Assessing Motivation Factors in Indian Athletes – A Pilot Study

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Abstract

Objectives
This pilot study aimed to assess the motivation of Indian male athletes across three distinct sports disciplines and to examine the relationship between motivation, career length, and career quality.
Material and Methods
The study involved 83 male athletes representing various levels of sports achievement: 27 in track and field, 22 in cricket, and 34 in judo. The Sport Motivation Scale II (SMS-II), comprising 18 items, was used to evaluate motivation along six components: Intrinsic Regulation, Integrated Regulation, Identified Regulation, Introjected Regulation, External Regulation, and Amotivation. Participants also provided information regarding their career quality (recreational to international level) and training duration. Data analysis was conducted using Excel 2007 and Statistica 6.0, applying Tukey's test and Chi-square test with significance set at $p < 0.05$.
Results
Motivation profiles showed overall similar patterns across groups, with the most statistically significant difference observed in the External Regulation component. Only among judokas were significant positive relationships found between Total Motivation and both the length ($R^2 = 0.36$) and quality ($RS = 0.53$) of the sports career. Further analysis revealed low but statistically significant associations between specific components of motivation (e.g., Intrinsic, Introjected, and Identified Regulation) and career indicators in the judo group, with no such relationships identified in the track and field or cricket groups.

Conclusion
Motivational patterns among athletes in India appear to differ by sport, with judokas exhibiting stronger and more consistent correlations between motivation and career development. The results suggest that while established athletes benefit from structural stability, they tend to rely more on external forms of motivation. In contrast, the lack of significant associations in cricket and track and field may reflect uniform training demands and comparable levels of experience across participants. These pilot findings underscore the importance of sport-specific and contextual influences in shaping athlete motivation and point to the need for more comprehensive, large-scale research to further explore these dynamics.

Introduction

Motivation is one of the most important determinants of success in sport, influencing training intensity, commitment, and career longevity. Research demonstrates that both intrinsic and extrinsic motivation significantly predict training duration, whereas amotivation negatively correlates with sustained engagement (Singh & Bal, 2024). Despite its importance, motivation is a subjective and latent construct, shaped by social-cognitive mechanisms, psychological support, and broader cultural conditions (Chin et al., 2021).

Early approaches to assessing motivation largely relied on behavioral indicators or athletes' own explanations for engaging in particular activities. Over time, more systematic theoretical frameworks have been developed to capture its multidimensional nature. One of the most influential frameworks in sport and educational psychology is Self-Determination Theory (SDT) (Deci & Ryan, 1985; Deci et al., 1991). SDT conceptualizes motivation as a continuum ranging from highly self-determined to controlled forms of regulation, depending on the extent to which behavior is driven by autonomy, competence, and relatedness (Deci & Ryan, 1985, 2000; Deci et al., 1991). Autonomy reflects the perception of being the origin of one's own actions, competence refers to confidence in one's ability and measurable progress, and relatedness concerns the sense of connection with others in the sporting environment (Ryan & La Guardia, 2000). Together, these needs form the psychological foundation that determines whether motivation is internalized and sustainable or externally regulated and fragile.

Studies indicate that motivation varies not only by sport but also by the stage of athletic development. Potential players, often facing financial hardship,

exhibit higher levels of intrinsic motivation, while established players enjoy stability but are at risk of stagnation post-achievement (Sengupta & Mukherjee, 2021). Recreational and developmental athletes often benefit more from autonomy-supportive climates, while elite athletes require tailored approaches to sustain motivation. Previous comparisons across disciplines further underline these differences: archers score higher than shooters on both intrinsic and extrinsic motivation (Singh et al., 2020), while swimmers from different universities showed no meaningful differences (Singh & Kumar, 2017).

The psychological dimension of motivation is also closely tied to mental health. Controlled motivation has been shown to correlate with poorer outcomes such as depressive symptoms (Sheehan et al., 2018). At the same time, macro-level factors such as economic resources and cultural traits strongly influence athletic performance and infrastructure development (Sava et al., 2024).

Within this context, the present pilot study investigates the motivational profiles of Indian athletes across athletics, cricket, and judo. It examines the role of different motivational regulations (intrinsic, extrinsic, and amotivation) in relation to career length and quality, while also identifying discipline-specific patterns that may guide tailored motivational strategies in Indian sport.

Material and methods

Participants

The study on sports motivation involved 83 male athletes training in various sports disciplines in India, representing different levels of sports excellence. The sample included 27 track and field athletes, 22 cricket players, and 34 judo athletes.

The Sport Motivation Scale II (SMS-II) (Pelletier et al., 2013) was used for assessment. Standard questions regarding the quality and length of the sports career were also included. The participants represented various career levels (1 = Recreational, 2 = Amateur, 3 = National, 4 = International) and differed in terms of their training experience. The university's ethics committee approved this study. The subjects were given informed consent form to sign and they agreed to voluntarily participate in the study.

