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To cite this article: Lukas Linnér, Natalia B. Stambulova, Kent Lindahl & Paul Wylleman (2019): Swedish university student-athletes' dual career scenarios and competences, International Journal of Sport and Exercise Psychology, DOI: [10.1080/1612197X.2019.1611898](https://doi.org/10.1080/1612197X.2019.1611898)

To link to this article: <https://doi.org/10.1080/1612197X.2019.1611898>



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Published online: 07 May 2019.



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## Swedish university student-athletes' dual career scenarios and competences

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(Received 23 July 2017; accepted 10 March 2019)

The paper presents the Swedish data on university student-athletes' dual career (DC) competences and coping, from the European project "Gold in Education and Elite Sport" (GEES). A cross-sectional quantitative design was implemented with the objectives to explore: (a) the student-athletes' perceived need to develop DC competences in order to successfully combine sport and study, (b) if the student-athletes experienced and how they coped with specific DC scenarios, and (c) the magnitude of the association between the student-athletes' possession of prioritised DC competences for each scenario and their scenario-specific coping. Seventy-one university student-athletes with a mean age of 25.21 completed the DC competency questionnaires developed within GEES. The student-athletes reported their perception of importance and possession of 38 DC competences (e.g. cope with stress, prioritising), as well as coping with seven DC scenarios (e.g. miss significant days of study), and selected the five most important competences (from the list of 38) to cope with each scenario. The results revealed that the student-athletes: (a) perceived a need to develop more than 70% of the DC competences to successfully combine sport and studies, (b) had experienced and coped average-to-good with the DC scenarios, and (c) possession of the top five prioritised competences was moderately-to-strongly related to their coping in three scenarios. The study extends understanding of Swedish university student-athletes' DC competences and has contributed to the development of Swedish National Guidelines for elite athletes' dual careers (2018).

**Keywords:** competences; coping; dual career; scenario; student-athlete; university

One of the main challenges facing aspiring elite athletes across Europe is to combine their investment into high-level sports with education or work (Wylleman & Reints, 2010). Recognising the above, the European commission issued the EU guidelines on dual careers of athletes (2012), in which a *dual career* (DC) was conceptualised as encapsulating "the requirements for athletes to successfully initiate, develop and finalize an elite sporting career as part of a lifelong career, in combination with the pursuit of education and/or work" (p. 6). In this document, member states were encouraged to develop context-specific national DC guidelines based on national research. Research into athletes' DCs has increased during the last years, visible for example,

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in *Psychology of Sport and Exercise* Special Issue on athletes' DC development and transitions (Stambulova & Wylleman, 2015) and the recent review paper (Stambulova & Wylleman, 2019). Current research into athletes' DCs shows that a DC engagement carries benefits, but also challenges and potential costs (see EU guidelines, 2012, for a review), and that one key aspect might be to optimise student-athletes' competences so that they can successfully manage their challenges (e.g. Debois, Ledon, & Wylleman, 2015). Recognising the latter, the European project "Gold in Education and Elite Sport" (GEES) was initiated. Across nine European countries, the GEES project investigated the competences (i.e. knowledge, skills, experience and attitudes, Hunter, 2004) for a successful DC development of student-athletes (15–26 years of age) in relation to coping with specific DC scenarios that encapsulated demands across different levels of student-athletes' development (see De Brandt et al., 2018). The GEES project also investigated the competences and methods of DC support providers to facilitate student-athletes' DC development (see Defruyt et al., 2019).

Fifty-three per cent of Swedish national team level athletes study (or have studied) at university level (Fahlström, Gerrevall, Glemne, & Linnér, 2015) indicating that combining university education with sport is a significant part of the Swedish athlete career development system. But only one previous Swedish DC study has targeted the university level (Fryklund, 2012). To promote further understanding of DC experiences of Swedish university student-athletes, we here present the national data from GEES on Swedish university student-athletes' DC competences and coping.

### **DC demands and related research**

Following the intellectual tradition of European athlete career research several DC studies have implemented the holistic lifespan perspective (Wylleman, Alfermann, & Lavallee, 2004) put forth in the holistic athletic career model (Wylleman, Reints, & De Knop, 2013). These studies (e.g. Brown et al., 2015; MacNamara & Collins, 2010; Tekavc, Wylleman, & Cecić Erpič, 2015) have revealed how an involvement into a university DC can impose demands from athletic and non-athletic (i.e. psychological, psychosocial, academic/vocational, and financial) domains of development, in turn producing a challenging life situation for student-athletes to manage. Examples of demands include athletic (e.g. higher standards of training, start/adjust to compete at senior level, performance and injury setbacks), psychological (e.g. developing identity, maintaining motivation, taking personal responsibility, looking after oneself), psychosocial (e.g. relocate for sport with less parental support, develop a new social network, manage relationships), academic (e.g. increased educational requirements, more independency), and financial concerns. Situational conditions (e.g. coaching and teaching staff involved) in combination with inability to meet DC demands can lead to potential DC "costs" including, for example, high stress, overtraining and burnout, increased risk of injuries, or premature dropout (e.g. Baron-Thiene & Alfermann, 2015; Gustafsson, Kenttä, Hassmén, & Lundqvist, 2007; Ivarsson, Stambulova, & Johnson, 2018).

