

PSYCHOLOGY

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Changing parents' beliefs about the sports activities of their children: An intervention study

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Abstract

Background. Since parents are one of the most influential social-agents on children's behavior, it is crucial to develop strategies for them to put major emphasis on their children's physical activity. The purpose of this study was to analyze the effects of a judo-based intervention developed according to the self-determination theory on parents' motivation.

Methods. Ninety-six parents (54 men and 42 women) aged between 25 and 48 ($M = 37.2$, $SD = 2.58$) with no previous experience in judo participated in this study. The intervention consisted of a session in which parents practiced judo with their children under the direction of coaches who used strategies to promote the satisfaction of basic psychological needs.

Results. The post-intervention results showed high values in the satisfaction of the three basic psychological needs and significant increases of more self-determined forms of motivation and future intention to practice judo both for their children and for themselves. These increases were significantly higher for those parents with lower pre-intervention scores on the index of self-determination.

Conclusion. Providing the parents of young athletes with a practical experience together with their children, following specific strategies and guided by specialist professionals, could be an effective intervention to produce adaptive changes in their motivation. In addition, parents with low degrees of self-determined motivation would seem to be the main target of this kind of intervention.

Introduction

There is much scientific evidence of the benefits achieved by children from the participation in physical activity [Jansen, Leblanc 2010], especially an improvement of physical condition and health [Warburton, Nicol, Bredin 2006], an increase of psychological well-being [Biddle, Fox, Boutcher 2000; Cervello et al. 2014] and an increase of self-esteem, self-confidence, and resilience [Eccles, et al. 2003; Horn, Horn 2007; Zurita et al. 2017]. Taking into account the relevance which participating in physical activity has for children's integral development, it is warranted to examine in depth the factors and determinants related to the initiation and adherence to such physical activity. Some authors indicate that this topic has received little attention, especially at early ages [Atkins et al. 2015; Pannekoek, Piek, Hagger 2013].

Researchers have pointed out the existence of a complex network of issues involved in predicting the participation in physical activity and sport in children, among which social influences [parents, coaches, peers, teachers] play a determinant role [e.g., McDavid, Cox, Amorose 2012]. The parental environment is extremely important for children's psycho-social adaptation in the early stages of their socialization and psychological development [Tocu 2014]. Parents determine their children's participation in physical activity through the influence of their own beliefs on their children's beliefs [Bois et al. 2005; Pannekoek, Piek, Hagger 2013], and through their support by providing all the necessary material means such as equipment and financing [Post et al. 2018]. In addition, there is evidence of parents' influence on the continuity of children's sport participation [Carr, Weigand, Hussey 1999; Cervello, Escartí, Guzman, 2007;

McCann, 2005], the emergence of adaptive or maladaptive responses when practicing [Omli, Wiese-Bjornstal 2013], as well as by modeling the children's interpretation of their sports experience [Welk, Wodt, Morss 2003].

Some authors point out the relevance of developing strategies so that parents will grant more importance to their children's physical activity [Corder et al. 2012; Lorenzo et al. 2017]. In a review on the promotion of physical activity in children and adolescents between 6 and 17, Salmon et al. [2007] showed the importance of family participation in intervention programs to increase the levels of their children's physical activity. In the studies reviewed, it seems that the duration of the intervention was not a determinant for the success of the programs.

Interventions must be supported by a theoretical reference framework that guides the entire process and interprets the results in a structured and clear manner [Biddle et al. 2012]. For decades, self-determination theory [SDT; Deci, Ryan 1985] has offered an ideal theoretical framework to explain people's behavior through their motivation. This theory argues that the social factors surrounding each person are determinants to fulfill or frustrate the three basic psychological needs [BPN: autonomy, competence and relatedness] we all share. Autonomy refers to the need to make decisions and to be the source of our own actions; competence is understood as the need to experience efficacy in the activities we perform; and relatedness refers to having a good social connection with the people surrounding us. In addition, SDT postulates that higher satisfaction of BPN is related to more self-determined motivation [from higher to lower self-determination: intrinsic, extrinsic, and amotivation] which would lead to more adaptive outcomes at the affective, cognitive, and behavioral level.

