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The development and initial validation of the dual career competency questionnaire for support providers (DCCQ-SP)

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While dual career support providers (DCSPs) are important (European Commission, 2012), little is known on their competencies required to support student-athletes during their dual career (DC). To address this gap, two studies on DCSPs' competencies were conducted as part of the Gold in Education and Elite Sport (GEES) project. In a first study, the Dual Career Competency Questionnaire for Support Providers (DCCQ-SP) was developed, a questionnaire aimed at measuring the perceived importance and possession of DCSPs' competencies. The DCCQ-SP consists of 33 competencies divided into six competency factors: (1) *Advocacy and cooperation competencies*, (2) *Reflection and self-management competencies*, (3) *Organisational competencies*, (4) *Awareness of student-athletes' environment*, (5) *Empowerment competencies*, and (6) *Relationship competencies*. In the follow-up study, the DCCQ-SP was validated and used to provide the DCSPs' competency scores in a sample of 330 DCSPs from nine European countries. Confirmatory factor analysis (CFA) showed acceptable to excellent fit indices for the proposed 6-factor structure. DCSPs scored all competencies as important to very important and reported average to good possession of the DCCQ-SP competencies. While further validation is advocated, the DCCQ-SP can be considered a valuable instrument in enhancing DCSPs' professional development, education and accountability.

Keywords: competencies; Gold in Education and Elite Sport (GEES); dual career support

Introduction

The combination of elite sport and education, also referred to as a dual career (DC), is challenging for athletes and their environments (e.g. De Knop, Wylleman, Van Houcke, & Bollaert, 1999; Ryan, 2015). As such, several European policy documents (e.g. European Commission, 2012, 2016) and researchers (e.g. Geranosova & Ronkainen, 2015; López de Subijana, Barriopedro, & Conde, 2015; Ryan, Thorpe, & Pope, 2017) have emphasised the importance of the quality of DC support services and competent dual career support providers (DCSPs).

Quality DC support tends to have a positive impact on athletic performance (Maier, Wortschek, Ströbel, & Popp, 2016), while poor DC support may lead student-athletes to drop out from their sports prematurely (Baron-Thiene & Alfermann, 2015). Moreover, supporting student-athletes to successfully combine elite sport and education may offer multiple benefits

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for those athletes. A balanced DC can hold a great advantage for coping with (future) transitions. For example, a well-balanced DC is a positive factor in the transition from junior to senior (Pummell, Harwood, & Lavallee, 2008), the transition into high performance environments (Verkooijen, van Hove, & Dik, 2012), and the transition into the post-athletic career (Park, Lavallee, & Tod, 2013; Torregrosa, Ramis, Pallarés, Azócar, & Selva, 2015).

Recognising the importance of professional DC support, the GEES project focused on further optimising the quality of the support available for student-athletes. GEES was a two-year project that was co-funded by the Erasmus+ programme of the European Union and gathered research and practice experts from nine European Member States. The current paper was developed as part of the second work package of the GEES project.

DC support research

As the number of student-athletes has grown over the past decades (Aquilina, 2013), the DC of elite athletes has received considerable attention in Europe during recent years in research (e.g. Guidotti, Cortis, & Capranica, 2015), politics (European Commission, 2016), and practice (e.g. Wylleman, De Brandt, & Defruyt, 2017). Although competent DC support is crucial in this regard (e.g. European Commission, 2012, 2016), DC research and practice rarely focused on the specific crucial features of the quality of DC support (Hong & Coffee, 2018). Previous DC support research has mainly focused on organisational and structural aspects of support to student-athletes (e.g. Aquilina, 2013; Borggreffe & Cachay, 2012; Pavlidis & Gargalianos, 2014), psychosocial and environmental issues (e.g. Henriksen, Stambulova, & Roessler, 2010; Pummell et al., 2008), or on evaluating specific support programmes from the student-athletes' perspectives (e.g. López de Subijana et al., 2015; Ryan, 2015). So far, however, none of these approaches focused on the specific processes and necessary competencies of the DCSPs themselves. Similar to related domains such as psychology (e.g. Epstein & Hundert, 2002; Rubin et al., 2007), sport psychology (Fletcher & Maher, 2013, 2014), social work (Tam, Twigg, Boey, & Kwok, 2013), school counselling (Ratts, DeKruyf, & Chen-Hayes, 2010) and career guidance (Sultana, 2009), the field of DC support should show professional accountability and provide evidence-based competency instruments to guarantee the quality of their profession and the protection of student-athletes and DC stakeholders (European Commission, 2012).

A recent study of Hong and Coffee (2018) acknowledged the importance of targeting career support providers' competencies by focussing on developing an educational curriculum for these professionals. More specifically, they developed a psycho-educational curriculum for current or future practitioners in sport career transition support. Through several modules, the curriculum aimed to train practitioners for the support work towards athletes experiencing transitions throughout their sport career (including the transition from secondary to higher education). Although their research encompasses a promising attempt to provide a non-exhaustive overview of important competencies targeted by their educational curricula, it lacks an evidence-based and validated competency instrument of specific competencies for DCSPs.

