

# Parkour vs Artistic Gymnastics among Pre-Adolescents: A Multidimensional Study on the Psychological Adjustment in the Sport Activities

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## Abstract

The aim of this cross-sectional study was to investigate psychological differences between Parkour at non-competitive level and Artistic Gymnastics at competitive level in the pre-adolescent stage. Specifically, psychological aspects strictly related to sporting activities, such as motivation, anxiety and self-confidence, life satisfaction, and well-being were analyzed. 86 pre-adolescents participated in the study (Parkour Group—PG, n = 43; Artistic Gymnastic Group—AG, n = 43) aged between 9 and 14 years (mean age 11.5 ± 1.6 years, 62% of female), who completed a self-report questionnaire consisting of following measures: Sport Motivation Scale (SMS-28), Competitive State Anxiety Inventory 2 (CSAI-2), Multidimensional Students' Life Satisfaction Scale (MSLSS), and Psychological Well-Being Scales (PWB). Results showed that pre-adolescents in the AG have higher values in intrinsic motivation for execution than their peers in the PG. This latter also have lower levels of cognitive and somatic anxiety and greater self-confidence than the AG group. In addition, the friend's dimension concerning life satisfaction has a higher score in the PG than in the AG. Finally, no differences were found regarding well-being between the two pre-adolescent groups.

## Keywords

Parkour, Artistic Gymnastics, Psychological and Psychosocial Adjustment, Pre-Adolescence

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## 1. Introduction

The scientific community (Boreham & Riddoch, 2001; McMurray et al., 2003; Cale, 2004) confirms that physical activity and sports performed regularly produce a series of benefits, especially if started from an early age. Sports activity is often an important tool for the psychological and physical development of the person, as it affects the musculoskeletal system, circulation, breathing, motor coordination, as well as promoting social inclusion. Although psychological and physical benefits can come from participating in competitive sports (Frederick & Ryan, 1995; Gill, Williams, & Reifsteck, 2017), for many children and adolescents this can also lead to impaired self-esteem and mood disorders, particularly when young people are under pressure (Brustad, 1988; Wiersma, 2000). Bringing children closer to sporting activity should be an element of fundamental importance in school and after school. In fact, in terms of well-being the main concerns of families and schools are fundamentally related to the choice of an activity that is as complete as possible for correct psychophysical development of the children (Bailey et al., 2009). Sport, in addition to promoting mental development, developing physical and coordination skills, plays a crucial role in the social and interpersonal relationships (Bailey, 2005; Zucchetti et al., 2013). It is therefore essential to respect and support the motivations, dreams and desires of children. Some studies reward recreational sports as less pressing and anxiety inducing (Brustad, 1988; Balague, 1999; Milavić et al., 2013; Mottaghi et al., 2013) for children by promoting higher levels of well-being and satisfaction. Allen & Tsukahara (1974) argues that the passion for physical activity experienced as a game, carried out non-competitive, favors higher levels of commitment, concentration and motivation. However, several authors argue that competitive motor activity leads to positive effects on a psychophysical level (Vallerand et al. 1992; Deci & Ryan, 1985; Frederick & Ryan, 1995). Based on these considerations, the present study focuses on the relationships between aspects related to the well-being of pre-adolescents who practice two sports, different in terms of competition level: Artistic Gymnastics and Parkour.

Artistic Gymnastics is a stimulating sport that requires long hours of practice to reach a certain level of competence and rigorous training to achieve the necessary strength and endurance. As a result, gymnasts face many challenges, such as intense training, competition and difficulties in maintaining good physical shape during adolescence (Davis, 1997). Due to its rigor and since training begins at an early age, coaches and parents are closely involved in the development of the individual and play critical roles in shaping the sports experience and the athlete's self-concept. The expectations and pressures of adults can lead young athletes to experience high levels of stress, pain and self-loathing, just as support and encouragement can lead to joy, a sense of challenge and an increase in self-esteem (Goudas et al., 1995). Previous studies (Horn, 2004; Weiss et al., 2004) showed that various psychological, emotional, social and environmental aspects undergo changes during childhood and adolescence. Participation in