Intrinsic motivation refers to activities that are carried out because they are inherent to one's own activity [i.e., enjoyment]. In extrinsic motivation, the reasons for performing an activity involve issues related to the activity but not inherent to it [the activity is a means, not an end in itself], and various regulations are differentiated within extrinsic motivation [from most to least self-determined: integrated regulation, identified regulation, introjected regulation, and external regulation]. Integrated regulation refers to the inclusion of a behavior in one's lifestyle; identified regulation represents participation in an activity because of its recognized importance; introjected regulation implies participation in order to avoid guilty feelings; whereas external regulation is characterized by doing an activity for external incentives. Lastly, amotivation is understood as the absence of motivation to be involved in the activity.

Thus, according to SDT postulates, the parents of a child interact with many social agents, among whom may be found the coaches of the sport their children practice. Such interaction could contribute to the satisfaction or frustration of the parents' BPN, which would

lead them towards a more or less self-determined motivation with regard to the sport their children practice. If parents acquire self-determined motivation, it will be easier for them to generate adaptive outcomes, such as a greater intention for their children to continue practicing a sport or their intention to practice it themselves. In fact, in an intervention to analyze the effects of a program promoting physical activity based on the trans-contextual model of motivation and SDT [Gonzalez-Cutre et al. 2014], which included meetings with parents of adolescents, the authors suggest the need for interventions in physical education classes and in leisure time to involve the families in the promotion of physical activity and health. However, to the best of authors' knowledge, we know of no studies that have examined the effect of a situational intervention, based on a practical session in which the parents practice a sport together with their children under the influence of motivational strategies according to SDT postulates.

Taking into account the above mentioned issues, the possibilities of judo as pedagogical tool [Gutierrez-García, Perez-Gutierrez 2008] to promote autonomy, competence, and relatedness, and the need to carry out experimental studies under the SDT framework, our objective was to test the effects of an intervention focused on satisfying the parents' BPN during a practical session of judo with their children. We hypothesized that, after the intervention: (a) the parents would show high values of competence, autonomy, and relatedness despite their lack of experience in judo and their different physical condition; (b) there would be significant increases in the more self-determined types of motivation that parents desired for their children to practice judo; and (c) the parents' intention to practice judo again would increase significantly, as well as their intention for their children to continue practicing.

Material and Methods

Participants

The participants were 96 parents (54 males and 42 females) of young judokas aged between 4 and 12 who belonged to a prestigious Spanish judo club. The participants, aged between 25 and 48 ($M = 37.2$, $SD = 2.58$) and without any prior experience in judo, attended a session especially designed for the present study together with their children.

Measures

Basic psychological needs. To measure the participants' BPN, we used an adaptation of the version validated in Spanish [Sanchez, Nunez 2007] of the Basic Psychological Needs in Exercise Scale (BPNES)

[Vlachopoulos, Michailidou 2009]. It consisted of 12 items grouped into three dimensions (four items per dimension): autonomy (e.g., "I could express my opinion freely"), competence (e.g., "I feel that I have carried out the exercises correctly"), and relatedness (e.g., "I've related in a very friendly way to the other participants"). The stem sentence was "During the judo class in which I just participated...". The responses were rated on a 5-point Likert-type scale that ranged from 1 (totally disagree) to 5 (very strongly agree). The analysis of internal consistency through Cronbach's alpha showed acceptable results for autonomy ($\alpha = .74$), competence ($\alpha = .66$), and relatedness ($\alpha = .70$).

