

## ORIGINAL RESEARCH PAPER

# ARE THERE DIFFERENCES IN MOTIVES BETWEEN PARTICIPANTS IN INDIVIDUAL SPORTS COMPARED TO TEAM SPORTS?

**Arne Martin Jakobsen**

University of Nordland, Department of Sport,

Address: NO-8049 Bodø, Norway

Phone: 75517932

E-mail: [arne.jakobsen@uin.no](mailto:arne.jakobsen@uin.no)

### Abstract

*The aim of this study was to explore which motives dominate among adolescents when it comes to participation in individual versus team sports. We expected that intrinsic motives will dominate in both groups. We also had a hypothesis that those who compete in individual sport will have higher scores on intrinsic and lower on extrinsic motivation than those in team sport. We also expected that intrinsic motives would explain why they had chosen individual sports instead of team sport. The participants were 78 athletes, 39 in team sports and 39 in individual. Participants' motives were assessed with the Motives for Physical Activity Measure - Revised (MPAM-R). The extrinsic motive "fitness" had highest score in both groups, followed by the intrinsic motives "interest/enjoyment" and "competence". The only motive with a difference between team and individual sport was the intrinsic motive interest/enjoyment. The participants in team sport had a higher score on interest/enjoyment than those in individual sport. We conducted a regression analyze to explain why pupils chose individual instead of team sports. "Interest/enjoyment" had an explanation when we included this as a single independent variable. If they participated in team sport they had a higher score on the intrinsic motive "interest/enjoyment". When we included all the motives none of them had an explanation. In conclusion we could not find any differences in motives for participation in team versus individual sport. We also only partly found support for the assumption that adolescents mostly are intrinsic motivated for participating in sport.*

**Key words:** *Motivation, self determination theory, individual sports, team sports*

## Introduction

Sport is for most participants, intrinsically motivated. Exercisers are more likely to be motivated by extrinsic motives such as improving one's appearance. Moreover the more amateur level of sport, the more the motives for engaging in it were intrinsic. Sports are more often played for enjoyment and interest than for extrinsic goals (Vallerand & Losier, 1999; Verloigne et al., 2011). Contexts fostering autonomy and perceived competence enhance enjoyment and sustained motivation (Chatzisarantis, Hagger, Biddle, & Karageorghis, 2002; Hagger & Armitage, 2004; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Hagger, Chatzisarantis, & Harris, 2006). Sustained exercise is most likely when a person has both well internalized extrinsic motivation and intrinsic motivation (Duncan, Hall, Wilson, & Jenny, 2010; Ryan & Deci, 2007; R. M. Ryan & Deci, 2002; Smith, Ntoumanis, Duda, & Vansteenkiste, 2011; Vlachopoulos, Ntoumanis, & Smith, 2010).

A controversial but also interesting issue is the impact of competition on intrinsic motivation. Competitive contexts have both informational and controlling aspects; this is according to the cognitive evaluation theory (Deci & Ryan, 1985). Competitive environments can offer optimal challenge and competence feedback. But at the same time competition often includes controlling components, as people feel pressured to win (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011; Ryan & Deci, 2007). Participants pressured to win can lose intrinsic motivation even if they win, while those competing without pressure don't (Camacho, Soto, González-Cutre, & Moreno-Murcia, 2011; Gillet, Vallerand, Amoura, & Baldes, 2010; Reeve & Deci, 1996; Ryan & Connel, 1989; Ryan & Deci, 2007). Even those who do not come out on top, can maintain intrinsic motivation in the absence of controlling pressure to win (Vansteenkiste & Deci, 2003).

It is more than intrinsic motivation for engaging in sport and exercise. People have many extrinsic reasons for engaging, from health reasons to desire of recognition. Moments of flow are often separated by long periods of hard work. Sometimes this practice itself is not inherently enjoyable (Ericsson, 2003). Within self-determination theory there are two broad classes of nonintrinsic motivation. This is extrinsic motivation which is behavior motivated by expected outcomes not inherent in the activity itself. The other one is amotivation which is not having either energy directed toward action or intention. People are viewed as typically having multiple motives, both extrinsic and intrinsic (Hagger & Chatzisarantis, 2008; Lonsdale, Sabiston, Taylor, & Ntoumanis, 2011; Ryan & Connel, 1989).

