experiences. Importantly, however, the

model identifies that the individual and the external variables which influence their transition are all acting within a youth development and organizational culture which can help or hinder their development. Previous works have failed to fully recognise the role which culture plays in transition - the current review highlights that culture underpinning the organization may be vital for athletes' development.

As highlighted in the meta-methods analysis and the discussion section of this study, a number of methodological considerations were identified which lead to future research recommendations. Firstly, a majority of the current research has employed retrospective, semi-structured interviews as their method of choice. This methodology only provides data pertaining to a specific time point of the transition and does not acknowledge the whole transition process. Furthermore, the use of a singular interview will not add to knowledge regarding changes athletes may experience throughout the transition process, which can span across several years (Stambulova et al., 2012). Given this, future research may look to employ longitudinal approaches in order to give an understanding of individual experiences of the junior-to-senior transition. Longitudinal research exploring the factors associated with the junior-to-senior transition could reduce this retrospective recall bias whilst developing an understanding of the transition process as it happens, which could highlight factors that are specific to particular stages of the transition process.

As highlighted in the meta-method, the transition literature has primarily been conducted in European countries, due to socio-cultural difference, these findings may not be applicable to the wider population (Finn & McKenna, 2010). Given this, a diversification of samples used, including a variety of cultures, religions, genders and other backgrounds, to determine whether this has an impact on athletes experiences of the junior-to-senior transition. For example, Morris (2013) noted the greater investment in football youth academies in Spain and Holland, compared to other countries. This financial investment in youth development may mean young athletes are given access to the support and resources they require during the transition, which may lead to greater retention of players. Developing this knowledge may be key in developing the sport, culture, and gender-specific knowledge needed when providing tailored support to athletes going through the junior-to-senior transition.

At the time of carrying out the review, there were five quantitative studies on the junior-to-senior transition (Chamorro, Torregrosa, Oliva, Calvo, & León, 2016; Eriksson, 2010; Franck, 2009; Franck, Stambulova, & Ivarsson, 2018; Stambulova et al., 2012). Future research may look to explore a meta-study of quantitative research in order to understand how this contributes to the wider body of literature on the junior-to-senior transition, and how this literature may influence the synthesis. For example, the Transition Monitoring Survey (TMS; Stambulova, Weibull, & Franck, 2012), is a quantitative measure based on the Athletic Career Transition Model (Stambulova, 2003) and the Developmental model of transition faced by athletes (Wylleman & Lavallee, 2004). In addition, the Transition Coping Questionnaire (TCQ; Schlossberg, 1993) was based upon Schlossberg (1981) human adaptation to transition model. Both questionnaires could be used to add to the understanding of the transition from junior to senior sport from a quantitative perspective.

Finally, based upon the findings from the meta-study, future research may look to explore sport-specific facilitators and debilitators to the junior-to-senior transition, in order to develop a greater knowledge of the specific demands experienced by athletes in their sport. This research could then be useful in designing and implementing sport-specific interventions to assist athletes through the junior-to-senior transition.

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Appendix A. Supplementary data

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