Instruments

Sports Motivation Scale II (Pelletier et. al., 2013): The Sport Motivation Scale II (SMS II) is based on Self-Determination Theory (SDT) and is designed to assess individuals ʾmotivational orientations toward sport. The instrument comprises 18 items, evenly distributed across six subscales: intrinsic regulation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation. Responses are provided on a 7-point Likert scale, ranging from 1 (does not correspond at all) to 7 (corresponds completely). The original items were developed and validated by Pelletier et al. (2013).

Statistical analysis

The collected data were analyzed statistically using Excel 2007 and Statistica version 6.0. Values for total motivation and its six components were presented: Intrinsic Regulation, Integrated Regulation, Identified Regulation, Introjected Regulation, External Regulation, and Amotivation. To compare the values between the studied groups, Tukey's test and the Chi-square test (for differences) were applied. Statistical significance was set at $p < 0.05$. Trend lines, determination index (R^2), and Spearman's correlation coefficient (RS) were presented in the variable graphs. Motivation profiles were projected for each group.

Results

The results of the measurements of chronological age, career length, career quality, total motivation, and its components (Intrinsic Regulation, Integrated Regulation, Identified Regulation, Introjected Regulation, External Regulation, Amotivation) for all studied groups, along with the numerical values of relative differences, are presented in Tables 1-2. Motivation profiles by components are shown in Graph 1, while the relationships between career length and quality are presented in Graphs 2-3.

Table 1. Results of chronological age, career length, and career quality measurements.

Atletics	22.2 ± 4.1	6.9 ± 3.4	* rekreacyjna -8,
Cricket n=22	23.1 ± 3.4	5.5 ± 3.5	*rekreacyjna - 13

Judo n=34	22.3 ± 3.2	6.4 ± 3.3	* rekreacyjna - 9 amatorska -5

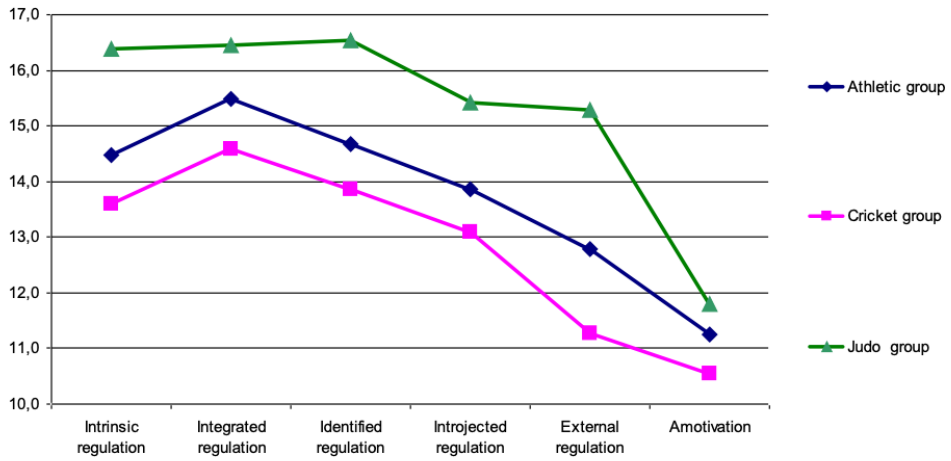
* -Differences statistically significant at the level p<0.05

Table 2. Numerical values of total motivation and its components measured for all three study groups (Track and Field, Cricket, and Judo). The significance of differences between group values was determined using Tukey's test.

Group/ Components of motivation	Intrinsic regulation	Integrated regulation	Identified regulation	Introjected regulation	External regulation	Amotivation	Total Motivation
Atletics n=27	14.5 ± 3.7	15.6 ± 3.4	14.7 ± 3.1	13.9 ± 3.2	12.8 ± 2.3*	11.3 ± 4.8	82.5 ± 14.7
Cricket n=22	13.6 ± 4.4*	14.6,0 ± 4.2	13.9 ± 4.6*	13.1 ± 4.8	11.3 ± 3.2*	10.5 ± 4.2	77.0 ± 22.5*
Judo n=34	16.4 ± 3.8*	16.4 ± 4.1	16.5 ± 4.2*	15.4 ± 3.5	15.3 ± 3.9**	11.8 ± 5.9	91.9 ± 19.1*