A DC engagement can be demanding, and student-athletes need to be optimally supported to continue to develop successfully. Aquilina (2013) found that contributing features of institutions, where student-athletes successfully managed a DC, were proximity of high-performance training facilities and classrooms, flexible academic programmes taking into consideration the requirements of elite sport, and an established support network of academic and athletic staff. Brown et al. (2015) problematised overly supportive programmes, and López de Subijana, Barriopedro, and Conde (2015) pointed out that it is not a matter of removing all DC barriers (e.g. time constraints), but a matter of teaching student-athletes how to deal with such barriers. Burlot, Richard,

and Joncheray (2018) found that the student-athletes who understood how to optimise their sport and study combination were characterised by high autonomy and responsibility.

### **DC competences and related research**

Several studies have highlighted the role of personal resources in student-athletes' successful adaptation and coping (e.g. Debois et al., 2015; De Knop, Wylleman, Van Hoecke, & Bollaert, 1999; Stambulova, Engström, Franck, Linnér, & Lindahl, 2015). Alfermann and Stambulova (2007) explained personal resources as intrinsic factors or strengths that facilitates coping with existing demands (e.g. determination, self-discipline). Personal resources can also be conceptualised as athletes' competences including their knowledge, skills, experiences and attitudes (Hunter, 2004). Examples of competences for a successful DC have been reported implicitly or explicitly in several qualitative studies (e.g. Aquilina, 2009; Brown et al., 2015; Burlot et al., 2018; Cosh & Tully, 2014; MacNamara & Collins, 2010; McKenna & Dunstan-Lewis, 2004) and include career- and self-awareness, patience in development, commitment to excelling, dedication and strong work ethic, ability to set and monitor goals, interpersonal skills, self-discipline, being resilient and adapt well to different circumstances, and ability to make personal decisions and take responsibility for own actions. Moreover, the most recurrent competences across papers relates to good planning, organisation and time-management skills (including planning time for recuperation) and the ability to prioritise.

Related to the ability of prioritising, several studies have highlighted the issue of obtaining balance in athletes' DC lifestyle (e.g. Aquilina, 2013). Stambulova et al. (2015) showed how Swedish adolescent student-athletes sacrificed their private life (including social activities and own time) in the search for obtaining an optimal DC balance. Stambulova et al. conceptualised optimal DC balance as a combination of sport and studies that help student-athletes achieve educational and athletic goals, live satisfying private lives, and maintain health and wellbeing (obtained through shifts in prioritising sport or studies).

Swedish research on athletes' DCs has mainly focused on the adolescent and secondary education level (e.g. Gustafsson et al., 2007; Stambulova et al., 2015; Uebel, 2006), apart from Fryklund (2012; see also Bengtsson & Johnson, 2012)<sup>1</sup> who studied the experiences of two groups of Swedish university student-athletes (recently admitted,  $n = 26$ ; with 3 years university experience,  $n = 16$ ). Fryklund reported that although perceived as difficult (e.g. increased athletic level, struggle to maintain relationships, necessary to work to make ends meet), the combination of university studies and a commitment to reach the international athletic level were possible and deemed rewarding by participants (e.g. developing a multi-faceted identity). Time-management, planning, and increased efforts in training and competitions were seen as essential strategies to cope successfully.

### **Swedish DC context**

Positioning this research within the cultural praxis of athletes' career paradigm (Stambulova & Ryba, 2013), we here provide a brief description of the Swedish DC system and higher education for contextualised understanding. The Swedish DC system has predominantly been focused on the secondary educational level which, from its initiation in 1965 (Eriksson, 2007; Metsä-Tokila, 2002), has grown into a national DC network of elite sports secondary schools (see Stambulova et al., 2015, for a review). The underlying philosophy for the system is seen as creating "winners in the long and short run" in preparing student-athletes for career termination and the post-athletic career, as well as coping with current demands to optimise student-athletes' development in different spheres of life (Lindahl et al., 2011; Stambulova et al., 2015). During the

autumn of 2015, the Swedish DC system was expanded to include the higher education level, by appointing three National elite sports universities and 11 Elite sports-friendly universities (Riksidrottsförbundet, [n.d.](#)). As Sweden has a club-based sports system, student-athletes do not compete for the universities. Although it varies between universities, a commonality is that a sporting environment is organised in collaboration between several stakeholders, often including the municipality, sports federations, district sports federation, sports clubs, university, and sometimes the business community and/or specific foundations supporting DC engagements, creating high performance centres or hubs for DC development.

For contextualised understanding of Swedish higher education five key aspects can be highlighted: (a) tuition is free, (b) student-athletes are admitted based on their study merits as any other student, (c) students are given three opportunities/year to pass a course exam, (d) students are treated as grown-ups responsible for their own decisions and actions (e.g. attending class), and (e) the scheduled time in class is generally low leaving a lot of “free time” for students to responsibly manage themselves.

### **The study objectives**

Before GEES, research into student-athletes’ DC competences has been qualitative, and in Sweden only one DC study has previously targeted DCs at the university level, but not with a specific focus on student-athletes’ competences. Based on Swedish data from GEES, this study was aimed to explore: (a) the student-athletes’ perceived need to develop DC competences in order to successfully combine sport and study, (b) if the student-athletes experienced, and how they coped with specific DC scenarios (i.e. difficult DC situations), and (c) the magnitude of the association between the student-athletes’ possession of prioritised DC competences for each scenario and their scenario-specific coping.