Motivation. To measure the reasons for which the parents wanted their children to practice judo, we used the version in Spanish ([Moreno-Murcia et al. 2011] of the Behavioral Regulation in Sport Questionnaire (BRSQ) [Lonsdale, Hodge, Rose 2008]. The stem sentence was "My son/daughter should practice judo...". We selected the 24 items (four items per factor) of the questionnaire that refer to general intrinsic motivation (e.g., "for the pleasure of knowing more about judo"), integrated regulation (e.g., "because I consider judo as essential part of his/her life"), identified regulation (e.g., "because it is one of the best ways to develop other aspects of oneself"), introjected regulation (e.g., "because he/she would feel bad if he/she did not practice sport habitually"), external regulation (e.g., "for the prestige of being an athlete"), and amotivation (e.g., "I'm not sure; the truth is that I do not think that sport is right for him/her"). The responses were rated on a 7-point Likert-type scale that ranged from 1 (not at all true) to 7 (very true). The analysis of internal consistency showed acceptable results in all the factors, both at pretest and post-intervention ($\alpha = .60 - .85$). Using the factors of this scale, the self-determination index (SDI) was calculated as a measure of the degree of self-determination of parents' motivation [Vallerand 1997].

Intention of future practice. To measure the parents' intention for their child to practice judo in the future, we used the same approach as that employed by Chatzisarantis, Biddle, and Meek [1997]. We used a single item with the sentence: "Indicate the extent to which you would like your child to practice judo in the future" rated on a Likert-type scale ranging from 1 (I'm not at all interested) to 7 (I'm very much interested). To measure the parents' intention to practice judo in the future, we employed the same instrument with the sentence: "Indicate the extent to which you are interested in practicing judo in the future".

Procedure

The study was approved by the authors' university ethical committee and was implemented in accordance with the

Declaration of Helsinki. Some days before the intervention, the parents were informed about its objectives, and they voluntarily accepted to participate in it. Upon arrival at the sports center, the parents spent about 10 minutes completing the questionnaires to measure the reasons why they wanted their child to practice judo (BRSQ), their interest in their child's continuing to practice judo in the future, and their own interest in practicing judo in the future [Chatzisarantis et al. 1997]. Later, together with their children, they participated in a 60-minute session of judo, after which they again completed the same questionnaires, as well as the BPNES questionnaire to measure satisfaction of the BPN experienced during the session. The coach in charge of directing the session was an experienced 6th Dan, black belt Judo coach, with a PhD. in psychology and a specialist in SDT.

Structure of the Intervention

Parents and children made up a team, and were given a template with questions for them to answer during the session as they advanced in the contents referring to the questions, seeking their active involvement. The session was divided into three parts: warm-up, main part, and cool-off.

Warm-up (15'). The judo greeting was performed, the team of club coaches and champions were briefly presented, the structure of the session was explained, and various locomotion exercises were carried out in which the teams interacted with each other. Subsequently, a short interval was allowed to respond to the first two questions of the template.

Main part (35'). The participants practiced judo falls, ways to throw the companion onto the ground, basic projection techniques, and they answered questions three and four of the template, and ended by fighting on the ground. Sometimes, the children taught their parents the appropriate techniques and at other times, parents and children learned together how to find the solution to certain proposed situations.

Cool-off (10'). The participants watched a judo exhibition by the club champions and coaches, they performed the judo greeting, and they answered the last question of the template, and a group photo was taken. Lastly, the coach in charge explained certain aspects of the teaching methodology employed during the session. Table 1 presents the different strategies used to satisfy the parents' BPN.

Statistical Analysis

Descriptive statistics (M and SD) of the target variables were calculated. In addition, the Pearson correlation coefficient (r) was used to analyze the relationship among

