



Sport and physical activity throughout the lifespan: The “Sport Trajectory Questionnaire”

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Abstract. Activity and participation in sport have garnered a great deal of attention over the past few decades, due in part to growing awareness of the benefits they offer that lead to a better quality of life. This situation has opened up new lines of investigation in the sport sciences field, including the study of physical activity and sport participation according to the perspective of Lifespan Developmental Psychology, the approach that underlies this study. The aim of this research is (1) to design an instrument to collect information on individuals’ lifelong relationships with sport and physical activity (2) to implement the instrument through a pilot test to create profiles that can be compared with other variables, all in order to study the role that physical activity and sport participation play in a range of aspects throughout the lifespan. The results indicate the questionnaire was effective and capable of collecting data on the physical and sport activities of the members of the sample at different moments in the lifespan. It was also able to generate profiles that can be used to analyze the variables of participation in sport and/or physical activity in conjunction with other variable, thus offering a way to measure the impact of physical activity on human development.

Keywords: Sports trajectories; lifespan; physical activity questionnaire; physical activity profiles

Actividad física y deporte a lo largo de la vida de una persona: El “Sport Trajectory Questionnaire”

Abstract. La actividad y la participación en el deporte han atraído una gran atención durante las últimas décadas, debido en parte a la creciente conciencia de los beneficios que ofrecen y que conducen a una mejor calidad de vida. Esta situación ha abierto nuevas líneas de investigación en el campo de las ciencias del deporte, incluyendo el estudio de la actividad física y la participación deportiva desde la perspectiva de la Psicología del Desarrollo Lifespan, enfoque en el que se basa este estudio. El objetivo de esta investigación es (1) diseñar un instrumento para recopilar información sobre las relaciones a lo largo de la vida de los individuos con el deporte y la actividad física (2) implementar el instrumento a través de una prueba piloto para crear perfiles comparables con otras variables, todo en con el fin de estudiar el papel que desempeñan la actividad física y la participación deportiva en diversos aspectos a lo largo de la vida. Los resultados indican que el cuestionario fue eficaz y capaz de recopilar datos sobre las actividades físicas y deportivas de los miembros de la muestra en diferentes momentos de la vida. También se logró generar perfiles que se pueden utilizar para analizar las variables de participación en el deporte y / o actividad física en conjunto con otra variable, ofreciendo así una forma de medir el impacto de la actividad física en el desarrollo humano.

Palabras clave: trayectorias deportivas; esperanza de vida; cuestionario de actividad física; perfiles de actividad física

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Introduction

Sport has taken a recognized place as a factor of paramount importance in the development of individuals throughout their lives. Lifespan Development Psychology (LDP) is an orientation concerned with the description, explanation and modification of developmental processes in human life, from conception to death (Baltes et al., 1980). This perspective is based on the assumption that personal development does not stop when an individual reaches adulthood. Instead, each period of life has its own challenges and developmental milestones, and certain adaptive processes can continue to function throughout all periods of life. Part of this approach, then, is about comparing the development of an individual with that of others, and with the person's own state at different times (Baltes et al., 2006).

This perspective has been employed by a wide range of researchers to study the role of physical activity (PA) and participation in sports (PS) in human development at different stages throughout people's lifespans. Traditionally, childhood has attracted perhaps the greatest amount of scholarly attention due to the assumption that earlier age periods are precursors for or contributors to later periods of development (Malina, 1996). Nowadays, however, there is a good deal of literature focusing on adulthood and old age. It remains true, though, that childhood is marked by the most critical and intensive period of brain development in the human lifespan, with the organ achieving 95% of its eventual maximum size by the age of six (Khan & Hillman, 2014). With this premise in mind, Carson et al. (2016) carried out a systematic review to analyze the links between physical activity and cognitive development in early childhood. The results provide evidence that physical activity may have beneficial effects on cognitive development in this period. These conclusions are in line with findings for other stages of the life cycle, which have also shown that higher amounts of physical activity are linked to improved cognitive functioning (i.e. concentration, attention) and to better academic achievement in school-aged children and youth (Biddle & Asare, 2011; Bidzan-Bluma & Lipowska, 2018; Castelli et al., 2014; De Greeff et al., 2018; Erickson, 2019; Taras, 2005). Studies have also shown that physical activity and sports can reduce the risk of age-related cognitive decline, dementia, and Alzheimer's disease in adulthood (Farina et al., 2014; Fondell et al., 2018; Hakala et al., 2019; Sofi et al., 2011), and that they are associated with decreased symptoms of dementia and improved cognitive function and brain plasticity in old age (Engeroff et al., 2019; Gajewski & Falkenstein, 2015; Prakash et al., 2015; Najjar, 2019).

