



Unlocking the Inner Drive: Exploring Intrinsic Motivation in Softball Across Genders

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Article Info

Article History :

Received : September 2023

Revised : December 2023

Accepted : December 2023

Keywords:

College Students,
Gender Disparities,
Intrinsic Motivation,
Softball Skills,
Sports Education Program,

Abstract

Intrinsic motivation, which is the inner drive that motivates individuals to engage in various activities across different domains, plays a crucial role in shaping performance, especially in sports like softball. This study explores the complex interplay between gender, intrinsic motivation, and softball skills among university students. Using quantitative research methods and an ex-post facto design, this research provides valuable insights into the comparison of intrinsic motivation (interest, enjoyment, and personal challenge) and softball skills based on gender. The results reveal significant gender-based disparities in softball skills, highlighting the need for tailored interventions to promote gender equality in sports. Interestingly, despite differences in skills, the levels of intrinsic motivation encompassing interest, enjoyment, and personal challenge remain consistent across genders, emphasizing the universal appeal of intrinsic motivation in sports. Additionally, the study employed two distinct instruments: the Sport Motivation Scale (SMS) to assess intrinsic motivation and the O'Donnell Softball Test to measure softball skills. This research underscores the potential of sports programs to leverage these shared motivational factors to improve performance and engagement. It offers valuable insights into the diverse world of sports participation, providing a promising path for more inclusive and effective sports programs in the university environment, with a focus on promoting equality and excellence in sports participation.



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ISSN 2685-6514 (Online)

ISSN 2477-331X (Print)

INTRODUCTION

Intrinsic motivation, the inner drive compelling individuals to engage in an activity for the inherent rewards it offers, is a subject of profound significance across diverse domains, including sports and education (Almagro et al., 2020; Mercader-Rubio et al., 2023). In the realm of sports, the role of intrinsic motivation in shaping skill development, performance, and overall enjoyment is pivotal (Wollesen et al., 2022; Wulf & Lewthwaite, 2016). Among the myriad of sports practiced in universities and colleges, softball emerges as an intriguing arena to scrutinize the interplay between intrinsic motivation, skill acquisition, and potential gender disparities (Deaner et al., 2016; Hollembeak & Amorose, 2005; Sernek, 2016).

Softball, a dynamic team sport demanding a blend of physical prowess, technical finesse, and cognitive strategies, frequently finds its way into university programs, be it through formal physical education curricula or as a favored extracurricular pursuit (Appelbaum et al., 2016; Negara et al., 2021; Roberts, 2012). Herein lies an opportunity to unravel how intrinsic motivation influences the engagement of university students with softball, offering insights into the factors propelling skill refinement and shaping the holistic sporting experience of these students (Baena-Extremera et al., 2014; Buning, 2016; Ryan & Deci, 2020). Additionally, it is noteworthy that individuals who have embraced a physically active lifestyle may be particularly susceptible to experiencing the profound influence of less feelings of anxiety (Gumilar et al., 2022). It can enhance intrinsic motivation, as their ongoing engagement in physical activities can further reinforce the intrinsic rewards and satisfaction derived

from participation in sports like softball (Kim et al., 2022; Pelletier et al., 1995; van Wersch, 2005). This underscores the importance of exploring the interconnectedness of lifestyle choices and intrinsic motivation in the context of sports engagement (Rheinberg & Engeser, 2018).

Deconstructing intrinsic motivation reveals its elemental components interest, enjoyment, and personal challenge (Deci & Ryan, 2013; Morris et al., 2022). Interest reflects an individual's innate curiosity and allure toward an activity, while enjoyment encapsulates the sheer delight derived from active participation (Berki & Tarjányi, 2022; Harackiewicz et al., 2016). Personal challenge embodies the relentless pursuit of self-improvement and mastery (Box et al., 2019; Huéscar Hernández et al., 2020). In the sporting context, these components intricately interlace, influencing the trajectory of softball skill development and the holistic athletic experience (Sernek, 2016).