competitions in this sensitive phase can lead to excessive loads on the individual, both physically and psychologically (Tofler et al., 1996). Amac et al. (2002), report that the self-esteem of girls (aged between 10 and 13 years), practicing competitive Artistic Gymnastics, was significantly lower than the self-esteem of girls who practice Artistic Gymnastics at a non-competitive level. This result, as pointed out by the authors, would be due to different characteristics of the competitive environment compared to the recreational one, such as pressure created by competition. Kerr & Goss (1997) found that elite gymnasts between the ages of 11 and 17 reported lower self-esteem scores than young people of the same age, while anxiety levels did not differ significantly. In Artistic Gymnastics, young athletes are required to perform movements on various gravity-defying equipment and can arouse emotions such as fear, worry and anxiety, often related to the risk of physical injury (Cartoni et al., 2005). Fear of competition failure, such as feelings of inadequacy, can create high levels of stress and less sporting enjoyment (Feltz & Ewing, 1987). However, Artistic Gymnastics is an attractive sport for children and young people because it keeps them motivated due to its competitive nature, its variety of movements and its potential advantages. Indeed, studies have shown that competition is a factor that motivates gymnasts to stay engaged in sports (Headstrom & Gould, 2004; Lopes & Nunomura, 2007; Weinberg & Gould, 2001).

Parkour has evolved a lot over the last few years: the discipline was originally named as “l’Art du déplacement” (ADD), which translates as “Art of displacement” by the Yamakasi group (Baffoni, 2010), then it was defined with the term Parkour by David Belle (2009) and as Freerunning from Sebastien Foucan (2010). Parkour promotes the inclusion of the individual in the group and in society (Müller et al., 2008). Parkour is an activity that helps to overcome fears and limitations, dominating both the body and the mind (Angel, 2011). It has its own set of values that in many ways differ from both traditional sports and other lifestyles (Gilchrist & Wheaton, 2011). Parkour practitioners don’t compete against each other; rather, they challenge themselves and their skill level, both physically and mentally (Gilchrist & Osborn, 2017). Effort and attitude are rewarded rather than skills. The Parkour community is characterized by a non-hierarchical, but inclusive and responsible system. Parkour is less subject to the rules than most sports. While there are specific techniques, it does not have a distinct set of norms or goals that must be followed (Gilchrist & Wheaton, 2011). Parkour has received relatively little attention as a research topic (Brunner, 2011), but is starting to attract academic interest (Ameel & Tani, 2012). Atkinson (2009) interprets it as a new version of flâneurism (an artistic/poetic term to indicate the one who walks without haste in urban contexts, who explores in an unhurried way and free from programs) since Parkour practitioners interpret the urban environment in innovative and playful ways that differ from accepted norms and city rhythms. Bavinton (2007) examines one of Parkour’s core values, which is turning obstacles into opportunities, and says

that practitioners reinterpret constraints instead of removing them, thus using spaces in a personal and creative way. [Gilchrist and Wheaton \(2011\)](#) examined the use of Parkour as a method for reducing antisocial behavior by promoting social inclusion and increasing exercise. Their research shows that Parkour can promote physical health, well-being and community engagement among groups that do not normally participate in traditional sports and physical activities. As [Guss \(2011\)](#) argues, despite the individualistic nature of the practice, ‘traceurs’ have a strong sense of being part of a local and increasingly transnational community, often referred to as the ‘Parkour Community’. David Belle in his book “Parkour” released in 2009, describes Parkour as a discipline without federations or competitions. Nevertheless, currently the FIG (International Gymnastics Federation) has incorporated Parkour among its disciplines with the approval of [Belle \(2009\)](#) himself. The situation in recent years has changed a lot on a global level, so much so that movements were born to counter this “misappropriation” by the FIG and federations such as FYAD (Federation YAMAK) were born with the aim of preserving values most authentic and native of the discipline.

Therefore, the aim of this study was to investigate psychological differences between Artistic Gymnastic and Parkour practitioners in a sensitive phase such as the pre-adolescent one. Specifically, we examined the role of psychological aspects strictly related to sporting activities, such as motivation, anxiety and self-confidence, life satisfaction, and well-being.