Table 1. Intervention Strategies to Satisfy Parents' BPN

BPN	Strategies carried out
Autonomy	<ul style="list-style-type: none"> ✓ Tasks were proposed in which the participants could choose the companions with whom to practice, the games and techniques to carry out, and how to perform them. ✓ The participants were asked to give their opinion which, of course, was taken into account. For example, when the coach explained a technique with the help of a child and asked the attendees: “Who do you want to fall?”, the attendees unanimously wanted the child to project the coach and this was carried out.
Competence	<ul style="list-style-type: none"> ✓ In order to increase difficulty, the goals were proposed taking into account this was the first time that they practiced judo. ✓ Progressions in learning were made. For example: first, falls were taught and later the projection techniques. ✓ They started with tasks in collaboration and progressed to tasks in opposition, such that only at the end of the session was there an exercise consisting of fighting on the ground. ✓ Each participant was positively reinforced at least twice after a correct performance. This process was controlled by means of an observation template that one of the researchers filled in. ✓ Technical feedback was provided on an ongoing basis, for example: “Very good, but hold the sleeve firmly and don't let go of it while you project. That way, your child cannot lean on his/her hand and will never get hurt. Go to it!” ✓ The people in charge of the session attempted to show competence in judo, explaining the goals clearly, justifying the teaching methodology used, and performing demonstrations carried out by international club athletes. ✓ Information was provided about the values implicit in the practice of judo, rooted in its historical and cultural origin: respect for the degree, the opponent, self-control, courtesy, cooperation, tenacity.
Relatedness	<ul style="list-style-type: none"> ✓ The people in charge of the session behaved with affection and proximity to the participants. ✓ The technical team took care of any problems that could arise during the session, helping at all times, for example, giving water to those who asked for it. ✓ Coaches and athletes of the competition team participated in some exercises and games together with the participants. ✓ They proposed cooperative tasks. For example: they encouraged the teams of parents and children to answer the questions of the template in collaboration with other families, or to find conjointly the most efficient way to throw the opponent onto the ground. ✓ Employment of methodologies in which participants taught each other. For example: the children sometimes taught the techniques to their parents and even to the parents of their friends.

variables. To analyze the differences after the intervention in the types of motivation and the intentions to practice in the future, we calculated paired-samples t-tests. In order to investigate if the changes caused by the intervention were different depending on the parents' degree of self-determination in their motivation, firstly, participants were grouped according to their SDI: scores above the median made up the high self-determination group (HSG) and the lower scores comprised the low self-determination group (LSG). Secondly, mixed analyses of variance (ANOVAs) were performed, being group (2 levels: HSG and LSG) the between-subject factor and intervention (2 levels: pre- and post-) the within-subject factor. The level of significance chosen was $p < 0.05$. Additionally, pairwise comparisons were carried using the Hedges' g index (d) and its confidence interval at 95% as effect size estimator [Hedges, Olkin 1985]. This index is based on Cohen's d index, but it provides an effect size estimation reducing the bias caused by small samples. A comparison was considered statistically significant when the effect size confidence interval did not cross

the zero value. Additionally, the practical significance of effect sizes was categorized as trivial ($d < 0.2$), small ($0.2 \leq d < 0.5$), moderate ($0.5 \leq d < 0.8$) and large ($d \geq 0.8$). ANOVA and correlational analysis were performed with the Statistical Package for Social Sciences (version 22.0, SPSS Inc., Chicago, IL, USA). Effect sizes (ES) were calculated through an “ad hoc” excel spreadsheet.

Results

The results of Table 2 show that the parents presented high levels in the satisfaction of the three BPN after the intervention (values between 4.2 and 4.7, on a scale ranging from 1 to 5). With regard to the correlational analysis, in general, positive and significant correlations were found between the more self-determined types of motivation (identified regulation, integrated regulation, and intrinsic motivation) and higher intentions to practice in the future both, in the parents themselves and in their intentions for their children to practice, in

Table 2. Descriptive Statistics, Cronbach's Alphas, and Correlations among Variables (Pre- and Post- Intervention)