A salient facet in the exploration of intrinsic motivation in sports lies in discerning potential gender disparities (Larsen et al., 2021). Historical trends have underscored the profound influence of gender on sports participation, performance, and motivation (MPed, 2012). These disparities manifest in multifaceted ways, shaped by societal norms, self-perceptions, and cultural expectations (Murray et al., 2022). A critical examination of whether gender exerts an influence on the intrinsic motivation of university students engaged in softball promises to unveil areas necessitating targeted support and intervention (Schanilec-Gowan, 2021; Tudor & Ridpath, 2019). This endeavor aligns with the broader objective of fostering equitable opportunities and experiences in sports (Sáez et al., 2021; Van Heerden, 2014).

The core aim of this research is to probe the intricate dynamics difference of intrinsic motivation components—interest, enjoyment, and personal challenge—with the development of softball skills among university students based on gender. Simultaneously, it aspires to ascertain whether and how gender-based disparities influence the impact of these motivational factors on skill acquisition and overall engagement in softball. By undertaking these inquiries, this research endeavors to enrich the overarching comprehension of intrinsic motivation's role in the realm of sports. Moreover, it seeks to elucidate the far-reaching implications of these dynamics, both in terms of skill development and in advancing the cause of gender equity.

In the forthcoming sections of this article, a comprehensive exploration of our research methodology, data collection processes, rigorous analysis, and consequential findings will unfold. Ultimately, this endeavor will culminate in drawing substantive conclusions and proffering pragmatic recommendations. Through this research, we are poised to make meaningful contributions to the fields of sports psychology and gender studies, simultaneously offering actionable insights for the benefit of coaches, educators, and policymakers engaged in university sports programs.

METHODS

Research methods in this study, the authors took a quantitative approach to compare specific factors between genders. The research design of choice was the ex post facto group design, which allowed to examine natural differences that exist. This design was particularly relevant for investigating particularly adept at delving into the potential effects of gender on intrinsic motivation aspects,

such as interest, enjoyment, and personal challenge, concerning the development of softball skills among university students. By employing quantitative methods and this research design, the aimed was to provide insights grounded in data about how gender influences intrinsic motivation and its consequences for softball skills. This research contributes to a better understanding of the interplay between sports psychology and gender dynamics in university sports programs.

Participants

The study was founded on a participation of 68 students (F=24; M=44), drawn from the physical education program at the Faculty of Education Sport and Health, Indonesian University of Education. These students were all actively involved in softball courses, adding a unique dimension to their academic journey. They are a student from the class of 2020. Within this diverse academic community, we found a balanced representation of both genders, providing the context for our exploration of intrinsic motivation and its link to softball skill development

Sampling Procedures

The diverse population, we carefully selected a representative sample of 30 students using systematic random sampling. This sample, comprising 15 females and 15 males, mirrored the gender distribution of the population. Importantly, these students remained actively enrolled in the physical education program and participated in softball courses, making them the focus of our investigation into the intricate dynamics of intrinsic motivation, gender, and softball skill development within the academic context of the Indonesian University of Education. The students willingly participated with the test and follow the instruction of the test were held

during final semester examinations. The data were accommodated through questionnaire.

Materials and Apparatus

In the study, intrinsic motivation and its differential impact on softball skills among university students of varying genders were rigorously examined. The approach involved the careful selection of two distinct instruments. The Sport Motivation Scale (SMS) (Pelletier et al., 1995, 2013), a reputable self-report survey developed by Pelletier et al. in 1995, encompasses 28 items, offering insights into individuals' interest, enjoyment, and personal challenges within the realm of sports. Complementing the SMS, the O'Donnell Softball Test (Fufu et al., 2021), comprising 5 items, assessed specific softball skills, including throwing, catching, and hitting. Skill evaluations were conducted during final semester examinations, and data were meticulously collected through Google Forms. These instruments, validated and deemed reliable with Cronbach's alpha values of 0.779 (>0.05) for the SMS and 0.701 (>0.05) for the O'Donnell test. This dual-instrument strategy allowed us to assess intrinsic motivation levels and objectively measure the development of softball skills across genders among university student participants. These instruments played a pivotal role in unlocking the intricate interplay between intrinsic motivation and softball skill acquisition across genders within the university student context.

