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ORIGINAL

VALIDATION OF AN INTERVIEW FOR STUDY THE PROCESS OF TRAINING OF ELITE JUDOKAS

VALIDACIÓN DE UNA ENTREVISTA PARA ESTUDIAR EL PROCESO FORMATIVO DE JUDOKAS DE ÉLITE

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ABSTRACT

In order to analyze the process of sports training of the Spanish elite judokas, a semistructured interview of 52 questions grouped into 6 domains (social, sportive environment, psychological, technical and tactical, physical condition and other aspects) was designed. It was conducted a qualitative and quantitative analysis with 10 experts' evaluation. The validity of content was analysed through the coefficient V Aiken, establishing a 99 % confidence interval, and the coefficient of variation was analyzed in this way. In order to know the reliability, the interview was given to senior judokas in two different moments , and internal consistency was analysed by the Cronbach's alpha method (0.915) and test-retest reliability by using the intraclass correlation

coefficient resulting 0.843 ($p < 0.01$) . The interview has enough properties to be considered a valid and reliable tool to study and analyze the training of elite judokas.

KEY WORDS: Elite athlete, sports training, judo.

RESUMEN

Con el objetivo de analizar el proceso de formación deportiva de los judokas españoles de élite, se diseñó una entrevista semiestructurada de 52 preguntas agrupadas en 6 dimensiones (entorno social, entorno deportivo, psicológica, técnico-táctica, condición física y otros aspectos). Se llevó a cabo un análisis cualitativo y cuantitativo mediante la valoración de 10 expertos. Se analizó la validez de contenido a través del coeficiente V de Aiken, estableciendo un intervalo de confianza del 99 %, y el coeficiente de variación. Para conocer la fiabilidad se pasó la entrevista a judokas de alto nivel en dos momentos distintos y se analizó la consistencia interna por el método del Alfa de Cronbach (0,915) y la fiabilidad test-retest utilizando el coeficiente de correlación intraclass resultando 0,843 ($p < 0,01$). La entrevista reúne suficientes propiedades como para ser considerada una herramienta válida y fiable para estudiar y analizar el proceso de formación de los judokas de élite.

PALABRAS CLAVES: Deportista de élite, formación deportiva, judo.

INTRODUCTION

On many occasions, reaching the elite in sports is one of the hopes and aims of any athlete from an early age. Young people imitate and want to be like their sporting idols, however, only few of them reach the sporting excellence (Carlson, 1988). The process in sports training is not exempt, at all, of situations that are exposing the athlete to the permanent dilemma of facing tensions which are linked to the competition itself (Crombie, Lombard and Noakes, 2009). His success will depend, to a large extent, on how he deals with them and solve them. At this point there are many questions that appear concerning the training process of the athlete, to what extent does his success refer to the psychological, physical and physiological characteristics of the subject?, how has his success being conditioned by the influence of the immediate environment whether a sporting or a social one?, what are the methodological characteristics of training throughout their formation? For Lorenzo and Sampaio (2005), the price of getting the elite in sports involves the interaction of several factors and dimensions in the athletic performance.

We can find, in specialised literature, research on the psychological aspects of both judokas and fighters as predictors of performance (Lopez-gullon, et al., 2011; Ruiz, 2008). These studies analyse the characteristics of fighters concerning their physical potential (Martinez-Abellán, Garcia-Pallares, López-Gullón, Muriel, Morales and Martínez-moreno, 2010), works that analyse the

careers in sports of the high-performance judokas from an early age (Gimeno and Guedea, 2001), and others that dig into the relationship between the judoka and his coach (Ruiz, 2007). However, it has been detected that there is a weak point concerning the studies that make a research on how was the process of sport training of judokas who has been the fact of reach the elite, as well as the influence of the different environments throughout their sports life.

Nevertheless, that studies have been carried out in sports like football (González, 2008; Pazo, 2011), basketball (Sáenz-López, Gimenez, Sierra, Ibáñez, Sánchez and Pérez, 2006) and athletics (Durand-Bush & Salmela, 2002).

