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Title: The role of individual and parental expectations in student-athletes' career adaptability profiles
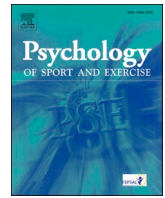
Year: 2022

Version: Published version

Please cite the original version:

Nikander, J., Tolvanen, A., Aunola, K., & Ryba, T. V. (2022). The role of individual and parental
expectations in student-athletes' career adaptability profiles. Psychology of Sport and Exercise,
59, Article 102127. https://doi.org/10.1016/j.psychsport.2021.102127

The role of individual and parental expectations in student-athletes' career adaptability profiles[☆]

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ARTICLE INFO

ABSTRACT

Objectives: To support holistic development, adolescent student-athletes are encouraged to integrate sport with education/academics (i.e., dual careers). Career adaptability, as a psychological resource, may help youth athletes cope with transitions and successfully manage their careers. Individuals with a plan and higher expectations for the future demonstrate higher career adaptability and are better prepared for the future. In the present study, we examined what kinds of distinct career adaptability profiles could be identified among youth athletes in Finland at the transition stage to a sports high school (i.e., specialized school for athletes). Moreover, we investigated whether youth athletes' success expectations about school and sport, and corresponding parental expectations, predicted the probability of student-athletes demonstrating a certain career adaptability profile. Next, we examined how gender was represented in the different profiles. *Design and methods*: The present study is part of the Longitudinal Finnish Dual Career study. A total of 391 student-athletes (51% females) from six sports high schools in Finland, and 448 parents (42% fathers) participated in the study. The student-athletes answered questionnaires on career adaptability (Career Adapt-Abilities Scale – Dual Career Form) and success expectations at the beginning and then again at the end of the first year of sports high school. At the beginning of sports high school, parents responded to a questionnaire about their expectations of success for their children in both academics and in sport. The data were analyzed using structural equation modeling and latent profile analysis. *Results:* Five distinct adaptability profiles across time were identified: stable, very low adaptability, stable low adaptability, stable moderate adaptability, stable high adaptability, and increased adaptability. Student-athletes' high success expectations in academics and sport, and mothers' high success expectations in academics, increased the probability of student-athletes showing higher adaptability profiles. *Conclusions:* The student-athletes' high level of expectations for both sport and academics are associated with career adaptability, and mothers' high expectations of student-athletes' academic success relate to higher career adaptability profiles among student-athletes and can thus be considered an important factor in supporting their dual careers.

According to the European Commission (2012), the main challenge related to elite sport is how to guide the simultaneous development of young athletes' talent in their education, athletics, and private lives. Special arrangements in the form of dual career (i.e., a combination of sport and educations or work) have been recommended to enhance young athletes' well-being and prepare them for life after sport (Stambulova & Wylleman, 2019). Adolescence is a time when student-athletes face a unique range of stressors, including role strain, career exploration, and multiple life-transitions (Nurmi, 2014; Stambulova & Wylleman, 2019). To manage transitions and achieve vocational tasks are among major developmental tasks in adolescence (Super et al., 1996).

Adolescent student-athletes should therefore be provided support for a broad range of skills, such as career adaptability. Career adaptability is a psychological resource that facilitates achievement of vocational development tasks and supports career success (Savickas, 2013). It may assist adolescent student-athletes in managing their transitions (Ryba et al., 2016). However, little is known about the development and antecedents related to career adaptability among student-athletes. In addition to the importance of individual competencies to succeed in dual career, the European Commission (2012) highlights the importance of environmental influences (e.g., parental support and involvement) in the dual career development of student-athletes. For example, previous

studies have shown that parental expectations may contribute to successful dual career by expressing confidence in their children's abilities to succeed in academics and sport (Sorkkila et al., 2017). Thus far, the influence of parental success expectations on the construction of student-athlete dual careers has not, however, been examined. Therefore, the present study aimed to examine what kinds of career adaptability profiles could be identified among Finnish athletes at the beginning of high school. Further, student-athletes' expectations of success in school and sport, and the corresponding parental success expectations, were examined as predictors of different career adaptability profiles, after controlling for gender, grade point average, and level of competition in sport. The present research was carried out as part of the Longitudinal Finnish Dual Career study (author et al., 2016), which aims to follow up student-athletes' overall development across high school years according to various variables.

1. Career adaptability

Career adaptability refers to the psychological resources required to overcome the challenges presented by vocational tasks (Savickas, 2013). According to Savickas (2013), career adaptability may enable adolescents to regulate their career strategies (e.g., plan their future, overcome challenges, and transitions) within the four dimensions of concern, control, curiosity, and confidence. Concern refers to the extent to which the individual is aware of and prepares for career-related transition and developmental tasks in the proximate and remote future. Control means that a person takes responsibility for constructing their own career and chooses how to approach tasks related to their vocational development. Curiosity refers to information-seeking behaviors, openness to new experiences, and reflection on the match between an individual's abilities and the demands of a particular career. Confidence refers to self-efficacy in pursuing a self-determined occupation and the successful management of stressors throughout one's career.

In a Finnish study, Salmela-Aro et al. (2007) found that career adaptability and thoughts concerning adaptability become evident early in secondary education. As an individual considers future transitions and developmental tasks, the pressure to deal with goals relevant to those transitions increases (Salmela-Aro et al., 2007). Johnson (2018) showed that career adaptability is related to successful transitions and individual functioning in adolescence, and predicts an increased sense of control and life satisfaction (Rudolph et al., 2017). For example, Hirschi and Valero (2015) found that university students who demonstrated higher adaptability profiles showed more career planning, career exploration, and occupational self-efficacy beliefs. However, considering the many assets of career construction for youth development, career planning was rated lowest for perceived importance and perceived possession of dual career competencies among student-athletes in the GEES (Gold in Education and Elite Sport) –project (Wylleman et al., 2017). Furthermore, investigating the career adaptability of adolescent athletes, and the factors that promote it, is important because student-athletes will face a number of transitions during their dual careers (Stambulova & Wylleman, 2019). In particular, the transition to sport high school and the first year of sport high school have been shown to cause challenges for youth athletes aiming to find a balance between sport and education (Sorkkila et al., 2020; Stambulova et al., 2015).

