# 43 - COMPARATIVE ANALYSIS OF INTRINSIC MOTIVATION LEVEL OF ATHLETES BETWEEN 16 TO 18 YEARS OF AGE WHO ARE PARTICIPANTS OF TEAM AND INDIVIDUAL SPORTS WITH DIFFERENT LEVELS OF EXPERIENCE.

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## INTRODUCTION

Different theoreticians have different concepts about motivation. According to Murray (1983), one reason alone is the inner fact that starts, guides and integrates the behavior of a person. Human being is motivated by a range of inside and outside reasons. The strength for each reason and their standards are directly affected by the way we see the world, things we consider and actions we struggle for. Maslow studied human motivation and elaborated the Human Needs of Hierarchy Theory (1954). He considered human being in their totality aggregating biological, psychological and social aspects. People are different from each other not only because they bear their own genetics, but also for personal experiences lived during a life time.

We are surrounded by a range of values that are either able to lead us to a course of action or to reduce us to immobility (Cratty, 1984). That why it is difficult to measure motivation precisely, mainly if such measure depends on humor, sentiments, or momentarily verbalization of that individual.

Motivation means move to action. It comes from the word motive - that means action. Thus, etymologically motivation would mean the motive the leads people to action. The motive is something the encourages the person to act in determined way.

According to Murray (1983) it is a difficult concept to write about. To Maslow it means the wish of self-fulfillment to do something one is able to and realize concretely exactly what each one potentially is. According to Hersey and Blanchard (1977) people differ from each other not only on their abilities but also on their good will or motivation. A person's motivation depends on the power of their motives. The motives are sometimes defined as needs, wish or impulse inside themselves. The motives are the reasons of such behavior. They excite and keep the activity and determine the general guidance of a person's behavior. Fundamentally, the reasons or needs are the triggers to action.

The investigation carried out during the action of motivation to the practice of sports activities along the years is objected through studies about conceptual approach inspired on social - cognitive theories, especially those that concerns the competence perceived by individuals for task accomplishments in which are come across (Fonseca, 2001). To Gouvêa (2000) the social - cognitive model is built up on expectancies and values in which individuals adjust themselves to different goals and activities of execution. In this model, adds the author, the most used in sports are the self-efficiency theory (Bandura, 1993), the perceived competence (Harter, 1988) and the different perspectives of targets of execution. (Dweck, 1986).

In the sporting context, which is subject of this investigation, Roberts and Treasure (1995, p.64-80) argue that the motivation refers to factors of personality, social variables, and / or cognições that come into play when a person conducts a a task for which it is assessed, enter into competition with others, or attempts to show certain level of respect. Brandão (2000, p.154) helps in the expansion of understanding saying that "the participation in training and compliance with the various sporting activities that athletes should perform, depends fundamentally on motivation. It is the number one aspect of performance sports. "

The competitive sports may be able to affect the participants in many ways in terms of personal growing and development. Many participants of competitive sports claim that sports cannot just reveal cooperative efforts among peers following a common goal, but also help to prepare a person to life. (WEINBERG E GOULD, 2001). The athlete can choose a variety of sports for a number of reasons - no. Weiss (1969) cited by Cratty (1984, p. 44) states that one of the few ways in which young people can show higher is through physical implementation, using their bodies to achieve a magnitude unreachable by youth through efforts that intellectuals require greater efficiency. The sports can be classified along a scale, according to the intensity and the type of aggression inherent in each. Some require large amounts of physical force against the opponent, while others require vigorous actions against the surroundings, rather than direct aggression. For our study, some sports we identify individual and collective who have significant others in the sports scene. Among the individual, were selected sports involving fights, judo and karate, and two athletic sports, the athletics and swimming. The collective sports, elected - if the volleyball, handball and the indoor soccer rules that are very expressive and distributed in the state of Paraná.

One of the latest studies about increasing of intrinsic motivation, according to Weinberg and Gould (2001) comes from Mihaly Csitszentmihalyi (1990). While several researchers were trying to determine the facts that hindered intrinsic motivation, he investigated what could turn a task into an intrinsically motivating one. He examined mountain climbing, dance, dress, music and athletics - all of them were activities that demanded high intensity practices in which little reward was given. He pointed several common elements that made these activities interesting. The mandatory ones were: balance between ability and challenge, full absorption of activity, fusion between action and awareness, full concentration, common sense of control or no target or outside reward for the activity.