During the sports training process, whose aim is to achieve the sporting excellence, there are many factors involved. Coinciding with Ruiz and Salinero (2011), the athlete and his performance cannot be understood without a comprehensive conception of himself and his environment at the moment, so his sporting success can be hardly perceived as an strictly personal achievement. This environment will be determined, as we stated before, by a great deal of factors among which we can highlight the coach, who is considered a central agent within the formation process in the long term, since it is largely responsible for the formative process of the athlete (Gimenez 2003, Lorenzo, 2003), the methodology used throughout the training process. The influence of the family is something to be taken into account too (García-Moya, Moreno, Rivera, Ramos and Jiménez-iglesias, 2011; Sanz, Ponce de Leon and Valdemoros, 2012), since they can influence the person either in a positive or a negative way (Latorre et al, 2009). Another factor which should be highlighted is his peers' environment, since the group of friends of the athlete at the initiation stage will be one of the main reasons for him to play a specific sport (Lorenzo and Sampaio, 2005). At present genetic factors, considered non trainable factors, have shifted to the background in terms of its importance as a determining factor in the formation of the athlete; However, Baker, Horton, Robertson-Wilson and Wall, (2003), considered the need to investigate in depth the interaction between the formation of the athlete and his genetic predisposition. And finally, the psychological characteristics of the athlete which, of course, will be decisive in his formation (López-Gullón, et al., 2011).

Knowledge, study and research of all the variables we have presented can contribute to make athletes have a more comprehensive and rigorous training process, and they can also improve their performance and thus, increase their chances of getting better sports results (Gimeno, Buceta, and Pérez-Llantada, 2007).

The aim of this work has been the design and validation of a semi-structured interview through a quantitative and qualitative analysis, in order to obtain a valid and reliable resource that will inform us about how the different environments have had an influence, the characteristics of people and how the training process has been developed during the training period of judokas who have reached the elite. These data will help to improve the training of young talents in judo.

MATERIAL AND METHODOLOGY

This work is the result of a mixed research design, called specifically triangulation of data, since we start with various data sources with the goal in order to compare additional information (Castañer, Camerino and Anguera, 2013).

In order to proceed to the validation of content we had a multidisciplinary group of 10 judges-experts, all with the degree of Doctor of Physical Education and Sport Science. In addition to this degree a brief explanation of each profile has been included (table 1).

Table 1. Profiles of every judge-expert

Expert 1	University teacher, training specialist, expert in qualitative research, experience in the formation of elite athletes.
Expert 2	Female University teacher, sports training specialist and in talented and sporting people, expert in qualitative research, experience in the formation of elite athletes.
Expert 3	University teacher, sports training specialist and high performance, expert in qualitative research, coach of elite athletes.
Expert 4	Fermale University teacher, sports training and high performance specialist, expert in qualitative research, experience in the formation of elite athletes.
Expert 5	University teacher, sports training specialist, expert in qualitative research, coach of elite athlete while they are in their formation period.
Expert 6	Female University teacher, judo specialist, expert in qualitative research, and high performance judokas.
Expert 7	Judo´s high performance specialist, elite judoka and coach of elite athletes.
Expert 8	University teacher, judo´s high performance specialist, elite judoka and coach of elite athletes while they are in their training period
Expert 9	University teacher, high performance specialist, expert in qualitative research, high performance judoka and personal trainer of elite judokas.
Expert 10	University teacher, sport psychology specialist, expert in qualitative research.

For the design of the interview we took as a reference the studies of Pazo (2011), and Sáenz-López et al. (2006), who studied the process of sport training of football players and elite basketball players, respectively. Having both studies as a starting point, and taking into account the characteristics of judo, six dimensions were selected: “sports context”, “social context”, “psychological”, “technical and tactical”, “physical condition” and “other aspects”. As a next step, researchers selected those questions that they considered appropriate, adapting them to the context in which the present study is developed , eliminating those that were considered less useful and adding new ones. To avoid having a lack of comprehension or understanding on part of athletes. it was decided that the questions would be written in a neutral manner, i.e. they were not written in a positive or in a negative way.

Once the preliminary interview was made a registration form, which would be given to judges-experts, was designed. According to Osterlind (1989), the use of the registration form in which you add all the information of interest is an appropriate way to carefully define the construct that you want to be evaluated.

They were asked to evaluate, using the registration form, a likert scale with an ordinal interval, ranging from 1 to 5, being 1 (not appropriate) the lowest score and 5 the highest possible score (very appropriate), the relevance, the content and the writing of each and every questions of the interview. They were also given the chance to make suggestions to the questions, giving alternatives to the already elaborate issues or adding any some others that they would consider suitable.