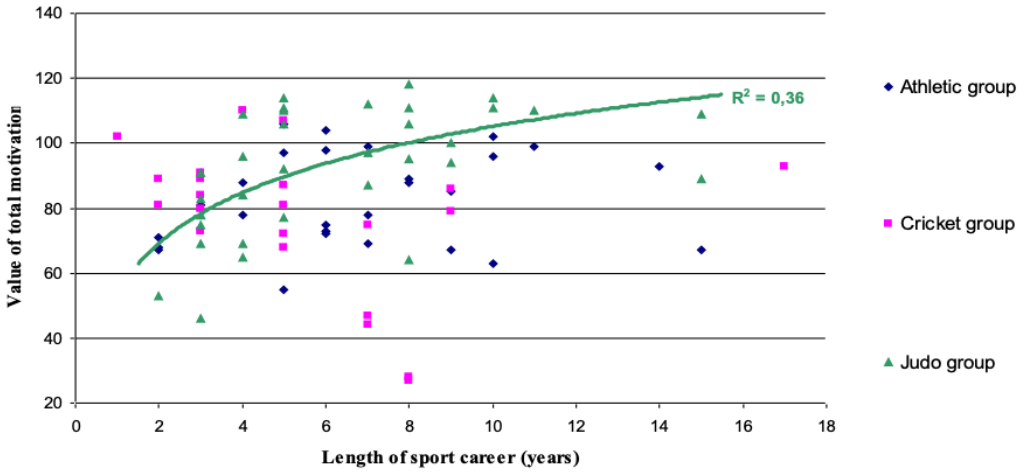
***** - Statistically significant differences at the level p<0,05

The motivation profile broken down by its components is presented in Graph 1.



Graph 1. Average levels of motivation components (Intrinsic Regulation, Integrated Regulation, Identified Regulation, Introjected Regulation, External Regulation, Amotivation) across all male participant groups.

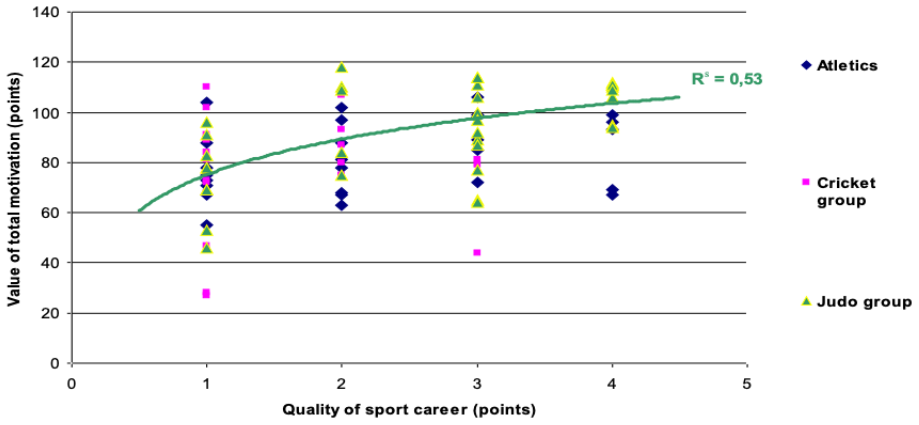
The data in Table 2 and the graphical representation in Graph 1 indicate a similar pattern of average motivation component values across groups. However, the most significant and statistically relevant differences between



groups were observed in the External Regulation component.

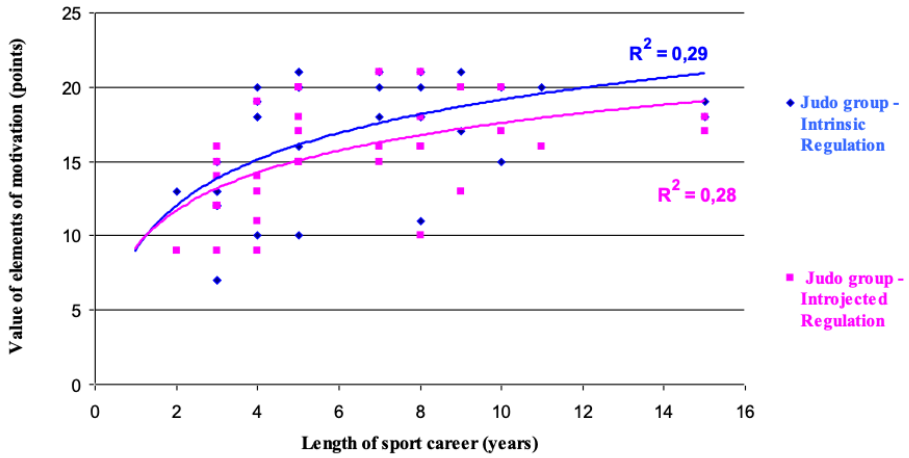
Graph 2. Relationship between Total Motivation and the length of the sports career.

Graph 2 shows a significant positive relationship between Total Motivation and the length of the sports career only in the group of male judokas. This relationship is statistically significant, as indicated by the determination coefficient $R^2 = 0.36$. No such relationship was observed in the other groups, where the distribution of data points was random.