In light of this realization of the important role PA and PS can play in the development of a healthy life, many researchers have gone further and analyzed how the specific ways people take part in sports and physical activity can affect this development (Predovan et

al., 2019; Netz, 2019). For instance, one study (Doré et al., 2018) looked at the associations between the context in which physical activity is undertaken (team sports, informal groups, individual PA) and a range of positive mental health outcomes, as well as symptoms of anxiety and depression in early adulthood. Here, the researchers showed that programs to promote PA in a social setting, whether organized (team sports) or non-organized (informal groups), were more effective than individual PA at enhancing positive mental health and reducing depressive symptoms among youth in transition to adulthood. In the same vein, Stephan et al. (2014) conducted the first study that has documented how personality is associated with the adoption of an active lifestyle across multiple domains, involving a combination of frequent physical, cognitive and social activities. This study contributed to the existing knowledge on psychological traits associated with the adoption of an active lifestyle throughout the lifespan. As a result of the wide range of outcomes that physical activity and athletics have been found to entail, researchers have become increasingly interested in analyzing how people engage in these activities throughout their lifespans.

An analysis of how data on PA and PS tend to be collected from people at different points in the life cycle found that such information has been gathered with a wide range of instruments. For example, a number of questionnaires have been designed to collect this kind of information at specific moments in people's lives. In other words, these tools gather data about PA and PS that people have done at a given moment (Ferrando, 2006; Forsén et al., 2010; García-Bengochea et al., 2017; Godin, 2011; Godin & Shephard, 1985; Herman et al., 2009). Other instruments have even been used to collect data on PA and PS at a certain time in order to create different kinds of profiles, including decisional profiles of athletes (García et al., 2009) and physical self-concept profiles (Guijarro-Romero et al., 2020). Meanwhile, some researchers have used surveys to collect data about PS and PA over periods of six months or a year prior to their studies (Nowak et al., 2010; Simpson, 2011), and other specific questionnaires (dealing with issues such as competitive sport and motivation for participation) have been created to collect data on specific topics related to PS and PA over a person's lifetime (Gavin et al., 2014; Sikka et al., 2015; Sorenson et al., 2015). Finally, there are a wide range of interviews designed to collect data on individuals' history with sports (Kendellen & Camiré, 2019; Puig et al., 1996; Shih, et al., 2016). However, our search did not yield any questionnaires that brought together data on the physical activity performed during a person's entire life cycle.

Consequently, the aims of this research are (1) to design an online instrument to collect information on PS and PA over the course of a person's lifetime, a tool that can be quickly and effectively administered to a sample at any time, and (2) to implement the instrument through a pilot test in order to create profiles

that can be compared with other variables in order to study the role of physical activity and sport participation in the development of various aspects throughout people's lives.

Methods

Participants

A total of 129 students (18 female and 111 male) between the ages of 15 and 25 years from three schools in Catalonia were recruited for this study. They are referred to here as School A (75%), School B (15%) and School C (10%). The students were enrolled in different vocational training programs: 45.7% of the members of the sample were enrolled in a program called CAFEMN (Conducting physical activities in the natural environment), 34.9% of the students were in the first year of a vocational training program called AFE (Animation of physical activities and sports), and the remaining 19.4% were in the second year of the AFE program. All participants were informed about the research and gave their informed consent to participate in this study, which was carried out following the principles of the Declaration of Helsinki.

Procedure

Phase 1: Design and validation of the STQ

The Sports Trajectory Questionnaire (STQ) is a self-administrated online questionnaire created following the premise of some authors that self-report questionnaires are the most practical way of gathering data among large and diverse populations (Sorenson et al. 2015). After conducting a literature review and consulting with experts in the field, the researchers divided the construct into two dimensions (corresponding to the two sections of the questionnaire). It is designed to measure six different variables and consists of 109 items, as shown in Table 1.