In order to determine the validity of the content of the interview, and with the aim of objectifying the results, a quantitative and qualitative analysis was carried out taking into account the data they obtained from the registration forms provided by the judges-experts. Eventually, 5 high performance judokas (medallists in national finals) were interviewed for the analysis of reliability. Each judoka was interviewed on two occasions with a two-week interval, between the first and the second interview, in order to carry out the analysis of test-retest reliability. The interviewed people were informed on the purpose of the study and they were guaranteed that the collected information would remain confidential as the 15/1999 organic law of 13 of December, on the Protection of Personal Nature Data, establishes.

Statistical Analysis

With regards to the quantitative analysis, we calculated the average, the standard deviation and the coefficient of variation for each question, through the SPSS program (Statistical Package for Social Sciences) version 18.0 for Windows. In addition, the content validity coefficient named Aiken´s V (Aiken, 1985) was calculated using the Visual Basic 6.0. program for Windows (Merino and Livia, 2009). Concerning the qualitative analysis, all the contributions of the different judges-experts were taken into account in each and every question. From the obtained results of both analyses there were some exclusion and review criteria which were established for each item.

Exclusion criteria:

First criteria: If the question gets a Aiken´s V of a lower rank to what it has been established in the confidence interval (99 %), and has a higher than 25% coefficient of variation in the relevance and content parameters which is estimated by the experts.

Second criteria: If at least two judges-experts request the exclusion of the question.

Third criteria: If a judge-expert requests the exclusion of a question and the research group considers it appropriate.

Review criteria:

First review criteria: If the question gets a Aiken's V lower to 0,7 or has a higher than 20% coefficient of variation in the writing parameter which is estimated by the experts.

Second review criteria: If at least one of the judges-experts suggests it.

Through the application of these criteria, in the preliminary interview, the final interview was obtained.

For the statistical analysis of reliability of the final interview, the "Cronbach's Alpha" coefficient was used to assess the internal consistency. The test-retest reliability was analysed by using the intraclass correlation coefficient, which measures the level of concordance between two measurements and tells us if the average result has the temporal stability.

RESULTS

Quantitative analysis

Taking into account the first exclusion criteria, it should be noticed that no question was deleted, since all of them obtained diverse values in the Aiken's V coefficient within what was established in the confidence interval (99%), besides not having a bigger than a 25 % coefficient of variation in the relevance and content parameters which were estimated by the experts.

Table 2. Average, standard deviation, coefficient of variation, Aiken's V and confidence interval of the la relevance and the content of each question

Question	Relevance				Content			
	Average ±SD	CV (%)	V Aiken	IC (99%)	Average ±SD	CV (%)	V Aiken	IC (99%)
Dimension sports context								
Q 1	4,90 ±0,31	6,33	0,98	0,82 - 0,99	4,80 ±0,63	13,13	0,95	0,82 - 0,99
Q 2	5,00 ±0,00	0,00	1	0,86 - 1,00	4,78 ±0,66	13,81	0,94	0,86 - 1,00
Q 3	4,60 ±0,96	20,87	0,90	0,72 - 0,97	4,30 ±1,06	24,65	0,82	0,72 - 0,97
Q 4	4,56 ±1,33	29,17	0,89	0,71 - 0,96	4,11 ±1,76	42,82	0,78	0,71 - 0,96
Q 5	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 6	4,44 ±1,33	29,95	0,86	0,67 - 0,95	4,56 ±0,72	15,79	0,89	0,67 - 0,95
Q 7	5,00 ±0,00	0,00	1	0,86 - 1,00	4,90 ±0,32	6,53	0,98	0,86 - 1,00
Q 8	5,00±0,00	0,00	1	0,86 - 1,00	4,56 ±1,33	29,17	0,89	0,86 - 1,00
Dimension social context								
Q 1	4,90 ±0,32	6,53	0,98	0,82 - 0,99	4,70 ±0,48	10,21	0,92	0,75 - 0,98
Q 2	5,00 ±0,00	0,00	1	0,86 - 1,00	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 3	4,80 ±0,63	13,13	0,95	0,78 - 0,99	4,50 ±0,97	21,56	0,87	0,69 - 0,95
Q 4	4,90 ±0,32	6,53	0,98	0,82 - 0,99	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 5	5,00 ±0,00	0,00	1	0,86 - 1,00	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 6	5,00 ±0,00	0,00	1	0,86 - 1,00	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 7	4,90 ±0,32	6,53	0,98	0,82 - 0,99	4,70 ±0,67	14,26	0,92	0,75 - 0,98