Hirschi and Valero (2015) discussed how previous research on career adaptability has used variable-centered approaches to study the associations of the four adaptability dimensions with a number of outcomes, meaning that the approach does not take into consideration those individuals who demonstrate different combinations of adaptabilities. They suggested a person-oriented approach as a key to filling this gap in the literature. A person-oriented approach can be rationalized by the individualization of dual career development (Ryba, Stambulova, et al., 2017) and, from a practical point of view, the personalization of career counseling (Savickas, 2013). The identification of individual profiles

with distinct combinations of career adaptabilities, examined longitudinally, could contribute to our knowledge of career adaptability development and its associations with predictors among student-athletes.

2. Career adaptability and individual success expectations

Ryba et al. (2017, 2021) found that student-athletes integrate life events, experiences, and expectations for the future in a particular pattern, which may in turn influence the course of their dual careers. Therefore, it can be expected that student-athletes' own self-explorations and expectations of success in sport and school will affect how they manage a dual career. Individual expectations of success in sport or education have been conceptualized as the extent to which individuals believe that they have the ability to be successful in sports or academics and are not distressed about whether they are likely to fail (Nurmi et al., 1995; Sorkkila et al., 2017). Further, Sorkkila et al. (2017) suggested that high success expectations may be related to confidence. Moreover, high expectations for success have been shown to be associated with optimism and self-esteem (Nurmi et al., 1995). Since confidence and belief in one's abilities are key aspects of career adaptability, and since previous research has also shown that self-esteem and optimism are related to career adaptability (Rudolph et al., 2017), it is plausible that success expectations are related to career adaptability. Career adaptability has also been shown to be related to academic achievement. For example, in their longitudinal study, Negru-Subtiricia and Pop (2016) found that academic achievement positively predicted career control and confidence. Success expectations, either in sports or academics, could therefore be associated with career adaptability.

Gender has been shown to affect the development of career adaptability among youth students, with boys often demonstrating higher career adaptability than girls (Hirschi, 2009). It has been suggested that these gender differences are because boys tend to demonstrate stronger self-esteem than females during adolescence (Baldwin & Hoffman, 2002). Since career adaptability is associated with self-esteem (Rudolph et al., 2017), male student-athletes may demonstrate higher career adaptability across the first year of high school. In the context of dual career, it should also be considered that boys and girls may have different future career prospects. For example, in Finland, only 1.6% of professional athletes are women (Research Institute for Olympic Sports, 2018). Further, girls and young women may be under pressure to be "superwomen," which may influence their career decisions (Ryba et al., 2021; Kavoura et al., 2018).

3. Parents' role in dual career and career adaptability

Condello et al.'s (2019) survey examining elite athletes' perspectives toward their dual careers showed that parents are important supporters for successful dual careers. Parental attitudes and beliefs toward DC are considered influential factors that guide student-athletes' choices (Guidotti et al., 2015), and high parental involvement has been identified as a resource for a successful career transition (Wuerth et al., 2004). However, support should be appropriate, demonstrating affection and avoiding simultaneous psychological control (Aunola et al., 2018). Parental involvement and support are vital for adolescent development, providing guidance and assistance to set career-related goals, facilitate planning, and decision making in accordance with these goals (Hargove, 2002; Bryant, 2006). Tessitore et al. (2020) provided a qualitative analysis of parental experiences as social agents in athletes' dual careers. The analysis showed that fathers and mothers offer different types of support through their involvement in the lives of their student-athlete children. Fathers were less involved in the academic domain, since fathers tend not to be as responsible for their children's daily schedules when compared to mothers. However, a study by Korhonen et al. (2020) showed that fathers are also involved in the academic domain, suggesting that such involvement depends on the individual child's

relationship with their parents and, perhaps, the cultural values of a given society.

Savickas (2005) stated that environmental experiences impact career adaptability. Parents, and the form of support they provide, can have a crucial influence on their child's career adaptability. For example, parental support contributes to the development of individuals' career adaptability during the early stages of vocational exploration and development (Guan et al., 2016). Further, Super et al. (1996) stated that parental support plays a role in enabling adolescents' self-exploration that is accompanied by distress, uncertainty, and indecision about career paths. This is especially relevant in the sports context, where athletes tend to postpone their career-related self-exploration. To address this, Ryba et al. (2017) called upon youth athletes' parents and significant adults to create potential pathways for self-discovery by engaging youth in meaningful conversations about their future careers.

Parents' beliefs, perceptions, and career expectations all affect how they offer support and prepare their children for the future. For example, in Finland, 71% of parents expect their child to attain a master's degree (Ryba et al., 2016), which may shape their future choices. Moreover, parents' expectations, especially if they are related to success, may be perceived as pressuring, which can lead to challenges in both academic and athletic development by increasing the risk of burnout (Aypay, 2011; Hill, 2009). However, parental expectations of success can also be seen as demonstrating trust in a child's ability and competence to achieve success (Aunola et al., 2002; Ommundsen et al., 2006). Parental expectations of success in sports or academics have been defined as the extent to which parents believe that their child has the ability to be successful in academics or sports (Sorkkila et al., 2017). Sorkkila et al. (2017) were the first to examine parental expectations in adolescent student-athletes' dual careers. They found that athletes' and mothers' success expectations for sports and academics, and fathers' success expectations for academics, protected against student-athlete burnout in the matching domain at the beginning of sports high school. However, the association between parental success expectations and student-athletes' career adaptabilities has not been investigated.