## 2. Methods

### 2.1. Participants

The study participants were 86 subjects (Parkour Group—PG,  $n = 43$ ; Artistic Gymnastic Group—AG,  $n = 43$ ) aged between 9 and 14 years (mean age  $11.5 \pm 1.6$  years). The PG was composed of 32 (74%) males and 11 (26%) females with an average age of  $11.4 \pm 1.7$  years and a weekly training average of  $1.49 \pm 0.51$ . The Parkour Group was formed by athletes at non competitive level. The GA involved only females (100%) with an average age of  $11.7 \pm 1.6$  years and a weekly training average of  $3.37 \pm 1.2$ . The Artistic Gymnastics Group was formed by athletes at competitive level, 54% of gymnasts participate in a regional championship and 46% in a national championship. In the PG, subjects discovered Parkour mostly through the internet (33%), while in the GA only 12% of the subjects made use of the internet. In the GA, 38% became aware of the activity thanks to friends, while in the PG the latter obtained a percentage of 23%. The PG athletes were located in two sports clubs in Turin (Piedmont Region, Italy), the AG athletes were located in two sports clubs in the province of Turin (Piedmont Region, Italy).

### 2.2. Procedure

A self-report, anonymous with validated measures were used to collect data: the Sport Motivation Scale (SMS-28; [Pelletier et al., 1995](#)), the Competitive State

Anxiety Inventory 2 (CSAI-2; [Martens et al., 1990](#)), the Multidimensional Students' Life Satisfaction Scale (MSLSS; [Huebner, 1994](#)) and the Psychological Well-Being Scales (PWB; [Ryff & Keyes, 1995](#)). Furthermore, sociodemographic (age, gender, school attended) and sport information (years of training, number of weekly training sessions, competitive and not-competitive level). Participants were recruited through initial contact with coaches, sports managers and parents by means of an information letter. The objectives and procedure of the study were explained in detail during a subsequent face-to-face meeting. The parents then provided written consent for the participation of their children still minors, in accordance with the professional code of ethics of Italian psychologists. The pre-adolescents completed the self-questionnaire administered by researchers in the months of June and July 2019, respectively before: the final essay for PG and a competition for AG. The statistical software SPSS version 25 was used to perform the data analysis. Descriptive statistics were executed for all the interesting variables. To analyze differences between PG and AG in the psychological constructs unpaired t-tests were used.

### 2.3. Measures

The SMS-28 ([Pelletier et al., 1995](#)), composed by 28 items, consists of seven sub-scales that measure: 1) three types of intrinsic motivation (MI): intrinsic motivation for learning (IA), intrinsic motivation on execution (IE), intrinsic motivation to stimulation (IS); 2) three types of extrinsic motivation (ME): identified (EI), introjected (EN), external (EE); 3) another type such as amotivation (AM). Participants had to express their degree of truth to the question: "Why do you practice this sport?"; each scale consists of 4 items and the scores associated with them are attributed based on a 5-point Likert scale (1 = absolutely false, 2 = rather false for me, 3 = neither true nor false, 4 = rather true for me, 5 = absolutely true). High scores in MI and ME indicate high levels of motivation, while high scores in AM indicate lack of motivation.

The CSAI-2 ([Martens et al., 1990](#)), measures cognitive, somatic anxiety and self-confidence in competitive situations. It should be given no more than an hour before the competition and ideally as close to it as possible. Cognitive anxiety (AC) is the mental component of anxiety and is caused by expectations of success or negative self-assessment. According to [Morris, Davis and Hutchings \(1981\)](#), cognitive anxiety is characterized by a conscious awareness of unpleasant feelings about oneself or by concern from external stimuli. Somatic anxiety (AS) refers to the physiological and affective elements of anxiety that develop directly from autonomous excitement. Self-confidence (FD) is an attitude, towards others or towards oneself, which results from a positive evaluation of facts, circumstances, relationships, for which one trusts in others or one's own possibilities, and which generally produces a feeling of security. The CSAI-2 is made up of 27 items, 9 for each dimension analyzed (self-confidence, somatic and cognitive anxiety), the item scores are attributed on the basis of a 4-point Likert scale

(1 = for nothing; 2 = a little; 3 = enough; 4 = a lot). High scores demonstrate high levels of anxiety and self-confidence.