## **Method**

### ***Participants***

The questionnaire was sent to 355 Swedish university student-athletes. Of all questionnaires sent, 71 were completed (completion rate of 20%). The participants were 49 females and 22 males from five universities across the country, with a mean age of 25.21 (SD = 2.95). Participants represented 33 different individual (e.g. athletics, cross country skiing, curling, golf, triathlon,  $n = 54$ ) or team sports (e.g. floorball, ice hockey, handball,  $n = 17$ ) from mainly Olympic summer ( $n = 34$ ) and winter ( $n = 24$ ) sports. Of the participants, 30% participated in international competitions (e.g. European or World championship/cup/tour, Olympics) of which 11% reported top three positions, and 93% participated in national competitions/cups of which 59% reported top three positions. In terms of education, 65% of the participants reported being at bachelor level, and 35% at master level or higher, with 41% admitted to a sports-related educational programme (e.g. sports science and coaching, sports medicine), and 59% to a programme not directly related to sport (e.g. engineering, economics, law, medicine).

### ***Instrument***

The Dual Career Competency Questionnaire for Athletes (DCCQ-A; see De Brandt et al., 2018) and the Dual Career Competency Questionnaire for Athletes with scenario extension (DCCQ-ASc; De Brandt, 2017) were developed within the GEES project consortium. Based on the holistic athletic career model (Wylleman et al., 2013), related research (e.g. MacNamara & Collins,

2010), and practical experience from DC institutions across Europe, the consortium identified (a) several challenging DC scenarios, and (b) potentially relevant DC competences (i.e. knowledge, skills, experience and attitudes). The surveys were translated into each respective language and pilot tested to provide for the final version. The final version consisted of three major parts. In part one background information on sport and studies was collected (e.g. gender, age, type of sport, competitive level, type and level of education). In the second part, 38 DC competences (e.g. ability to prioritise, dedication to succeed, self-discipline and ability to cope with stress; see [Table 1](#) for all) were presented, and student-athletes evaluated how important each competence was for them in order to successfully combine their sport and studies on a 5-point (“unimportant” to “very important”) scale, as well as to what extent they possessed each competence on a 5-point (“very poor” to “very good”) scale. In part three, seven DC scenarios (see [Table 2](#); throughout the text scenarios are abbreviated and indicated by capital letter) were presented. For each scenario, student-athletes reported if they had experienced the scenario, how they had managed it on a 5-point (“very poor” to “very good”) scale, and selected the five DC competences (from the list of 38) that they perceived as most important to successfully manage the scenario.

### **Procedure**

First, a representative of the Swedish Sports Confederation contacted sports administrators at several universities in Sweden known for their sport arrangements. Second, administrators were provided with an information letter explaining the purpose of the project and outlining ethical issues (i.e. voluntary participation, confidentiality, and the right to withdraw at any time) and contact information, together with a link to the online survey. Third, the administrators forwarded the information and link to student-athletes at their respective university. Fourth, recipients of the Swedish elite sports and higher education scholarship during the five previous years (i.e. elected annually by the Swedish Sports Confederation and the Swedish State Lottery for combining elite sports and higher education) were compiled and, fifth, provided with the same information letter and link by the liaison at the Swedish Sports Confederation. Before initiating the online survey, all participants were re-introduced to the purpose of the study, ethical issues and provided their informed consent. To encourage participation and survey completion two reminders were sent to all participants.

### **Data analyses**

To investigate student-athletes’ perceived need to develop DC competences, we, first, calculated descriptive statistics (means and standard deviations) on perceived importance and possession of the competences, and, second, we estimated the magnitude of the effect of the mean difference between student-athletes’ perceived importance and possession of each DC competence. The latter was considered as an indicator of their need to develop particular DC competences. The effect size estimation followed the recommendations and accompanying open-access spreadsheet (version 3.4) of Lakens (2013) to produce the most appropriate and sample size corrected effect size (in this case Hedges  $g_{av}$ ; small  $\geq .20$ ; moderate  $\geq .50$ ; large  $\geq .80$ ; Cohen, 1988), in line with reporting an estimate that is most similar to Cohen’s  $d_s$  (i.e. comparable across both within and between study designs to facilitate cumulative science). Durlak’s (2009) guidelines for reporting and interpreting effect sizes were also followed.

To investigate the student-athletes’ experience of, and coping with, the DC scenarios, we calculated relevant descriptive statistics (e.g. means, standard deviations, percentages). Further, to get insights into the student-athletes’ prioritised DC competences and scenario-specific coping, we: (a) analysed student-athletes’ selection of the five DC competences that they perceived as

the most important to successfully manage each scenario (i.e. prioritised competences), (b) calculated descriptive statistics (means and standard deviations) for student-athletes' possession of the prioritised competences in relation to each scenario, (c) used the formulation of Cohen (1992) to calculate Cohen's  $f^2$  and considered effects meaningful at the moderate level (small  $\geq .02$ ; moderate  $\geq .15$ ; large  $\geq .35$ ) to determine the magnitude (i.e. strength) of the association between the student-athletes' possession of prioritised DC competences for each scenario and perceived effectiveness of scenario-specific coping. We did not apply inferential statistics in our data analysis because of the small sample size, and therefore the major focus of this study was on magnitude of effects (see e.g. Ivarsson, Andersen, Stenling, Johnson, & Lindwall, 2015; Stoové & Andersen, 2003).