Although it is widely understood that parents influence on their children's development and transition to adult life in general, it is not known how parents help talented youth cope with the various challenging situations they experience in sport and schooling. Moreover, there is a lack of knowledge about the associations between individual success expectations, career adaptability, and gender differences in a dual career. This makes individual factors and the influence of parents' expectations on their children's career adaptability would be an interesting topic for research.

3.1. The present study

The following research questions were examined:

(1) What distinct career adaptability developmental profiles in terms of concern, dual career concern, control, curiosity, and confidence can be identified among youth athletes during their first year of sports high school?
(2) How do student-athletes' sport and academic success expectations and their corresponding parental expectations relate to their career adaptability profiles?

Since previous studies have shown that academic achievement (Guan et al., 2016; Negru-Subtiricia & Pop, 2016) and gender (Hirschi, 2009) are related to career adaptability, we controlled for these variables in these analyses. Additionally, as sport achievements may be related to the dual career construct of career adaptability, the level of competition was also controlled for.

4. Method

4.1. Participants and procedures

The present study is a part of the Finnish Longitudinal Dual Career Study (author et al., 2016), which followed adolescent athletes during their sports high school years. A total of 391 student-athletes (51% female, 49% male) from six sports high schools, and 448 parents (42% fathers, 58% mothers) participated in the study. The student-athletes' mean age was 16 years ($SD = 0.17$) at the first measurement point. Half of the participating student-athletes played individual sports (e.g., cross-country skiing, tennis) and half played team sports (e.g., soccer, basketball). They represented their sport at various levels (i.e., regional, national, and international) and had been competing for an average of seven years in their sport. Participants reported that they spent time in their sport and related activities (e.g., time of transportation to training venue or competition) approximately 25 h a week. Demonstrating the demands of the academic level, on average, athletes' grade point average (GPA) on a scale from 4 to 10 was 8.85 at the end of secondary school.

In Finland, after nine years of basic education, students (at the age of 15 or 16) must make a decision regarding their future in the educational system. Students have two options, either high school or vocational education, with high school functioning most often as a step to higher education. Furthermore, educational policy emphasizes high school grades and course selections in tertiary education admission. In Finland, sports high schools are one of the identified DC pathways (Morris et al., 2021) that are recommended for talented athletes who are pursuing the highest level of achievement in their sport. The Ministry of Education and Culture has given an elite sport schools status for these high schools and they have a special national task to nurture elite athletes by organizing and providing structural support for talented athletes to integrate sports with schooling. Admission to these dual career development environments requires, simultaneously, high athletic achievements or high potential in sports and above average academic abilities measured by their grades in the secondary school report. While high school usually lasts for three years, student-athletes have the right to extend their studies from three years to four years.

Before the data collection commenced, ethical approval was received from the ethics board of the relevant university (In Finland, ethical approvals are applied for from University ethics committees). Before participating in the study, the participants signed an informed consent form. The data were collected at school via an online questionnaire or an identical paper questionnaire. The data were collected at two different time points: T1 (autumn of the first year in sports high school) and T2 (spring of the first year in sports high school). Career adaptability, sports and school success expectations were assessed using self-rated scales at each measurement point (T1–T2). Parental success expectations were assessed at time point 1.

5. Measurements

Dual-career adaptability. Dual career adaptability was measured using the Career Adapt-Abilities Scale–Dual Career form (CAAS-DC) (Ryba & Aunola, 2015). The dual career form was developed by adding an additional subscale (dual career concern) to the original CAAS (Savickas and Porfeli, 2012) and further validated (Ryba et al., 2017). The CAAS-DC contains a total of 27 items measuring five dimensions of career adaptability: concern (four items; e.g., *thinking about what my future will be like*), control (six items; e.g., *making decisions by myself*), curiosity (six items; e.g., *observing different ways of doing things*), confidence (six items; e.g., *learning new skills*), and dual career concern (five items; e.g., *concerned about my athletic career*). Earlier research demonstrated that the CAAS-DC had factorial and concurrent validity in a Finnish sports high school sample (Ryba et al., 2017). All items were rated on a five-point Likert scale (1 = *not one of my strongest abilities*; 5 =

one of my strongest abilities). A mean variable for each subscale was created, which indicated competence in that dimension. Cronbach's alphas for the scores of different subscales at the two time points (T1 and T2) in the present study varied between 0.82 and 0.91.

Success expectations in school. The success expectations of athletes in school were assessed using the Success Expectations scale (subscale of the Strategy and Attribution Questionnaire, Nurmi et al., 1995). The scale consists of five items (e.g., *when I start a school assignment, I usually expect that I will succeed)* and is rated on a 4-point scale (1 = *completely disagree*; 4 = *completely agree*). The Cronbach's alphas for the score of this scale were 0.77 at time point 1 and 0.76 at time point 2.

Success expectations in sport. The expectations of success in sports were similarly assessed as school expectations using the Success Expectation Scale (Nurmi et al., 1995), which was modified for the sports context. The scale consisted of five items (e.g., *when I go to training, I usually expect that I will succeed*) measuring an individual's expectations of success in a task without being overly apprehensive of failure. Individuals rated the items on a 4-point scale (1 = *completely disagree*; 4 = *completely agree*). The Cronbach's alphas for the score of this scale were 0.63 at time point 1 and 0.66 at time point 2.

Parental success expectations in school. The Parental Belief Questionnaire (Frome & Eccles, 1998) was used to assess parental success expectations for school. The scale consists of four items measuring skill-specific school beliefs focusing on different school subjects (two items for math and foreign languages; e.g., *how well do you think your child is doing in math/foreign language at the moment in school?*), and two items measuring general school beliefs (e.g., *in general, how well do you think your child is doing at the moment in school?*). The items were assessed on a 4-point Likert scale (1 = *not very well*; 4 = *very well*). Finally, the sum score of the skill-specific and general beliefs was calculated to reference parents' expectations in school. The Cronbach's alpha was 0.90 for general school belief and 0.79 for specific school beliefs.