Variables	M	(SD)	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-intervention																			
1. Intrinsic	5.55	(1.09)	.80																
2. Integrated	5.66	(0.95)	.70	.34*															
3. Identified	5.33	(0.98)	.65	.44*	.63*														
4. Introjected	5.92	(0.98)	.68	.50*	.45*	.49*													
5. External	3.28	(1.53)	.78	.30*	.33*	.52*	.45*												
6. Amotivation	1.47	(0.85)	.60	-.08	-.09	.15	.01	.42*											
7. Intention for children	6.31	(1.00)	-	.37*	.44*	.12	.19	-.01	-.46*										
8. Parents' intention	4.05	(2.02)	-	.09	.30*	.28*	.01	.09	.02	.41*									
Post-intervention																			
9. Autonomy	4.55	(0.53)	.74	.28*	.43*	.21*	.34*	.03	-.32*	.42*	.11								
10. Competence	4.27	(0.59)	.66	.23*	.34*	.19	.36*	.04	-.23*	.35*	.15	.68*							
11. Relatedness	4.72	(0.40)	.70	.30*	.36*	.29*	.39*	.10	-.29*	.21*	-.06	.67*	.52*						
12. Intrinsic	6.09	(0.86)	.80	.66*	.38*	.31*	.35*	.16	-.07	.42*	.15	.40*	.40*	.41*					
13. Integrated	6.16	(0.80)	.79	.27*	.74*	.39*	.26*	.15	-.17	.34*	.16	.37*	.36*	.37*	.48*				
14. Identified	5.67	(1.03)	.70	.29*	.57*	.75*	.32*	.43*	.16	.16	.22*	.26*	.19	.34*	.48*	.55*			
15. Introjected	5.94	(1.01)	.80	.35*	.34*	.32*	.79*	.29*	-.04	.26*	.01	.38*	.40*	.43*	.41*	.25*	.33*		
16. External	3.52	(1.47)	.73	.15	.21*	.37*	.31*	.77*	.41*	-.05	.03	-.02	-.06	.01	.19	.16	.43*	.28*	
17. Amotivation	1.44	(0.95)	.85	-.17	-.17	.06	-.08	.31*	.75*	-.46*	-.06	-.39*	-.34*	-.44*	-.17	-.30*	.01	-.17	.37*
18. Intention for children	6.71	(0.60)	-	.21*	.43*	.24*	.23*	-.03	-.42*	.53*	.26*	.34*	.31*	.45*	.30*	.43*	.28*	.28*	-.11
19. Parents' intention	4.99	(1.93)	-	.30*	.30*	.28*	.08	.16	-.10	.44*	.79*	.18	.20	.02	.32*	.30*	.23*	.05	.12

* p < .05

the pre- and post-intervention measurements. We also found that higher satisfaction of BPN during the practice session was positively related to post-intervention intrinsic motivation, integrated, identified, and introjected regulations, and to parents' intention for their children to continue practicing judo, as well as negatively related to amotivation.

Table 3 shows the results of the paired-samples t-tests between the different types of motivation and intentions to practice before and after the intervention. As it can be observed, there were significant post-intervention increases in intrinsic motivation, integrated regulation, identified regulation, and external regulation. Likewise, the parents' own intentions to practice in the future and their intentions for their children to practice increased significantly, showing, in general, moderate effect sizes.

Table 3. Pre- and Post-intervention difference in Types of Motivation and Intention to Practice

Variables		M	SD	t	p	D
Intrinsic	Pre	5.55	(1.10)	-6.12	<0.001	0.62
	Post	6.09	(0.86)			
Integrated	Pre	5.66	(0.96)	-7.38	<0.001	0.62
	Post	6.16	(0.80)			
Identified	Pre	5.33	(1.00)	-4.67	<0.001	0.34
	Post	5.67	(1.04)			
Introjected	Pre	5.92	(0.99)	-.27	0.790	0.02
	Post	5.94	(1.02)			
External	Pre	3.28	(1.55)	-2.23	0.028	0.16
	Post	3.52	(1.47)			
Amotivation	Pre	1.47	(0.87)	0.45	0.651	-0.03
	Post	1.44	(0.95)			
Intention for children	Pre	6.31	(1.01)	-4.45	<.0001	0.66
	Post	6.71	(0.60)			
Parents' intention	Pre	4.05	(2.01)	-6.98	<.001	0.48
	Post	4.99	(1.93)			

Paired-samples T-tests

Finally, table 4 shows the results of the ANOVAs related with interventions difference in the different variables between parents with high or low auto-determination index. As it can be observed in this table, significant post-intervention increases in intrinsic motivation, integrated regulation, identified regulation, and external regulation were higher for LSG. Similarly, this group showed a higher increase in the intentions for their children to practice in the future. Conversely, HSG showed a higher increase in their own intentions to practice in the future.