## Results

### *Student-athletes' perceived need to develop DC competences*

Table 1 contains descriptive statistics on student-athletes' perceived importance and possession of 38 DC competences and the magnitude of the effect of the mean difference (i.e. Hedges  $g_{av}$ ) between the perceived importance and possession of each competence. As mentioned above (see data analysis), we considered Hedges  $g_{av}$  as an indicator of a need to develop the competences (i.e. larger effect size indicating a stronger need).

As Table 1 shows, student-athletes perceived all the DC competences to be generally important ( $M^{\text{range}} 3.70\text{--}4.75$ ). When considering the magnitude of the estimated effects of the mean difference between how important student-athletes found each competence and to what extent they currently possessed the competence, the results revealed that the student-athletes perceived a general need to develop DC competences (i.e. more than 70% of the DC competences had a medium or large effect size, according to Cohen's [1988] interpretation). Based on analysis of Hedges  $g_{av}$ , we can conclude that the student-athletes had the strongest need (indicated by larger effect sizes, see Table 1) to develop the following DC competences: ability to cope with stress in sport and study, understanding the importance of rest and recuperation, ability to use setbacks in sport and/or study as a positive stimulus, ability to focus on here and now without being distracted, and ability to prioritise what needs to be done. The student-athletes also perceived a need to develop their ability to ask the right people at the right time for advice, their ability to modify goals and use time efficiently, as well as being patient about their DC progression and belief in their own ability to overcome DC challenges. Moreover, the size of the effect of the mean difference indicated a particular need to develop seven of the ten DC competences that the student-athletes found the most important for their DC success (i.e. see competences with the highest mean in the column "Importance" in Table 1). This result might indicate a perceived lack of these DC competences (i.e. cope with stress, importance of rest and recuperation, ability to prioritise, belief in own ability, use time efficiently, self-discipline, make own responsible choices) in our participants. DC competences that student-athletes' reported the least need to develop, that is, competences they possessed close to (or over) the extent they felt necessary to cope successfully, were their ability to resolve conflicts, listen and learn from others and adapt well to new situations, as well as their ability to live independently and manage their money.

### *The student-athletes' experience of, and coping with, the DC scenarios*

Table 2 presents an overview of the seven DC scenarios and descriptive statistics in regards to the student-athletes' experience of, and coping with, each DC scenario. The results showed that each respective scenario had been experienced by more than 50% of the participants and that 87% of the participants had experienced at least four of the scenarios.



Table 1. Overview of student-athletes' ( $n = 71$ ) need to develop DC competences based on Hedges  $g_{av}$  effect size (largest to smallest).

Competence	Importance		Possession		Hedges $g_{av}$
	<i>M</i>	(SD)	<i>M</i>	(SD)	
Ability to cope with stress in sport and study	4.68	(.47)	3.42	(1.12)	1.45
Understanding the importance of rest and recuperation	4.66	(.63)	3.48	(1.09)	1.31
Ability to use setbacks in sport and/or study as a positive stimulus	4.27	(.70)	3.17	(1.08)	1.19
Ability to focus on here and now, without being distracted	4.27	(.81)	3.38	(.80)	1.09
Ability to prioritise what needs to be done	4.68	(.50)	3.92	(.84)	1.09
Asking advice to the right people at the right time	4.14	(.72)	3.35	(.74)	1.07
Being patient about the progression of your DC	4.41	(.69)	3.55	(.94)	1.03
Belief in your own ability to overcome the challenges in sport and study	4.59	(.60)	3.73	(1.01)	1.02
Ability to critically evaluate and modify your goals when needed	4.20	(.62)	3.44	(.84)	1.02
Ability to use your time efficiently	4.63	(.59)	3.85	(.95)	.99
Ability to put sport and study performances in perspective	4.21	(.75)	3.46	(.75)	.98
Ability to set realistic goals in sport and study	4.37	(.80)	3.63	(.83)	.89
Having knowledge about your career options in study and sport	3.99	(.82)	3.21	(.92)	.88
Self-discipline to manage the demands of your DC	4.75	(.44)	4.14	(.90)	.85
Ability to make your own responsible choices with regard to your DC	4.58	(.53)	4.01	(.87)	.78
Ability to maintain relations with important others	4.23	(.80)	3.58	(.87)	.77
Ability to negotiate (in order to stand up for your own interests)	3.97	(.77)	3.39	(.87)	.69
Dedication to succeed in both sport and study	4.46	(.65)	3.99	(.77)	.67
Ability to collaborate with support staff in study and sport	4.37	(.85)	3.77	(.94)	.65
Assertiveness (being self-assured and acting with confidence)	4.03	(.86)	3.44	(.94)	.65
Ability to be flexible and change plans if necessary	4.20	(.71)	3.63	(1.02)	.64
Ability to create individualised routines (for sport and study)	4.48	(.67)	3.97	(.89)	.63
Ability to plan conscientiously in advance	4.54	(.56)	4.08	(.84)	.63
Being prepared for the unexpected and having back up plans	3.92	(.84)	3.35	(.94)	.62
Perseverance during challenging times and in the face of setbacks	4.66	(.61)	4.25	(.75)	.59
Awareness of your strengths, weaknesses and capabilities	4.32	(.60)	3.92	(.77)	.58
Ability to regulate emotions in different situations	3.75	(.84)	3.28	(.81)	.56
Ability to make social contacts with peers in study and sport	4.23	(.78)	3.80	(.92)	.49
Vision of where you want to go in life after your DC	3.70	(.98)	3.27	(.94)	.45
Clear understanding of what it takes to succeed in sport and study	4.37	(.62)	4.10	(.61)	.43
Willingness to make sacrifices and choices to succeed in DC	4.54	(.65)	4.30	(.72)	.34
Belief that study and sport can positively complement each other	4.15	(.80)	3.85	(.98)	.34
Being curious to explore career plans outside elite sport	3.79	(.88)	3.49	(.95)	.32
Ability to adapt well to new situations	4.13	(.70)	3.93	(.85)	.25
Ability to spend and manage your own money	4.15	(.90)	4.34	(.86)	-.21
Ability to live independently with competent life skills (e.g. cooking)	4.44	(.71)	4.54	(.71)	-.14
Eagerness to listen and learn from others and past experiences	3.89	(.78)	3.80	(.82)	.10
Ability to resolve conflicts	3.82	(.78)	3.76	(.85)	.07

