

**RUGBY, SELF-PERCEPTION AND PROSOCIAL BEHAVIOUR: EVIDENCE FROM THE ITALIAN
"RUGBY PROJECT FOR SCHOOLS"**

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ABSTRACT: It is widely acknowledged that sport promotes positive youth development. Among team sports, rugby is believed to convey high educational values and to foster individual and social abilities. However, no scientific attention has been devoted to the investigation of the benefits of playing rugby on developmental outcomes. This study examined the effectiveness of a school-based rugby introductory training course ("Rugby Project For Schools") in a sample of one hundred and three Italian adolescents, sixty-three attending the program (rugby group), and forty not taking part in the project (control group). Results of a series of one-way analysis of covariance (ANCOVA) showed that, controlling for initial scores, adolescents in the rugby group had higher post-intervention scores of positive self-perception in terms of perceived self-efficacy in dealing with negative emotions, self-efficacy in expressing positive emotions, social self-efficacy, and empathic self-efficacy, and higher scores of pro-social behaviour than adolescents in the control group. This study encourages the spread of rugby programs in schools as a means of enhancing self-efficacy and pro-sociality dimensions.

KEYWORDS: team sport, rugby, self-efficacy, pro-sociality

**RUGBY, AUTOPERCEPCIÓN Y COMPORTAMIENTO PROSOCIAL: LAS PRUEBAS EN EL
PROYECTO ITALIANO "RUGBY PARA LAS ESCUELAS"**

RESUMEN: Es ampliamente reconocido que el deporte promueve un desarrollo positivo para los jóvenes. Entre los deportes de equipo, se cree que el rugby transmite altos valores educativos y fomenta las capacidades individuales. Sin embargo, no se ha prestado suficiente atención científica a la investigación de los beneficios de jugar al rugby para el bienestar psicosocial. Este estudio ha examinado los efectos de un curso introductorio de formación sobre el rugby en la escuela ("Proyecto rugby para las escuelas") en tomando en consideración una muestra de ciento tres adolescentes italianos, de los cuales sesenta y tres atendieron el programa (grupo rugby), y cuarenta no tomaron parte en el proyecto (grupo de control). Los resultados del análisis de covarianza de una vía (ANCOVA) han demostrado que, teniendo en cuenta las puntuaciones iniciales, los adolescentes en el grupo rugby, después de la intervención, registraban puntuaciones más altas de auto-percepción positiva en términos de autoeficacia percibida en la gestión de las emociones negativas, autoeficacia en la expresión de las emociones positivas, autoeficacia social y empática, y también registraban unas puntuaciones más altas que los adolescentes en el grupo de control con respecto al comportamiento prosocial. Este estudio alienta la difusión de proyectos de rugby en las escuelas como medio para mejorar las dimensiones de la autoeficacia y de la prosocialidad.

PALABRAS CLAVE: deporte de equipo, rugby, autoeficacia, prosocialidad

**RUGBY, AUTO-PERCEPÇÃO E COMPORTAMENTO PRÓ-SOCIAL: DADOS DO PROJETO
ITALIANO "RUGBY PARA AS ESCOLAS"**

RESUMO: É amplamente reconhecido que o desporto promove um desenvolvimento juvenil positivo. Entre os desportos coletivos, considera-se que o rugby transmite valores educacionais importantes e promove competências individuais e sociais. Contudo, a investigação não se tem focado sobre os benefícios do jogo de rugby para o bem estar psicossocial. Este estudo examinou os efeitos de um curso inicial de treino de rugby em contexto escolar (Projeto de Rugby nas Escolas) sobre a autopercepção (autoestima e autoeficácia) e pró-sociabilidade, numa amostra de cento e três adolescentes italianos, sessenta e três que frequentaram o programa (grupo de rugby) e quarenta que não o frequentaram (grupo de controle). Os resultados de um

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conjunto de análises de covariância unidirecional (ANCOVA) demonstraram que, controlando os resultados iniciais, os adolescentes do grupo de rugby tiveram resultados pós intervenção mais elevados ao nível da autoeficácia para lidar com emoções negativas, autoeficácia para demonstrar emoções positivas, autoeficácia social e autoeficácia empática, bem como resultados mais elevados no comportamento pró-social do que o grupo de controle. Este estudo encoraja a difusão dos cursos de rugby nas escolas como meio de promover a autoeficácia e diversas dimensões pró-sociais.