The dimension on demographics has two variables and ten indicators scored with either open responses or multiple-choice responses. The dimension measuring Physical Activity and Participation in Sports throughout the lifespan consists of 99 items designed to collect data on four variables. The values for the

Table 1. Dimensions, variables and indicators for the design of the STQ

Dimensions	Variables	Indicators
Demographic data	Personal information	Age, sex, e-mail, level of studies, civil status, children, number of children
	Employment Status	Occupation, economic sector and labor segment.
Physical activity and sport participation	Sport participation	practice, sport, frequency, long-term commitment, mode, level, sport organization and with whom
	Quitting sports	Sport participation abandonment, duration, stages and reasons
	Sport roles	Captain, sport technician, judge/referee, sport delegate, sport coordinator, management, board of directors, presidency, sport, years in charge, start stage, organization, salaried
	Sponsorship	Sponsorship, years of sponsorship and start stage

first variable are made up of five life stages (early childhood, childhood, adolescence, young adulthood and adulthood), corresponding to the literature review (Baltes et al. 1980; Day, 2011). All indicators are scored with open responses and multiple-choice responses (Table 2).

The validation of the construct was performed in two phases. The first stage was carried out by three experts in the field of sociology of sport from three different sport schools. They suggested some improvements regarding the stages of development and ethical consent. The second stage of the validation concluded with a final version of the survey that was validated by ten experts in the sport science field from Ramon Llull University. In both cases, the validation of the construct consisted of an on-line survey conducted via Google Forms where the experts assessed the questionnaire in terms of four variables and 50 indicators: coherence (López-Roldán & Fachelli, 2015; Riba, 2016), relevance (López-Roldán & Fachelli, 2015; Heinemann, 2008; Riba, 2016), exclusivity and semantic completeness (Hernández et al., 2010; López-Roldán & Fachelli, 2015; Riba, 2016;), and formal aspects (Heinemann, 2008). This development process is detailed in Table 3.

At each stage of the development process (Figure 1), the survey was revised to include comprehensive content, to improve clarity and usability for the survey taker, and to minimize opportunities for bias. It was designed with a pleasant visual layout along with careful language. The on-line questionnaire can be found at <http://stq.sportupp.com>.

Table 2. Sports Trajectory Questionnaire Content

Survey Section	Description	Scoring	# Items
Section I: Demographics	Age, sex, date of birth, level of studies, civil status, children and number of children, occupation, economic sector, economic segment and e-mail address)	Open response (e-mail, number of children), 2 and 6 level multiple choice response (age, sex, level of studies, civil status, children, occupation, economic sector and segment sector)	10
Section II: Physical Activity & Participation in Sport throughout the lifespan	participation, sport, frequency, long-term commitment, mode, level, sport organization and with whom sport is done, abandonment, duration, abandonment stages and reasons, captain, sport technician, judge/referee, sport delegate, sport coordinator, management, board of directors, presidency, sport, years in charge, start stage, organization, salaried, sponsorship, years of sponsorship and start stage	Open response (sport, abandonment stages and years of sponsorship) and 2, 3,4,5,6 and 8 level multiple choice response (Frequency, long-term commitment, mode, level, sport organization and with whom sport is done, abandonment, duration, abandonment stages and reasons, captain, sport technician, judge/referee, sport delegate, sport coordinator, management, board of directors, presidency, sport, years in charge, start stage, organization, salaried, sponsorship and start stage	99
Total			109

Table 3. Construct validation

Experts	Field of expertise (Years)	University
<i>Primary Authors *</i>		
Joan M. Batista-Foguet, PhD	Organizational behavior and quantitative statistics	ESADE-Ramon Llull
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Susana Soler, PhD	Sports Sociology	Institut Nacional d'Educació Física de Catalunya (Barcelona)

* Primary authors were responsible for the authorship, revision, and approval of the survey instrument.

