A Systematic Literature Review on the Academic and Athletic Identities of Student-Athletes

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Academic and athletic identities are related to performance and wellbeing indicators in both the educational and sport domains, respectively. This paper presents a systematic literature review examining empirical research into the academic and athletic identities of student-athletes in dual (education and sport) careers. The 42 records identified in this review suggest that research on the academic and athletic identities of student-athletes has focused on the themes of: identity development, role conflict, career development and motivation, and student-athlete stereotypes. Future research directions are considered, including the need for mixed-methods and longitudinal assessments of academic and athletic identities to assess the dynamic nature of identity development, and to ascertain how these relate to future performance and wellbeing outcomes.

Keywords: identity, education, sport, talent development, dual careers
Engström, Franck, Linnér, & Lindahl, 2015; Stambulova & Wylleman, 2015). Congruent with theories of relational identity-development (e.g., Stryker 1987), these student-athletes are thus predicted to develop domain-specific identities aligned with their roles as students and athletes.

Athletic identity specifically refers to the self-definition and meaning that is developed in relation to a role as an athlete and has been asserted to be central to the self-concept of athletes (Brewer et al., 1993). Athletic identity has been most commonly researched in the context of transitions that occur at times of athletic retirement (e.g., Grove, Lavallee, & Gordon, 1997; Reifsteck, Gill, & Labban, 2016; Ronkainen, Kavoura, & Ryba, 2016; Smith & Hardin, 2018), injury (e.g., Brewer, Cornelius, Stephan, & Van Raalte, 2009; Green & Weinberg, 2001), or performance set-backs (e.g., Brewer, Selby, Linder, & Petitpas, 1999; Brown & Potrac, 2009). Amongst (semi-)elite athletes, athletic identities have been found to increase in importance from childhood through to adolescence, as the demands of sport intensify (Houle, Brewer, & Kluck, 2010). Further, athletic identity is positively associated with athletic role commitment and sporting success (Horton & Mack, 2000). Therefore, a strong athletic identity is often considered desirable for aspiring and elite athletes (Williams & Krane, 1993). However, individuals with a sole commitment to their sporting identity have an increased risk of experiencing burnout and psychological distress when retiring from their sports (Anderson, 2012; Horton & Mack, 2000; Wylleman, Rosier, & De Knop, 2015). Researchers suggest that the risk of identity foreclosure, referring to an over-commitment to a specific role and avoidance of behaviors to explore other role identities, is higher in sport compared to other domains because athletic identity is generally developed at a young age before other possible role identities are explored (Brewer & Petitpas, 2017; Houle et al., 2010). From a life-span perspective, there is a high level of risk in exclusively investing in a highly specialized domain, such as sport, given that an unsuccessful or ending sporting career may leave the individual without more generalized skills to pursue alternative vocational domains (Schulz & Heckhausen, 1996). For student-athletes, the pursuit of a university degree thus represents an opportunity to establish or strengthen a self-identity that is distinct from their athletic identity and to diversify their skill base (Schulz & Heckhausen, 1996).

Academic identity refers to the self-meaning derived from one’s role as a student and subsequent expectations on oneself derived from this role (Ewing & Allen, 2017; Mortimer, Lam, & Lee, 2015). The classroom environment provides a dynamic context in which the strength of an academic identity is continuously negotiated to meet role demands and the expectations of peers and teachers (DeCandia, 2014; Kaplan & Flum, 2010; Hawkins, 2005; Swanson, Spencer, Dell-Angelo, Harpalani, & Spencer, 2002). An academic identity positively predicts student motivation, goal-orientation, academic commitment, persistence, and successful performance in academic domains (Lairio, Puukari, & Kouvo, 2013; Hejazi, Lavasani, Amani, & Was, 2012; Osborne & Jones, 2011), as well as guides decisions relating to the pursuit of future career paths (Swanson et al., 2002).
A plethora of research has suggested that holistic athlete development, in which athletes are encouraged to participate in non-sporting life-domains, facilitates their wellbeing, provides them with long-term psychological and psychosocial advantages, as well as sets them up for viable alternative careers if their sporting endeavors are unsuccessful (see Henriksen, Stambulova, & Roessler, 2010; Schinke, Stambulova, Si, & Moore, 2018; Wylleman & Lavallee, 2004; Wylleman & Rosier, 2016). Yet, although there is reasonable understanding of athletic identity of athletes, and academic identity of students, how these identities co-exist and co-contribute to an overall sense of self in student-athletes is not as well understood (van Rens, Ashley, & Steele, 2019; Yukhymenko-Lescroart, 2014). Understanding the development of salient self-identities in student-athletes will better equip practitioners in supporting holistic athletic development. Although commitment across multiple key roles may result in negative consequences, such as role and identity conflict (Stryker & Burke, 2000), researchers have demonstrated that development of a multidimensional identity is positively associated with self-esteem, healthy psychological functioning, and wellbeing (Linville, 1985, Thoits, 1983). Concurrently engaging in both education and sport may enable student-athletes to remain invested in sport whilst engaging in wider self-development, including developing both specific and general knowledge and skills, exploring career options, and exploring their self-identities beyond sport (Cummins & O’Boyle, 2015). It follows that holistic talent development and seeking opportunities for multifaceted identity growth is likely beneficial to athletes’ wellbeing (Ivarsson et al., 2015). Subsequently, an effective assessment of the scholarship relating to identity development in student-athletes, should consider studies that examine both academic and athletic self-identities to understand how these self-identities co-exist, as well as to explore their correlates.