The MSLSS (Huebner, 1994), assesses satisfaction (SO) that the individual perceives of his life in relation to five domains: oneself (SE), family (FM), friends (AI), school(SC) and the living environment(AB). The domains were selected on the basis of the literature on studies on life satisfaction in childhood, adolescence and adult age (Huebner, 1994). This scale has 40 items divided into the five aforementioned domains (7 items relating to oneself—SE, 7 to family—FM, 9 to friends—AI, 8 to school—SC, 9 to environment—AB). The subject is required to indicate for each item how much the statement turns out to be true for him/her on a 4-point Likert scale (1 = never, 2 = sometimes, 3 = often, 4 = almost always). In coding, items with a negative sign are reversed, thus indicating that high scores demonstrate a high level of satisfaction.

PWB according to Ryff & Keyes (1995), can be described as a multidimensional construct much more articulated than the single idea of happiness; there are many aspects that influence each other with complex interactions. In this study, a short version was used, consisting of 12 items, taken from the scale of Zani and Cicognani (1999) Psychological Well-being Italian version of Brief Psychological Well-Being Inventory (PWB—Ryff & Keyes, 1995). This instrument has been used for large-scale national surveys of adolescent subjects (Sagone & De Caroli, 2014; Ruini et al., 2009), has been validated on an Italian population (Ruini et al., 2003) and has good psychometric properties (Sirigatti et al., 2009). Four components of well-being (BN) were used, such as: autonomy (AN), self-acceptance (AA), positive interpersonal relationships (RP) and environmental control (CA). Each of these components was made up of 3 items. Subjects had to express their level of agreement with the statements reported; item scores are assigned on the basis of a 6-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, 6 = strongly agreement). In coding, items with a negative sign are reversed, thus indicating that high scores demonstrate a high level of well-being.

### 3. Results

**Table 1** shows significant differences in the sub-scales belonging to the SMS-28. T-test analyses revealed statistically significant differences between PG and AG in the intrinsic motivation on execution (IE) sub-scale: IE ( $T = -2.27$ ;  $p = 0.026$ ), with higher values for AG ( $16.4 \pm 2.3$  points) compared to PG ( $15.2 \pm 2.4$  points). No significant differences were detected in the other dimensions of the SMS-28.

**Table 2** presents differences between PG and AG for each dimension of the CSAI-2. One thing that certainly stands out in this study is the significant difference between PG and AG in CSAI-2 regarding all its dimensions: cognitive anxiety (AC;  $T = -3.59$ ;  $p = 0.001$ ), somatic anxiety (AS;  $T = -4.53$ ;  $p < 0.001$ ) and self-confidence (FD;  $T = 2.72$ ;  $p = 0.008$ ). In fact, the PG has on average

lower scores of AC ( $18.9 \pm 5.3$  points) and AS ( $19.9 \pm 3.7$  points) compared to AG (AC:  $23.4 \pm 6.4$  points; AS:  $24.1 \pm 3.9$  points). Furthermore, the PG obtained a higher average score in self-confidence (FD) ( $19.7 \pm 3.9$  points) than the AG ( $17.3 \pm 4.4$  points).

In **Table 3** are reported differences between PG and AG for each dimension of the MSLSS. There is a statistically significant difference ( $T = 2.14$ ;  $p = 0.035$ ) between PG and AG in the dimension of the friends (AI). In fact, the PG ( $31.2 \pm 3.5$  points) has a mean score higher than the AG ( $29.3 \pm 4.6$  points). No statistically significant differences emerged for the other dimensions of the MSLSS.

Regarding the well-being measure (PWB), no statistically significant differences emerged between PG and AG.

**Table 1.** Differences between PG and AG for each dimension of the Sport Motivation Scale (SMS-28).

SMS-28	Group	Mean ( $\pm$ SD)	T	p-value
Intrinsic motivation for learning (IA)	PG	15.7 ( $\pm$ 2.4)	0.63	0.531
	AG	15.3 ( $\pm$ 3.0)		
Intrinsic motivation on execution (IE)	PG	15.2 ( $\pm$ 2.4)	-2.27	0.026*
	AG	16.4 ( $\pm$ 2.3)		
Intrinsic motivation to stimulation (IS)	PG	15.3 ( $\pm$ 2.8)	-1.6	0.113
	AG	16.2 ( $\pm$ 2.6)		
Extrinsic motivation identified (EI)	PG	13.3 ( $\pm$ 3.7)	-0.51	0.612
	AG	13.7 ( $\pm$ 3.1)		
Extrinsic motivation introjected (EN)	PG	13.4 ( $\pm$ 3.1)	0.8	0.421
	AG	12,8 ( $\pm$ 3.3)		
Extrinsic motivation external (EE)	PG	10.7 ( $\pm$ 3.3)	-0.78	0.439
	AG	11.3 ( $\pm$ 3.6)		
Amotivation (AM)	PG	7.9 ( $\pm$ 2.9)	0.737	0.73
	AG	8.1 ( $\pm$ 3.3)		

\*Statistically significant ( $p \leq 0.05$ ).