Q 8	4,80 ±0,63	13,13	0,95	0,78 - 0,99	4,60 ±0,84	18,26	0,90	0,72 - 0,97
Q 9	5,00 ±0,00	0,00	1	0,86 - 1,00	4,80 ±0,63	13,13	0,95	0,78 - 0,99
Q 10	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Dimension Psychological								
Q 1	5,00 ±0,00	0,00	1	0,86 - 1,00	4,78 ±0,67	14,02	1	0,86 - 1,00
Q 2	4,89 ±0,33	6,75	1	0,86 - 1,00	4,33 ±1,12	25,87	0,94	0,77 - 0,98
Q 3	5,00 ±0,00	0,00	1	0,86 - 1,00	4,89 ±0,33	6,75	0,82	0,63 - 0,93
Q 4	4,78 ±0,67	14,02	1	0,86 - 1,00	4,67 ±0,72	15,42	0,97	0,82 - 0,99
Q 5	4,56 ±0,88	19,30	0,94	0,77 - 0,98	4,33 ±1,41	32,56	0,92	0,74 - 0,98
Q 6	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,78 ±0,67	14,02	0,82	0,63 - 0,93
Q 7	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,78 ±0,67	14,02	0,94	0,77 - 0,98
Q 8	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,78 ±0,67	14,02	0,94	0,77 - 0,98
Q 9	4,67 ±0,71	15,20	0,92	0,74 - 0,98	4,56 ±0,73	16,01	0,89	0,71 - 0,96
Q 10	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,78 ±0,67	14,02	0,94	0,77 - 0,98
Q 11	4,25 ±1,49	35,06	0,80	0,61 - 0,91	4,13 ±1,64	39,71	0,78	0,58 - 0,89
Q 12	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,67 ±0,71	15,20	0,92	0,74 - 0,98
Q 13	4,89 ±0,33	6,75	0,97	0,82 - 0,99	4,67 ±0,71	15,20	0,92	0,74 - 0,98
Q 14	4,63 ±0,74	15,98	0,91	0,73 - 0,97	4,50 ±1,07	23,78	0,87	0,69 - 0,95
Dimension technical and tactical								
Q 1	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 2	5,00 ±0,00	0,00	1	0,86 - 1,00	4,50 ±0,85	18,89	0,87	0,69 - 0,95
Q 3	5,00 ±0,00	0,00	1	0,86 - 1,00	4,80 ±0,63	13,13	0,95	0,78 - 0,99
Q 4	5,00 ±0,00	0,00	1	0,86 - 1,00	4,89 ±0,33	6,75	0,97	0,82 - 0,99
Q 5	5,00 ±0,00	0,00	1	0,86 - 1,00	4,50 ±0,85	18,89	0,87	0,69 - 0,95
Q 6	5,00 ±0,00	0,00	1	0,86 - 1,00	4,80 ±0,63	13,13	0,95	0,78 - 0,99
Q 7	4,90 ±0,32	6,53	0,98	0,82 - 0,99	4,50 ±0,85	18,89	0,87	0,69 - 0,95
Q 8	4,60 ±1,26	27,39	0,90	0,72 - 0,97	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Dimension physical condition								
Q 1	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 2	5,00 ±0,00	0,00	1	0,86 - 1,00	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 3	4,78 ±0,67	14,02	0,94	0,77 - 0,98	4,33 ±1,41	32,56	0,82	0,63 - 0,93
Q 4	4,30 ±1,34	31,16	0,82	0,63 - 0,93	4,20 ±1,48	35,24	0,80	0,60 - 0,91
Q 5	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 6	5,00 ±0,00	0,00	1	0,86 - 1,00	4,50 ±1,27	28,22	0,87	0,69 - 0,95
Dimension other aspects								
Q 1	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 2	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 3	5,00 ±0,00	0,00	1	0,86 - 1,00	5,00 ±0,00	0,00	1	0,86 - 1,00
Q 4	4,90 ±0,32	6,53	0,98	0,82 - 0,99	4,40 ±1,35	30,68	0,85	0,66 - 0,94

On the other hand, according to the revision it was made of the questions and taking into account the first criteria, it should be noticed that although the obtained values were above 0,7 in Aiken's V coefficient, some of the questions had a coefficient of variation over the 20 %, so 34 questions were consent to be reviewed: Questions 1, 3, 4, 5, 6, 7 and 8 concerning the sports context dimension; questions 7, 8 and 9 de la social context dimension; questions 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 de la psychological dimension; questions 2, 3, 5, 6, 7 and 8 of the technical an tactical dimension; questions 2, 3, 4, and 6 of the physical condition dimension; and in the "other aspects" dimension the fourth question was modified.