** Contributing advisors reviewed, provided feedback, and suggested edits to the survey

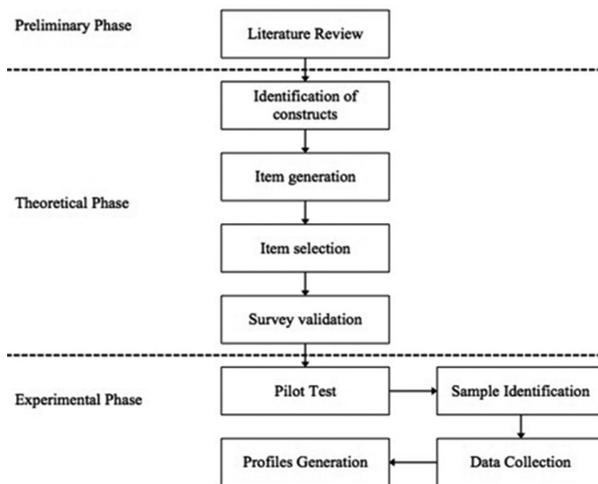


Figure 1. The Sports Trajectory Questionnaire development program.

Phase two: Implementation of the STQ (Pilot Test)

Once the final version of the survey had been validated by experts, a Pilot Test of the STQ was conducted. It took the form of a study using a retrospective cross-sectional design to analyze the sports trajectory of vocational school students. The first author contacted school board administrators to explain the study

and to ask for permission to collect data. Once permission had been granted, the principal researcher and two other trained researchers explained the study to potential participants at three different schools. After their written assent had been provided, data collection took place in groups of 10-15 in the computer rooms of the schools.

The STQ was completed in the presence of a trained researcher, who explained the procedure and monitored the time. The subjects did not receive any monetary or academic reward for their participation.

Data Analysis

To analyze the data, four variables were selected in light of the findings that emerged from the literature about the influence of certain parameters of participation in sports and physical activity on individuals' development throughout their lives (Table 4). To analyze each variable, four methods of coding were applied: The first method of coding pertained to the variable measuring "participation in sports" at each stage in life (1, Yes; 2, No). The second type of coding looked at the variable measuring "number of sports" (1, One sport; 2; Two sports; 3; Three or more than three sports). The third method was related to the variable of "kind of sports"

Table 4. Variables and indicators to analyze data from STQ

Variables	Indicators	References
Sport participation	Yes (1) No (2)	Allen et al. (2013), Coakley (2011), Danish et al. (1993), Gould & Carson (2008), Eime et al. (2013), Kleiber & Roberts (1981), Macphail & Kirk (2006)
Competition	Competitive sport (1) Non-competitive sport (2) Both (3)	Coté, Lidor & Hackfort (2011) Dionigi, Baker & Horton, (2011); Musch, & Grondin, S. (2001) Scanlan, & Lewthwaite, (1986)
Kind of sport	Individual (1) Collective (2) Both (3)	Gené & Latinjak (2014), Korovljević et al. (2016), Madic et al. (2016).
Number of sports	One (1) Two (2) Three or more (3)	Reverter et al. (2009) Wiersma, L. D. (2000).

Table 5. Profile coding development process

Profile Code	Practice ^{v1}	Quantity ^{v2}	Sport ^{v3}	Competition ^{v4}
2000	Profile 1	2	0	0
1111	Profile 2	1	1	1
1211	Profile 3	1	2	1
1311	Profile 4	1	3	1
1112	Profile 5	1	1	2
1212	Profile 6	1	2	2
1312	Profile 7	1	3	2
1113	Profile 8*	1	1	3
1213	Profile 9	1	2	3
1313	Profile 10	1	3	3
1121	Profile 11	1	1	2
1221	Profile 12	1	2	1
1321	Profile 13	1	3	1
1122	Profile 14	1	1	2
1222	Profile 15	1	2	2
1322	Profile 16	1	3	2
1123	Profile 17*	1	1	3
1223	Profile 18	1	2	3
1323	Profile 19	1	3	3
1131	Profile 20*	1	1	3
1231	Profile 21	1	2	3
1331	Profile 22	1	3	3
1132	Profile 23*	1	1	3
1232	Profile 24	1	2	3
1332	Profile 25	1	3	3
1133	Profile 26*	1	1	3
1233	Profile 27	1	2	3
1333	Profile 28	1	3	3

* Profiles that are impossible to exist due the combination of their variables

and had three options (1, Individual; 2, Collective; 3, Both individual and collective). Finally, the last method of coding refers to the variable of "competition" (1, Competition; 2, No competition). Once the data had

been coded, the researchers created profiles according to the combinations of the four variables. This combination shows 28 possible options, as depicted in table 5. Of these 28 possible options, five are ruled out because they are impossible combinations (Profiles 8, 17, 20, 23 and 26), so it can be established that there are 23 possible profiles.