On one hand, we know that sport world always use rewards as medals, trophy, band, money, prizes… On the other hand, we know that motivation has two sources: extrinsic and intrinsic. With extrinsic rewards, the motivation comes from other people through positive and negative supply of additional force. But the individuals also participate of physical and sport activity for intrinsic reasons. Those people work hard to be competent and self - determined trying to accomplish their task. They usually appreciate competition, like actions and activations, want to learn as many abilities as possible.

## METHODOLOGY

This study was carried out through field research, casual-comparative, of “ex-post-facto” characteristic. A sample of 448 athletes was used where a 10% of population was observed, aged between 16 to 18, being 306 team sports and 142 individual ones. For experience level, 135 was achieved for high-experienced, 198 for average experienced, 115 for little experienced belonging to futsal (n=92), volleyball (n=148), handball (n=66), karate (n=24), judo (n=28), athletics (n=53), swimming (n=37). These data were collected using “inventory of intrinsic motivation for competitive situations” (EDWARD McAULEY AND TERRY DUNCAN; VANCE V. TAMMEN, 1989), with Likert Scale with five options: 1) I completely agree; 2) I partially agree; 3) I don't completely agree; 4) I disagree; 5) I totally disagree. In order to analyze these data, a multifactor variant analysis was used at a probability level of d = 0,05. As there was a significant difference on independent variant “level of experience”, an analysis of multiple comparisons was developed (post hoc) Scheffé, to a level of probability of 95%. Data collection was performed during High School games during a county phase in Maringa-Parana, Regional phase in Sarandi-Parana, during judo State championship in Maringa, Parana. Trophy of volleyball in Curitiba city, International cup in Curitiba, and south - southeast interstyle karate championship in Curitiba too.

**RESULTS:**

The result from Variant Analysis developed to identify the cause relation and the effect among the variants:

Type of sport (independent variant) and intrinsic motivation (dependent variant), did not show significance F(1,448) = 0.698; P = 0.4127 (table 1)

**TABLE 1** - Analysis of multifactorial variant to variants: type of sport, level of experience with intrinsic motivation.

| Source of variation | Addition Squares | LF | F | Level of Significance |
|---|---|---|---|---|
| Main effects<br>Á - Type of sport | 54.6451 | 1 | 0.698 | 0.4127 |
| B - Level of experience | 1059.4513 | 2 | 6.770 | 0.0013 |
| Interactions<br>AB | 50.03101 | 2 | 0.320 | 0.7265 |
| Residual | 34270.697 | 438 | | |
| Total corrected | 36744.29 | 447 | | |

Note: LF= Level of Freedom; F= Value Observed; A= Type of sport (team X individual); C= Level of experience.

This result has showed that sports modality, in which the athlete is involved team or individual, the intrinsic motivation has been a psychological reason that did not affect this variant. It proves that having the feeling of threatening for competing alone would discourage the individual sport athlete leading him to lower intrinsic motivation is misjudged. Samulski (1992) mentioned by Castro and De Rose Jr. (2000, p.26) comparing team and individual sports modality, claimed that individual sports athletes are more introspective, have lower motivation for socializing, usually have a higher level of aggression and bigger creativity.

The variant analysis applied to identify the relationship between the level of experience and intrinsic motivation showed significance F= (2,448)= 6,770; p= 0.0013 (Table 1)

Aiming at identifying the amplitude and the direction of differences, a “post-hoc- scheffé” was used at level of probability of 95% (Table 2)

**TABLE 2** - Analysis of Multiple Comparisons to variant level of experience with intrinsic motivation.

METHOD: SHEFFÉ Probability of 95%

| LEVEL | N | X (average) |
|---|---|---|
| 3 | 115 | 66.124190 |
| 1 | 135 | 67.341541 |
| 2 | 198 | 70.305462 |
| CONTRASTS | DIFFERENCES | LIMITS |
| 1 - 2 | -2.96392 | 2.83195* |
| 1 - 3 | 1.21735 | 2.86833 |
| 2 - 3 | 4.18127 | 2.88343* |

Note: Level 3= little experienced: Level 2= average experienced; Level 1= high experienced: N= number of individual per “strata”: X= average of intrinsic Motivation per “strata”.

The result of this multiple comparison analysis showed significance on contrasts 1 - 2 and 2 - 3. it means that between the levels of motivation of little- experienced individual (1) and average-experienced (2) and between the average (2) and high-experienced (3), the average-experienced showed a higher average, X = 70,30. The contrast between levels 1-3 was not meaningful.