Table 3. Average, standard deviation, coefficient of variation, Aiken´s V and confidence interval in the writing process of each question

Question	Relevance				Content			
	Average ±SD	CV (%)	V Aiken	IC (99%)	Average ±SD	CV (%)	V Aiken	IC (99%)
Dimension sports context								
Q 1	4,30 ±1,33		30,93		0,82			0,63 - 0,93
Q 2	4,67 ±0,70		14,99		0,92			0,74 - 0,98
Q 3	3,50 ±1,43		40,86		0,63			0,42 - 0,79
Q 4	4,40 ±1,07		24,32		0,85			0,66 - 0,94
Q 5	5,00 ±0,00		0,00		1			0,86 - 1, 00
Q 6	4,38 ±1,19		27,17		0,84			0,65 - 0,94
Q 7	4,40 ±1,26		28,64		0,85			0,66 - 0,94
Q 8	4,44 ±1,33		29,95		0,86			0,67 - 0,95
Dimension social context								
Q 1	4,60 ±0,84		18,26		0,90			0,72 - 0,97
Q 2	4,50 ±0,85		18,89		0,87			0,69 - 0,95
Q 3	4,50 ±0,85		18,89		0,87			0,69 - 0,95
Q 4	4,60 ±0,84		18,26		0,90			0,72 - 0,97
Q 5	4,80 ±0,42		8,75		0,95			0,78 - 0,99
Q 6	4,80 ±0,42		8,75		0,95			0,78 - 0,99
Q 7	3,90 ±1,45		37,18		0,73			0,55 - 0,88
Q 8	4,00 ±1,70		42,50		0,75			0,55 - 0, 88
Q 9	3,80 ±1,62		42,63		0,70			0,50 - 0, 84
Q 10	4,88 ±0,35		7,17		0,97			0,82 - 0,99
Dimension Psychological								
Q 1	4,56 ±1,01		22,15		0,89			0,71 - 0,96
Q 2	4,00 ±1,50		37,50		0,75			0,55 - 0,85
Q 3	4,33 ±1,41		32,56		0,82			0,63 - 0,93
Q 4	4,56 ±0,88		19,30		0,89			0,71 - 0,96
Q 5	3,67 ±1,67		45,50		0,67			0,47 - 0,82
Q 6	4,56 ±1,33		29,17		0,89			0,71 - 0,96
Q 7	4,56 ±1,33		29,17		0,89			0,71 - 0,96
Q 8	4,56 ±1,33		29,17		0,89			0,71 - 0,96
Q 9	4,11 ±1,17		28,47		0,78			0,58 - 0,89
Q 10	4,56 ±1,33		29,17		0,89			0,71 - 0,96
Q 11	4,00 ±1,85		46,25		0,75			0,55 - 0,85
Q 12	4,44 ±1,13		25,45		0,86			0,67 - 0,95
Q 13	4,44 ±1,13		25,45		0,86			0,67 - 0,95
Q 14	4,44 ±1,13		25,45		0,86			0,67 - 0,95
Dimension technical and tactical								
Q 1	4,80 ±0,63		13,13		0,95			0,78 - 0,99
Q 2	4,30 ±1,06		24,65		0,82			0,63 - 0,93
Q 3	4,30 ±1,36		31,63		0,82			0,63 - 0,93
Q 4	4,67 ±0,71		15,20		0,80			0,60 - 0,91
Q 5	4,40 ±1,07		24,32		0,85			0,66 - 0,94
Q 6	4,30 ±1,38		32,09		0,82			0,63 - 0,93
Q 7	4,10 ±1,52		37,07		0,78			0,58 - 0,89
Q 8	4,30 ±1,34		31,16		0,82			0,63 - 0,93
Dimension physical condition								
Q 1	5,00 ±0,00		0,00		1			0,86 - 1, 00