Note: Hedges  $g_{av}$  = a standardised measure of the magnitude of the mean difference between importance and possession (small  $\geq .20$ ; moderate  $\geq .50$ ; large  $\geq .80$ ; Cohen, 1988).

The scenarios Miss days of study and Social life were the ones most experienced by the participants (94% and 93% respectively). The least experienced, but still prevalent, were the Injury and Financial scenarios with 53.5% of participants reporting that they had experienced these



Table 2. Overview of student-athletes' experience of and coping with the DC scenarios.

Scenarios/Variables	Experienced		Coping	
	<i>n</i>	%	<i>M</i>	( <i>SD</i> )
SC1– “Exams”: You are about to start a challenging study year with exams that conflict with a crucial competitive phase. You want to successfully do both.	53	74.6	3.62	(.76)
SC2– “Study plan”: In view of your (future) professional career you want to select the best study plan and make the best study choices to manage the integration of both sport and study in the future.	46	64.8	3.59	(.65)
SC3– “Miss days of study”: Your competition and training schedule means that you will miss significant days of study and (group) assignments. You need to catch up during and/or after competition/training camp.	67	94.4	3.88	(.98)
SC4– “Relocation”: You (have to) make a decision to leave home and your family to relocate for your sport and/or studies (e.g. boarding school, student accommodation etc.). You have to adapt to a new social environment and manage this with less family support.	61	85.9	4.38	(.82)
SC5– “Injury”: You are studying and competing, but you are suffering from an injury. You want to continue to study, compete and recover from injury.	38	53.5	3.55	(.79)
SC6– “Social life”: The combination of sport and study makes it challenging to have a rich social life outside of sport (e.g. time with friends, going out ...). You need to find a balance between your dual career and social activities outside of sport.	66	93.0	3.41	(.93)
SC7– “Financial”: You don't have enough money to balance study and sport, and you need to find a way to generate an income.	38	53.5	3.39	(.85)
Experienced in total 4 or more scenarios	62	87.3		
Scenario 1–7			3.72	(.50)

Note. “SC” stands for Scenario.

scenarios. In terms of coping, the participants' scores corresponded to an average-to-good coping across scenarios, with Relocation as the scenario participants coped the best with. The Social life and Financial scenarios were perceived by participants as the most challenging to cope with.

### ***Student-Athletes' prioritised DC competences and scenario-specific coping***

Results related to the student-athletes' prioritised DC competences and scenario-specific coping are presented in Table 3 including the top five competences the student-athletes prioritised for each scenario, their perceived possession of these competences, and the magnitude of the association between student-athletes' possession of the prioritised competences and their scenario-specific coping (i.e. Cohen's  $f^2$ ). Overall, the participants' possession of the top five competences for each scenario was good, with highest possession of top five competences related to the Relocation scenario, and lowest possession, but still rather good, related to the Injury scenario. Making also an analysis across scenarios, we identified transferable competences (i.e. most frequently prioritised by the participants to manage different DC scenarios, see Table 3). The top five of the transferable competences were: ability to plan in advance, prioritise what needs to be done, and use time efficiently, as well as dedication to succeed, perseverance during challenging times, and willingness to make sacrifices.

Using Cohen's  $f^2$  (Cohen, 1992) we calculated the strength of the effect of possessing the prioritised competences in relation to coping with the scenarios. The analysis revealed meaningful effects ( $>.15$ ) for possession of prioritised competences in three scenarios. That is, in three scenarios the possession of the top five competences was moderately-to-strongly related to better scenario-specific coping. Moderate effects were found for the possession of prioritised competences and coping in the Study plan and Relocation scenarios, indicating the usefulness of these competences in coping with the scenarios. The strongest effect (.647) was found in relation to the Miss days of study scenario, where the student-athletes' ability to prioritise, plan in advance, use time efficiently, and their self-discipline and willingness to make sacrifices was strongly related to their scenario-specific coping. As seen in Table 3, the associations between prioritised competences and coping in the other scenarios (i.e. the Exams, Injury, Social life, and Financial scenarios) were none-to-small or small-to-moderate, all below the level of effects that we considered meaningful.