This result showed that intrinsic motivation has a curvilinear trend for level experience once the little - experienced and high - experience showed lower levels of intrinsic motivation than the average - experienced. It shows that the athletes increased their intrinsic motivation up to a point of their sports course objecting to the premise that there is a linear relationship with such variants. When the athlete starts a modality, he shows a lower level of intrinsic motivation compared to the average and high-experienced. The same happens to the high- experienced compared to the average-experienced. Concerning the literature it is possible to relate Samulski (2002) when he says that “the relation between intensity of motivation and task difficultly is curvilinear, or with very low or extremely high motivation is minimum. When the difficulty is average, the motivation is maximum”. According to the same author, easy tasks cause boredom and psychic saturation. Extremely difficult tasks result in failure and frustration.

**FINAL CONSIDERATION**

The motivational phenomenon is complex. The existence of individual difference due to accumulated experiences is connected to each one's life background. Besides extrinsic factors, it is also considered the intrinsic variants, which are results of their individual personalities differences, and the logic among the facts occurred in the past up to the present.

As the intrinsic motivation did not show meaningful differences between team or individual sports, the idea that individual sports athletes show lower levels of intrinsic motivation compared to team sports athletes are misjudged.

The results of intrinsic motivation with level of experience showed a curvilinear relation with higher incidence on average experience athletes.

We are able to assess how motivated a person is by observing their behavior. Thus, it is important for coaches and teachers understand determining reasons for the athletes' behavior.

It is recommended they consider a relation between the magnitude of intrinsic and extrinsic motivation aiming at deep analysis of motivation guidance.

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**COMPARATIVE ANALYSIS OF INTRINSIC MOTIVATION LEVEL OF ATHLETES BETWEEN 16 TO 18 YEARS OF AGE WHO ARE PARTICIPANTS OF TEAM AND INDIVIDUAL SPORTS WITH DIFFERENT LEVELS OF EXPERIENCE.**

**ABSTRACT**

The purpose of this study was to identify the intrinsic motivation level in experience levels, and individual and team sports athletes. The sample was composed by 448 athletes, in the age ranging from 16 to 18 years old, involved in: indoor football, team hand-ball, volley-ball, karate, swimming, judo and track and field. The data were collected using the “Psychometrics Properties of Intrinsic Motivation Inventory for a Competitive Sports Settings” (McAULEY, DUNCAN and TAMMEN, 1989), using a stratified sample system, from 10% of the population. The data analysis was conducted using multifactor analysis of variance (ANOVA), in a predictive level of p<0,05. In order to identify the difference direction a multiple comparisons test (POST HOC SCHEFFE), was developed at 95% of probability. This results demonstrated that independent from sporting modality that the athlete involved in, the intrinsic motivation is psychological factor that no influence this variable.

The results indicated a significantly differences in experience level variable. The conclusion of this study indicates that athletes for experience level, it was found greater intrinsic motivation level in medium experience level.

KEY-WORD: intrinsic motivation, individual and team sports, experience level.

**L'ANALYSE COMPARATIVE DU NIVEAU DE MOTIVATION INTRINSÈQUE D'ATHLÈTES DE 16 À 18 ANS, DE SPORTS INDIVIDUELS ET COLLECTIFS, DANS DES DIFFÉRENTS NIVEAUX D'EXPÉRIENCE.**

**RÉSUMÉ**

Ce travail a pour but de vérifier le niveau de motivation intrinsèque d'athlètes participants de sports individuels et collectifs, dans des différents niveaux d'expérience. L'échantillonnage de cette étude a été constitué par 448 athlètes, à l'âge de 16 à 18 ans, qui font du futsal, du handebol, du volley-ball, du karatê, du judo, de l'athlétisme et de la natation. Le *corpus* est ancré dans l'« Inventaire de Motivation Intrinsèque pour Sports Concurrentiels », de Mcauley, Duncan et Tammen (1989). Les données ont été rassemblées en employant le système aléatoire estratifié avec la proportionnalité de 10% de la population. L'analyse porte surtout sur l'utilisation de la variance multifactoriel avec niveau prédictif de p< 0.05. Comme il a présenté une différence significative au niveau d'expérience, il a été développé une analyse de comparaisons multiples (post-hoc) Sheffé, à un niveau de 95% de probabilité. Les résultats n'ont pas démontrés des différences significatives aux niveaux de motivation intrinsèque concernant le niveau d'expérience à une probabilité de p< 0.05. Concernant la variable de sports individuels et collectifs, le résultat n'a pas présenté une différence significative non plus. Ce résultat a démontré qu'indépendamment de la modalité sportive de laquelle l'athlète fait, soit individuelle ou collective, la motivation intrinsèque a été un facteur psychologique qui n'a pas influencé cette variable. On peut conclure que les athlètes avec des niveaux moyens d'expérience se sont montrés plus motivés que les autres.