PALAVRAS-CHAVE: desportos coletivos, rugby, autoeficácia, pró-sociabilidade.

Structured leisure activities bring benefits to youth's personal and interpersonal development (Lerner et al., 2005; Mahoney, Larson, Eccles, & Lord, 2005). Time spent in constructive and challenging activities is an opportunity to acquire and practice specific physical, intellectual and social competencies that may be spent in everyday life. In addition, organized activities facilitate the development of skills that help youth interact with others, establish supportive social networks, and work as a team, promoting mutual support and adherence to pro-social rules, and therefore contributing to the well-being of one's community (Eccles, Barber, Stone, & Hunt, 2003).

Among leisure activities, sport facilitates the development of positive psychosocial dimensions in children and adolescents (Côté, 2002; Holt, 2008). In fact, participation in sport activities, and in particular in team sport activities, promotes empowerment, competence, self-esteem and the sense of being able to have a positive impact on external events (Eime, Young, Harvey, Charity, & Payne, 2013; McKee, Daneshvar, Alvarez, & Stein, 2014). Moreover, sport can favour youth's social skills, making them capable of effectively interacting with others and taking on complementary and mutual support roles (Barber & Erikson, 2001).

Among team sports, rugby is generally believed to promote personal qualities such as self-confidence and altruism. In rugby skills such as the capability to set and pursue important goals, courage, and self-control are critically important in order to reach success. However, individual dimensions can only partially be responsible for performance and results, which largely depend on the athletes' ability to operate in synergy and to help each other. Therefore, a sense of belonging to the group becomes more and more relevant, and the convictions of being able, as a whole, to achieve objectives, manage circumstances and face difficult situations together, have a central role in this game (Scuderi & Invernici, 1982).

Even though rugby is generally believed to promote positive youth development, the literature still lacks in research confirming or disconfirming this assumption. The present study was then guided by this research question: does playing rugby bring benefits to adolescents' self-perception and pro-sociality? In order to answer this question, in an attempt to provide a first insight into this unexplored field, we examined whether the participation in a school-based rugby introductory training course had an impact on adolescents' self-esteem, dimensions of self-efficacy, and pro-social behaviour.

METHOD

Participants and procedure

Participants were 103 adolescents from three secondary schools of the province of Milan (Italy). Two of these schools

participated in a rugby introductory training course organized by the F.I.R. (Italian Rugby Union) within the "Rugby Project for Schools". The course lasted three months, with one weekly lesson taken outside school hours. The objective of the training course was to familiarize the teenagers with rugby, teaching them the game culture and values. Each lesson, focusing on one objective (tackling, passing the ball, support to the team mate), implied both targeted free body exercises and a match.

The study used a quasi-experimental research design with two groups of adolescents (Age range: 11-15 years): adolescents attending the optional afternoon rugby session within the framework of the "Rugby Project for Schools" (rugby condition, $N = 63$, 87% males; age: $M = 13.28$, $SD = .97$) and adolescents not taking part in the project (control condition, $N = 40$; 50% males; age: $M = 13.84$, $SD = .88$). The two groups did not differ in terms of pre-intervention scores. Participants filled in a questionnaire before the beginning of the course (pre-intervention data collection) and one week after its conclusion (post-intervention data collection).

Measures

Global self-esteem. The validated Italian version (Prezza, Trombaccia, & Armento, 1997) of the Rosenberg Self-Esteem Scale (RSES, Rosenberg, 1965) was used to assess the degree to which adolescents are able to experiment and express self-esteem. The scale consists of 10 items (Example: "I have a positive attitude towards myself") on a four-point scale (from 1 = *strongly disagree*, to 4 = *strongly agree*). Pre-intervention Cronbach's Alpha was .76 and post-intervention Cronbach's Alpha was .77.