This review seeks to build upon recent dual career reviews (e.g., Guidotti, Cortis, & Capranica, 2015; Stambulova & Wylleman, 2019) by expanding the scope of research beyond a European context and to focus exclusively on the academic and athletic identity development of student-athletes. Specifically, this systematic literature review aims to: (a) identify the available empirical literature simultaneously investigating both academic and athletic identities of student-athletes; (b) identify and interpret relevant themes within this literature; and (c) determine potential directions for future research.

Method

Search Strategy
Three databases (PsycINFO, SCOPUS, and SPORTDiscus) that span the disciplines of sports science and psychology, were used to identify published research articles examining both academic and athletic identities of student-athletes. Pre-defined eligibility criteria were applied to the search, namely: peer-reviewed journal articles, English language; full-text availability; and must empirically investigate both academic and athletic identity of tertiary-level, adult student-athletes. Scholarship into dual careers is a relatively recent research trend, therefore all sources were searched
from January 2000 to May 2019. Records with both quantitative and qualitative (or mixed methods) approaches were included in the search protocol, given that a wide scope of methods were deemed important to explore the nuances of identity development (Brown & Hartley, 1998). Consistent keyword and title searches were employed using search string synonyms for the three primary study concepts: ‘sport’, ‘student’, and ‘identity’. Truncation and Booleans were applied to broaden and refine the search. The specific terms that were used were: (sport OR athlet* OR student-athlete) AND (student OR scholar OR education OR school OR university OR academ* OR student-athlete OR dual career), AND (identity). Additionally, the reference lists of recent reviews (Fuller, 2014; Guidotti et al., 2015; Li & Sum, 2017; Stambulova & Wylleman, 2019) were assessed, identifying an additional 25 potentially relevant records. The flowchart of the record screening process is outlined in Figure 1 and is consistent with the PRISMA statement for the reporting of information in systematic reviews (Moher, Liberati, Tetzlaff, & Altman, 2009). After the removal of 33 duplicates, a total of 148 unique records were identified. An initial title and abstract screening was conducted on all 148 records with 39 removed for not fitting the aforementioned inclusion criteria. A full-text review was then conducted on the remaining 109 records, identifying 42 records that were deemed relevant for inclusion in this review.

Of these 42 records, 15 measured both academic and athletic identities directly. The remaining records measured one or both of these identities indirectly, such as

Figure 1. Flowchart of literature screening process (process adapted from Moher et al., 2009).
measuring indicators of academic experience (Huang, Chou, & Hung, 2016), academic involvement (Mignano, Brewer, Winter, & Van Raalte, 2006), or self-perceptions of academic importance (Settles, Sellers, & Damas, 2002). Given that academic and athletic self-identities are proposed to develop in reference to both intrinsic and extrinsic information, such as comparison of performance relative to others, and to be expressed through educational/performance outcomes and commitment (Skaalvik & Skaalvik, 2002), records assessing these related concepts were included in this review to holistically capture all relevant research on identity development.

Results and Discussion

Research Characteristics
In total, 15 (36%) studies employed qualitative research methods, 24 (57%) studies used a quantitative approach, and three (7%) studies employed a mixed-methods approach. Of the studies with quantitative or mixed methods approaches, nine (33%) employed the Athletic Identity Measurement Scale (AIMS; Brewer et al., 1993) to assess athletic identity. There was no consistency in how academic identity was measured; two studies (Antshel, VanderDrift, & Pauline, 2016; Beron & Piquero, 2016) measured the strength of the academic identity relative to the strength of the athletic identity, such that if one was reported as higher, the other would subsequently be reported as lower. Conversely, although the Academic and Athletic Scale (AAIS; Yukhymenko- Lescroart, 2014; 2018) measured both athletic and academic identities within the one scale, these were treated as discrete subscales, such that a high score on one identity would not necessarily preclude a high score on the other.

Of the 42 records, five (12%) were published in the years 2000 to 2004, eight (19%) from 2005 to 2009, 11 (26%) from 2010 to 2014, and 18 (43%) since 2015. Thirty-five (83%) records sampled across a variety of sports, three (7%) sampled only (or primarily) from American football, two (5%) from hockey, and the remainder from either football, swimming, or basketball. Two (5%) studies were conducted in Asia, 13 (31%) in Europe, one each in Africa (2.5%) and Australasia (2.5%), with the remaining 25 (59%) studies conducted in North America. Most of these North American studies (68%) sampled student-athletes from National Collegiate Athletic Association (NCAA) institutions. Another five of the North American studies (20%) sampled from student-athletes competing at non-NCAA intercollegiate levels, with the final three (12%) studies assessing student-athletes competing across sporting levels. Of the studies conducted outside of North America, most (70%) sampled across sporting levels (from amateur to international levels), one (6%) sampled only from semi-professional levels, and four (24%) sampled only from professional or Olympic levels.