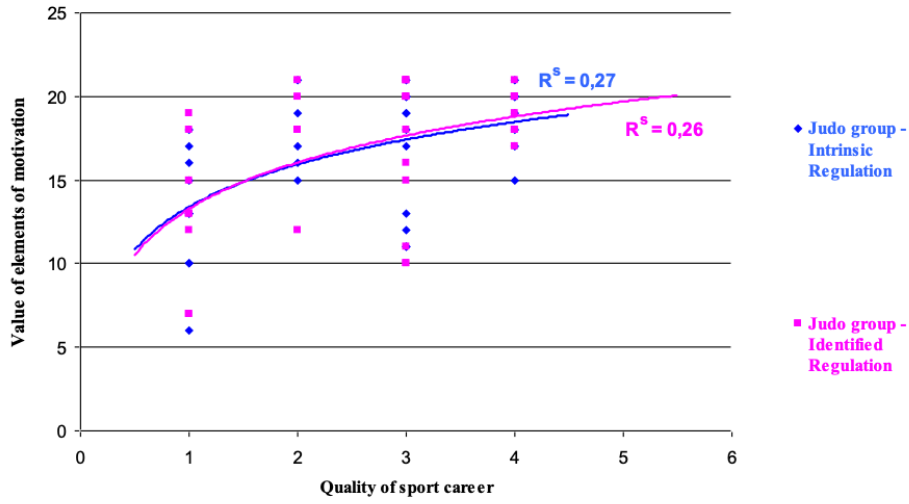
Graph 3. Relationship between Total Motivation and the quality of the sports career.

Graph 3 presents a significant positive relationship between Total Motivation and the quality of the sports career, again only for male judokas. This relationship is statistically significant, with a Spearman's coefficient RS = 0.53. No such relationship was found in the other groups.



Graph 4. Relationship between motivation components (Intrinsic Regulation and Introjected Regulation) and the length of the sports career.

Graph 4 indicates a statistically significant relationship between the selected motivation components and the length of the sports career among judokas. The determination coefficients ($R^2 = 0.29$ and $R^2 = 0.28$) are statistically significant at a low level. No such relationships were found in the Athletics and Cricket groups.



Graph 5. Relationship between motivation components (Intrinsic Regulation and Identified Regulation) and the quality of the sports career.

Graph 5 demonstrates a statistically significant relationship between the selected motivation components and the quality of the sports career in the judo group. Spearman's coefficients RS = 0.27 and RS = 0.26 indicate low-level significance. These patterns were not observed in the Athletics and Cricket groups.

Discussion

The findings of this pilot study revealed broadly similar motivational structures across the studied sports, yet with notable discipline-specific variations. The strongest differences appeared in the External Regulation component, confirming the influence of rewards, recognition, and external pressures in shaping motivation among Indian athletes. Importantly, judokas exhibited significant positive correlations between total motivation and both career length and career quality, a pattern absent in athletes from cricket and athletics. These results suggest that the judo environment, with its structured training systems and career pathways, provides more consistent motivational reinforcement.

The results converge with previous evidence showing that intrinsic and extrinsic motivation sustain long-term training commitment (Singh & Bal, 2024), and that athletes under financial or structural pressure often rely on intrinsic motivation to continue (Sengupta & Mukherjee, 2021). However, the absence of significant motivational trends in athletics and cricket may not be due to a lack of institutional support—since both sports, and especially cricket, enjoy strong organizational backing and career opportunities in India. Instead, the results may reflect the diversity of motivational pathways within these disciplines, where external rewards, public recognition, and long-term contracts can sometimes overshadow intrinsic regulation. Another possible explanation is the heterogeneity of athletes within these samples, ranging from recreational to professional levels, which may have diluted clear motivational patterns.

Moreover, the findings highlight the critical role of motivational climate for athlete well-being. While external regulation can be a powerful driver, over-reliance on controlled forms of motivation has been linked to depressive symptoms and poor psychological outcomes (Sheehan et al., 2018). This

underlines the importance of designing autonomy-supportive training environments, especially for developing and recreational players. At the same time, established players require strategies to counteract stagnation and maintain engagement after reaching key milestones.

On a broader level, these findings are consistent with evidence that economic and cultural factors strongly influence sports performance and infrastructure (Sava et al., 2024). In the Indian context, limited financial support for athletes highlights the need for targeted policies that not only build infrastructure but also foster motivational environments conducive to athlete development.

Conclusion

1. Motivation among Indian athletes shows both universal and discipline-specific patterns, with judokas demonstrating the strongest positive links between motivation, career length, and career quality.

2. External regulation was the most variable motivational component across groups, underscoring the importance of recognition, rewards, and external pressures in shaping sports engagement in India.

3. The results highlight the need for tailored motivational strategies: autonomy-supportive environments for developing athletes, anti-stagnation interventions for established players, and timely psychological support to mitigate mental health risks linked with controlled motivation.

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