Self-efficacy in the expression of positive emotions. The Perceived *Self-efficacy in the Expression of Positive Emotions Scale* (Caprara & Gerbino, 2001) in its version for adolescents was used to assess the degree to which adolescents believe they are able to express positive emotions. It is composed of 7 items (Example: "How capable are you of expressing your happiness when something good happens to you?") on a five-point scale (from 1 = *not at all capable*, to 5 = *fully capable*). Pre-intervention Cronbach's Alpha was .74 and post-intervention Cronbach's Alpha was .78.

Self-efficacy in the management of negative emotions. The version for adolescents of the Perceived *Self-efficacy in the Management of Negative Emotions Scale* (Caprara & Gerbino, 2001) was used to assess the degree to which adolescents believe they are able to manage negative emotions. It consists in 8 items (Example: "How capable are you of keeping your calm in stressful situations?") on a five-point scale (from 1 = *not at all*

capable, and 5 = fully capable). Pre-intervention Cronbach's Alpha was .80 and post-intervention Cronbach's Alpha .77.

Social self-efficacy. The version for adolescents of the Perceived *Social Self-efficacy* Scale (Caprara, Gerbino, & Delle Fratte, 2001) was used to assess the degree to which adolescents are able to form and maintain social relationships and to work cooperatively with others. It is composed of 13 items (Examples "How capable are you of working in a group?") on a five-point scale (from 1 = not at all capable, and 5 = fully capable). Pre-intervention Cronbach's Alpha was .73 and post-intervention Cronbach's Alpha .78.

Empathic self-efficacy. The version for adolescents of the Perceived *Empathic Self-efficacy* Scale (Caprara et al., 2001) was used to assess the degree to which adolescents believe they are able to recognize the feelings and emotions of others. It consists in 12 items (Example: "How capable are you of understanding if a person is sad and unhappy?") on a five-point scale (from 1 = not at all capable, to 5 = fully capable). Pre-intervention Cronbach's Alpha was .86 and post-intervention Cronbach's Alpha was .88.

Prosocial behaviour. The version for adolescents of the *Prosocial Behaviour* Scale (Caprara, Steca, Zelli, & Capanna, 2005) was used to assess the degree to which adolescents show predisposition to help. It consists in 24 items (Example: "I gladly help my friends carry out their activities") on a four-point scale (from 1 = never/almost never, to 4 = very much). Pre-intervention Cronbach's Alpha was .89 and post-intervention Cronbach's Alpha was .88.

Analytic Strategy and Results

A series of one-way analysis of covariance (ANCOVA) were conducted, treating the group condition (rugby; control) as a

between-subjects factor, the pre-intervention score of each of the six measures of interest (self-esteem, self-efficacy in the expression of positive emotions, self-efficacy in the management of negative emotions, social and empathic self-efficacy, and pro-sociality) as a covariate, and the post intervention score as a dependent variable.

Preliminary analyses evaluating the homogeneity-of-regression (slopes) assumption indicated that the relationship between the different covariates and the dependent variables did not differ significantly as a function of the independent variable. All the covariates, the pre-intervention scores, were significantly related to the respective dependent variables (self-esteem: $F(1, 100) = 661.909, p < .001, r = .93$; self-efficacy in the expression of positive emotions: $F(1, 100) = 661.909, p < .001, r = .91$; self-efficacy in the management of negative emotions: $F(1, 100) = 17813.808, p < .001, r = .99$; social self-efficacy: $F(1, 100) = 24482.095, p < .001, r = .99$; empathic self-efficacy: $F(1, 100) = 3158.458, p < .001, r = .98$; pro-sociality: $F(1, 100) = 17813.808, p < .001, r = .95$). Controlling for the effect of the pre-intervention scores, significant group effects were detected for self-efficacy in the expression of positive emotions [$F(1, 100) = 33.022, p < .001, \eta^2 = .25$] and in the management of negative emotions [$F(1, 100) = 7.605, p < .01, \eta^2 = .07$], social self-efficacy [$F(1, 100) = 7.404, p = .008, \eta^2 = .07$], empathic self-efficacy [$F(1, 100) = 24.081, p < .001, \eta^2 = .19$], and pro-sociality [$F(1, 100) = 16.312, p < .001, \eta^2 = .14$], indicating that participants in the rugby group improved significantly more than participants in the control group (see Table 1 for pre- and post-intervention means and standard deviations for each group). No group effects emerged for self-esteem.