An inductive approach was employed to identify and analyze themes. Key findings were extracted from all studies, after which an iterative process identified higher-order themes for each record (methods adapted from Hatch, 2002). Similar themes were collapsed until the researchers were satisfied that the final themes encapsulated all records. Four over-arching themes were identified: the first theme consists of
17 studies examining the ‘identity development’ of student-athletes (see Table 1). The second theme consists of 10 studies examining ‘role conflict and wellbeing’ of student-athletes (see Table 2). The third theme consists of 16 studies examining ‘career maturity and motivation’ (see Table 3). The final theme consists of nine studies examining ‘student-athlete stereotypes’ (see Table 4). Ten studies were identified as examining multiple themes, and therefore were presented across multiple tables.

Table 1

<table>
<thead>
<tr>
<th>Reference</th>
<th>Location</th>
<th>Sample size</th>
<th>Sport and level</th>
<th>Methods</th>
<th>Examines academic identity</th>
<th>Examines athletic identity</th>
<th>Main finding(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antshel et al. (2016)*</td>
<td>North America</td>
<td>19738</td>
<td>Various sports, NCBA D1, DII and DIII</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>On average, student-athletes identified slightly more with their athletic role than with their student role.</td>
</tr>
<tr>
<td>Beren and Piparo (2016)</td>
<td>North America</td>
<td>21000</td>
<td>Various sports, NCBA D1, DII and DIII</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>No significant differences in athletic identity across NCAA divisions. No significant gender differences in athletic identity.</td>
</tr>
<tr>
<td>Falls and Wilson (2013)</td>
<td>North America</td>
<td>12</td>
<td>Soccer, professional, semi-professional, and club levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>Team sports provided a ‘temporary community’, which fostered a collective identity. Decisions to pursue tertiary studies signified an autonomous desire to develop a future non-sporting identity. Significant adjustment difficulties and athletic identity loss following tertiary education competition.</td>
</tr>
<tr>
<td>Fuches et al. (2016)*</td>
<td>Europe</td>
<td>221 (117 male)</td>
<td>Various sports, national or international levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td></td>
</tr>
<tr>
<td>Kimball (2007)*</td>
<td>North America</td>
<td>12 (7 male)</td>
<td>Various sports, NCAA D1</td>
<td>Qualitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>Student-athletes arrived at university with strong athletic identities, and only developed academic identities later in their degrees. Developing a non-sporting identity was important for enjoyment of personal autonomy.</td>
</tr>
<tr>
<td>Lally (2007)</td>
<td>North America</td>
<td>6 (3 male)</td>
<td>Various sports, intercollegiate level</td>
<td>Qualitative, longitudinal</td>
<td>Yes</td>
<td>Yes</td>
<td>Strong athletic identities were fostered by student-athletes, especially early in their careers. Many student-athletes developed strategies for managing impending sporting retirement, including increasing identification with their academic identities.</td>
</tr>
<tr>
<td>Lally and Kerr (2005)*</td>
<td>North America</td>
<td>8</td>
<td>Various sports, intercollegiate level</td>
<td>Qualitative, longitudinal</td>
<td>Yes</td>
<td>Yes</td>
<td>Student-athletes reported stronger academic identities in later university years, and subsequent investment in their athletic identities. Male student-athletes reported stronger athletic identities than females. The strength of an individual’s athletic identity was unrelated to sport type.</td>
</tr>
<tr>
<td>Lopez de Subijana, Barriopedro, and Sanz (2015)</td>
<td>Europe</td>
<td>63 (27 male)</td>
<td>Various sports, various sporting levels</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Lupi et al. (2017)*</td>
<td>Europe</td>
<td>760 (375 male)</td>
<td>Various sports, various sporting levels</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>Sub-elite athletes reported lower identity as a student-athlete than elite athletes. Younger participants C= 24</td>
</tr>
</tbody>
</table>
Identity Development