DCSPs' roles and responsibilities

During the GEES project, a consortium of renowned DC experts defined a DCSP as "a professional consultant, related to an educational institute and/or an elite sport organisation – or certified by one of those – that provides support to elite athletes in view of optimizing their DC" (Wylleman et al., 2017, p. 18). From this definition, it can be deduced that the main role for DCSPs is "optimizing elite athletes' DC". This brings along many other specific responsibilities and roles, as student-athletes are likely to encounter transitions, challenges and barriers at

different levels of development (i.e. athletic, psychological, psychosocial, academic/vocational, financial levels) during their DC (Cosh & Tully, 2014; Tekavc, Wylleman, & Cecić Erpič, 2015; Wylleman & Lavallee, 2004).

As a DCSP does not work in a social vacuum, he/she needs to interact with the network around the student-athlete (e.g. coaches, parents, teachers). As such, an important role of a DCSP is to manage the relations with all DC stakeholders and create efficient and constructive cooperation around the athlete (Capranica et al., 2015; Ryan et al., 2017). Moreover, as the world of elite sport is highly competitive and demanding, sport practitioners (including DCSPs) need to “perform” at a very high level as well and are often expected to be flexible. Consequently, the importance of self-care and self-development of career support practitioners working with elite athletes, has been emphasised (Hong & Coffee, 2018; Martin & Peterson, 2015).

Another important role of DCSPs is to support athletes from a structural point of view, as practical (e.g. tournaments during exam periods) and time limitations are some of the key barriers for student-athletes in combining elite sport and (higher) education (Cosh & Tully, 2014; López de Subijana et al., 2015). Although the tasks related to this practical support depend on the specific employer of the DCSP, the national context and policy (Aquilina & Henry, 2010), almost all DCSPs are confronted with such administrative and organisational responsibilities (Wylleman et al., 2017).

Although this organisational aspect of DC support remains relevant, DC support nowadays also encompasses more individual and tailor-made support with the student-athletes themselves. DCSPs are expected to build a personal link with their athletes and to be aware of athletes’ holistic development (Fifer, Henschen, Gould, & Ravizza, 2008; Wylleman & Rosier, 2016). Moreover, DCSPs have a responsibility to stimulate student-athletes’ autonomy and help them develop competencies rather than only focussing on providing them with flexibilities and “making things easier for them” (e.g. Cosh & Tully, 2015; Kim et al., 2017).

Competency-based research

Gaining insight in the competencies that are required within a specific job domain and/or profession, can enhance the professionalisation of this domain/profession (Falender & Shafranske, 2012; Sultana, 2009; Voogt & Roblin, 2012). Competency measurement instruments are used professionally to provide direction and specificity for developmental and assessment purposes, especially in the world of sport practitioners (Moen & Federici, 2013; Wylleman, Harwood, Elbe, Reints, & de Caluwé, 2009). As emphasised in the competency research literature from the field of (sport) psychology, it is important to clearly define competencies and delineate them into behavioural anchors linked to phases of development (Falender & Shafranske, 2012; Fletcher & Maher, 2014; Rodolfa et al., 2005). These behavioural anchors provide specification of “general” competencies into specific expected behaviours. Linking these to the phase of development (e.g. DCSPs that have just started vs. experienced DCSPs) is equally crucial, as competency development and expectations are different depending of the professional phase of the practitioner (e.g. you cannot expect that a DCSP that is doing an internship shows the same level of competency as a DCSP with a long experience). In line with the latter, researchers in the field of psychology tried to delineate professional competencies into behavioural anchors for different levels of development (i.e. readiness for practicum, readiness for internship, readiness for entry to practice), which influenced the field with regard to accountability and training. However, although these researchers used a theoretical basis (i.e. the Competency Cube Model; Rodolfa et al., 2005) for their work, an initial scientifically validated instrument was lacking (Fouad et al., 2009). Furthermore, the development and validation of quantitative competency

instruments are crucial to achieve conceptual clarity and direction within the specific characteristics of the professional field. Examples of such validated instruments in related fields are available in social work (Tam et al., 2013) and sports coaching (Myers, 2013).

In a recent study, a competency questionnaire for student-athletes was developed and initially validated, labelled the Dual Career Competency Questionnaire for Athletes (DCCQ-A; De Brandt et al., 2018). The 29 competencies of the DCCQ-A were structured into four competency factors: (1) DC management, (2) Career Planning, (3) Emotional Awareness, and (4) Social Intelligence and Adaptability. Although this measure is useful for DCSPs as it can be used as an evidence-based instrument to operationalise their support towards student-athletes, it focuses on the competencies student-athletes require to successfully combine elite sport and education. However, as illustrated above, there is a need for an instrument that can measure the importance and possession of specific competencies of the DCSPs themselves as well.