### **Discussion**

In this Swedish DC study, a part of the GEES Project, three objectives were explored and relevant findings are discussed below. The results of the student-athletes' perceived need to develop competences to cope with their DC showed that Swedish student-athletes found all competences to be generally important to combine sport and study successfully. Considering that the list of competences reflected knowledge, skills, experience and attitudes relevant for different levels of student-athletes development, this result supports the holistic athletic career model (Wylleman et al., 2013) and previous research suggesting competences play an important role in student-athletes' adaptation and coping (e.g. Debois et al., 2015; De Knop et al., 1999). In previous qualitative research several DC competences have been identified (Aquilina, 2009; Brown et al., 2015; Burlot et al., 2018; Cosh & Tully, 2014; MacNamara & Collins, 2010; McKenna & Dunstan-Lewis, 2004). This study supports previous findings, but also extends previous research with an understanding of how well developed the DC competences were within a sample of Swedish university student-athletes. Besides a general need to further develop almost all the DC competences, the student-athletes perceived a particular need to develop seven of the ten competences they found the most important to cope successfully with various DC demands, indicating

Table 3. Overview of prioritised DC competences (top five) for each scenario and the magnitude of the association between possession of prioritised competences and scenario-specific coping using Cohen's  $f^2$ .

Scenarios/variables	Possession		Cohen's $f^2$
	<i>M</i>	( <i>SD</i> )	
<b>SC1 – “Exams” (<i>n</i> = 53)</b>			
1. Ability to prioritise what needs to be done	3.96	(.85)	
2. Ability to use your time efficiently	3.87	(.92)	
3. Self-discipline to manage the demands of your DC	4.17	(.91)	
4. Ability to focus on here and now, without being distracted	3.42	(.80)	
5. Willingness to make sacrifices and choices to succeed in DC	4.36	(.68)	
SC1: Possession top 5 Competences → Coping	3.95	(.57)	.094
<b>SC2 – “Study plan” (<i>n</i> = 46)</b>			
1. Ability to make your own responsible choices with regard to your DC	3.96	(.87)	
2. Dedication to succeed in both sport and study	3.89	(.77)	
3. Vision of where you want to go in life after your DC	3.24	(.79)	
4. Willingness to make sacrifices and choices to succeed in DC	4.24	(.77)	
5. Ability to plan conscientiously in advance	4.00	(.87)	
SC2: Possession top 5 Competences → Coping	3.86	(.50)	.172
<b>SC3 – “Miss days of study” (<i>n</i> = 67)</b>			
1. Ability to prioritise what needs to be done	3.93	(.84)	
2. Ability to plan conscientiously in advance	4.06	(.85)	
3. Self-discipline to manage the demands of your DC	4.15	(.91)	
4. Ability to use your time efficiently	3.85	(.97)	
5. Willingness to make sacrifices and choices to succeed in DC	4.25	(.72)	
SC3: Possession top 5 Competences → Coping	4.05	(.64)	.647
<b>SC4 – “Relocation” (<i>n</i> = 61)</b>			
1. Ability to live independently with competent life skills	4.59	(.64)	
2. Ability to adapt well to new situations	3.98	(.88)	
3. Ability to spend and manage your own money	4.33	(.85)	
4. Ability to make social contacts with peers in study and sport	3.90	(.89)	
5. Perseverance during challenging times and in the face of setbacks	4.26	(.75)	
SC4: Possession top 5 Competences → Coping	4.21	(.45)	.143
<b>SC5 – “Injury” (<i>n</i> = 38)</b>			
1. Perseverance during challenging times and in the face of setbacks	4.39	(.79)	
2. Understanding the importance of rest and recuperation	3.55	(1.16)	
3. Belief in your own ability to overcome the challenges in sport and study	3.68	(1.16)	
4. Being patient about the progression of your DC	3.61	(.86)	
5. Dedication to succeed in both sport and study	4.03	(.79)	
SC5: Possession top 5 Competences → Coping	3.85	(.55)	.000
<b>SC6 – “Social life” (<i>n</i> = 66)</b>			
1. Ability to make social contacts with peers in study and sport	3.82	(.91)	
2. Ability to use your time efficiently	3.83	(.95)	
3. Ability to maintain relations with important others	3.56	(.88)	
4. Willingness to make sacrifices and choices to succeed in DC	4.29	(.72)	
5. Ability to plan conscientiously in advance	4.08	(.85)	
SC6: Possession top 5 Competences → Coping	3.92	(.51)	.093
<b>SC7 – “Financial” (<i>n</i> = 38)</b>			
1. Ability to spend and manage your own money	4.21	(.93)	
2. Perseverance during challenging times and in the face of setbacks	4.24	(.68)	
3. Ability to prioritise what needs to be done	3.71	(.80)	
4. Dedication to succeed in both sport and study	3.92	(.75)	
5. Ability to plan conscientiously in advance	3.92	(.91)	
SC7: Possession top 5 Competences → Coping	4.00	(.55)	.033
<b>Transferable competences (<i>n</i> = 71)</b>			
1. Ability to plan conscientiously in advance	4.08	(.84)	

(Continued)

Table 3. Continued.