Procedures

In this study, we assessed participants' intrinsic motivation in softball using three key dimensions. They include, (a) Interest measured individuals' intrinsic interest in softball and the personal significance they attributed to

the activity. Participants' levels of interest and personal meaning regarding softball were assessed using a self-report survey that included questions probing their curiosity, engagement, and perceived value of engaging in softball, (b) Enjoyment measured to reflecting the pleasure and intrinsic rewards individuals derived from their participation in softball. It was measured using responses from participants to questions assessing their level of enjoyment and the intrinsic satisfaction they experienced during softball activities, (c) Personal challenges explored how individuals perceived and confronted challenges encountered in the context of softball. This dimension assessed participants' awareness of difficulties in softball and their commitment to overcoming these challenges.

Then, we assessed participants' softball skills across three crucial dimensions. They include, (a) Throwing, focusing on participants' technique, accuracy, and ball delivery strength, (b) Catching proficiency was measured, emphasizing participants' skill in receiving and controlling softballs during gameplay. Factors such as hand-eye coordination, reflexes, and positioning were considered, (c) Hitting skills centering on participants' competence in effectively striking the softball with a bat. Timing, power, and accuracy during batting were scrutinized. Participants were grouped by gender, with the researcher facilitating data collection and analysis. Clear instructions guided participants in completing surveys and performing in these softball-related activities.

In summary, we manipulated interest, enjoyment, and personal challenge as independent variables to assess intrinsic motivation in softball and throwing, catching, and hitting skill to assess abilities for dependent variables.

Gender-based groups were assigned as a factor, with the researcher's role in data collection and analysis.

Design or Data Analysis

The data collected in this research activity was performed using the Microsoft Excel 2019 assistance program and the IBM Social Sciences Package Statistics (SPSS) version 25.0 to examine the difference result of intrinsic motivation to softball skills across the gender. The steps to analyze this data include validity and reliability of instrument, normality tests, homogeneity tests, and hypothesis testing were used, and the analysis used the t-test.

RESULT

The data in this study were collected through the use of carefully chosen instruments, such as the implementation of Google Forms, and through testing during the final semester examination. Subsequently, these data were rigorously analyzed to identify gender-based comparisons in terms of softball skills and intrinsic motivation, which includes interest, enjoyment, and personal challenge. This research underwent a thorough analytical process to uncover the complex differences among various factors influencing university students in the context of softball.

Tables & Figures

Based on the results of the group t-test calculations (as presented in Table 1 and Fig 1), the significance value of the two-tailed probability, denoted as Sig (P-Value), is indicates for softball skills that Sig (P-Value) < 0.05, which is a strong indication of a significant difference in softball skills between male and female students. In contrast, the data pertaining to intrinsic motivation, encompassing

interest, enjoyment, and personal challenge, exhibit a probability with Sig (P-Value) > 0.05. Consequently, it can be deduced that there exists an insignificant difference in intrinsic motivation between the two groups, male and female students. This robust statistical analysis not only underscores the noteworthy disparities in softball skills but also emphasizes the uniformity in intrinsic motivation factors among male and female students.

Table 1. Results of the analysis of paired samples by t-test. Mann Whitney U Test

| No | Items | Gender | N | Asymp Sig (2-tailed) |
|----|--------------------|--------|----|----------------------|
| 1 | Interest | Male | 15 | 0.618 |
| | | Female | 15 | |
| | | Total | 30 | |
| 2 | Enjoyment | Male | 15 | 0.532 |
| | | Female | 15 | |
| | | Total | 30 | |
| 3 | Personal Challenge | Male | 15 | 0.603 |
| | | Female | 15 | |
| | | Total | 30 | |
| 4 | Softball Skills | Male | 15 | 0.000 |
| | | Female | 15 | |
| | | Total | 30 | |

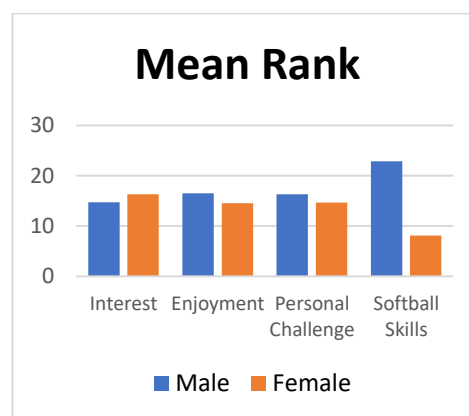


Fig 1. Mean Rank of Mann-Whitney U Test (N=30)

DISCUSSION

The main objective of this study was to examine differences in intrinsic motivation and softball skills among university students based on gender

differences. The research employed quantitative methods and a meticulously designed research approach to achieve this goal.