The present research

Two studies were conducted in the present research with the overarching aim to develop and initially validate an instrument, the DCCQ-SP, that can measure the importance and possession of DCSPs' competencies. The specific objective of study 1 was to describe the specific development process of this instrument. As such, it describes the phases of the development of the competency factors and the generation and refinement of the competency items into depth. In study 2, the developed instrument was provided to a sample of DCSPs from nine European countries. The specific objectives of study 2 were to (a) initially validate the DCCQ-SP by examining its factorial structure using confirmatory factor analysis (CFA), (b) provide the competency scores of the DCCQ-SP in this sample of European DCSPs.

Study 1

Development of competency factors

In a first phase, the authors formulated the main dimensions of competent DC support provision (i.e. the construct under research) and defined what these dimensions should cover exactly (Clark & Watson, 1995). This process of dimension development was executed deductively, by reviewing the following sources: (1) qualitative research undertaken by the National Institute of Sport Expertise and Performance (INSEP) on the competencies needed by DCSPs (Richard, 2015), (2) DC research related to the roles, responsibilities and competencies of DCSPs (e.g. Brown et al., 2015; Guidotti et al., 2015; Hong & Coffee, 2018; López de Subijana et al., 2015; Ryan, 2015), (3) competency theories and models of related fields, including the Competency Cube in psychology (Rodolfa et al., 2005), the competence constellation model in psychology (Johnson, Barnett, Elman, Forrest, & Kaslow, 2013), a sport psychology competency framework (e.g. Ward, Sandstedt, Cox, & Beck, 2005), career guidance competencies (e.g. Sultana, 2009), school counselling competencies (e.g. Ratts et al., 2010), life skills literature (e.g. Camiré, Trudel, & Bernard, 2013), student-athletes' competencies (De Brandt et al., 2018), and the sports coaching competency framework (Myers, 2013). Critical friends were used to challenge and optimise the final dimensions (called competency factors in what follows) and to provide a theoretical sounding board (Smith & McGannon, 2018). This process resulted in six competency factors, reflecting the main responsibilities and roles of DCSPs: (1) *Advocacy and cooperation competencies*, (2) *Reflection and self-management competencies*, (3) *Organisational competencies*, (4) *Awareness of student-athletes' environment*, (5) *Empowerment competencies*, and (6) *Relationship competencies*.

Item generation

In the second phase, the authors generated items to reflect these competency factors. As recommended by DeVellis (1991), the generated items were intended to reflect the core features of the competency factor and moreover, the items aimed at forming unidimensional subscales. From a conceptual perspective, the items had to adhere to certain criteria as well. Firstly, items had to consist of a mix of skills, knowledge, and attitudes, as these elements and their integration is what constitutes professional competency (Rubin et al., 2007; Wylleman et al., 2009). Secondly, the formulation of the specific competency items needed to be applicable in all European countries, regardless of the specific national context and policies (Aquilina & Henry, 2010). Thirdly, the items needed to allow developmental purposes, and could not reflect assessment standards in the formulation itself (Fletcher & Maher, 2014). The process of item generation resulted in an item pool of 75 competency items.

Item refinement by GEES consortium

In the third phase of the development of the DCCQ-SP, the GEES consortium, consisting of an expert panel of 16 DC researchers and 17 DC practitioners from the nine participating EU Member States, was involved to review the item pool of 75 competency items. These experts all had an experience of at least two years in the field of DC research and/or practice. Similar to a review procedure in the scale development research of Hill, Appleton, and Mallinson (2016), the experts were asked to (a) assess if the items suited the content of the specific competency factor and (b) evaluate the clarity of the items. Moreover, the experts could add competencies if they felt items were missing for specific competency factors (Hill et al., 2016). Based on the experts' feedback, the list of competencies was brought back to 42 at first, but with the suggested additions of the experts, the third phase was concluded with a pool of 48 competency items.

The fourth phase was executed by five DC research experts and three DC practitioners of the GEES consortium and focused on optimising the competencies from a linguistic perspective and reducing overlap between the different competencies. More specifically, the experts were asked to reformulate items that (in their opinion) lacked readability. Moreover, they were asked to report the items they felt were overlapping. All items that were mentioned at least once as low in readability or as overlapping with another item, were discussed by the authors and changed if found necessary. In case that at least 3 experts mentioned the same item to be low in readability or to be overlapping with another item, the item was certainly changed (or deleted in case of "double items") in line with the feedback of the experts. Based on this phase, the 48 competency items were brought back to 42 competency items.

External review of items

In the final phase, in order to test for relevance, comprehensibility and read-friendliness of the competency items for the intended target group, a pilot survey with both quantitative and qualitative questions was conducted online with 18 external (i.e. not part of the GEES consortium) DCSPs matching the sample definition. This external review consisted of three main parts. Firstly, participants had to rate all 42 competencies on importance (1 – unimportant; 5 – very important). Because the evaluation of competencies in small samples is prone to outliers, the median was used to evaluate the relevance of the competency items (Wester & Borders, 2014). Four items that did not reach the threshold of a median of 4 on importance were removed from the list. Secondly, participants had to relate the importance of the competencies

against six challenging job requirements that represented the main job responsibilities and roles of a DCSP (Defruyt et al., 2018; for a similar procedure in development of competency questionnaire, see De Brandt, 2017). Five competencies that were not highlighted as important for any of the job requirements, were deleted from the list. Thirdly, participants were asked to provide qualitative feedback on comprehensibility and read-friendliness of the competencies. Based on this qualitative feedback, six items were reworded slightly by the authors.