Q 2	4,50 ±1,08	24,00	0,87	0,69 - 0,95
Q 3	4,22 ±1,09	25,83	0,80	0,61 - 0,91
Q 4	4,10 ±1,66	40,49	0,78	0,58 - 0,89
Q 5	5,00 ±0,00	0,00	1	0,86 - 1, 00
Q 6	4,30 ±1,25	29,07	0,82	0,63 - 0,93
Dimension other aspects				
Q 1	4,80 ±0,42	8,75	0,95	0,78 - 0,99
Q 2	4,90 ±0,32	6,53	0,98	0,82 - 0,99
Q 3	5,00 ±0,00	0,00	1	0,86 - 1, 00
Q 4	4,20 ±1,32	31,43	0,80	0,60 - 0,91

Qualitative analysis

Taking into consideration the second and third exclusion criteria, it should be noticed that two questions were deleted from the preliminary interview, that is, question 11 of the psychological dimension, and question 8 of the technical and tactical dimension, since at least two of the judges-experts requested it. Concerning the review of the questions, taking into account the second criteria, in the sports context dimension questions 1, 3, 5, 6, 7 and 8 were modified. Such modifications are detailed in table 4, along with the experts who asked for it. Besides, questions Q9 and Q10 were added.

Table 4. Qualitative evaluation of the sports context dimension

Question	Qualitative evaluation	Experts
Q1	To include data that may help him to remember, like: Television, family, friend, different sports clothing, etc.	Experts 1, 7
Q2	To ask the question like the next example: Besides Judo, what other sports have you played? To point out what level we are referring to: National, international.	Expert 4 Experts 6, 7
Q3	It is recommended to reformulate the question, having the following result: Do you think that having practised other(s) sport(s) has had a positive or a negative influence in your training as a judoka?	Experts 1, 3, 4, 9
Q5	To include all kind of motives to explain why he started avoiding dispersion.	Expert 3
Q6	To make a direct allusion to judo's classes, and add in the adjectives that we stated how "fun" the types were. To indicate that the methodology we are referring to is the one that has been used during the first stages of his training as a judoka.	Expert 2 Expert 5
Q7	To reformulate in order to make the question and having the following result: What moment were you conscious that you wanted to devote your life to high-level competition?	Experts 2, 5
Q8	To include the motivations that made him to devote his life to high-level competition.	Expert 3
Suggestions	To ask the athlete if he was in the same club during his sports career or if he changed to another and why. To ask the athlete for how long and at what age did they start in the high-level competition.	Expert 7

Considering the second review criteria, in the sports context dimension questions 1, 3, 5, 6, 9 and 10 were modified. Such modifications are detailed in table 5, as well as the experts who asked for it. On the other hand, a new question was added to suggestions which were given, Q11.

Table 5. Qualitative evaluation of the social context dimension

Question	Qualitative evaluation	Experts
Q1	To reformulate in the following way: "How important has your social environment been in order to make you keep on training of judo from an early age?"	Expert 10
Q3	To reformulate in the following way: How much value did your parents give to your education with respect to sports?	Expert 3
Q6	To ask what degree does he have or which has he been trained in.	Expert 3, 6
Q7	To reformulate in the following way: "Do you consider an important thing to combine your social relationships with the training hours? Why? How can you combine them? How can they be combined? Do you think it is easy to combine them?"	Expert 10
Q9	It is considered that we take for granted that the judoka has felt the pressure, and that is the reason why to the second part of the question should be clarified, reformulating it in the following way: If there is a positive answer, What do you think it could be done to avoid it? Reformulate in the following way: Have you ever felt pressured by someone of your social environment or by any coach in order to get sports results?	Expert 2 Expert 4
Q10	To reformulate in the following way: Do you think that is important the social context in order to make the athlete improve?	Expert 7
Suggestions	It should be added if he has any relative who has been an athlete, competitor or even a judoka.	Expert 7

By following the established criteria in the psychological dimension questions 2, 3, 6, 9 and 13 were modified. Such modifications are detailed in table 6, as well as the experts that suggest them. Following the second exclusion, question 11 was deleted, since two judges-experts suggest it. A new question, related to the answer of question 3, has been added. Due to the recommendations that the judges-experts made, it was considered to reformulate that question by including the suggestions that were made, being written with the following format: During your training as athlete, have you ever worked with psychologists? If the answer is "yes", when? What importance has for you the work you may do with a psychologist in order to achieve success in sports? If the answer is "no", who has been responsible for your psychological training?

