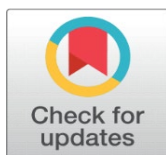


ASSESSING THE RELIABILITY OF THE TALENT DEVELOPMENT ENVIRONMENTAL QUESTIONNAIRE: A PILOT STUDY

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ABSTRACT

The reliability of the scales utilized in research are crucial elements that contribute to the generation of valuable outcomes. This study aimed to develop a practical and reliable measure of the Talent Development Environmental Questionnaire (TDEQ) by adapting three modules, totaling 59 items. Utilizing a sample size of 30 and employing the test-retest method, the study found Pearson correlation results for seven factors: Long-Term Development Focus (LTDF), Quality Preparation (QP), Communication Skills (CO), Understanding Athletes (UA), Supporting Network (SN), Challenges and Supporting Environment (CSE), and Long-Term Developmental Fundamental Understanding (LTDFU). Internal consistency estimates, including Cronbach's alpha scores, ranged from 0.627 to 0.900. The mean Cronbach's alpha was 0.75, with individual factor scores of 0.900, 0.712, 0.781, 0.678, 0.832, 0.631, and 0.627, respectively. These findings underscore the significance of factors such as LTDF, QP, CO, UA, SN, CSE, and LTDFU in track and field athletes' overall development, reaffirming the high reliability of all dimensions of the TDEQ.

Keywords: Talent Development Environmental Questionnaire, Athletes, Manager

1. INTRODUCTION

Talent development in sports is widely recognized as a crucial phase in the journey towards achieving sporting excellence, as underscored by [Den Hartigh et al. \(2018\)](#). At its core, this process is geared towards creating an optimal learning environment to nurture the potential of promising young athletes, as emphasized by [Reilly et al. \(2000\)](#). The essence of talent development lies in providing athletes with the necessary support and resources to thrive, ensuring they have the opportunity to maximize their capabilities, as outlined by [Reilly et al. \(2000\)](#).

Central to the effectiveness of talent development initiatives are developmental programs meticulously designed to facilitate athletes' growth and progression, ultimately preparing them for elite-level performance. In line with this objective, the researcher undertook the task of adapting three modules of the Talent Development Environmental Questionnaire (TDEQ), drawing upon the work of [Martindale et al. \(2010\)](#). With a total of 59 items distributed across TDEQ Modules One, Two, and Three, the research questionnaire was crafted to align with the specific aims of the study, aiming to explore and assess the factors crucial to fostering athletes' development in track and field athletics.

1.1. OBJECTIVES

The aim of this study was to develop a practical and reliable assessment tool for gauging the effectiveness of the Talent Development Environmental Questionnaire.

2. METHODOLOGY

In accordance with [Sürücü & Maslakçı \(2020\)](#), reliability refers to the degree to which a measurement consistently yields the same outcomes across multiple administrations. In this study, the researcher utilized the test-retest method to assess reliability. Internal consistency analysis, specifically Cronbach's Alpha Coefficient, was employed to measure the reliability of the instruments. This coefficient was computed to ascertain the correlation with the study's subject matter, indicating the extent of consistency among the questionnaire items. This methodological approach ensures the robustness of evaluating the reliability of the Talent Development Environmental Questionnaire adaptation.

2.1. SAMPLE SIZE

The discussion surrounding sample size in our study revolves around the balance between the recommendations set forth by [Yamane \(1967\)](#) and the specific context of our research utilizing the Talent Development Environmental Questionnaire (TDEQ). While [Yamane \(1967\)](#) advocate for a minimum of 100 subjects for descriptive studies, our focus on correlational analysis aligns with their suggestion of at least 30 subjects sufficing. Given the TDEQ's 59 items, a sample size of 30 was deemed appropriate for Module One, allowing for a comprehensive examination of the questionnaire's dimensions within manageable constraints. Despite the smaller sample size, its adequacy was supported by the in-depth coverage of TDEQ items and the homogeneity of the participant pool comprising Master's students from the University of Delhi. Looking ahead, as Modules Two and Three progress, similar considerations will guide sample size determination, aiming to strike a balance between comprehensiveness and practicality while ensuring the reliability and applicability of the TDEQ across diverse contexts of sports talent development.