This technique is applied for each stage of development. Thus, each person has a profile for each stage of his or her development. To obtain a final profile, it was decided to use the mode and the relevance of the first and second stages of the development. Once the data had been coded, the researchers divided the data from 129 students into profiles depending on the combination of the four variables. These classifications provide a suitable way to analyze the similarities and differences between profiles and offer the possibility to generalize about the relationship between profiles of PA and PS and any other variable. The statistical measure used to analyze the data was Fischer's exact test, which provided us with the two-tailed p-value.

Results

The results showed that six profiles out of the 23 possible options accounted for 86% (median) of the students (Table 6). These six predominant profiles are Profile N°1 (Non-participation in sport at some stage of the trajectory), Profile N°2 (One sport, individual and competitive), Profile N°5 (One sport, individual and non-competitive), Profile n°11 (One sport, collective and competitive), Profile N°14 (One sport, collective and non-competitive) and Profile N°27 (Two sports,

Table 6. Predominant profiles in each stage

	Stage 1 (2 to 6 years)	Stage 2 (7 to 12 years)	Stage 3 (13 to 16 years)	Stage 4 (17 to 25 years)
Profile 1	35	10	8	6
Profile 2	4	10	17	7
Profile 3	0	0	2	1
Profile 4	0	0	0	0
Profile 5	30	12	10	19
Profile 6	4	4	0	1
Profile 7	1	0	0	1
Profile 9	0	4	2	4
Profile 10	0	1	0	0
Profile 11	18	38	59	37
Profile 12	0	0	1	0
Profile 13	0	0	0	0
Profile 14	25	30	12	5
Profile 15	0	0	0	0
Profile 16	0	0	0	0
Profile 18	0	1	0	1
Profile 19	0	0	0	0
Profile 21	0	4	3	2
Profile 22	0	0	2	0
Profile 24	3	5	2	3
Profile 25	4	0	0	1
Profile 27	4	5	9	5
Profile 28	1	5	2	3
Predominant profiles	116	105	114	81
Total Students	129	129	129	96*
	89.9%	81.4%	88.4%	84.4%

* 33 students are under 17 years old, and the results do not include them.

Table 7. Sport participation, competition, kind of sport and number of sports across the lifespan

	Stage 1: 2-6 years old	Stage 2: 7-12 years old	Stage 3: 13-16 years old	Stage 4: 17-25 years old*
Participation				
Sport Practice	94	119	121	90
Non Sport Practice	35	10	8	6
Competition				
Competitive	23	52	84	47
Non Competitive	67	51	23	30
Both	4	16	14	13
Kind of sport				
Individual	39	31	31	33
Collective	43	69	72	43
Both	12	19	18	14
Number of sports				
One sport	81	90	98	68
Two sports	10	23	19	17
Three or more sports	3	6	4	5

* 33 students are younger than 17 years old, and the results do not include them.

individual and collective, competitive and non-competitive), as shown in Table 6.

The present study shows that the degree of participation in physical activity and sports for this specific sample increased with age, with the sample reaching 94% participation in the third stage (13-16) (Table 7). This PA and PS prevails during all stages of life in 70.5% of the sample, while the late initiation starting in the second stage (7-12) in sports participation is 14%. Meanwhile, 4.6% of the sample hadn't participated in sports until the third stage (13-16). In total, then, 18.6% of the sample got a late start in PA and PS. Intermittent participation was present in 7.7% of the population, meaning that at some point in their lives these people abandoned sports during one stage but then resumed participation in following stage. Finally, 3.1% of this sample had permanently stopped participating.