Discussion

Many authors suggest the need to intervene with the parents of children at an early age in order to increase

children's participation in physical activity [O'Connor, Jago, Baranowsky 2009] after showing that intervention programs that include the parents are more successful [Lorenzo et al. 2017; Timperio, Salmon, Ball 2004]. Nevertheless, other authors doubt that the interventions involving the families that have been carried out to date are so successful and they propose the need to continue investigating how interventions could be more effective to provide the desired effects [Rhodes, Naylor, McKay 2010]. Therefore, using SDT, we decided to analyze the effects of an intervention that is different from those performed till now, in the motivation and intention to practice in parents of young judokas. Can we help parents to feel competent, autonomous, and related by practicing a sport in which they have no experience together with their children? Can a punctual experience change the reasons for which parents want their children to practice a sport?

As connoisseurs of SDT, firstly we hypothesized that, after the intervention of a judo session based on the promotion of satisfaction of the BPN, the parents would show high values in autonomy, competence, and relatedness despite their inexperience and different physical condition. This hypothesis was confirmed, as shown by the high scores obtained in satisfaction of the three BPN. Thus, it seems that the motivational strategies and the climate of cooperation developed during these "family activities", in which parents, children and coaches participate together, can be very effective as long as the coach knows in depth the sports discipline being taught and the functioning of SDT. Determining the effect of this type of interventions, in which the parents practice a sport with their children despite that, at the beginning, it may seem inaccessible, is one of the relevant contributions of this study. In addition, the fact that the intervention was punctual and not extended over time, as has been habitual [Gonzalez-Cutre et al. 2014; Rhodes et al. 2010], is also a novelty. These results are in line with the studies mentioned in the review carried out by Salmon et al. [2007], where it is concluded that the duration of interventions to promote physical activity carried out with families of youths was not a determinant factor, although such interventions were never of a punctual nature. A recent study showed how daily changes in the satisfaction or frustration of the parents' basic psychological needs influence the autonomy support or controlling style they exert toward their children [Mabbe et al. 2018].

Secondly, we hypothesized that, after the intervention, the more self-determined forms of motivation for which parents wanted their children to continue to practice judo would increase significantly, which is also confirmed in the results. Thus, we can conclude that providing the parents of young athletes with a practical experience together with their children, following specific strategies and guided by specialist professionals, could be an effective intervention to produce adaptive

Table 4. Pre- and Post-intervention differences in Types of Motivation and Intention to Practice between parents with low or high scores of the auto-determination index.