Parental success expectations in sport. Similar to the way success expectations in school were measured, parents' sports success expectations were assessed using the Parental Beliefs Questionnaire (Frome & Eccles, 1998). The scale was modified for sports. The scale consists of three items (*how well do you think your child is doing at the moment in sports? how well do you think your child will do sports later on?*, and *how well do you think your child is doing in sports compared to peers?*). The items were rated on a 4-point scale (1 = *not very well*; 4 = *very well*). The Cronbach's alpha for parental success expectations in sports was 0.80.

5.1. Analysis strategy

We used latent profile analysis (LPA) with the Mplus (version 8.4) statistical program with MLR estimator (Muthén and Muthén, 1998-2017) to carry out the analyses. To answer our research questions, we first estimated latent class solutions starting from the one-class solution and ending with the six-class solution based on the scores of the five subscales (concern, control, curiosity, confidence, and DC concern) of career adaptabilities at T1 and T2. The model was specified so that the latent classes were allowed to differ in their mean values and variances (Enders & Tofighi, 2008). LPA expects local independence within the classes. Accordingly, the covariances were set to zero between the variables. The specified LPA is a special model of the finite mixture models (Mcachlan & Peel, 2000). The estimation was performed using the full information maximum likelihood estimator, and the standard errors were calculated using the robust estimator. Missing values (covariance coverage varying between 0.93 and 1.0) were supposed to be missing at random (MAR).

We used Bayesian information criteria (BIC) to select the best fitting model from the estimated 1–6 class models. The smaller the BIC, the better the fit of the to the data. For the best fitting model, the average latent class posterior probabilities (AvePP) were calculated, indicating the distinctiveness between classes. Additionally, the Akaike information criterion (AIC), Vuong-Lo-Mendell-Rubin likelihood ratio (VLMR),

and Lo-Mendell-Rubin adjusted likelihood ratio (LMR) were used to find the best fitted model. First, a lower AIC was considered a better fit to the data. Second, significant p-values for VLMR and LMR were used as indicators to reject the model with one less class.

Second, to test differences between latent classes in athletes' and parents' sport- and school-related expectations (i.e. in auxiliary variables), the Bolck-Croon-Hagenaars (BCH) method was used (Asparouhov & Muthén, 2015). In this method, the BCH weights of career adaptabilities were saved to data file in the first step; in the second step, these weights were used to specify the model when testing differences between the latent classes in auxiliary variables. The advantage of this method is that it makes it possible to specify the LPA model and compare the latent classes using auxiliary variables, while the used weights take care of the uncertainty related to the latent classes remaining unchanged. In this step, Wald's test was used as an overall test to assess differences between latent classes in auxiliary variables; for pairwise comparisons, additional parameters were specified.

Finally, we added the covariates—gender, GPA, and the level of competition in sport—to the model to evaluate their impact and to see whether the results would remain the same. Table 1 presents the mean (*M*), standard deviation (*SD*), and bivariate correlations.

6. Results

6.1. Latent profile analysis

The first aim of the study was to determine the types of distinct career adaptability profiles that can be identified among student-athletes during the first year of sports high school (T1 and T2) in terms of concern, DC concern, control, curiosity, and confidence, and how common the identified profiles are in the sample. Statistical criteria (see Table 2) and a theoretical interpretation of the classes supported the five-class solution. The model fit indices and class sizes of the one-to six-class solutions are listed in Table 2. In the selected five-class solution, average posterior probability (AvePP) showed that the latent classes were clearly distinctive with each other. The individual likelihood of belonging to a certain latent class was 0.966, 0.926, 0.921, 0.928, and 0.937, respectively, this indicates that the five-class model provided distinct categorization. Even the two latent classes are small in size, five class solution clearly fits to the data better than four or six class solution. The identified career adaptability profiles for the different subscales are presented in Table 3. The five profiles were labeled according to the mean standardized profile scores as 1) stable very low adaptabilities, 2) stable low adaptabilities, 3) stable moderate adaptabilities, 4) stable high adaptabilities, and 5) increased adaptabilities.

As illustrated in Fig. 1, the stable moderate adaptabilities were the largest profile (38%), as the athletes in this profile demonstrated scores above the sample mean in career adaptability at both T1 and T2. The second largest profile (28%) was the stable low adaptability profile. The athletes in this profile had adaptability scores below the sample mean at both T1 and T2. The third largest profile was high adaptabilities (16%), and athletes in this profile had scores above +1SD the sample mean at both T1 and T2. The fourth largest profile had very low adaptabilities (11%), and student-athletes in this profile had the lowest career adaptability scores, with scores of -1SD below the mean. The fifth largest profile, increased adaptabilities (8%), had scores close to sample means at T1, but scores near +1SD above the sample means at T2.

Some gender differences were evident. Females ($W_T(4) = 11.097$, $p < .05$) were more likely to demonstrate lower adaptability profiles, while males demonstrated higher adaptability profiles. Females had a 64.5% probability of demonstrating profile 1 (stable very low adaptabilities), 52.4% for profile 2 (stable low adaptabilities), 54.8% for profile 3 (stable moderate adaptabilities), 38.8% for profile 4 (stable high adaptabilities), and 34% for profile 5 (increased adaptabilities).