The analysis of the variable "competition" (Table 7) shows that competitive sports are predominant in all stages except the first one (2-6 years old). The proportion of respondents playing competitive sports increased with age and reached a maximum in the third stage (13-16), with 69.4% of the participants taking part in these sports. The competitive profile is present in 19.7% of the population, which means that this percentage of participants had done competitive sport during all the stages of their lives. Meanwhile, the non-competitive profile represents 5.5% of the sample. The data analysis shows that no participants fell into a profile characterized by participating in both modalities of sport throughout their life cycles. Finally, the most common profile is a mixed intermittent profile (74.7%), one that includes different modalities of sport: Competitive, Non-competitive or both. 41.2% of the participants with this mixed intermittent profile had changed from non-competitive to competitive sports in the second stage (7-12).

The analysis of the variable "kind of sport" (Table 7) shows that participation in collective sports is predominant during all the stages, reaching its maximum in the third stage with 59.5% of the participants. An

individual profile that does individual sports during all the stages represents 7.7% of the population, while a competitive profile represents 27.47%. The mixed profile, people who do both individual and collective sports during all stages, makes up 4.4% of the sample. The largest part of the sample (60.4%) is the mixed intermittent profile, people who intermittently play individual or collective sports or both.

Finally, the results of the variable "number of sports" indicate that it is most common to participate in a single sport throughout life (Table 7). The profile of people who participate in one sport throughout their lifespans represents 65.9% of the population, while the profile whose members do two sports during all stages of their lives accounts for just 1.1% of the sample. There is no sign of a profile of people who do three or more sports during all stages. Finally, the mixed intermittent profile, people who change the number of different sports or kinds of physical activity they do in different stages, represents 32.9% of the sample.

The results of Fisher's exact test for assessing the independence of gender and profile in stages where collective sports are predominant (stage 13-16 and stage 17-25) show a dependency between gender and sport profile. Similar profiles were grouped, and the groups with higher frequency on the stage were then selected. The two tested groups are profiles 5 and 6 (individual non-competitive sports), and profiles 11 and 12 (collective competitive sports). The resulting two-tailed p-value of 0.00118 shows a dependency between gender and sport profile at the stage of 13-16 years old and the two-tailed p-value of 0.0071 shows a dependency between gender and sport profile at the stage of 17-25.

Finally, we studied the correlation between the variables "kind of sport" (individual or collective) and "competition" (competitive or non-competitive) with Fisher's exact test. The resulting two-tailed p-value of 0.0023 shows a dependency at the stage from 2-6 years of age. This dependency is not present in the stages 7-12 (0.1680) and 13-16 (0.0638), but it appears again

in the stage 17-25, with the two-tailed p-value equal to 0.0001.

Discussion

The objective of this study was to design an instrument that is fast and effective to administrate at any time and capable of collecting information regarding PS and PA throughout an individual's lifetime. In this research, we designed and developed a questionnaire, a method that has proven to be the best way to approach large populations, as has been corroborated in previous studies (Brace, 2018). The role of the questionnaire is to provide a standardized interview across all subjects, as was done in the designed questionnaire. This is to ensure that all respondents are asked the questions that are appropriate to them, and that, when those questions are asked, they are always asked in exactly the same way (Brace, 2018). Face validity was ensured by including consultation with experts in the field and by conducting a review of associated literature (Rattray & Jones, 2007). The STQ was found to be an effective instrument for collecting data about the history of physical activity from childhood to adulthood. The design of the instrument had to be able to create profiles that could be compared with other variables to study the role of physical activity and participation in sports in the development of different aspects throughout the lifespan. Results show that, based on the combination of different variables, profiles can be generated using the Lifespan Development Perspective, a finding that supports the study by Howie et al. (2016).

Contrary to the results of some studies (Haskell, et al., 2007; Sisson & Katzmarzyk, 2008; Sallis, 2000), the participation of this sample in physical activity and sport practice has increased with age. The explanation for this contradiction comes from the characteristics of the sample, which is made up of vocational students in the sports field. The results of the variable "participation" yield four profiles: consistent sport participants, late initiation sport participants, intermittent sport participants and people who have given up sport. This list of profiles matches with the profiles suggested by Howie et al. (2016).