Study 2

The objectives of study 2 were to (a) initially validate the DCCQ-SP by investigating its factorial structure using confirmatory factor analysis (CFA), and (b) provide the scores of the competency items and factors of the DCCQ-SP in a sample of European DCSPs.

Method

Participants

To be part of the sample, participants needed to match the definition of a DCSP that was developed during the GEES project (Wylleman et al., 2017, p. 18). The sample consisted of 330 DCSPs from nine EU Members States: the Netherlands (25%), France (19%), the UK (16%), Spain (12%), Sweden (12%), Belgium (7%), Slovenia (5%), Italy (3%), and Poland (2%). There were 50.6% female and 49.4% male DCSPs involved in the study. The average age of the participants was 44.6 years ($SD = 11.2$), whereas the mean seniority (i.e. the years of experience as a DCSP) was 7.5 years ($SD = 6.1$). Of the full sample, 70% worked part-time and 30% full-time as a DCSP. While the majority of DCSPs worked for one employer (89%), some worked for multiple employers (11%). Participants were employed by regional sport committees (7.3%), Olympic committees (0.9%), sports federations (6.5%), performance centres/elite sport schools (18.5%), secondary education schools (18.5%), graduate schools/university colleges (12.7%), universities (29.7%), governmental organisations (10.9%), private organisations (2.7%), or were self-employed (3.6%). Most of the participants had a Master diploma or higher (58%), while 33% of the DCSPs had a Bachelor degree, and 9% had another degree (e.g. vocational degree, A-level, secondary education degree). Only 16.7% of the DCSPs had received a specific training programme for their work as a DCSP, whereas 83.3% did not receive such training programme.

Instrument

The online survey that was presented to the DCSPs within this study consisted of demographic questions and the Dual Career Competency Questionnaire for Support Providers (DCCQ-SP). The demographic questions asked DCSPs about their general background (e.g. gender, date of birth), professional background (e.g. employer, type of employment, seniority as DCSP), and educational background (e.g. diploma). The DCCQ-SP itself consists of 33 competencies. For each competency, participants needed to answer the questions: (1) How IMPORTANT is this competency for you to successfully provide DC support? (“1 – Unimportant” to “5 – Very important”), and (2) To what extent do you POSSESS this competency? (“1 – Very poor possession” to “5 – Very good possession”).

The proposed factorial structure of the DCCQ-SP consists of six competency factors. *Advocacy and cooperation competencies* contains five competencies needed to cope with the challenging DC environment and its stakeholders (e.g. ability to collaborate with decision-making bodies advocating for interests of student-athletes). *Reflection and self-management competencies*

consists of five competencies needed to remain the link with the self, self-care and self-monitoring (e.g. ability to maintain own well-being and energy level necessary for work with student-athletes). *Organisational competencies* comprises five competencies regarding the DCSP's organisation (e.g. ability to act in congruence with the mission of the organisation). Whereas the above-mentioned competency factors are related to respectively the work with DC stakeholders, their selves and their organisation, the three competency factors below are related to the direct work and interaction with student-athletes. *Awareness of student-athletes' environment* contains five competencies related to background knowledge and awareness of the student-athletes they work with (e.g. knowledge of the sports related to student-athletes you work with). *Empowerment competencies*, consists of six competencies needed to be able to enhance the competencies of student-athletes (e.g. ability to enhance communication skills in student-athletes). *Relationship competencies* encompasses seven competencies needed to build a quality professional relationship with student-athletes (e.g. ability to be an active and supportive listener). The full list of competencies can be found in Table 1.

Procedure

The complete online questionnaire was reviewed by native English DC experts (to ensure content as well as linguistic quality) and then translated by the GEES partners into the nine languages of the participating Member States. All participants received the online survey in their native language. Ethical approval was obtained for each participating Member State. Each online survey started with informed consent, describing the aims of the study and the rights of the participants. The GEES project partners distributed the online survey link to the total European pool, consisting of 524 DCSPs. Formal (e.g. official mails) and informal reminders (e.g. through personal contact or telephone) were used to maximise the response rate. Finally, of the European pool of 524 DCSPs, 330 filled in the questionnaire (response rate of 63%).

Data analyses

Missing data and the distribution of the DCCQ-SP scale item scores (by obtaining the skewness and kurtosis values) were examined using SPSS (version 25.0). Sample size requirement criteria were compared to the research literature recommendations (Gorsuch, 1983; Meyers, Gamst, & Guarino, 2006).