Table 1

Means (*M*), standard deviations (*SD*), and bivariate correlations between the study variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 MotherS		.12	.27[b]	.01	.10	.08	.13[a]	.08	.08	.07	.17[b]	.12	.08	.11	.01	.16[a]	-.02	.16[a]
2 MotherSc			.23[c]	.23[c]	.41[c]	.12[b]	.42[c]	.12[b]	.42[c]	.12[a]	.42[c]	.12[b]	.42[c]	.12[b]	.46[c]	.08	.34[c]	-.03
3 FathersS				.35[c]	.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	-.13	.05	-.14	.06	
4 FathersSc					.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	.36[c]	.14[b]	.45[c]	.01	.35[c]	-05	
5 ConcT1						.55[c]	.54[c]	.38[c]	.60[c]	.39[c]	.53[c]	.34[c]	.65[c]	.43[c]	.32[c]	.25[c]	.25[c]	.14[b]
6 ConcT2							.36[c]	.62[c]	.37[c]	.59[c]	.33[c]	.53[c]	.43[c]	.72[c]	.33[c]	.23[c]	.29[c]	.19[c]
7 ConfiT1								.52[c]	.62[c]	.40[c]	.67[c]	.44[c]	.64[c]	.44[c]	.32[c]	.23[c]	.25[c]	.11a
8 ConfiT2									.38[c]	.71[c]	.41[c]	.75[c]	.44[c]	.76[c]	.29[c]	.28[c]	.30[c]	.22[c]
9 CurioT1										.48[c]	.64[c]	.39[c]	.57[c]	.40[c]	.23[c]	.18[c]	.17[c]	.09
10 CurioT2											.40[c]	.70[c]	.39[c]	.67[c]	.21[c]	.21[c]	.15b	.18[c]
11 ContT1												.56[c]	.61[c]	.39[c]	.29[c]	.21[c]	.24[c]	.26[c]
12 ContT2													.43[c]	.68[c]	.23[c]	.31[c]	.24[c]	.32[c]
13 DCT1														.52[c]	.24[c]	.27[c]	.18b	.15b
14 DCT2															.28[c]	.30[c]	.26[c]	.30[c]
15 Ind SchoolT11																-.36[c]	.63[c]	.22[c]
16 Ind ST1																	.34[c]	.58[c]
17 Ind SchoolT2																		.362
18 Ind ST2																		
M	3.54	5.82	3.49	5.94	2.86	2.98	3.44	3.47	3.05	3.17	3.45	3.47	3.37	3.33	2.59	2.88	2.61	2.90
Males					2.99	3.09	3,43	3.52	3.10	3.28	3.52	3.53	3.46	3.41	2.68	2.99	2.71	3.00
Females					2.73	2.87	3.45	3.42	2.99	3.06	3.31	3.37	3.28	3.26	2.49	2.76	2.54	2.79
SD	.50	1.29	.46	1.29	.80	.83	.69	.75	.72	.73	.78	.76	.73	.73	.53	.46	.50	.46
Males					.81	.84	.67	.77	.74	.75	.71	.77	.72	.74	.50	.45	.52	.44
Females					.78	.83	.70	.73	.72	.70	.74	.80	.78	.74	.54	.45	.49	.46

Note 1. c = *p* < .001, b = *p* < .01, a = *p* < .05

Selfes = Self-esteem, Conc = Concern, Confi = Confidence, Curio = Curiosity, Cont = Control, DC = Dual career concern, MotherS = Mothers' sports success expectations, MotherSc = Mothers' school success expectations, FathersS = Fathers' sports success expectations, FatherSc = Fathers' school success expectations, Ind Scool = Individuals' school success expectations, Ind S = Individuals' sports success expectations, T1 = measurement point 1, T2 = measurement point 2.

Table 2

Comparison of the latent profile analysis solutions with one to six classes for career adaptability (selected solution in bold).

Classes	Free Parameters	Log L	H0 Scaling	BIC	AIC	aLMR	aLMR p -value
1	20	−5419	0.986	10958	10879		
2	41	−4850	1.25	9945	7515	1128	0.0135
3	62	−4588	1.10	9547	7034	519	0.000
4	83	−4447	1.24	9391	6794	279	0.1913
5	**104**	**−4345**	**1.18**	**7044**	**6631**	**203**	**0.0254**
6	125	−4255	1.25	9258	8761	177	0.5593

Log L = log-likelihood value; BIC = Bayesina information criteria; AIC = Akaike information criterion; aLMR = adjusted Lo-Mendell-Rubin likelihood ratio test.

Table 3

Identified Career Adaptability Profiles and Estimates and Standard Errors (*SE*; in parentheses) for Different Subscales.

	ConcT1	ConcT2	DCT1	DCT2	CurioT1	CurioT2	ContT1	ContT2	ConfiT1	ConfiT2
Class										
1	−1.123	−1.018	−1.473	−1.516	−1.126	−1.295	−1.365	−1.784	−1.245	−1.661
	(0.104)	(0.139)	(0.123)	(0.126)	(0.131)	(0.123)	(0.135)	(0.159)	(0.162)	(0.165)
2	−0.488	−0.405	−0.483	−0.523	−0.428	−0.275	−0.410	−0.400	−0.551	−0.524
	(0.092)	(0.097)	(0.088)	(0.089)	(0.080)	(0.076)	(0.086)	(0.086)	(0.071)	(0.089)
3	0.416	0.503	0.568	0.430	0.566	0.414	0.613	0.639	0.963	0.726
	(0.085)	(0.112)	(0.142)	(0.129)	(0.160)	(0.102)	(0.105)	(0.172)	(0.256)	(0.158)
4	1.132	1.286	1.140	1.134	1.112	1.212	1.109	1.186	1.092	1.359
	(0.131)	(0.143)	(0.096)	(0.127)	(0.157)	(0.160)	(0.111)	(0.127)	(0.106)	(0.118)
5	0.295	1.431	0.155	0.821	0.136	1.243	0.031	0.871	0.168	0.853
	(0.185)	(0.040)	(0.170)	(0.026)	(0.201)	(0.060)	(0.871)	(0.079)	(0.179)	(0.035)

Class 1 = stable very low adaptabilities, Class 2 = stable low adaptabilities, Class 3 = stable moderate adaptabilities, Class 4 = stable high adaptabilities, Class 5 = stable increased adaptabilities.