	PRE	POST	Intervention	d
Intrinsic	LSG	4.9 (1.1)	5.6 (0.9)	0.70 (0.28);
	HSG	6.2 (0.7)	6.5 (0.5)	38.475 (<0.001)
	Group	49.871 (<0.001)	42.90 (0.041)	Interaction
Integrated	LSG	1.33 (0.88; 1.78)	1.20 (0.76; 1.64)	0.82 (0.40);
	HSG	5.1 (0.8)	5.8 (0.8)	57.283 (<0.001)
	Group	38.545 (<0.001)	6.412 (0.013)	Interaction
Identified	LSG	1.32 (0.87; 1.77)	1.02 (0.59; 1.45)	0.43 (0.02);
	HSG	4.9 (1.0)	5.3 (1.1)	21.840 (<0.001)
	Group	23.260 (<0.001)	1.939 (0.167)	Interaction
Introjected	LSG	1.05 (0.61; 1.48)	0.77 (0.35; 1.19)	0.12 (-0.28);
	HSG	5.5 (1.0)	5.6 (1.1)	.063 (0.802)
	Group	18.869 (<0.001)	2.786 (0.099)	Interaction
External	LSG	3.2 (1.5)	3.5 (1.6)	0.19 (-0.21);
	HSG	3.4 (1.6)	3.5 (1.4)	4.921 (0.029)
	Group	0.161 (0.689)	0.304 (0.583)	Interaction
Amotivation	LSG	0.11 (-0.29; 0.52)	0.04 (-0.37; 0.45)	-0.12 (-0.52);
	HSG	1.8 (1.1)	1.7 (1.2)	.194 (0.661)
	Group	16.121 (<0.001)	2.594 (0.111)	Interaction
Intention for children	LSG	-0.95 (-1.38; -0.52)	-0.59 (-1.01; -0.18)	0.66 (0.25);
	HSG	5.9 (1.1)	6.5 (0.7)	20.771 (<0.001)
	Group	26.035 (<0.001)	6.519 (0.012)	Interaction
Parents' intention	LSG	0.95 (0.52; 1.38)	0.85 (0.43; 1.28)	0.38 (-0.03);
	HSG	3.8 (2.0)	4.5 (2.0)	49.274 (<0.001)
	Group	3.919 (0.051)	6.519 (0.012)	Interaction

Mixed ANOVAs being intervention the within-subject factor and group the between subject factor. ANOVA main effects (Intervention; Group) and interactions (Intervention × Group) are presented as F score (p). Descriptive data are presented as mean (SD). Effect sizes were calculated using Hedges' g index and they are presented as mean (95% confidence interval). LSG: Low self-determination group; HSG: High self-determination group.

changes in their motivation. In the light of the results, parents have certain reasons for wanting their children to practice judo, but after undergoing a practical experience of this sport in which they felt skillful, capable of making decisions, and well related to others, they may change the motivation for wanting their children to practice in the future. Interestingly, it should be noted that parents with low initial degree of self-determined motivation seem to be the main target of this intervention as they showed higher increases in most of the motivation parameters after intervention, especially in its more self-determined forms. Therefore, in order to increase the adherence to sport practice it seems to be crucial to know parents' motivational profiles.

The measure of integrated regulation should be noted as a strength of the present study. In recent years, much importance has been granted to the study of this type of motivation, developing valid and reliable measurement instruments [Gonzalez-Cutre, Sicilia, Fernandez 2010; Holland et al. 2009; Lonsdale et al. 2008; Viladrich, Torregrosa, Cruz 2011], and suggesting that future research should include it as one of the main predictors of physical activity participation [Miquelon, Chamberland, Castonguay 2016]. Therefore, we have taken it into account in this study, considering that it would be very interesting to get the parents to want their children to be judokas, and not mere participants in judo. If parents understand that their children's integration of the values of this discipline means that judo will turn into a way of life that will help them to become the person they want to be, the parents may dedicate more efforts to providing the support and sustenance for their children to continue this practice. Parents often want their children to practice a sport hoping that they will be successful athletes, aware of the social recognition that this implies for them as jointly responsible for that success [Coakley 2006]. This type of motivation [external regulation] could lead to parents' lack of interest in their children's continuing to practice the sport as soon as they conclude that their expectations do not correspond to the results.

Lastly, we hypothesized that the parents' intention for their children to continue practicing judo in the future would increase after the intervention. This third hypothesis was also confirmed, in line with SDT postulates that indicate that the most self-determined forms of motivation are connected with the most positive consequences [Vallerand, Rousseau 2001]. Although we only measured the intention to practice, and not the sports behavior itself, some works have shown the positive relation between the two variables [Miquelon et al. 2016]. As it was seen in the motivational scores, parents with low initial values on self-determined motivation were the main target of this intervention as they showed higher increases in their intention for their chil-

dren to continue practicing judo in the future. Although our intervention was also effective for those parents with high degree of self-determined motivation, these results seem to remark that analyzing parents' motivational profile could improve the efficacy of this program developed to increase the children's sport adherence. Finally, in our study, it has also been shown that, after the intervention, the parents' intention to practice in the future increased, which could be a strategy to promote judo as a recreational and healthy activity. Contrary to what was previously observed in parents' intention for their children to continue practicing, those parents with high initial degree of self-determined motivation displayed a higher increase in their own intention to practice. This is, high self-determined individuals could be the main target of this intervention to promote judo between parents.