The analysis of the variable "competition" shows that competitive sports are predominant throughout the lifespan except in early childhood. The prevalence of these sports increases with age and reaches its maximum in adolescence. These outcomes echo previous studies that have suggested that the reason for participation has to do with motivation (De Pero et al., 2009). An analysis of the results of this variable across the lifespan yielded three profiles: the competitive, non-competitive and mixed intermittent profiles. The analysis of the variable "kind of sport" showed that participation in collective sports was predominant during all stages of the life cycle of the sample. These findings can be explained by the social acceptance associated with collective sports (Korovljev et al. 2016). This variable generated four profiles: individual sport

participants, collective sport participants, mixed sport participants and mixed intermittent sport participants. Finally, the analysis of the variable measuring "number of sports" indicates that participation in a single sport is prevalent throughout the lifespan. One explanation of this finding might be found in the characteristics of the members of the sample, many of whom had specialized in one sport to achieve elite status (Wiersma, 2000). The profiles generated by this variable are single sport practitioners and mixed intermittent practitioners. The profiles generated via the analysis of these three variables cannot be compared with any findings of previous research on this topic. Therefore, these outcomes offer a new line of study in sport science.

The results after applying Fisher's exact test show that the variables "gender" and "sport profiles" are dependent. Specifically, women are more likely than men to fall into profiles 5 and 6 (individual-non-competitive sports). Meanwhile, men had a higher probability of falling into profiles 11 and 12 (collective competitive sports). These results could be explained following the social construction gender research of Dworkin and Messner (2002), who conclude that organized sport has perpetuated the cultural hegemony between male athletes and female athletes due to the persistence of conventional masculinity and femininity.

Meanwhile, the relationships between the variables "kind of sport" and "competition" showed differences between stages. In the first stage (2-6 years old) the two-tailed p-value showed a strong dependency, which means that individual sports are more likely to be played in a non-competitive manner and collective sports are more likely to be played in a competitive way. In the second stage (7-12 years old) there is no dependency, so individual and collective sports are played both competitively and non-competitively without any correlation. In the third stage (13-16 years old), the p-value is 0.0638. Following the criteria, this shows a weak dependency between variables, but it can be observed that collective sports, unlike individual sports where there is no trend, are more likely to be competitive than non-competitive. Finally, the last stage (17-25 years old) showed a strong degree of dependency; individual sports are more likely to be non-competitive and collective sports are more likely to be competitive.

No research was found to support these results, but one explanation might emerge from a cultural perspective as to how sport is played in Catalonia. Athletes tend to start in early childhood (stage 2-6 years old) through after-school activities, where competing in a collective sport in school leagues is more frequent than competing in individual sports, which are often done to achieve other objectives such as learning how to swim. During adolescence, most teenagers choose a collective sport in order to be accepted as part of a group, as was explained above. This tends to take place in sport clubs, where athletes often take part in official competitions in different leagues, depending on the

level of the club. Finally, in young adulthood, some athletes continue competing with the same club as before, but others choose to do sport on their own in a non-competitive way.

Beyond the development of the questionnaire, it is important to underline the great potential practical benefits that this creation of profiles may offer. The combination of the four variables explained above generates 23 possible profiles that will appear in different combinations depending on the sample. In this case, only six of the possible 23 profiles actually appeared. The results of this study continue to support the growing body of literature analyzing sport participation throughout the lifespan (Predovan et al. 2019).

Nevertheless, this study has some limitations. Firstly, the results are representative of a small sample made up mostly of males. Thus, it would be desirable to replicate the study with a bigger and more heterogeneous sample. Secondly, the last stage of the questionnaire could have been divided in more stages to collect separate data on adults and elderly adults. The researchers are currently developing the instrument further to minimize the limitations.

For future research, one recommendation would be to analyze the profiles of the participants and their influence on the development of certain variables (i.e. leadership, motivation, diseases) throughout the lifespan, much as has been done with other instruments (Brunet & Sabiston 2011, Howie et al., 2019; Novak et al., 2010). This instrument breaks new ground and provides the potential for examining sport participation throughout a person's life cycle. Perhaps, ultimately, this line of research will promote an alternative perspective for analyzing the development of an individual through physical activity and sport.

This is the first study to design an online self-administrated questionnaire to collect data regarding sport and physical activity of a person throughout life. In conclusion, the Sport Trajectory Questionnaire seems to be an effective instrument to collect data on physical activity and sport participation of an individual at any moment in the lifespan and to generate profiles that can be used to analyze the the association of the variables of sport participation and physical activity with any other variable.

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