A common finding amongst the 17 reviewed papers looking at identity development was that student-athletes simultaneously invested in both their academic and athletic identities (e.g., Kimball, 2007; van Rens et al., 2019; Yukhymenko-Lescroart, 2014). However, student-athletes primarily identified themselves as athletes, with their athletic identity being more central to their self-definition than their academic identity (Antshel et al., 2016; Lally & Kerr, 2005; Miller & Kerr, 2003). Students engaging in elite level sport reported stronger identification with the athletic role, compared to those competing at sub-elite levels (Lupo et al., 2017a; 2017b; Yukhymenko-
Student-athletes often reported showing an early over-identification with the athletic role (Kimball, 2007; Miller & Kerr, 2003), which aligns with existing research identifying the high risk of athletic identity foreclosure for elite athletes, particularly in late adolescence (Brewer & Petitpas, 2017). However, findings suggest that the importance of the athletic identity in student-athletes may weaken over time as alternative roles (e.g., student) are explored (Lally & Kerr, 2005; Miller & Kerr, 2002). The weakening of the athletic identity may also be a protective self-regulatory process to minimize the impact of impending loss of an athletic role for those approaching sporting retirement (Lally, 2007). Some student-athletes attempted to proactively manage this impending ‘identity crisis’ at sporting retirement by further investing in their academic (and other non-sporting) identities (Lally, 2007). Together these results affirm established theory (e.g., Stryker & Burke, 2000) that identity is both dynamic and multidimensional in structure, and that student-athletes may simultaneously develop and invest in academic and athletic identities based upon their roles in these domains. Results also suggest that for student-athletes, their athletic identity is deeply embedded, and remains central to self-definition until athletic retirement.

Eight of the 17 studies in this theme investigated the role of demographic factors, such as gender, in the identity development process, providing inconsistent results. Female student-athletes reported stronger academic identities (Sturm, Feltz, & Gilson, 2011), greater motivation towards academics (Lupo et al., 2017b; Tekavc, Wylleman, & Erpič, 2015), and greater prioritization of academic pursuits (Fuches et al., 2016) compared to their male counterparts. This gender difference was proposed to reflect greater opportunities for an ongoing professional career in sports for men compared with women, hence women may be more motivated to explore non-sporting identities (Fuches et al., 2016; Sturm et al., 2011). However, this finding was not unanimously replicated, with other research failing to show these gender differences (Lupo et al., 2017b; Lupo Tessitore, Capranica, Rauter, & Doupona-Topic, 2012; Yukhymenko-Lescroart, 2014).

Gender differences have also been observed in relation to the development of athletic identities, with male student-athletes reporting stronger athletic identities compared to females (López de Subijana, Barriopedro, & Sanz, 2015; Melendez, 2009). Mignano et al. (2006) provided context to these findings, with their work revealing that female student-athletes reported higher levels of athletic identity in same-sex campuses, compared to co-educational campuses. This finding was proposed to reflect an increased salience of the stereotypical ‘feminine’ role when studying with male students, which may be inconsistent with the athletic stereotype, and may subsequently influence female divestment from their athletic identities. Additionally, direct or indirect feedback from other students (see Ewing & Allen, 2017; Mortimer et al., 2015), based upon gender stereotypes, may work to legitimate the athlete role identity in males, and weaken the identity in females. Indeed, research beyond the scope of this review has identified a negative relationship between athletic identity and ‘femininity’ (Lantz & Schroeder, 1999). Conversely, other research found no gender differences in athletic identity in student-athletes (Beron & Pique-
Academic & Athletic Identities of Student-Athletes

Inconsistency across these results suggests that gender may influence identity development and related behaviors (Mignano et al., 2006), but that identity development is complex, and that context may play a role in facilitating the influence of gender on identity.

Table 2

<table>
<thead>
<tr>
<th>Reference</th>
<th>Location</th>
<th>Sample size</th>
<th>Sport and level</th>
<th>Methods</th>
<th>Examines academic identity</th>
<th>Examines athletic identity</th>
<th>Main finding(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aguilera (2013)</td>
<td>Europe</td>
<td>18 (8 male)</td>
<td>Various sports, Olympic or professional levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Balance between dual roles is required to successfully meet the demands of education and sport. Older student-athletes were more successful in achieving balance. Students reported struggling to meet the demands of sport and academics. Academic flexibility assisted students in meeting academic goals, such as allowing students to change between lab groups to attend competition. Perceived role conflict was greater for student-athletes competing at an international level compared to national level. Social support was helpful in supporting student-athletes to balance dual careers.</td>
</tr>
<tr>
<td>Brown et al. (2015)</td>
<td>Europe</td>
<td>9 (5 male), 6 current student-athletes, 3 recently graduated</td>
<td>Various sports, various sporting levels</td>
<td>Qualitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>Students reported moderate levels of interference between sport and academic goals. Some student-athletes reported motivational facilitation between sport and academic goals.</td>
</tr>
<tr>
<td>Fuches et al. (2016)*</td>
<td>Europe</td>
<td>221 (117 male)</td>
<td>Various sports, national or international levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Family was identified as a key emotional and financial support. Student-athletes perceived limited structured support was available to help them balance multiple role demands.</td>
</tr>
<tr>
<td>Germanosova and Rosecaino (2014)*</td>
<td>Europe</td>
<td>5 (2 male)</td>
<td>Various sports, amateur and professional levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Students reported moderate levels of interference between sport and academic goals. Some student-athletes reported motivational facilitation between sport and academic goals.</td>
</tr>
<tr>
<td>Healy et al. (2016)</td>
<td>Europe</td>
<td>204 (103 male)</td>
<td>Various sports, various sporting levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Life satisfaction, academic satisfaction, and well-being of student-athletes were lower when there was a greater discrepancy in attributes between the academic identity and athletic identity. National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
<tr>
<td>Kilinya-Jones (2005)</td>
<td>North America</td>
<td>40 (all male)</td>
<td>NFL, NCCAA DI</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
<tr>
<td>Lupo et al. (2015)*</td>
<td>Europe</td>
<td>524 (287 male)</td>
<td>Various sports, international and national levels</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
<tr>
<td>Miller and Kerr (2003)*</td>
<td>North America</td>
<td>8 (4 male)</td>
<td>Various sports, intercollegiate level</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
<tr>
<td>Settles et al. (2002)</td>
<td>North America</td>
<td>200 (87 male)</td>
<td>Various sports, NCCAA DI</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
<tr>
<td>Woodruff and Schallert (2008)*</td>
<td>North America</td>
<td>9 (5 male)</td>
<td>Various sports, NCCAA DI</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>National Federations were effective in negotiating for academic flexibility with education institutions, including altered exam schedules and tutoring. Academic and athletic roles compete. Student-athletes reduced social interaction as a method to reduce work-life conflict and to rectify poor performance in academics.</td>
</tr>
</tbody>
</table>
Identity, Role Conflict, and Wellbeing