**Table 2.** Differences between PG and AG for each dimension of the Competitive State Anxiety.

CSAI-2	Group	Mean ( $\pm$ SD)	T	p-value
Cognitive Anxiety (AC)	PG	18.9 ( $\pm$ 5.3)	-3.59	0.001**
	AG	23.4 ( $\pm$ 6.4)		
Somatic Anxiety (AS)	PG	19.9 ( $\pm$ 3.7)	-4.53	0.001**
	AG	24.1 ( $\pm$ 3.9)		
Self-confidence (FD)	PG	19.7 ( $\pm$ 3.9)	2.72	0.008*
	AG	17.3 ( $\pm$ 4.4)		

Inventory 2 (CSAI-2). \*Statistically significant ( $p \leq 0.05$ ); \*\*Statistically significant ( $p \leq 0.001$ ).

**Table 3.** Differences between PG and AG for each dimension of the multidimensional students' life satisfaction.

MSLSS	Group	Mean( $\pm$ SD)	T	p-value
Family (FM)	PG	21.2 ( $\pm$ 2.9)	-1.24	0.218
	AG	22.2 ( $\pm$ 4.2)		
Friends (AI)	PG	31.2 ( $\pm$ 3.5)	2.14	0.035*
	AG	29.3 ( $\pm$ 4.6)		
School (SC)	PG	21.0 ( $\pm$ 5.5)	-0.58	0.56
	AG	21.7 ( $\pm$ 5.1)		
Environment (AB)	PG	29.9 ( $\pm$ 4.1)	0.24	0.813
	AG	29.7 ( $\pm$ 4.1)		
Oneself (SE)	PG	21.4 ( $\pm$ 4.1)	-0.03	0.979
	AG	21.4 ( $\pm$ 4.2)		

Scale (MSLSS). \*Statistically significant ( $p \leq 0.05$ ).

#### 4. Discussion and Conclusion

This research paper has set itself the objective of investigating possible differences, on a psychological level, between Parkour and Artistic Gymnastics in the pre-adolescent phase. Regarding the motivation, a significant difference was found in the intrinsic motivation on execution (IE). In fact, the AG has a higher average score than the PG. In general, intrinsic motivation refers to engaging in an activity purely for the pleasure and satisfaction derived from doing the activity (Deci, 1975). When a person is intrinsically motivated, he will perform the behavior voluntarily, in the absence of material rewards or external constraints (Deci & Ryan, 1985). Intrinsic motivation on execution defines itself as engaging in an activity for personal pleasure and satisfaction, for example knowing how to perform and master difficult techniques to establish itself in the reference sports environment (Deci, 1975; Deci & Ryan, 1985). Deci & Ryan (1985) and Valleraud et al. (1992), affirm that individuals who play competitive sports have higher intrinsic motivation levels than those who play non-competitive sports. Other studies in the scientific community (Weinberg & Gould, 2001; Headstrom & Gould, 2004; Lopes & Nunomura, 2007), argue that athletes practicing Artistic Gymnastics have high motivation levels. In Artistic Gymnastics, some studies (Gould et al., 2002; Feltz & Ewing, 1987) have examined possible differences in anxiety between gymnasts (aged between 10 and 12 years), who practice competitive and recreational gymnastics. These studies showed that competitive Artistic Gymnastics produces higher levels of anxiety than recreational Artistic Gymnastics. Other investigators (Krane & Williams 1987; Martens et al., 1990) have also indicated that gymnasts have higher anxiety than other athletes. This research confirms what authors previously stated: in our study the AG shows higher levels of somatic anxiety (AS) and cognitive anxiety (AC) compared to PG. According to Morris et al. (1981) cognitive anxiety most commonly mani-