MOTS-CLES: motivation intrinsèque ; sports individuels et collectifs ; expérience.

**ANÁLISIS COMPARATIVO DEL NIVEL DE MOTIVACIÓN INTRÍNSECA DE ATLETAS DE 16 A 18 AÑOS, PARTICIPANTES DE DEPORTES INDIVIDUALES Y COLECTIVOS, CON DIFERENTES NIVELES DE EXPERIENCIA.**

**RESUMEN**

El objetivo de este estudio fue verificar el nivel de motivación intrínseca de atletas participantes de deportes individuales y colectivos, con diferentes niveles de experiencia. La muestra de este estudio fue constituida por 448 atletas, de 16 a 18 años de edad, en las modalidades de futsal, balonmano, voleibol, karate, judo, atletismo y natación. Para la colecta de datos fue emplgado el “Inventario de Motivación Intrínseca para Deportes Competitivos”, de Mcauley, Duncan y Tammen (1989). Los datos fueron colectados de una muestra empleándose el sistema aleatorio estratificado observándose la proporcionalidad de 10% de la población. Los datos fueron analisados empleándose un análisis de variancia multifatorial con nivel predictivo de p<0,05. Como presentó diferencia significativa en la variable nivel de experiencia, fue desarrollado un análisis de comparaciones múltiplas (post-hoc) Sheffé, a un nivel de 95% de probabilidad. Los resultados demostraron diferencias significativas en los niveles de motivación intrínseca en relación a la variable nivel de experiencia a una probabilidad de p<0.05. En relación a la variable deportes individuales y colectivos, el resultado no presentó diferencia significativa. Esto demostró que independientemente de la modalidad deportiva en que el atleta esté envuelto, sea individual o colectiva, la motivación intrínseca fue un factor psicológico que no influencio esta variable. Se concluyó, con este estudio, que los atletas con niveles medios de experiencia se mostraron más intrínsecamente motivados que los más y los menos experientes.
PALABRAS CLAVE: motivación intrínseca, deportes individuales y colectivos, experiencia.

**ANÁLISE COMPARATIVA DO NÍVEL DE MOTIVAÇÃO INTRÍNSECA DE ATLETAS DE 16 A 18 ANOS, PARTICIPANTES DE ESPORTES INDIVIDUAIS E COLETIVOS, COM DIFERENTES NÍVEIS DE EXPERIÊNCIA.**

**RESUMO**

O objetivo deste estudo foi verificar o nível de motivação intrínseca de atletas participantes de esportes individuais e coletivos, com diferentes níveis de experiência. A amostragem deste estudo foi constituída por 448 atletas, de 16 a 18 anos de idade, nas modalidades de futsal, handebol, voleibol, karatê, judô, atletismo e natação. Para a coleta de dados foi empregado o “Inventário de Motivação Intrínseca para Esportes Competitivos”, de Mcauley, Duncan e Tammen (1989). Os dados foram coletados de uma amostragem empregando-se o sistema aleatório estratificado observando-se a proporcionalidade de 10% da população. Os dados foram analisados empregando-se uma análise de variância multifatorial com nível preditivo de p<0,05. Como apresentou diferença significativa na variável nível de experiência, foi desenvolvida uma análise de comparações múltiplas (post-hoc) Sheffé, a um nível de 95% de probabilidade. Os resultados demonstraram diferenças significativas nos níveis de motivação intrínseca em relação à variável nível de experiência a uma probabilidade de p<0.05. Em relação à variável esportes individuais e coletivos, o resultado não apresentou diferença significativa. Isto demonstrou que independentemente da modalidade desportiva em que o atleta esteja envolvido, seja individual ou coletiva, a motivação intrínseca foi um fator psicológico que não influenciou esta variável. Concluiu-se, com este estudo, que os atletas com níveis médios de experiência mostraram-se mais intrinsecamente motivados que os mais e os menos experientes.

PALAVRAS-CHAVE: motivação intrínseca, esportes individuais e coletivos, experiência.