Ten studies in this review investigated role conflict between academic and athletic identities. Role conflict may occur when the demands of one role or identity, such as sport, interfere with meeting demands of another role or identity, such as academics (van Rens, Borkoles, Farrow, Curran, & Polman, 2016). Qualitative work (e.g., Healy, Ntoumanis, & Duda, 2016; Miller & Kerr, 2003) suggests that academic roles and student roles necessarily exist in competition, and that simultaneous commitment to both roles and subsequent identities may be difficult to maintain. Role conflict has been cited as a source of psychological stress in student-athletes and is related to poorer wellbeing and life satisfaction (Killeya-Jones, 2005; Settles et al., 2002).

Findings indicate that many student-athletes have developed strategies to mitigate conflict between their academic and athletic roles, such as enhancing role convergence, role compartmentalization, time prioritization and management, expectation reassessment, and leveraging personal resources, such as social and family support (Brown et al., 2015; Geraniosova & Ronkainen, 2014; Killeya-Jones 2005; Settles et al., 2002). Successful implementation of these strategies was deemed beneficial to one’s wellbeing, with achieving a balance between academics and athletics becoming easier to obtain with greater life experience and age (Aquilina, 2013). However, conflicting results suggest that student-athletes were not always successful in balancing multiple role demands, with time management cited as a major barrier to successfully engaging in dual careers, often resulting in avoidance-related coping strategies, such as disengagement from study or failure to attend mandatory classes (Brown et al., 2015).

Conscious shifting of the centrality of domain-specific identities, across time, may also be an important strategy in reducing role conflict, supporting wellbeing, and to achieve goals in both sporting and academic domains (Settles et al., 2002). For instance, during athletic competition, the athletic identity is likely to be highly central to the individual’s sense of self; whereas during university exams the academic identity becomes more central. Indeed, one study reported that student-athletes can rapidly shift the salience of their academic and athletic identities within the span of one experimental session, as they complete different types of tasks (Yopyk & Prentice, 2005). This self-regulatory process may facilitate responsiveness to changing role and performance demands and performance optimization (Yopyk & Prentice, 2005). These findings align with existing relational identity theories (e.g., Burke & Stets, 2009) conceptualizing role identities as fluid in structure, wherein the salience of domain-specific identities may shift over time in response to role and task demands (Ashforth, Harrison, & Corley, 2008).