With the satisfaction of the needs of autonomy, competence and relatedness we will achieve an optimal motivational function. This is called the basic psychological needs theory. Cognitive evaluation theory describes the environmental contingencies that lead to the adoption of intrinsically or extrinsically motivated behavior. Last the organismic integration theory identifies the quality of motivation on a scale of perceived locus of causality. These causalities are ranged from highly autonomous to highly controlling (Edmunds, Ntoumanis, & Duda, 2007; Markland & Ingledew, 2007 ; McLachlan & Hagger, 2011; Ryan & Deci, 2007).

Extrinsic motivation when it is controlling/low autonomy, the locus of causality is named external regulation. People are engaged in physical activity because of external reinforcement such as gaining rewards or avoiding punishment. A person could also be motivated out of introjected regulation which is defined from avoiding external sources of disapproval, or gaining externally referenced approval. Introjection is based on self-esteem-related contingencies and ego involvements (McLachlan & Hagger, 2011; Ryan & Deci, 2007; Ryan, Koestner, & Deci, 1991). Both external and introjected regulations are controlling forms of motivation based on controlling the self by pressure and contingencies.

When a person behaves through identified regulation, extrinsic motivation can be relatively autonomous. Here the person engages in the extrinsic action because of identification with the purpose and value. This can be values such as learning new skills. An even more autonomous level is called integrated regulation. Here behaviors are fully integrated into the repertoire of behaviors that satisfy psychological needs of autonomy, competence and relatedness. Thus still it is not fully intrinsic motivated. The highest level of intrinsic behavior we only do for enjoyment, pleasure and fun. There are no rewards, or discernible reinforcements involved (Bagoien & Halvari, 2005; Hagger & Chatzisarantis, 2007).

Autonomous regulation is associated with action and maintenance of change for exercise (Edmunds, et al., 2007; Landry & Solomon, 2004), exercise related self-esteem (K. B. Wilson & Rodgers, 2004), greater physical fitness (Stanley, Cumming, Standage, & Duda, 2012; Wilson, Rodgers, Blanchard, & Gessell, 2003), more frequent self-reported exercise behavior (Wilson, Rodgers, & Fraser, 2002), and more positive attitude toward exercise (Stanley, et al., 2012; Wilson, et al., 2003). Perceived autonomy support from friends is positively associated with identified regulation an intrinsic motivation (Wilson & Rodgers, 2004). It is also reported that perceived autonomy support from the exercise instructor

positively predicted relatedness, autonomy, competence need satisfaction and intrinsic motivation (Edmunds, et al., 2007).

Psychological need satisfaction is positively correlated with identified and introjected regulation and intrinsic motivation (Stanley, et al., 2012; Stuart, 2013; Wilson, et al., 2002). Competence need satisfaction, introjected and identified regulations positively predicted strenuous exercise behavior, while external regulation is a more negative predictor of strenuous exercise behavior. Competence need satisfaction also have both direct and indirect effects on behavioral investment (Edmunds, et al., 2007).

The aim of this paper is to explore which motives dominate among adolescents when it comes to participation in individual versus team sports.

We expect that intrinsic motives will dominate in both groups (Quested & Duda, 2011; Stanley, et al., 2012). We also have a hypothesis that those who compete in individual sport will have higher scores on intrinsic and lower on extrinsic motivation than those in team sport. This expectation builds upon the assumption that there is less autonomy in team sports because the more participants the coach have to deal with the harder it is to give each participant the possibility to make their own choice (Stanley, et al., 2012; Wilson, et al., 2002; Wilson, et al., 2003). When you are part of a team it is more difficult to evaluate your personal competence and the psychological need satisfaction will be less (Chatzisarantis, Hagger, & Smith, 2007; Edmunds, et al., 2007).