Scenarios/variables	Possession		Cohen's $f^2$
	<i>M</i>	( <i>SD</i> )	
2. Ability to prioritise what needs to be done	3.92	(.84)	
3. Ability to use your time efficiently	3.85	(.95)	
4. Dedication to succeed in both sport and study	3.99	(.77)	
5. Perseverance during challenging times and in the face of setbacks	4.25	(.75)	
6. Willingness to make sacrifices and choices to succeed in DC	4.30	(.72)	

Note. "SC" stands for Scenario. For descriptive information (*M* and *SD*) on coping see Table 2.

a perceived lack of these DC competences (i.e. ability to cope with stress, importance of rest and recuperation, ability to prioritise, belief in own ability, use time efficiently, self-discipline, and make own responsible choices). These findings confirm the importance set forth by the EU guidelines on DCs of athletes (2012) in terms of providing DC support services for student-athletes helping them to successfully combine sport and studies. In relation to the discussions on how to optimally support student-athletes (Aquilina, 2013; Brown et al., 2015; López de Subijana et al., 2015) this study shows that helping student-athletes to develop DC competences can be one way to empower them and increase their autonomy and learning from their own experiences in managing a DC and relevant scenarios.

Previous DC studies have followed the tradition of European athlete career research (e.g. Brown et al., 2015; MacNamara & Collins, 2010; Tekavc et al., 2015) and investigated transition demands at athletic, academic, psychological, psychosocial, and financial levels of development (Wylleman et al., 2013). Investigating DC scenarios in the GEES project allowed us to move from differentiation of demands from different levels of development to integration of demands in DC scenarios. That is, with the introduction of DC scenarios, core issues encapsulating demands across different levels of development could be studied.

With regards to the student-athletes' experience of, and coping with, the DC scenarios the results of this study revealed that the student-athletes generally had experienced the scenarios, providing support for the relevancy of the investigated scenarios, and managed average-to-good across scenarios. The two most experienced scenarios were the Miss days of study and Social life scenarios, and the least occurring but still prevalent were the Injury and Financial scenarios. Results of the magnitude of the association between the student-athletes' possession of prioritised DC competences and their scenario-specific coping revealed several meaningful effects. In three scenarios (i.e. the Miss days of study, Study plan and Relocation) the student-athletes' possession of prioritised competences aided their scenario-specific coping.

The strongest support was related to the Miss days of study scenario, in which the competences of prioritising, planning in advance, using time efficiently, self-discipline, and willingness to make sacrifices, were strongly related to student-athletes' coping. These results suggest that the student-athletes were well aware of the relevant competences (i.e. prioritised relevant competences from the list of 38) to manage the scenario. Alongside this, the results in the Social life scenario, indicated that the student-athletes might not have been as aware of the relevant competences (from the list of 38) to cope with this scenario. That is, 93% of the student-athletes reported having experienced the Social life scenario as one of the two most challenging scenarios to cope with, and their prioritised competences only provided a small-to-moderate effect (.093) on their coping. Comparing the results of the Miss days of study and the Social life scenarios, it appears that the student-athletes would benefit from help, for example, of DC support providers, to increase their awareness and target the right competences in understanding how to cope with

the scenario of combining sport and studies with social life outside of sport. In relation to the Swedish DC system aiming to provide “winners in the short and long run” (Lindahl et al., 2011), Stambulova et al. (2015) showed how Swedish adolescent student-athletes at elite sports secondary schools sacrificed their private life (including social activities and own time) in the search for obtaining an optimal DC balance. Based on our findings the issue of sacrificing social activities to cope with the DC seems to continue at university level in Sweden and might be influenced by student-athletes not having (e.g. during adolescent years) learned how to cope with the challenges of combining sport and studies with social life, as compared to learning how to catch up after Missing days of study or Relocation from home. As to the Relocation scenario, the student-athletes were well aware about the competences aided them in coping with moving away from home. These results might be explained by the Swedish sports and cultural setting in which student-athletes can move away from home prior to university level (e.g. to an elite sports secondary school at 16 years of age) and therefore gaining relevant experiences and competences before relocating to a university.

More than half of the Swedish student-athletes had experienced the Injury and Financial scenarios, and reported an average effectiveness of coping. Moreover, scenario-specific results revealed a rather good possession of prioritised competences, but the competences had none-to-small effect on student-athletes’ scenario-specific coping. These results promote further investigations into injury as part of athletes’ career development (e.g. Ivarsson et al., 2018). Moreover, in line with Fryklund’s (2012) findings that Swedish university student-athletes felt a need to work alongside their DC to make ends meet, further investigations into Swedish student-athletes’ financial development and competences (e.g. the ability to search for and maintain sponsors, starting a business, ability to communicate personal brand) are of interest. Research in line with this would add to previous DC studies overlooking the financial level of development (e.g. Brown et al., 2015; MacNamara & Collins, 2010) and support the update of the holistic athletic career model (Wylleman et al., 2013) with its inclusion of the financial level.