The findings related to softball skills are quite striking. The significant gender-based disparity in softball skills suggests that there are inherent differences in how male and female students develop these skills. This outcome could be attributed to a multitude of factors, including biological differences, socialization patterns, and varying levels of exposure to softball or related sports (Frank, 2008; Rasset, 2018). Such gender differences have implications not only for sports programs but also for the broader conversation on gender equity in sports (Sherry & Zeller, 2014). For instance, research by Gumilar et al., (2021) highlighted instances where female softball athletes struggled to achieve target batting performance levels. Future research should explore the specific factors contributing to these disparities and consider how tailored coaching and training programs can address gender-based skill gaps. Moreover, addressing these disparities is essential not only for enhancing sports performance but also for promoting gender equity within the sports domain.

In contrast, the analysis of intrinsic motivation, encompassing interest, enjoyment, and personal challenge, revealed a surprising result. Despite the disparities in softball skills, there was no significant difference in intrinsic motivation levels between male and female students. This finding challenges conventional assumptions about gender differences in sports motivation (D'lima et al., 2014). It suggests that while skill development may vary, the underlying motivations to engage in softball remain remarkably consistent across genders (Cooper et al., 2012; Khazaie & Mesbah, 2014). This

underscores the importance of recognizing the universality of intrinsic motivation in sports and the need for sports programs to tap into these shared motivational factors to enhance engagement and performance (Cerasoli et al., 2014; Cooper et al., 2012; Reiss, 2012; Ryan & Patrick, 2009).

Nevertheless, it's crucial to handle these results with care and consideration. While this study provides valuable insights, it is crucial to acknowledge the nuanced nature of intrinsic motivation (Deci et al., 1985; Jaakkola et al., 2016; Ryan & Deci, 2000, 2017). It is a complex psychological construct influenced by various individual and contextual factors (Deci & Ryan, 2013, 2016; Ryan & Patrick, 2009). While this study did not identify significant gender differences in intrinsic motivation for softball, there may still be nuanced aspects or situational variations that warrant further investigation (Ryan & Deci, 2020; Sun et al., 2017; White et al., 2021). Future research could delve deeper into these nuances to provide a more comprehensive understanding of intrinsic motivation within the sports context.

In summary, this study offers valuable insights into the interplay between gender, intrinsic motivation, and softball skills among university students. The significant gender-based skill disparities call for targeted interventions and gender-sensitive coaching approaches, promoting greater inclusivity and equity in sports (Khan, 2018; Maher & Hastings, 2023; Senne, 2016; Spaaij et al., 2018). Simultaneously, the uniformity in intrinsic motivation underscores the importance of recognizing the common motivational drivers that transcend gender boundaries in sports (Gil-Arias et al., 2020; Shiraev & Levy, 2020). Future research should continue to unravel the multifaceted dynamics of sports

participation, providing a solid foundation for evidence-based sports programs and policies that cater to the diverse needs and aspirations of all athletes. Ultimately, this research contributes to a deeper understanding of the intricate interplay between gender, intrinsic motivation, and sports performance in the university sports landscape.

CONCLUSION

In conclusion, this study has revealed significant gender-based disparities in softball skills among university students, shedding light on the imperative need for customized coaching and training programs aimed at mitigating these skill gaps and advancing gender equity in sports. It is noteworthy that, despite these disparities in softball skills, intrinsic motivation levels, encompassing elements of interest, enjoyment, and personal challenge, remained strikingly uniform across genders. This underscores the universal allure of intrinsic motivation within the realm of sports, emphasizing the potential for sports programs to harness these shared motivational factors to elevate performance and engagement for all athletes, regardless of their gender. Nevertheless, the multifaceted nature of intrinsic motivation warrants further examination to uncover nuanced facets and situational intricacies. As we move forward, comprehending and harnessing intrinsic motivation holds the key to fostering more inclusive and effective sports programs within the university setting, ultimately nurturing both equity and excellence in sports participation.

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