To test the factor structure of the DCCQ-SP, Confirmatory Factor Analysis (CFA) was conducted on the possession scores of the 33 competencies, using MPlus 7.0. In line with the validation of the DCCQ-A (De Brandt et al., 2018), possession scores were preferred over the importance scores to perform the CFA because these showed the best normal distribution. CFA was favoured because of the strong theoretical and empirical background and thoroughly executed development of the questionnaire. The following fit indices were used to assess model fit: RMSEA, CFI (Bentler, 1990), and TLI (Tucker & Lewis, 1973). The criteria used for assessing the RMSEA were: an RMSEA of equal or less than 0.06 indicates an excellent fit, less than 0.08 a reasonable fit, and greater than 0.10 a poor fit. For the CFIs and TLIs, >0.90 indicates acceptable fit and >0.95 indicates excellent fit (Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004). Finally, the factor loadings of the competencies on their respective competency factor were calculated and Cronbach's α was used to measure the internal consistency of the factors.

The average scores (mean and standard deviation) of the perceived importance and possession of the 33 DCSPs' competencies were computed. Moreover, average scores and standard

deviations for the importance and possession of the competency factors were computed. Finally, paired *t*-tests were performed and Cohen's *d* was calculated to estimate the magnitude of the difference between perceived importance and perceived possession of the competency factors (De Brandt, Wylleman, Torregrossa, Defruyt, & Van Rossem, 2017).

Results

Preliminary analyses

None of the items had missing values greater than 2.8%. As such, listwise deletion was used as the loss of cases due to missing values would not affect the results (Tabachnick & Fidell, 2007). Skewness greater than 2 and kurtosis greater than 7 indicate a non-normal distribution (Finney & DiStefano, 2006). Although most responses on the DCCQ-SP were negatively skewed, the skewness statistic did not exceed the threshold of 2 (maximum skewness = -1.51) and the kurtosis scores did not exceed the threshold of 7 (maximum Kurtosis = 3.68). Consequently, the assumption of normality of the data was accepted, providing no objections to use the non-transformed data for CFA. With 330 respondents for 33 items, sample size requirements for CFA were met (Gorsuch, 1983; Meyers et al., 2006).

Model fit and reliability

Fit indices of the proposed 6-factor model with the 33 competencies of the DCCQ-SP ranged from acceptable (CFI = .936 TLI = .930) to excellent (RMSEA = .059). Factor loadings of the competencies on their respective factor ranged from .42 to .88. The factor loadings are reported in Table 1. Cronbach's Alphas of the different factors were computed to assess internal consistency of the different subscales. Cronbach's Alpha coefficients were: .85 for *Advocacy and cooperation competencies*, .76 for *Reflection and self-management competencies*, .76 for *Organisational competencies*, .67 for *Awareness of student-athletes' environment*, .82 for *Empowerment competencies* and .85 for *Relationship competencies*.

Perceived importance and possession of competencies

On average, all competencies were considered as important to very important for a successful dual career support provision ($M = 4.34$, $SD = .17$, $range = 3.99-4.60$). The DCSPs reported a high mean competency possession score ($M = 3.92$, $SD = 0.22$), with the average possession of the different competencies ranging between average to good and between good and very good ($range = 3.50-4.33$). Descriptive statistics for the 33 competency items of the DCCQ-SP are reported in Table 1.

DCSPs awarded the lowest importance to *Advocacy and cooperation competencies* ($M = 4.16$, $SD = .67$), whereas *Relationship competencies* were perceived as the most important competencies ($M = 4.39$, $SD = .49$). *Empowerment competencies* had the lowest perceived possession score ($M = 3.73$, $SD = .59$) and *Organisational competencies* scored highest on perceived possession ($M = 4.14$, $SD = .48$). In the paired sample *t*-test, all competency factors showed significant differences between perceived importance and possession ($p < .001$), all with a higher mean value for importance than possession. Effect sizes varied from small for *Organisational competencies* ($d = 0.22$), medium for *Advocacy and cooperation competencies* ($d = 0.56$), *Relationship competencies* ($d = 0.56$), *Reflection and self-management competencies* ($d = 0.65$) and *Awareness of student-athletes' environment* ($d = 0.75$) up to large for *Empowerment competencies* ($d = 0.95$). The results of the perceived importance, possession, and the paired *t*-tests of the competency factors are presented in Table 2.

Table 1. Perceived importance, perceived possession and factor loadings of the DCSP competencies.