In this study we found moderate-to-strong support for competences that helps student-athletes to cope with specific DC scenarios. In relation to this, the transferable competences are of particular interest as they add to coping across different scenarios. The most recurrent competences across papers in previous research relate to good planning, organisation and time-management (including planning time for recuperation) and the ability to prioritise (Aquilina, 2009; Brown et al., 2015; Burlot et al., 2018; Cosh & Tully, 2014; MacNamara & Collins, 2010; McKenna & Dunstan-Lewis, 2004). This study supports and adds to previous research showing that the transferable competences (i.e. most frequently prioritised by student-athletes across the scenarios) were: ability to plan in advance, prioritise what needs to be done, and use time efficiently, as well as dedication to succeed, perseverance, and willingness to make sacrifices. Two of the transferable competences, namely, ability to prioritise and use time efficiently, were also competences the student-athletes had a particular need to develop, providing additional support for the student-athletes’ perceived lack of useful DC competences.

## **Method discussion**

We recognise several limitations of this study including a cross-sectional design (Besen & Gan, 2014), the use of self-report questionnaires leading to possible social desirability bias in the participants’ answers (Podsakoff, MacKenzie, & Podsakoff, 2012), and the challenge of interpreting the real world meaning of an effect size when based on arbitrary metrics (Blanton & Jaccard, 2006). With previous research into DC competences being qualitative we could not compare the observed effects to any previous studies and therefore used the benchmarks suggested by Cohen (1988; 1992). To make use of our data, we have tried to facilitate future comparisons

by following the guidelines of Durlak (2009) and Lakens (2013) in presenting effect sizes that are comparable across different study designs, to support future research in going beyond the benchmarks of Cohen in their interpretations. Also, based on the design of the project it was not possible to calculate the reliability of the single-item measures used, which should be taken into consideration when interpreting the student-athletes' need to develop DC competences. The limitations of our sample size should also be recognised. Although we sampled only 71 participants with a completion rate of 20%, this is in line with what to expect given the study design and method (e.g. López de Subijana et al., 2015). The gender and sport distributions (69% females, mainly individual sports) are in line with Swedish demographic research on national team level athletes' involvement into university education (e.g. Fahlström et al., 2015), supporting the representativeness of the sample to the national condition. Some research (e.g. Tekavc et al., 2015) however supports females as being more organised in their DC which should be taken into account when comparing to our results.

### **Practical implications**

Swedish DC support providers working with university student-athletes might emphasise development of DC competences with a high discrepancy between importance and possession (e.g. stress management) and those transferable across scenarios (e.g. ability to plan in advance, prioritise, and use time efficiently). Within the GEES project the DC scenarios were purposefully developed to be applicable in different countries across Europe. These scenarios appeared relevant to Swedish student-athletes, but in line with a cultural praxis of athletes' careers (Stambulova & Ryba, 2013) we encourage DC institutions to contextualise the GEES scenarios to fit their organisations and conditions, as well as identify potential national or local DC scenarios. As an example, the Exams and Miss days of study scenarios can be contextualised into a Swedish national scenario:

You have three opportunities this year to pass your course exam. You failed (or missed) the first exam and the second exam coincide with the first exam in your next course. You are at risk of falling into a progressively more difficult loop of catching up exams and need to find a way to successfully catch up your studies while continuing your sport investment.

We also recommend DC support providers to discuss DC scenarios with their student-athletes to promote awareness and develop relevant competences for successful coping. Results of this study have been found useful on a policy level and contributed to Swedish National Guidelines for elite athletes' DCs (2018).

### **Conclusion and future research**

This study contributes to DC research by means of: (a) identifying needs of Swedish university student-athletes in development of DC competences, (b) demonstrating the relevancy of European (i.e. the GEES) DC scenarios to Swedish university student-athletes, (c) revealing the prevalence of DC scenarios and perceived effectiveness of managing them, (d) identifying the competences prioritised in coping with each scenario and also transferable competences, (e) finding associations between possession of prioritised DC competences and effectiveness in coping with three scenarios. One of the interesting and paradoxical results of this study is the weak association found between prioritised competences and rather effective coping with four DC scenarios. Based on this study, major avenues for future research might turn to exploring the ways of how the DC scenarios and competences can be promoted among university student-athletes. For example, intervention studies involving group workshops, individual assessment and consultations on

DC competences can be of interest. On the national level, this study has promoted a competence-directed-type-of-thinking of student-athletes and DC stakeholders, contributed to the Swedish National Guidelines for elite athletes' DCs (2018), and expanded the research basis for the continued development of the Swedish DC system.

## Note

1. Bengtsson was renamed Fryklund.

## Acknowledgement

We would like to express our gratitude to the participants taking time to answer the survey and to the DC coordinators at universities across Sweden for their help. We also thank the Swedish Sports Confederation for a productive collaboration, and Dr. Andreas Ivarsson for statistical guidance. Finally, we thank the organisers of the GEES project for their support as well as the GEES project consortium for the collaboration throughout the Project.

## Funding

This work was supported by the Erasmus+ Programme of the European Union through the Education, Audiovisual and Culture Executive Agency with project reference 557281-EPP-1-2014-1-FR-SPO-SCP.

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