Table 6. Qualitative evaluation of the psychological dimension

Question	Qualitative evaluation	Experts
Q1	It is recommended to have a list of psychological aspects: motivation, concentration, visualisation...	Expert 3
Q2	To reformulate in the following way: From all the psychological aspects you mentioned, which are the ones you think that have been decisive to reach the elite?	Experts 3, 5
Q3	This question would be useless, since the psychological work can be done by the coach himself. A list of emotions and feelings should be prepared. It seems necessary to ask what were the stages in which he has worked with psychologists.	Expert 1 Expert 3 Expert 4
Q4	It is thought that this question is not necessary if the answer to the previous one is "no".	Experts 1, 2
Q6	It is thought that it would be important to include a continuation to this question, the following: How is you emotional state the competition day, and specifically, few hours before the competition starts?	Expert 2

Q9	To ask si the athlete has been taught techniques that can help him to control his emotions before starting the competition. In case the answer is “no”, try to know how he learned the one he uses.	Expert 2
Q11	To ask what kind of pressure he has suffered, if there is a positive answer to the previous question (in sports, economical, familiar, etc). This one is quite similar to question 9 of the social context dimension, And that is the reason why its omission is recommended.	Expert 2 Experts 3, 7
Q13	To address to the main psychological aspects that helped the athlete to develop his full potential. It seems repetitive.	Expert 2 Expert 5
Suggestions	It should be added the question: How has been the responsible person for your psychological preparation?	Expert 10

In the technical and tactical dimension questions 3, 6 and 7 were modified. Such modifications are detailed in table 7, as well as the experts that suggest them. Question 7 was deleted, taking into consideration the third exclusion criteria, since the judge-expert that asked for it, as well as the research group, considered it appropriate.

Table 7. Qualitative evaluation of the technical and tactical dimension

Question	Qualitative evaluation	Experts
Q3	To change the expression "as it deserves to be" for "appropriate way", having as a result: Do you think you have been training the technical aspects in a appropriate way throughout your sporting life? The next question would be added: How have you been training in order to improve the technical aspects throughout your sporting life?	Expert 10 Expert 4
Q4	The possibility of judokas not having a clear idea of the difference between technical and tactical concepts is considered.	Expert 5
Q6	The next question would be added: How have you been training in order to improve the tactical aspects throughout your sporting life? To change the expression "as it deserves to be" for "appropriate way", having as a result: Do you think you have been training the tactical aspects in a appropriate way throughout your sporting life?	Expert 4 Expert 10
Q7	To reformulate in the following way: What do you think is more important in order to get the success as a judoka, your technical or your tactical ability? Could you give me any examples which happened in your sporting life?	Expert 5
Q8	This is considered a repetitive question since it has some similarities with questions 2 and 4. Its omission is recommended.	Expert 1, 3

In the physical condition dimension questions 1, 5 and 6 were modified. These modifications are detailed in table 8 as well as the experts that suggest them.

Table 8. Qualitative evaluation of the physical condition dimension

Question	Qualitative evaluation	Experts
Q1	To specify what kind of stages we are referring to: categories, chronological periods or his membership to a club. Joint both parts of this question and make only one.	Expert 3 Expert 5
Q4	It is considered a necessary thing to specify what types of categories we are referring to.	Expert 6
Q5	It is thought that this question is not very clear, since it may create some misunderstanding concerning the fact of training the physical condition along with the technical and tactical training, or if it has been done apart from them.	Expert 2

Q6	To reformulate in the following way: How do you think the physical preparation should be done within sports training? Within an integrated way along with the technical and the tactical or in an independent way?	Expert 5
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Concerning the criteria which were set for the exclusion and revision of the questions, no question has been excluded, but question 4 was reviewed. (Table 25).

Table 9. Qualitative evaluation "other aspects" dimension

Question	Qualitative evaluation	Experts
Q4	To reformulate in the following way, "Finally, How do you think the initial process in the training of judokas should be to take it as an example to avoid losing new children with special abilities?"	Experts 2, 5
Suggestions	It should be included: What personal values have judo provided you with that you could not get in other activities?	Expert 3

Once the corresponding analysis for the validation of the interview were made, we proceeded to the statistical analysis to determine its reliability as well as the global internal consistency of the interview through Cronbach's alpha (0,915). The interview was done to a group of high performance judokas (level=5) to check the test-retest reliability with an interval of two weeks, resulting in an interclass correlation coefficient of 0,894 ($p < 0, 01$).