Competencies	Importance		Possession		
	M	SD	M	SD	Loadings ^a
Ability to collaborate with key stakeholders (e.g. coach, parents) in the student-athlete's life	4.29	.84	3.99	.85	.85
Ability to negotiate with DC stakeholders (e.g. student-athletes, coaches, teachers) ensuring that the interests of all are considered in the integration of a compatible outcome	4.27	.83	3.84	.89	.86
Ability to build and coordinate a network of partners	4.09	.88	3.71	.84	.78
Ability to collaborate with decision-making bodies advocating for interests of student-athletes	4.05	.83	3.58	.92	.74
Sensitivity to environmental contexts (e.g. federation, family) that student-athletes belong to	4.08	.82	3.75	.86	.76
Ability to reflect on own values and functioning to improve your practice	4.33	.67	4.04	.68	.74
Ability to adapt the way of providing support in accordance to the feedback of others	4.34	.63	4.05	.65	.77
Ability to maintain own well-being and energy level necessary for work with student-athletes	4.14	.81	3.87	.82	.49
Commitment to keep (self-) developing as a DC support provider	4.32	.70	3.93	.85	.72
Ability to realistically monitor and evaluate the effectiveness of your practice	4.23	.69	3.75	.78	.70
Ability to complete administrative tasks (e.g. mails, data processing, file maintenance ...)	4.00	.76	4.19	.70	.52
Ability to manage a variety of tasks (from one area to another) on a daily basis	4.30	.65	4.20	.65	.70
Ability to be flexible in responding to unexpected events (e.g. injury) in the student-athlete's life	4.51	.64	4.17	.69	.78
Ability to coordinate different events in an effective manner	4.25	.64	4.07	.63	.77
Ability to act in congruence with the mission of the organisation	4.16	.72	4.08	.73	.66
Knowledge of the sports related to student-athletes you work with	3.99	.91	3.76	.89	.44
Knowledge of the educational system(s)	4.45	.63	4.07	.83	.42
Understanding the key transition phases of student-athletes linked to the long term athlete development pathway	4.25	.79	3.64	.83	.72
Ability to take into account the diverse background (e.g. socio-demographic) of the student-athlete	4.12	.75	3.82	.78	.72
Ability to take a holistic view of the student-athlete's life	4.32	.78	3.82	.90	.78
Ability to enhance athlete's competencies concerning organisation and planning of the student-athlete's life	4.35	.70	3.79	.84	.73
Ability to make student-athletes self-aware of their DC competencies	4.34	.66	3.79	.77	.72
Ability to stimulate autonomy in student-athletes	4.45	.65	3.84	.75	.79

(Continued)

Table 1. Continued.

Competencies	Importance		Possession		
	M	SD	M	SD	Loadings ^a
Ability to prepare student-athletes for the challenges of specific transitions	4.17	.80	3.50	.80	.78
Ability to enhance communication skills in student-athletes	4.02	.78	3.59	.83	.69
Ability to make student-athletes aware of the importance of rest and recuperation	4.23	.83	3.91	.85	.62
Ability to refer the student-athlete to another professional if necessary	4.52	.64	4.23	.83	.66
Ability to support student-athletes emotionally in the face of setbacks	4.21	.80	3.86	.83	.80
Ability to maintain a trust based relationship with student-athletes	4.54	.62	4.25	.73	.80
Ability to treat each student-athlete in an individualised manner	4.60	.59	4.27	.72	.73
Ability to conduct in-depth interviews for analysing the different steps of his/her life path	4.02	.91	3.68	.91	.71
Ability to be an active and supportive listener	4.54	.65	4.33	.76	.69
Ability to maintain clear expectations and boundaries in the student-athlete – support provider relationship	4.30	.67	4.01	.76	.71

Notes: Competencies are presented in the order of their competency factor, separated by a horizontal line. From top to down: *Advocacy and cooperation competencies, Reflection and self-management competencies, Organisational competencies, Awareness of student-athletes' environment, Empowerment competencies, Relationship competencies.*

^aLoadings = Factor loadings for the possession of competencies within their competency factor

Table 2. Perceived importance, possession, and difference (importance – possession) of the six DCSP competency factors.

Competency factors	Importance		Possession		Difference ^a		
	M	SD	M	SD	M	SD	Cohen's <i>d</i>
Advocacy and cooperation competencies	4.16	0.67	3.78	0.69	0.38*	.67	0.56
Reflection and self-management competencies	4.27	0.51	3.93	0.54	0.34*	.57	0.65
Organisational competencies	4.24	0.44	4.14	0.48	0.10*	.52	0.22
Awareness of student-athletes' environment	4.22	0.50	3.82	0.56	0.40*	.52	0.75
Empowerment competencies	4.26	0.53	3.73	0.59	0.52*	.58	0.95
Relationship competencies	4.39	0.49	4.09	0.57	0.30*	.51	0.56

Notes: ^aPaired *t*-tests were conducted to test the statistical significance of the difference between perceived importance and possession of the competency factors.

**p* < .001.

Discussion

Development and factorial validity of the DCCQ-SP

Although DCSPs have an important role in enabling student-athletes to pursue a successful DC pathway, no study so far has focused on the specific competencies DCSPs require to provide quality DC support within a European context. Therefore, the first study of this article aimed at developing the DCCQ-SP, a competency instrument that enables DCSPs to (self-) evaluate

the importance and possession of their competencies. The systematic, theoretical and practical approach in the development of the questionnaire, with experts of both the DCSP practice and DC research involved, provide a first indication of the ecological validity of this instrument.