Identity, Career Maturity, and Motivation

The development of a strong athletic identity and an over-commitment to the athletic role may reduce a student’s propensity to explore non-sporting vocations, which may have implications for their post-sporting career development (Huang et al., 2016). Indeed, athletic identity was found to negatively relate to academic adjustment (Me-
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<tr>
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<th>Examines athletic identity</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Anushel et al.</td>
<td>North America</td>
<td>19728 (60% male)</td>
<td>Various sports, NCCA DI, DII and DIII</td>
<td>Quantitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td>In academically struggling student-athletes, GPA, predicted use of academic support services only when academic identity was prominent. Most participants reported successfully adapting to their post-sporting lives after athletic retirement. A stronger academic identity was related to more psychological difficulties after sports. Higher educated participants reported fewer occupation difficulties (finding work, financial difficulties). Student-athletes with stronger athletic identities were more likely to choose a degree with less academic rigor. A future career focus was reported to facilitate successful transitions out of sport for student-athletes. Student-athletes perceived that they were active agents in shaping their future career paths. The negative relationship between experienced university experiences and career barriers was mediated by career self-efficacy. Student-athletes with higher levels of athletic identity were less likely to use university learning resources. NCAA students-athletes were required to complete their major early in their degrees, which meant that many did not have time to organically develop their interests. This resulted in many participants enrolled in courses that did not intrinsically interest them. Participants reported that developing non-sporting identities was important preparation for life after sport. Non-sporting career plans were ill-defined when entering university but developed over time. By the final year of university, many student-athletes no longer viewed sport as a viable future career option. Student-athletes expected a smoother transition out of sports when their State offered dual-</td>
</tr>
<tr>
<td>Epile et al.</td>
<td>Europe</td>
<td>83 (54 male; all retired from sports, 67.1% completed university)</td>
<td>Various sports, various sporting levels</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Foster and</td>
<td>North</td>
<td>546 (285 male)</td>
<td>Various sports, NCCA DI and DIII</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Hazel (2017)</td>
<td>America</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Harrison and</td>
<td>North</td>
<td>143 (79 male)</td>
<td>Various sports, NCCA DII</td>
<td>Mixed methods, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td></td>
</tr>
<tr>
<td>Lawarence (2004)</td>
<td>America</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huang et al.</td>
<td>Asia</td>
<td>345 (224 male)</td>
<td>Various sports, semi-professional levels</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Kimball (2007)*</td>
<td>North</td>
<td>12 (7 male)</td>
<td>Various sports, NCCA DI</td>
<td>Qualitative, cross-sectional</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>America</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Lally and Kerr</td>
<td>North</td>
<td>8 (4 male)</td>
<td>Various sports, intercollegiate level</td>
<td>Qualitative, longitudinal</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(2005)*</td>
<td>America</td>
<td></td>
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</tr>
<tr>
<td>Lupe et al.</td>
<td>Europe</td>
<td>524 (287 male)</td>
<td>Various sports, international and national</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td></td>
</tr>
</tbody>
</table>
academic mastery goals, and academic performance goals (Yukhy-
menko-Lescroart, 2018), and the success of post-sporting career transitions (Erpić,
Wylleman, & Zupančič, 2004; Stoltenburg, Kamphoff, & Bremer, 2011; Torregrosa,
Ramis, Pallarés, Azócar, & Selva, 2015; Tshube & Feltz, 2015). Student-athletes
reporting a strong athletic identity were also less likely to utilize academic learning
resources and support services (Antshel et al., 2016; Huang et al., 2016), and were
more likely to choose an ‘easier’ degree, thus may have prioritized short-term sporting
goals over longer-term career goals (Foster & Huml, 2017).

Compared to athletic identity, the development of an academic identity was
found to relate to positive career outcomes and career readiness (Lally & Kerr, 2005).
A longitudinal study reported that student-athletes often had ill-defined non-sporting career plans when starting university, but as they reached the later years of their education they began to invest more in non-sporting identities and in their academic roles and develop more tangible and autonomous career plans (Lally & Kerr, 2005; Sum et al., 2017). Indeed, approaching graduation, many student-athletes reported no longer perceiving athletics as a viable future career plan (Lally & Kerr, 2005). Alternatively, many student-athletes reported seeking future employment in sports-related industries and some subsequently sought out relevant degrees (e.g., sports science) to facilitate employment in these roles (Torregrosa et al., 2015). This divestment in sport and focus on developing a broader skill base aligns with Heckhausen’s life span model of aging (Schulz & Heckhausen, 1996), highlighting that re-training and skill diversification may be required for athletes who have overinvested in highly specialized elite sports. In this vein, engaging in education acts as a compensatory behavior to foster the development of new broader academic and professional skills required to attain future non-sporting vocational goals. Given these findings, and that studies beyond the scope of this review (e.g., Anderson, 2012; Stambulova, Stephan, & Japhag, 2007) have identified career planning as related to emotional wellbeing and coping during sporting retirement, the development of a strong academic identity is proposed to be important in facilitating successful career transitions and the development of post-sporting careers across genders.