We also expect that intrinsic motives will explain why pupils chose individual rather than team sports (Patrick & Canevello, 2011; Ryan & Deci, 2007).

## **Method and Participants**

The participants were 78 athletes in four different sports, handball (11), football (soccer 29), gymnastic (12) and track and field (28). It was 26 boys and 54 girls from 13 – 19 years old (mean 14.3). We asked the parents about permission for those under 15. The only inclusion criteria was if they competed in individual or team sport.

*Procedure.* Data were collected during one month in the spring of 2013. The language of the questionnaire was Norwegian. The questionnaire has been translated, and validated into Norwegian in an earlier study (Brislin, 1970, 1986). We collected the data just after a training session for all participants.

*Measure.* Participants' motives were assessed with the Motives for Physical Activity Measure – Revised (MPAM-R) (Ryan, Frederick, Lepas,

Rubio, & Sheldon, 1997). The scale consists of a total of 30 items assessing five different motives for participating in physical activities.

Fitness (5 items) refers to being physically active out of the desire to be physically healthy and to be strong and energetic ("Because I want to be physically fit"). Appearance (6 items), assesses being physically active in order to become more physically attractive, to have defined muscles, to look better, and to achieve or maintain a desired weight ("Because I want to lose or maintain weight so I look better"). Competence (7 items), refers to being physically active because of the desire just to improve in an activity, to meet a challenge, and to acquire new skills ("Because I like engaging in activities that physically challenge me"). Social (5 items), refers to being physically active in order to be with friends and meet new people ("Because I enjoy spending time with others doing this activity"). Interest/enjoyment (7 items) measures being physically active just because it is fun, makes you happy, and is interesting, stimulating, and enjoyable ("Because I like the excitement of participation").

The questions are rated on a 7-point Likert scale, from one (not at all true for me) to 7 (very true for me). We also registered if they participated in individual or team sport.

*Analysis.* Data were analyzed using SPSS (Version 20.0). In the section describing the sample, ANOVAs were applied to determine sample differences. For multivariate associations of the choice between team- and individual sport regarding the motivational scales, multivariate analyses of variance (MANOVA) were applied. Significant main effects were followed up using one-way analyses of variance (ANOVA). Effect sizes are reported using Cohen's  $d$  and partial eta-square  $\eta^2$ . Cohen defined effect sizes as "small,  $d = .2$ ," "medium,  $d = .5$ ," and "large,  $d = .8$ " (Cohen, 1988).

## Results

*Preliminary data analysis.* Data were screened according to the recommendations of Hair, Black, Babin and Anderson (2009). Examination of the assumptions associated with regression analyses (homoscedasticity, linearity and normality) suggests that there were no particular problems on the data. Both homoscedasticity and linearity assumptions were tenable.

To explore whether the data were marked by multicollinearity, both tolerance and variance inflation were examined. No problems were found, since the obtained values are within acceptable values (Hair et al. 2009).

*Reliability analysis and descriptive statistics.* Internal consistency estimates (Cronbach's alpha) of the MPAM-R subscales were computed.

The reliability analyses indicate that internal consistency coefficients were good. All coefficients were greater than 0.79 for all multi-item scales.

The motive with the highest score in the whole sample was fitness with a mean score at 5.97 (SD = .83)(team m = 6.10, SD = 8.3; individual m = 5.84, SD = 8.2), followed by interest/enjoyment (total m = 5.95 SD = .81; team m = 6.14, SD = .75; individual m = 5.74, SD=.84), competence (total m = 5.82, SD = .83; team m = 5.99, SD = .90; individual m = 5.62, SD = .71), social (total m = 4.46, SD = 1.55; team m = 4.60, SD = 1.61; individual m = 4.31, SD = 1.47) and last appearance (total m = 4.18, SD = 1.23; team m = 4.36, SD = 1.29; individual m = 3.98, SD = 1.16). There are significant difference (.01) in mean score between all the motives except fitness and competence, fitness and interest and appearance and social. Between competence and interest the difference was significant at 5% level.