DISCUSSION

The obtained results support the validity and reliability of the semi-structured interview as a suitable instrument for the study of the process of sport training of elite judokas. In this sense, the use of the interview as a research instrument, gives the athletes the chance to describe their experiences outside the limits set beforehand by researchers (Scanlan, Stein, and Ravizza, 1989; Wiersman, 2001).

In order to proceed to the validation of the content of the interview a quantitative and qualitative analysis has been conducted using the method judges-experts, where a multidisciplinary group of 10 people took part, being an acceptable number for the validation of the instrument (Ortega, Jimenez, Palao, and Sainz, 2008), although it is true that the number of judges-experts has created controversy since there is no significant data that indicate what number of judges would be the appropriate (Escurra, 1988).

The results of the quantitative analysis show that the all the questions got a Aiken's V coefficient over the more demanding minimum standard (0,70) (Charter, 2003; Penfield and Giacobbi, 2004), showing values within the confidence interval and taking into account a margin of error of 99%, which allows us to prove that the obtained Aiken's V coefficient magnitude is superior to the one set as minimally acceptable (Merino and Livia, 2009).

Despite each question got acceptable values with respect to the average (Bulger and Hournner, 2007), some items showed a higher to the established

coefficient of variation (25). However, taking into account the first exclusion criteria none of the questions were removed. On the other hand, there were a significant number of questions that showed a higher than 20% of variation coefficient in the writing parameter, criteria that are also set in other studies on validation of an measurement instrument (Gómez-Carmona, Cervera and Benito), being 34 questions reviewed.

Concerning the qualitative analysis, it should be noticed that the contributions made by the judges-experts are essential to the development of an instrument (Bulger and Housner, 2007), as well as being considered essential to provide a valid theoretical evidence (Rubio, Berg-Weger, Tebb, Lee and Rauch, 2003). These contributions allowed to adjust both the content and the writing of the questions (Wiersema, 2001; Ortega et al. 2008). The vast majority of contributions were focused on morphosyntactic aspects, which enabled to define carefully the question which was intended to be evaluate (Osterlind, 1989). According to the exclusion and review criteria two questions were deleted, one in the psychological dimension and the other one in the technical and tactical dimension. Four new questions have been included, two in the sports context dimension, one in the social context dimension and one in the psychological dimension.

As a conclusion, and taking into account both analyses 34 questions were reviewed and 29 of them were modified. The preliminary interview had 50 questions, once the changes were made it had 52 questions, with the following structure: Sports context dimension (10 questions), social dimension (11 questions), psychological dimension (14 questions), technical and tactical dimension (7 questions), physical condition dimension (6 questions) and "other aspects" dimension (4 questions).

The final question paper proved to have an excellent global internal consistency ($\alpha=0,944$), excellent data according to George & Mallery (1995). The results in the interclass correlation coefficient display a high test-retest reliability since the results show very good data (0,894 CCI).

There are not many studies published so far on the training process of the elite athletes (Durand-Bush & Salmela, 2002; González, 2008; Pazo, 2011, Sáenz-López et al., 2006), however the works related to this topic in the field of judo are non-existent and, therefore, necessary. In this sense, the fact of using an unusual methodology for the validation of the interview, where there is a use of qualitative and quantitative data, makes difficult that the obtained results can be questionable and compared to others.

We believe that it is essential to know certain aspects that have played an important role in the sports training process of those judokas who have reached the sporting excellence. For this, it is essential to have resources which allow people to expose their theories without limits of altered content, on several occasions, by the theories of the researcher himself.

CONCLUSIONS

As a conclusion, with the validation of the current interview, it can be confirmed that this resource shows enough evidences to be considered as a valid and reliable in order to be used in both the study and analysis of the training process of elite judokas.

The limitations of the present study deal with the process of validation, since we are facing a completely new process for the validation of a qualitative instrument not exempt of objectivity. On the other hand, we regard as a strong point the fact of having had the chance of working with a multidisciplinary group, with long-term experience in the field of research for the validation of the interview, and interviewing high-level judokas, at two different times, in order to know the reliability of the instrument.

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