**Identity and Student-Athlete Stereotypes**

In total, nine studies examined stereotypes related to student-athletes, with eight of those studies conducted in North America. These stereotypes were primarily based in perceptions that student-athletes were attending university solely on sporting merit, citing the ‘dumb jock’ stereotype (e.g., Bimper, 2014; Stone, Harrison, & Mottley, 2012; Yopyk & Prentice, 2005). African-American student-athletes were found to be most vulnerable to negative stereotype threat (Bimper, 2014; Stone et al., 2012), and research beyond this review (e.g., Cooper, 2012) has suggested that this may be particularly pervasive in predominately white institutions. Researchers have conjectured that compared to African-American student-athletes, white student-athletes may explicitly and/or implicitly receive greater on-campus support, which fosters positive associations with the academic role and buffers them from stereotype threat (Stone et al., 2012). One further study, conducted in Europe, found that negative stereotypes of students-athletes pervaded beyond North America, with student-athletes perceiving that university staff had lower academic expectations of them, compared to non-athlete students (Geraniosova & Ronkainen, 2014). In investigating the pervasiveness of student-athlete stereotypes, three studies consistently reported that artificially priming the athletic identity, by presenting samples of student-athletes with a test paper titled ‘student-athlete’ or asking them to write about a recent athletic event, caused a decline in academic task performance (Riciputi & Erdal, 2017; Stone et al., 2012; Yopyk & Prentice, 2005), and in academic self-regard (Yopyk & Prentice, 2005). These findings affirm concerns that that student-athletes are vulnerable to negative stereotyping (Simon, Bosworth, Fujita, & Jensen, 2007). Student-athletes
<table>
<thead>
<tr>
<th>Reference</th>
<th>Location</th>
<th>Sample size</th>
<th>Sport and level</th>
<th>Methods</th>
<th>Examines academic identity</th>
<th>Examines athletic identity</th>
<th>Main finding(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DiMarco (2014)</td>
<td>North America</td>
<td>255 (all male)</td>
<td>NFL, NCCA DI</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>Athletic identity negatively predicted academic outcomes in African American student-athletes. No link was found between racial identity and academic outcomes.</td>
</tr>
<tr>
<td>Bledgott and Schinke (2015)</td>
<td>North America</td>
<td>13 (8 male), 4 at university</td>
<td>Hockey, various sporting levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>Native Canadian student-athletes experienced backlash from their own communities for pursuing Euro-Canadian career pathways. Pursuing a dual career may be a way for minority groups to reduce cultural stereotyping.</td>
</tr>
<tr>
<td>Feltz et al. (2013)</td>
<td>North America</td>
<td>318 (111 male)</td>
<td>Various sports, NCCA DI, DII and DIII</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>Athletic identity positively predicted susceptibility to stereotype threat. Athletic identity tended to be higher in student-athletes when they perceived their coaches had lower belief in their academic ability.</td>
</tr>
<tr>
<td>Gerasimova and Roskaisen (2014)*</td>
<td>Europe</td>
<td>5 (2 male)</td>
<td>Various sports, amateur and professional levels</td>
<td>Qualitative, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Student-athletes perceived that university staff perceived them as less academically able, compared with non-athlete students.</td>
</tr>
<tr>
<td>Hawley et al. (2014)</td>
<td>North America</td>
<td>245 (150 male); 71 student-athletes and 174 non-athlete student-athletes</td>
<td>Primarily NFL, intercollegiate level</td>
<td>Quantitative, experimental, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Student-athletes were judged more harshly by other students for deviant behaviors.</td>
</tr>
<tr>
<td>Muzzano et al. (2006)</td>
<td>North America</td>
<td>145 (all female)</td>
<td>Various sports, NCAA DIII</td>
<td>Quantitative, cross-sectional</td>
<td>Indirectly</td>
<td>Yes</td>
<td>Athletic identity and student involvement were higher in females attending same-sex universities compared to those at coeducational universities.</td>
</tr>
<tr>
<td>Stone et al. (2012)</td>
<td>North America</td>
<td>151 (gender not listed)</td>
<td>Various sports, various sporting levels</td>
<td>Quantitative, experimental, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Prime with the ‘scholar-athlete’ identity related to poorer verbal reasoning test results. African American student-athletes were more susceptible to negative stereotyping.</td>
</tr>
<tr>
<td>Yopyk and Prentice (2005)</td>
<td>North America</td>
<td>67 (all male), 37 athletes and 30 non-athletic group participants</td>
<td>Ice hockey, intercollegiate level</td>
<td>Quantitative, experimental, cross-sectional</td>
<td>Indirectly</td>
<td>Indirectly</td>
<td>Student-athletes had significantly lower GPA than non-athletes. Primeing student-athletes with their athletic identity decreased academic self-regard and academic task performance compared to non-athletes.</td>
</tr>
</tbody>
</table>

Note * identifies studies that are presented in more than one table.
may internalize these stereotypes, which may have subsequent negative implications for their academic performance (see Bimper, 2014).

**Directions for Future Research**

**Methodological recommendations.** Firstly, all but three of the studies in this review were conducted cross-sectionally; subsequently, there is not yet a clear picture of the causal relationship between the development of academic and athletic identities and their relationships with wellbeing and performance outcomes. Future investigations of academic and athletic identities are encouraged to use within-person longitudinal modelling to explore the dynamic nature of self-identities, and how the relative importance of key self-identities change over time in response to changing task and role demands.

Secondly, there appears to be no gold standard for measuring academic and athletic identities (see Guidotti et al., 2015). Despite recent concern as to psychometric validity of the AIMS, relating to discrepancies in item factor loadings (Burns, Jasinski, Dunn, & Fletcher, 2012), one third of the quantitative studies in this review used this measure of athletic identity. Findings of this review suggesting that student-athletes may simultaneously develop salient academic and athletic identities, indicates that the measurement of these identities on a sliding scale (per Antshel et al., 2016), may not have an empirical basis as they fail to align with our theoretical understanding of relational identities as linked to key (often multiple) life roles (Stets & Burke, 2000). Additionally, a single item is unlikely to be sufficient when measuring the complexities of self-definition (Rafaeli-Mor, Gotlib, & Revelle, 1998). Yukhymenko-Lescoart (2014) has addressed these concerns by developing the AAIS, which has promising psychometric properties. We encourage future research to examine the cross-cultural psychometric validity of the AAIS as it could become a gold standard in dual career research.