*Differences in motives between team and individual sport.* Adolescents in both team and individual sport seem to score high on intrinsic motives like interest/enjoyment and competence. They also have high score on fitness which is an extrinsic motive. Both groups have a low score on appearance as expected. The last motive social has a relatively low score in both groups. The only motive where statistical differences appeared between the two groups is interest/enjoyment. The participants in team sport scored significant higher on interest/enjoyment (5% level,  $\eta^2 = .35$  and = .51) than those in individual sport. Also competence was close of being significant at 5% level (sign .057). Those in team sport scored higher than the individual.

*Regression analysis.* One hierarchical regression analysis was conducted to examine how extrinsic and intrinsic motives predict the variable team or individual sport. We did an analysis with 5 different models (Tab. 1).

**Table 1**

5 models of hierarchical regression analyses predicting “team versus individual sport” from MPAM-R Subscale

	Model 1 St.beta	Model 2 St.beta	Model 3 St.beta	Model 4 St.beta	Model 5 St.beta
Interest/enjoyment	-.252*	-.214	-.210	-.226	-.231
Fitness		-.164	-.162	-.107	-.112
Compeptence			-.007	-.004	-.004
Appearance				-.096	.106
Social					.022
Adjusted R <sup>2</sup>	.048	.059	.043	.033	.017
F value	4.298*	2.974	1.951	1.545	1.219
Sign. F change N=78	.045	.197	.974	.535	.901

\*\*sign.01 level, \* sign .05 level

The only model with a significant explanation on the dependent variable “individual or team sport” was where “interest/enjoyment” was the only independent variable included. Those who competed in team sports had a high score on “interest/enjoyment”. This model explained only 5 % of the variance and was significant at the 5 % level. When we included the other variables none of them had an explanation on the dependent variable.

## Discussion

Our first hypothesis was that intrinsic motives would dominate in both individual and team sports (Quested & Duda, 2011; Stanley, et al., 2012). We only partly found support for this. The extrinsic motive “fitness” had the highest score in both groups, followed by the intrinsic motives “interest/enjoyment” and “competence”.

Next we expected that those who competed in individual sport would have higher scores on intrinsic and lower on extrinsic motivation than those in team sport. We had an assumption that there was less autonomy in team sports because the more participants the coach have to deal with the harder there is to give each participant the possibility to make their own choice (Stanley, et al., 2012; Wilson, et al., 2002; Wilson, et al., 2003). We did not find any support for our hypothesis. The only motive with a difference between team and individual sport was the intrinsic motive "interest/enjoyment". The difference was actually the other way than we expected. The participants in team sport had a higher score on interest/enjoyment than those in individual sport. The same result appeared at the intrinsic motive competence but was not significant. We can therefore discard our hypothesis.

Finally we had an assumption that intrinsic motivation would explain why adolescents choose individual sports instead of team sports (Patrick & Canevello, 2011; Ryan & Deci, 2007). When we included all of the motives none of them had any explanation regarding the dependent variable “team versus individual sport”. “Interest/enjoyment” had an explanation when we included this as a single independent variable. If they participated in team sport they had a higher score on the intrinsic motive “interest/enjoyment. Our hypothesis is therefore rejected.

*Limitations of the study.* There are some limitations of this study that should be considered. The number of participants in the study could have been extended. Only 80 participants took part. There are also more girls than boys in the study and results might have been different if we had included more boys.

*Future research perspectives.* Future research in this area could look into differences between boys and girls. Are there any sex differences when it comes to participating in team or individual sports?

The fact that motivation seems to change with age makes it interesting to look into different age groups to find out which motives dominate at different ages.

## Conclusions

In this study, we could not find any differences in motives for participation in team versus individual sport. Furthermore, we only partly find support for the assumption that adolescents mostly are intrinsic motivated for participating in sport.

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