2.2. RELIABILITY AND VALIDITY OF INSTRUMENTS

The reliability and validity of the instrument were ensured through a multi-step process. Initially, each questionnaire item underwent evaluation for reliability using Cronbach's Alpha. Items representing Factors 1 through 7 - LTDF (item 24), QP (item 5), CO (item 7), UA (item 4), SN (item 8), CSE (item 4), and LTDFU (item 7) - exhibited alpha (α)-values ranging from 0.627 to 0.900, with an average of 0.75, indicating satisfactory reliability. Subsequently, the instrument underwent a

and facilitating the interpretation of our findings. This study, which sought to uncover managerial skills crucial for athletes' development and elucidate coaching styles, revealed significant correlations within the Talent Development Environmental Questionnaire (TDEQ). Specifically, correlations were observed across seven factors or dimensions: Long-Term Development Focus, Quality Preparation, Communication Skills, Understanding Athletes, Supporting Networks, Challenges and Supporting Environments, and Long-Term Developmental Understanding. These correlations shed light on the interconnectedness of various aspects of talent development and coaching practices, offering valuable insights for enhancing athlete development strategies.

In the TDEQ component plot for 59 items from 30 respondents, each item is shown as a point positioned by its relationship (loadings) with rotated components. Positive correlations cluster items closer to components, indicating stronger associations, while negative correlations position items farther away. This visual aids in understanding item contributions to TDEQ components, facilitating interpretation and pattern identification in respondents' perceptions.

4. DISCUSSION

The discussion on internal consistency estimates in our manuscript reveals promising results, as indicated by Cronbach's alpha scores ranging from 0.627 to 0.900 across the scales. Particularly noteworthy is the mean Cronbach's alpha of 0.75, suggesting overall good reliability. Individual factor scores varied from 0.627 to 0.900, indicating varying levels of reliability from acceptable to excellent. These findings align with previous research by [Siekańska & Wojtowicz \(2017\)](#), affirming the robustness of the underlying factors measured by the questionnaire and establishing it as a dependable tool for future research or practical applications in talent development.

Reliable measurement instruments are crucial in talent development, providing researchers and practitioners with confidence in the validity of their assessments. Our findings underscore the significance of prioritizing sport-specific talent identification to optimize athlete development performance, in line with [Reza et al. \(2024\)](#). Furthermore, understanding the reliability of these factors lays the groundwork for refining strategies and exploring new avenues in athlete development practices.

Researchers [Taye et al. \(2024\)](#) suggest a Cronbach's alpha value of 0.70 for reliability analysis, indicating reliability and validity. This further supports the credibility of our pilot study's findings, offering valuable insights for researchers and practitioners seeking to enhance athlete development practices, particularly in track and field athletics. In this manuscript contributes to the field by providing evidence of the reliability and validity of the measurement instrument used, reinforcing its utility in talent development research and practice. These insights have implications for optimizing athlete performance and guiding future research endeavors in the field.

5. CONCLUSIONS

In this study highlights the significance of factors such as Long-Term Development Focus (LTDF), Quality Preparation (QP), Communication Skills (CS), Understanding Athletes (USNA), Supporting Networks (SN), Challenges and Supporting Environments (CSE), and Long-Term Developmental Fundamental Understanding (LTDFU) in fostering the holistic development of track and field

athletes. Recognizing these key factors enables managers to make informed decisions regarding coaching styles and management models, ultimately enhancing the effectiveness of athlete development efforts. Additionally, the study reaffirms the high reliability of all dimensions of the Talent Development Environmental Questionnaire (TDEQ), providing a robust tool for assessing and optimizing talent development strategies in sports. These findings offer valuable insights for both researchers and practitioners seeking to improve athlete development practices in track and field athletics.

6. LIMITATIONS

Small sample size and focus on internal consistency limit generalizability. Reliance on a specific sample from the University of Delhi restricts applicability.

7. STRENGTHS

Provides insights into TDEQ reliability for assessing managerial skills. Use of Pearson correlations enhances data interpretation. Varying reliability across TDEQ subscales suggests future potential.

8. FUTURE PERSPECTIVES

Future research should focus on incorporating larger and diverse samples to enhance the comprehensive validation of reliability. Exploring the applicability of the TDEQ across various athlete populations and sports contexts could significantly improve its utility. Continued refinement of assessment methods, alongside controlling for external variables, is crucial for improving reliability assessment [Fenta & Mola \(2023\)](#).

CONFLICT OF INTERESTS

None.

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