6.2. Role of student-athletes' and parents' success expectations

The second aim was to examine how student-athletes' expectations of success in school and sport, as well as corresponding parental expectations, relate to their career adaptability profiles. The results showed that students representing different profiles differed significantly from each other in terms of sports and school success expectations and mothers' school success expectations. The results are presented in Table 4. The results showed that the higher success expectations the

athletes reported for sport ($W_T(4) = 37.918$, $p < .001$), the more likely they were to demonstrate profiles of moderate adaptabilities, high adaptabilities, and increased adaptabilities than to the very low adaptabilities or low adaptabilities profiles. The higher success expectations in school the student-athletes reported ($W_T(4) = 53.699$, $p < .001$), the more likely they were to demonstrate profiles of moderate adaptabilities, high adaptabilities, and increased adaptabilities than to the very low adaptabilities or low adaptabilities profiles. Further, the results showed that the associations of individual success expectations with
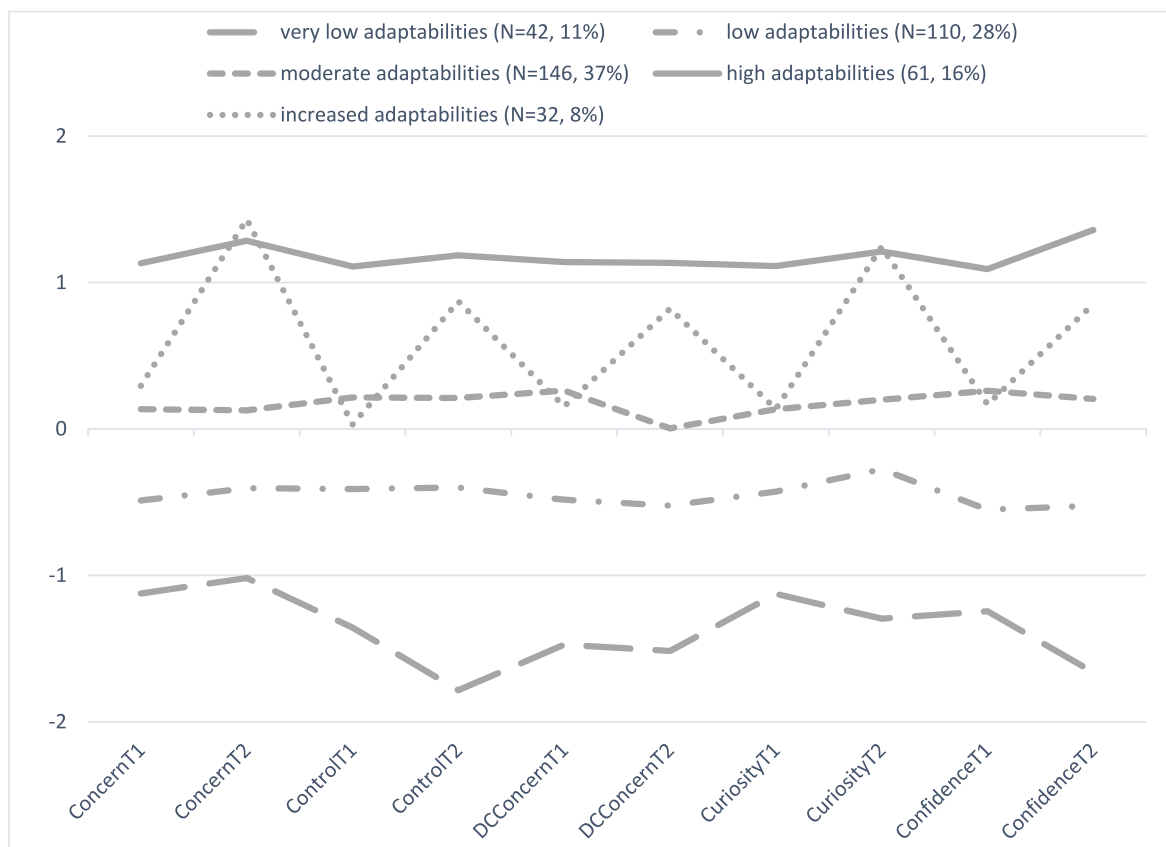
Fig. 1. Identified Career Adaptability Profiles among Student-Athletes across the First Grade of Sports High School. *Note.* T1 = Time 1 (the Fall of the first grade); T2 = Time 2 (the Spring of the first grade).

Table 4
Athletes' and parents' success expectations in sport and school (means and standard deviations) as predictors of career adaptability profiles, and pairwise comparison between different classes.

	Athlete				Mother		Father	
	SportT1	SportT2	SchoolT1	SchoolT2	Sport	School	Sport	School
Class	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)	Mean (*SD*)
1	2.559 (0.41)	2.660 (0.44)	2.364 (0.49)	2.394 (0.48)	3.477 (0.45)	5.425 (1.21)	3.400 (0.49)	5.722 (1.30)
2	2.723 (0.41)	2.792 (0.44)	2.470 (0.49)	2.500 (0.48)	3.428 (0.45)	5.633 (1.21)	3.544 (0.49)	5.955 (1.30)
3	2.981 (0.41)	2.982 (0.44)	2.615 (0.49)	2.663 (0.48)	3.627 (0.45)	5.959 (1.21)	3.552 (0.49)	5.949 (1.30)
4	3.111 (0.41)	3.056 (0.44)	2.942 (0.49)	2.861 (0.48)	3.631 (0.45)	6.230 (1.21)	3.413 (0.49)	6.230 (1.30)
5	2.892 (0.41)	2.817 (0.44)	2.643 (0.49)	2.668 (0.48)	3.443 (0.45)	5.907 (1.21)	3.203 (0.49)	6.240 (1.30)
Sport	1 vs 2*, 1 vs 3***, 1 vs 4***, 1 vs 5**, 2 vs 3**, 2 vs 4***, 4 vs 5*							
School	1 vs 3***, 1 vs 4***, 1 vs 5*, 2 vs 3*, 2 vs 4***, 2 vs 5**, 3 vs 4***							
MSchool	1 vs 3*, 1 vs 4***, 1 vs 5*, 2 vs 3*, 2 vs 4***, 2 vs 5*, 3 vs 4*							

*Note *p < .05, **p < .01, ***p < .001.
Class 1 = stable very low adaptabilities, Class 2 = stable low adaptabilities, Class 3 = stable moderate adaptabilities, Class 4 = stable high adaptabilities, Class 5 = increased adaptabilities, MSchool = mothers' school success expectations.

career adaptability profiles remained the same after the covariates (GPA, gender, sport achievement) were added to the model.