This review narrowly focused on the academic and athletic identities of student-athletes. Although these identities are proposed to represent salient identities for this sample, future researchers are encouraged to consider the wider context and intersectionality of other important identities, such as identities as a female, atheist, and heterosexual, and roles beyond the university context such as employee, spouse, and parent (Caza et al., 2018).

Finally, research investigating academic and athletic identities has, perhaps logically, used samples of student-athletes who are currently engaged in dual careers. However, this methodology may inherently cause a survivor bias (Smith, 2014), where characteristics of those remaining in dual careers are interpreted as their reasons for pursuing dual careers. We would recommend researchers investigate the academic and athletic identities of not only those retained in dual careers, but also those who decide to drop out of education to focus on sport or vice versa, investigating reasons leading to departure decisions.

**Context recommendations.** This review has revealed that 52% of the contemporary literature on the identities of student-athletes has been conducted in the North American collegiate context, primarily in NCAA colleges. We may expect that the
structural differences between the NCAA and systems existing beyond North America, may have a significant influence on student-athletes’ identity development, role conflict and wellbeing, and career development (Ryba, Stambulova, Ronkainen, Bundgaard, & Selänne, 2015). For instance, in contexts where elite sports are not integrated within the formal university systems, decisions to pursue an education are likely to be made autonomously, based on a genuine interest in furthering one’s education. Hence student-athletes operating outside of the NCAA may be more intrinsically motivated to pursue education and in exploring self-identities beyond sport. Subsequently, it is proposed that academic and athletic identities may be more intertwined among NCAA student-athletes, while greater separation of the athletic and academic identities may be prevalent among student-athletes in non-NCAA systems. Subsequently, we recommend future research targets student-athletes outside of the NCAA system, so that these contextual differences can be explored.

We also encourage future research to explore how context may influence negative stereotyping of student-athletes. The degree to which negative athlete stereotyping occurs in academic settings outside of North America is largely unknown and is a matter for further investigation. Further, researchers are encouraged to expand upon the work of Chen and colleagues (2010) and explore positive self-perceptions and positive stereotypes associated with student-athletic roles, and whether cross-cultural differences exist in these perceptions.

**Implications**

Understanding identity development in student-athletes will better equip universities and sports practitioners in supporting athletic development initiatives. NCAA institutions have greater authority than other universities to make sporting participation contingent upon student-athlete class attendance and achievement of minimum GPAs, as well as increased ability to reduce scheduling conflicts between sporting and academic events (Ridpath, 2008). However, there are several ways that all universities may assist student-athletes in reducing role demands. Because attending mandatory classes was identified as an obstacle for student-athletes especially during times of sporting competition, providing flexibility to change between allocated class times or offering external or online courses may increase academic engagement (see Brown et al., 2015). Student-athletes may also benefit from flexibility regarding minimum course duration (Brown et al., 2015; Fuches et al., 2016). University athlete assistance programs may be useful in helping student-athletes develop strategies for better managing their time, and for liaising between the university and the student for seeking academic flexibility. Given that this review has also identified career planning as important for facilitating successful career transitions out of sport, access to career planning resources is likely to be important in fostering student-athletes to develop professional self-identities beyond sport.
Conclusion

In conclusion, in surveying available literature relating to the academic and athletic identities of student-athletes, this review identified and interpreted 42 studies simultaneously exploring these identities. Results revealed that contemporary research on the self-identities of student-athletes has focused on: the development of academic and athletic identities through university, role conflict between dual careers and the influence on wellbeing, career motivation and maturity, and stereotype threats to student-athletes. The findings suggest that student-athletes develop academic identities, albeit these are likely to be less important to their self-definition compared to their athletic identities, particularly in earlier university years. Many student-athletes report awareness of the limited timeframe of participation in elite sports and pursue academics to foster their post-sporting careers and to facilitate a successful transition out of sports.

Considerations for future research were examined, and importantly it was proposed that future research consider the influence of differences in national talent development systems on the development of academic and athletic identities. It is important that dual career research is better able to delineate how academic and athletic identities develop in student-athletes, and how these processes affect psychological wellbeing and performance outcomes. A better understanding of these processes will inform policy and practice among sporting organizations, universities, and sports psychologists to facilitate the performance and wellbeing of student-athletes in education and sport.

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Reifsteck, E. J., Gill, D. L. & Labban, J. D. (2016). ‘Athletes’ and ‘exercisers’: Un-


Williams, J. M., & Krane, V. (1993). Psychological characteristics of peak perfor-


Note: * indicates references included in the review