The first objective of the second study was to initially validate the DCCQ-SP by testing its factorial structure using confirmatory factor analysis (CFA). Overall, this study provided initial evidence for the factorial validity of the DCCQ-SP in a European sample of DCSPs. CFA fit indices for the six-factor structure of the DCCQ-SP ranged from acceptable to excellent, and the internal consistency of the competency factors was satisfactory.

Previous research acknowledged the importance of competent DC support (e.g. Geranosova & Ronkainen, 2015), provided some insights in the main challenges and responsibilities these support providers might face (e.g. López de Subijana et al., 2015; Ryan, 2015), and established a first step in the development of a learning curriculum for DCSPs (Hong & Coffee, 2018). With the development and initial validation of a competency instrument, current research builds on and expands these findings.

Ratings of the DCCQ-SP

The second objective of the second study was to provide the competency scores of the DCCQ-SP within a sample of European DCSPs. The importance scores of the competency factors of the DCCQ-SP ranged from important up to very important, confirming the relevance of all six competency factors in DC support provision in a European context. Moreover, competency possession scores ranged between average and good for all six competency factors, showing that DCSPs perceived there was still room for improvement in their competencies. Below, the competency factors are discussed in the order of their perceived importance.

Relationship competencies was perceived as the most important competency factor in the DCCQ-SP. Research in sport psychology already established that a trust-based and strong relationship is an important condition to achieve positive results in working with athletes (e.g. Fifer et al., 2008) and that the interpersonal skills of practitioners are crucial in this regard (Lubker, Visek, Watson, & Singpurwalla, 2012). Current findings build on this research, as this study is the first to show that DCSPs value the importance of these relationship competencies high, hereby illustrating that DC support is no longer particularly centred around administration (Knight, Harwood, & Sellars, 2018), but requires DCSPs to build a link with the student-athlete to impact their DC pathway in a holistic fashion (Wylleman & Rosier, 2016).

The second competency factor that was recognised as an important factor in DC support was *Reflection and self-management competencies*. This confirms the importance of (self-)evaluation of DC support programmes in an evidence-based manner in order to provide the best possible support to student-athletes (López de Subijana et al., 2015). It also endorses the statement that it is crucial to engage in self-reflection and the management of own well-being when working as a support provider with elite athletes (Fifer et al., 2008; Martin & Peterson, 2015).

The third factor, *Empowerment competencies*, relates to enhancing student-athletes' competencies. This is in line with the growing body of research emphasising the importance of competency development in student-athletes (e.g. Brown et al., 2015; De Brandt et al., 2018; MacNamara & Collins, 2010; Stambulova, Engström, Franck, Linnér, & Lindahl, 2015). DCSPs are thereby suggested to avoid a pampering approach (i.e. solve all the possible challenges and barriers for the athletes) and move to a competency-enhancing, empowering approach to enable the student-athletes to cope with their DC challenges themselves (e.g. Debois, Ledon, & Wylleman, 2015; Wylleman & Rosier, 2016). Current research shows that European DCSPs perceive the biggest difference between importance and possession for *Empowerment*

competencies (large effect size). So, although the importance of an empowerment approach in DC support has been emphasised (Stambulova et al., 2015; Wylleman & Rosier, 2016), current findings suggest that the DCSPs themselves require additional training and support in bringing this empowerment approach into practice, as they highly value *Empowerment competencies*, but do not perceive themselves as completely competent to execute this empowerment in a qualitative manner.

The high importance score for the fourth competency factor, *Organisational competencies*, confirms that managing administration issues and acting in line with the mission and culture of the organisation is still an important aspect of DC support (e.g. Aquilina, 2013). Although still important, DC support has changed substantially over the past decades and years, moving from only organisational, practical support (e.g. just providing flexibilities) to complementary proactive, empowering (e.g. coaching athletes in their competencies) support that often requires more complex approaches (e.g. Kim et al., 2017). In line with the fact that the administrative and structural work has always been part of DC support (Aquilina & Henry, 2010; Guidotti et al., 2015), the current study showed that the DCSPs are more confident about their *Organisational competencies* in comparison with other required competencies that have been added to the role of most DCSPs more recently (e.g. *Empowerment competencies* that have become increasingly relevant; Stambulova et al., 2015; Wylleman & Rosier, 2016).

Awareness of student-athletes' environment as the fifth competency factor in DC support, confirms that taking into account and having knowledge of the diverse environment(s) and (cultural) background of the student-athletes is an indispensable part of support provision (Fletcher, Bensch-off, & Richburg, 2003; Stambulova & Ryba, 2014). Moreover, DCSPs need to be aware of typical transitions and consequent external challenges and barriers in the multi-level development of student-athletes. For example, they need to have background knowledge about the challenges and barriers student-athletes face in the junior-senior transition (e.g. Franck & Stambulova, 2018; Stambulova, Franck, & Weibull, 2012; Wylleman & Rosier, 2016), the transition from secondary to higher education (e.g. MacNamara & Collins, 2010), or the transition into elite sport schools (Stambulova et al., 2015).