The results of mothers' and fathers' success expectations as predictors of adaptability profiles showed that the higher success expectations in school the mother reported ($W_T(4) = 13.712$, p < .001), the more likely the student-athlete was to demonstrate moderate adaptability, high adaptability, and increased adaptability than very low adaptability or low adaptability. Mothers' sport success expectations ($W_T(4) = 6.315$, $p = .18$), and fathers' sports ($W_T(4) = 9.458$, $p = .051$) or school ($W_T(4) = 4.428$, $p = .35$) success expectations were not associated with adaptability profiles. Further, the results showed that the associations of parental success expectations with career adaptability profiles remained the same after the covariates were added to the model.

7. Discussion

This study aimed to extend our understanding of the student-athletes' career adaptabilities by examining what kinds of career adaptability profiles can be identified among youth athletes across the demanding first year of elite sports high school and to what extent athletes' and their parents' success expectations predict the probability of the athlete demonstrating specific career adaptability profiles. Five distinct adaptability profiles were found: stable very low adaptabilities, stable low adaptabilities, stable moderate adaptabilities, stable high adaptabilities, and increased adaptabilities. Furthermore, student-athletes' high success expectations in sports and school were associated with higher adaptability profiles. Mothers' high success expectations in school increased the probability of student-athletes showing higher

adaptability profiles.

The first research question of the current study asked what kinds of distinct career adaptability profiles can be identified among youth athletes during their first year of sports high school. We recognized five distinct career adaptability profiles. In general, the profiles showed relatively stable levels of adaptability across the first school year, and differences between profiles were mainly in the overall level of abilities rather than in change across the school year or in subscales of abilities. This may be explained by the previous findings (Rudolph et al., 2017) suggesting that personality traits contribute to the prediction of career adaptability and that personal-related factors play a role in career adaptability. To qualify for entry into sports high school is very competitive in Finland, in addition to demonstrating superior abilities in sports, athletes also need to perform well academically. Since academic achievement is related to career adaptability (Negru-Subtiricia & Pop, 2016; Rudolph et al., 2017), it could be expected that this group of student-athletes would have demonstrated less variation in their career adaptabilities, resulting in less distinct profiles. Further, the transition stage to high school could be expected to facilitate career-related thinking (Salmela-Aro et al., 2007); however, the profiles identified in our study were mostly stable during the first year of high school. Overall, our study supports the findings of previous studies: that career adaptability is relatively stable in adolescence and that individuals differ in their levels of career adaptability (Hirschi, 2009; Rudolph et al., 2017).

We also recognized one group that demonstrated changes in career adaptabilities across the school year—that is, a group of increased adaptabilities. These findings suggest that career adaptability can be facilitated. However, this group was the smallest, with only 8% of student-athletes demonstrating this profile, and boys had a higher probability of showing this profile than girls. It can be speculated that by the time they entered sports high school, this group may have had a greater focus on sports and that their thoughts concerning a career started to develop during the first year of high school. This could mean that their future plans shift from sports to education-related plans, which is further supported by (Ryba et al., 2017; 2021), suggesting that student-athletes integrate their expectations for the future in a particular pattern that may influence the course of their career and the decisions they make.

Our second research question was set to determine how students' sport and school success expectations relate to their career adaptability profiles. Our findings suggested that the higher the success expectation in school and sports reported by the participants, the higher the levels of adaptability they would demonstrate. As previous research has demonstrated that the concept of success expectations that we used in the current study is closely linked to self-esteem and optimism (Nurmi et al., 1995) and that trait-related optimism and proactive personality are associated with career adaptability (Rudolph et al., 2017), our findings are aligned with the literature. Further, in our study, gender, GPA and student-athletes' sports level were controlled for; however, these did not affect the results, which highlights the fact that personality-related factors play an important role in the development of career adaptability. However, as the GEES –project (Wylleman et al., 2017) found that career planning was not perceived as important as other dual career competencies among student-athletes, our findings could also be explained by the fact that athletes tend to imagine their future options overly optimistically (Ryba et al., 2021). Hence, it is important that student-athletes' external resources assist them in exploring their future possibilities both inside and outside of the sports context.

The fact that sports high school student-athletes' career adaptability is already associated with their success expectations (both in school and sport) at the beginning of sports high school may have consequences for decisions later in life (persistent in DC, course enrolment, and persistence in school). This also supports the interpretation that the extent to which individuals manage to cope successfully with various challenges is influenced by their ways of thinking in related situations. It would be prudent to develop and enhance the career adaptability of student-athletes who demonstrate stable very low and low adaptability profiles. This may be done by involving student-athletes in career-related activities and encouraging them to explore different career-related roles (Savickas, 2013). Additionally, such support seems to educate student-athletes about their future possibilities in sports and also to enhance their sport expectations. Although student-athletes have been shown to be more successful in academics than general students (Storm & Eske, 2021), student-athletes' involvement in career construction is important in countries such as Finland, where secondary education academic results influence tertiary education admissions (see also Korhonen et al., 2020). For student-athletes to pursue dreams outside of sports and to achieve holistic development, it is important for external support providers to understand the value of dual careers as a part of a lifelong development that begins with secondary education.