feels itself with negative performance expectations and therefore negative self-evaluation. Somatic anxiety occurs with symptoms such as rapid heart rate, shortness of breath, clammy hands, butterflies in the stomach, and tense muscles. The PG has also an average score higher than the AG in the dimension of self-confidence (FD). Self-confidence is one of the most related variables to sport performance (Robazza & Bortoli, 2007). As Shabnam (2010) states, in the context of competition, anxiety is often present following a sports competition. Furthermore, in the competitive context there may be fewer relational ties than the non-competitive one, even if the AG group, in this study, has discovered Artistic Gymnastics, mostly thanks to friends. It can be said that in the competitive context, friendships are promoted, as gymnasts on average do almost twice-weekly training compared to Parkour practitioners, and also participate in competitions. Despite this, from what emerged in the analysis, the PG scored higher in the dimension of friends (AI) about life satisfaction, than in the AG. Regarding the well-being (PWB), no differences emerged neither for the activity practiced.

In light of our results, we can state as Parkour and Artistic Gymnastics are physical activities that share aspects in promoting the psychological adjustment of pre-adolescents, while highlighting distinctive characteristics inherent to the structural specificities that distinguish them. This paper represents an initial attempt at research in this field with its limitations and strengths. In fact, in our study, the sample of pre-adolescents was not very large and the two groups of Parkour and Artistic Gymnastics were not homogeneous in terms of gender. For construction, logistical and timing reasons, the questionnaire was administered only once at the end of the courses in the year 2019. We chose to treat an age between 9 and 14 as motor activity represents a fundamental element in the psychophysical development of children and adolescents, as well as a valid tool for health promotion (Bonaiuto, 1982). In addition, physical activity is a tool of great importance for those phases of existence in which one is most sensitive to the acquisition of skills and competences, namely school age (Reffieuna, 2011). Positive associations have been shown between physical activity in adolescents (Marsh et al., 1995) and children (Gruber, 1986). Therefore, physical activity has been associated to both physical and psychological gains. The psychological benefits of physical activity are numerous. For example, adolescent girls who participate in sports have higher levels of self-esteem and less depression than girls who do not participate in sports (Mutrie & Biddle, 1995; Dishman et al., 2006). Participation in pre-adolescent sports has been associated with lower levels of loneliness (Page et al., 1992) and anxiety (Kirkcaldy et al., 2002; Findlay & Coplan, 2007). The objectives given by performance and competition represent excellent incentives to participate in competitive sports. However, issues regarding the latter may be of primary importance for some, while social and relational aspects may be more important for non-competitive athletes. Precisely at the end of these considerations, the focus of the essay on the a-competitive aspect of Parkour emerges as interesting and important: in young people, anxiety

and stress are reduced compared to the competitive structure of Artistic Gymnastics. The popularity of Parkour has led to a greater demand for instructions on how to start or progress safely (Angel, 2011). The spectacular part of Parkour has certainly played a fundamental role in its explosion, in the first years of its diffusion it was also disliked by society as it could represent the stereotype of breaking the rules, inciting young people to commit actions that could risk their lives (Rosendahl, 2018). Currently, thanks to the Parkour Community and many associations that promote the practice in a conscientious way, there is better knowledge and appreciation from the society. However, the media and newspapers, at times, report untrue news or associate madness and reckless actions with the practice of Parkour; this seriously damages the image and dissemination of the discipline that actually has very different goals and objectives from putting one's life at risk and carrying out actions that break the law (Gilchrist & Osborn, 2017). It would be interesting to propose Parkour, as a recreational motor activity, during school hours or after school, dispelling the myth that it can represent a potential danger for the individual. In fact, as can be seen from this study, the practice of Parkour at a non-competitive level presents higher levels of self-confidence than Artistic Gymnastics. Furthermore, Parkour can be a means of social inclusion (Gilchrist & Wheaton, 2011) and does not require specific expenses or equipment to be practiced. The indoor Parkour lessons use standard gymnastic equipment, such as vaulting horses, mats, tubular structures. Although they are used differently than those of an Artistic Gymnastics lesson. It was not possible to compare Parkour at a non-competitive level with Parkour at a competitive level since the latter in Italy did not still catch on. It would be interesting in the future to develop this topic in more depth as it needs further research. For example, through longitudinal investigations it would be possible to understand the change in the processes underlying the adaptation and development of children and adolescents practicing sports such as Parkour and Artistic Gymnastics

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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