A sixth competency factor that was recognised as important for DCSPs was *Advocacy and cooperation competencies*. This is in line with previous findings that emphasise the importance of creating an optimal environment for student-athletes (e.g. Henriksen et al., 2010; Pummell et al., 2008). DCSPs need to cooperate with other DC stakeholders and advocate the rights of student-athletes to guarantee acceptable external resources for student-athletes, which is not easy in the high-competitive environments of education and elite sport (Ali & Sichel, 2014; Brown et al., 2015; Ryan et al., 2017).

To briefly sum up, (1) the 33 competencies and six competency factors of the DCCQ-SP reflect the views of both DC experts and the research literature, (2) factorial validity is confirmed within this study, (3) all competencies are perceived as important by DCSPs in the European context, and (4) findings of the difference between importance and possession suggest developmental needs of DCSPs' competencies. As such, the current study suggests that DCSPs and other DC stakeholders can benefit from using the DCCQ-SP in their daily practice. It could support and guide DCSPs and their employers in the professional development and evaluation of their practice.

Practical Implications

Two findings of the current study support the claim of European policy documents that development and education for DCSPs should be further established and/or formalised within the European context (European Commission, 2012, 2016). Firstly, 83% of the DCSPs involved

in this study never followed a training programme specifically for DCSPs, which is most likely a consequence of the lack of availability of training programmes specifically targeting this group (Hong & Coffee, 2018). Secondly, DCSPs rate the importance of their competencies significantly higher than their possession, suggesting a room for improvement for their competencies, which can be addressed by establishing quality training and education. As explained below, the DCCQ-SP could be used as an instrument on individual and group level in DCSPs' education and training. On an individual level, DCSPs and other DC stakeholders can use the DCCQ-SP as a self-evaluation instrument, which can help them to set measurable goals by targeting specific scores for specific competencies and attaching specific behavioural anchors to the score they want to achieve by a certain date (Fletcher & Maher, 2014). This means that, optimally, DCSPs should not only aim to improve their possession scores (e.g. aim to move from a 3.5 to a 4 on "Ability to build and coordinate a network of partners"), but also should try to explain what this 4 would mean on a behavioural level (e.g. increase the number of meetings with partners from once up to twice a year). The importance of measurable, specific goals has been acknowledged widely in this regard (e.g. Weinberg, 2010). Competency scores of the DCCQ-SP should not be interpreted as fixed and latent to a person, but should be viewed dynamically within developmental trajectories and lifelong learning (Falender & Shafranske, 2012).

At group-level, the DCCQ-SP could serve as a basis to provide educational programmes for DCSPs. For example, the current study showed that the gap between importance and possession is the biggest for DCSPs' *Empowerment competencies*, suggesting that future European education programmes for DCSPs should (among other things) focus on enhancing their *Empowerment competencies*. Training/educational programmes for DCSPs may use the DCCQ-SP and current findings as a general inspiration for their programmes (e.g. targeting specific/all competency factors), but additionally could use it to assess the specific needs of their specific target group by surveying the participants before the start of the education/training programme. Consequently, follow-up measures of the DCCQ-SP could help to evaluate the success of educational/training programmes for DCSPs in a systematic, evidence-based manner as demonstrated by Hong and Coffee (2018).

As stated in guideline 8 and 9 of the EU guidelines on the DC of athletes, DCSPs need to be competent, and consequently qualification possibilities should be in place for DC professionals (European Commission, 2012). Current research could provide a basis to advocate the need and guide the content to develop qualification and evaluation instruments for DCSPs, that can be tailored to the contextual needs of specific sport/educational organisations.

Limitations and Avenues for future research

As the current study provides findings for European DCSPs in general, specification and contextualisation are recommended when testing and using the DCCQ-SP. In order to provide more specific information and further validation, future research could contextualise findings towards (1) specific subgroups, for example, gender (e.g. Connerley, Mecham, & Strauss, 2008), type of employers, and specific roles (e.g. sport psychologist, study counsellor), (2) specific cultures (Stambulova & Ryba, 2014) and take into account national differences (especially with regard to differences in national policy systems of DC support; Aquilina & Henry, 2010), (3) specific situations: as the function of a DCSP is quite broad, their competencies could be linked to specific challenging situations and job requirements DCSPs encounter, (4) different levels of development (e.g. novices vs. experienced DCSPs; Falender & Shafranske, 2012; Fletcher & Maher, 2014), (5) other perspectives: the use of the DCCQ-SP from an external perspective (rather than as a self-evaluation tool) could provide extra valuable information.

The DCCQ-SP is an instrument to measure self-perceived importance and possession of DCSPs' competencies. Although the current instrument can be useful in guiding development and evaluation of these professionals, further research will need to be conducted to test its practical value and application possibilities. Important for this practical application, will be to move from the quantitative findings to the formulation of behavioural anchors (i.e. specific behaviours that one should develop) for different levels of development of the DCSPs (i.e. adapted to the experience and expertise of the DCSP; Fletcher & Maher, 2014).

Geolocation information

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