Our second research question was subsequently set to determine how parental success expectations in school and sport relate to student-athletes' career adaptability profiles. First, the results showed that mothers' school-related success expectations in this study were associated with their offspring's adaptability profiles. This is in line with previous studies (Guan et al., 2016; Hargrove, 2002; Bryant, 2006), which found that the support provided by parents is positively related to career-related activities. In addition to assisting in setting career-related goals and facilitating vocational planning (Bryant, 2006), our study suggests that it is important that parents support adolescents' (especially those who demonstrate low career adaptabilities) belief in their own abilities in the school domain. Previous literature suggests that adolescents could be effectively supported in the school domain by demonstrating maternal affection (e.g., responsiveness, involvement, acceptance, supportiveness) (Aunola et al., 2018), thereby increasing their offspring's career adaptability. However, to involve parents, especially mothers, it should be taken into consideration that maternal affection is not combined with psychological control (Aunola et al., 2018) or that the demands do not increase too much (Aypay, 2011). For example, Sorkkila et al. (2017) found that a high mother's success expectations in school increased the likelihood that athletes demonstrated a severe burnout profile.

Second, we found that fathers were not involved in adolescents' vocational development to the same extent as their mothers. Moreover, either mothers' or fathers' sports success expectations did not predict the likelihood of their child demonstrating a specific profile. As has been shown previously (Tessitore et al., 2020), this study supports the finding that fathers are not involved in adolescents' vocational development to the same extent as mothers. This may be because values and interests are socially constructed (Savickas, 2005) and mothers tend to have roles that include school-related activities. Although career adaptability in our study was associated with internal sports expectations, it seems that external success expectations in sports do not contribute to the development of career adaptability. Overall, the results suggest that, in the context of DC, mothers' attitudes toward school in particular may play a role in career adaptability development. However, it can only be speculated whether parents' high involvement (Wuerth et al., 2004) and support for emotional regulation in sports (Tessitore et al., 2020) facilitates student-athletes' sports success expectations and further career adaptability.

In the present study, we controlled for GPA, gender, and level of competition. GPA and level of competition were not found to be associated with the typicality of any profile. Some gender differences were, however, evident: In line with the previous literature (e.g., Hirschi, 2009), boys were more likely than girls to show high adaptability and increased adaptability profiles. One explanation for this finding could be that boys have shown to demonstrate higher perceived self-esteem during early adolescence (Baldwin & Hoffman, 2002), which is further associated with career adaptability. Moreover, career adaptability may be related more to the perception of one's own abilities, which could explain why boys demonstrated higher career adaptability. Girls and

young women, who may be under pressure to be "superwomen" (Ryba et al., 2021), may therefore benefit more from self-care and empowerment rather than career-related activities per se. Additionally, there should be more sports opportunities for female athletes, which could increase their dual career adaptability. For example, only 1.6% of professional athletes in Finland are women (Research Institute for Olympic Sports, 2018). It may be necessary to target support for girls and involve them in dual career-related activities to increase their psychological resources and continuation of DC by supporting their belief also in future sport-related achievements.

7.1. Evaluation of the study

This study has several strengths. First, it was able to provide new knowledge about individual differences in career adaptability among student-athletes and the role of individual and parental success expectations in these. Second, we collected data from a large sample of student-athletes, fathers, and mothers. Third, career adaptabilities were assessed longitudinally, making it possible to identify possible changes and stabilities in abilities across time. Fourth, this study extends the previous findings of the ongoing longitudinal dual career project by focusing on a relatively new construct of career adaptability and skills related to career construction. Furthermore, previous studies related to career construction among student-athletes have been mostly qualitative in nature (e.g., Ryba et al., 2017; 2021).

However, this study has several limitations. First, as the latent classes were clearly distinctive with each other, the found five latent classes of career adaptability can be generalized to the population of Finnish sports high school student-athletes. Furthermore, as achievements in sport and education (GPA) were controlled for when predicting adaptability profiles with student-athletes' and their parents' expectations, the results can be generalized across achievement and competition levels among sports high school student-athletes in Finland. However, in order to find out whether similar profiles and predictions can be found in other dual career environments (e.g., among student-athletes in vocational school environments) or in other cultures, future studies are needed. Second, we had only two measurement points. While career adaptability seems to be relatively stable during the first year of high school, the secondary school phase should be covered to study the development of career adaptability in adolescence. This would provide information on which factors contribute to the development of career adaptability and how it could be facilitated. Second, although success expectations seem to be associated with the career adaptability profiles, career adaptability may also influence success expectations. Therefore, future studies should investigate the predictors and developmental trajectories of career adaptability among student-athletes throughout the sports high school years. Fourth, the Cronbach's alpha for the scale of individual success expectations in sports was relatively low. This may be due to the number of items (five items) used to measure expectations (See Wells & Wollack, 2003). Therefore, it would be valuable to replicate this study using a scale that shows higher reliability.

8. Conclusion

Overall, the findings of the present study suggest that the profiles of career adaptability differ mainly in the general level of adaptabilities rather than at the level of any specific adaptability, or in the pattern of change across the school year. This suggests that support and training for career-related skills for student-athletes should be individually targeted on dual careers early in the year or even before high school. Moreover, not only students' high school expectations, but also high sports expectations, are related to career adaptability indicating that student-athletes career related skills are not only facilitated by education-related beliefs, but also by sports beliefs. Similarly, mothers' high expectations concerning student-athletes' school success constitute an important factor in supporting student-athletes' dual careers. Finally,

gender differences should be considered when supporting student-athletes. Particularly, the findings of the present study suggest that female student-athletes' might benefit from support to their belief in their own abilities and future possibilities, in school as well in sports.

Declaration of competing interest

All authors have participated in design, analysis and interpretation of the data. Further, all authors have participated in drafting and revising the article critically for important intellectual content. I confirm that this manuscript meets the ethical publication standards and follows the ethical guidelines. All authors have approved the manuscript and agree with its submission to *Psychology of Sport and Exercise*. This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue. Given their role as an Editorial Board member, Ryba T.V. had no involvement in the peer-review of this article and had no access to information regarding its peer-review. All other authors have no affiliation with any organization with direct or indirect financial interest in the subject matter discussed in the manuscript.

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