Table 1
Means and Standard Deviations for the Variables Investigated by Group and Time

Variables	Rugby Group				Control Group			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	M	SD	M	SD	M	SD	M	SD
Self-esteem	2.62	.30	2.63	.31	2.58	.31	2.53	.33
Self-Efficacy Positive Emotions	4.10	.53	4.19	.57	4.15	.50	4.02	.47
Self-Efficacy Negative Emotions	3.31	.65	3.34	.65	3.01	.58	3.01	.58
Social Self-Efficacy	3.87	.48	3.89	.48	3.74	.74	3.74	.74
Empathic Self-Efficacy	3.66	.55	3.76	.61	3.64	.65	3.63	.72
Prosocial Behaviour	2.83	.41	2.92	.41	2.79	.48	2.77	.48

Note. Rugby Group: N = 63; Control Group: N = 40.

DISCUSSION

In the present study we examined the impact of the participation in a school-based rugby introductory training course ("Rugby Project For Schools") on adolescents' self-perception - in terms of self-esteem and dimensions of self-efficacy-, and pro-social behaviour.

The increase of empathic self-efficacy, social self-efficacy and pro-sociality for the rugby group shows that the participation in a rugby program, similarly to the participation in other extracurricular or leisure activities, is linked to better interpersonal competence and self-perception and facilitates the acquisition and respect of social norms and the establishment of a supportive social network (e.g. Fredrick & Eccles, 2006; Mahoney et al., 2005).

In addition, the increase in the perception of self-efficacy in the management of negative emotions and empathic self-efficacy suggests that social skills such as altruism, responsibility, empathy, and respect are strongly encouraged through rugby. In particular, in rugby the willingness to cooperation is stimulated because the players can experience that it is possible to count on teammates' physical and emotional support, and a successful result is achieved when the individual is able to put aside personal ambitions for the good of the group.

Furthermore, the increase in the scores of self-efficacy in the management of negative emotions and in the expression of positive emotions confirms that, playing rugby, adolescents can learn to deal with both positive and negative events, controlling and channelling the resulting emotions. In fact, the situations of physical fight and engagement of the rugby game may help individuals manage their emotions because physical impetuosity and competitive drives are refrained by a precise ethical code which puts in first place the respect for rules and teammates.

With regard to self-esteem, in the rugby group there was not a significant increase in its level. This result is in line with the findings of other previous studies: after an intervention aimed at enhancing self-esteem, self-esteem is likely to increase only in individuals with an initial low level of it (Fox, 2000a; 2000b). Our participants had an initial medium-high level of self-esteem (experimental group: $M = 2.62$; control group: $M = 2.58$) and for this reason they could not have experienced an increase of self-esteem. However, it is useful to point out that in the control group there was a slight decrease in the level of self-esteem. On the contrary, although no significant increase was recorded in the rugby group, the levels of self-esteem remained stable, suggesting that the participation in the program had a sort of buffering effect, protecting the adolescents' sense of personal worth. That means that rugby may help adolescents build their own self, teaching them to mitigate their fears and insecurities, and to give their best both as part of the team and in personal challenge/effort situations. In fact, in rugby the group becomes, on the one hand, the echo chamber of the individual's strengths, and on the other hand, it mitigates his/her weakness.

CONCLUSIONS

Before closing, some limitations of the study should be noted. First, although basing our results on a pre-test post-test control group design allowed to investigate the effects of the program, the inclusion of a follow-up phase could have helped draw stronger conclusions about the efficacy of the program. Second, since in this study participants were not randomly assigned to groups, it is not possible to exclude that confounding factors or pre-existing disparities may have caused differences in the outcomes. Finally, adding another experimental group participating in a different extracurricular program could have helped attribute the benefits of the program to rugby per se. Despite these limitations, the study allowed to get some initial evidence about the benefits of participating in a rugby program for adolescents' developmental outcomes. The results of our study encourage then the spread of rugby programs in schools as a means of promoting and enhancing self-efficacy and pro-sociality in adolescence.

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