It should be noted that the present study is only a pilot study to test a novel intervention aimed at the most decisive social agents for children. We note as limitations to be considered the fact that we only measured the intention to practice and not the behavior itself. Therefore, in the following studies, a follow-up could be made to confirm how the parents' motivation and intention is related to the children's motivation and their adherence to the sports practice. By repeating multiple experiences of this type with parents throughout the season, it is possible that the positive beliefs we generate in parents may be transferred to their children in a more stable way. Accordingly, it would be appropriate to carry out a design with a control group of athletes, whose parents did not participate in the intervention, in order to analyze the differences with the experimental group and confirm the extent to which motivational changes, changes in the intention to practice sport and in sport behavior can be attributed to the intervention. We also think that the number of participants could be increased in successive studies in order to allow calculating structural equation models that will help us to better understand the relation between the variables.

As a conclusion, despite the limitations, the results of the present study are in line with SDT, and they show a novel intervention that could be useful for all sport professionals who would like to interact with the parents of young athletes in order to generate a greater sports commitment.

This intervention has shown that if parents participate in the sport of their children [with a good application of motivational strategies by coaches], they can feel the motivational benefits associated with this sport although they do not have previous experience. Finally, we wish to emphasize that this intervention is a simple way to modify social agents' attitude and it should be included in youth sport programs.

Compliance with ethical standards

All authors declare that there are no conflicts of interest regarding the participant of this work.

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Zmiana przekonań rodziców dotyczących uprawiania sportu przez ich dzieci: Studium nad działaniem interwencyjnym

Słowa kluczowe: czynniki społeczne, teoria samostanowienia, judo, intencja

Streszczenie

Tłó. Ponieważ rodzice są osobami, które w dużym stopniu wpływają na zachowania społeczne dzieci, ważne jest opracowanie strategii, które pozwolą im położyć duży nacisk na aktywność fizyczną swoich dzieci. Celem pracy była analiza wpływu działania interwencyjnego opartego na judo, opracowanego zgodnie z teorią samostanowienia motywacji rodziców.

Metody. W badaniu wzięło udział 96 rodziców (54 mężczyźni i 42 kobiety) w wieku od 25 do 48 lat ($M = 37,2$, $SD = 2,58$) bez wcześniejszego doświadczenia w judo. Działanie interwencyjne składało się z sesji, w której rodzice ćwiczyli judo ze swoimi dziećmi pod kierunkiem trenerów, którzy wyko-

rzystywali strategię promującą zaspokojenie podstawowych potrzeb psychologicznych.

Wyniki. Wyniki po interwencji wykazały wysokie wartości w zaspokajaniu trzech podstawowych potrzeb psychologicznych oraz znaczący wzrost bardziej samostanowiących form motywacji i deklaracji przyszłego zamiaru uprawiania judo przez dzieci, jak i rodziców. Wskaźniki wzrostu były istotnie wyższe w przypadku rodziców z niższą punktacją przedinterwencyjną w odniesieniu do wskaźnika samostanowienia.

Wniosek. Zapewnienie rodzicom młodych sportowców praktycznego doświadczenia wraz z ich dziećmi, przy zastosowaniu określonych strategii i pod kierunkiem specjalistów, może być skutecznym sposobem wywołania adaptacyjnych zmian w ich motywacji. Ponadto głównym obiektem tego rodzaju działania interwencyjnego wydają się być rodzice o niskim stopniu samookreślonej motywacji.