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The Impact of Personality Traits on Job Performance Among International Judo Referees in the World Judo Tour

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Abstract

This study examines job performance among judo referees through the lens of personality traits during World Judo Tour events from 2018 to 2022. Sixty-three referees completed an online questionnaire including the Big Five Inventory (BFI) and the Conditions for Work Effectiveness Questionnaire (CWEQ-II). Data were analyzed using descriptive statistics, correlation analysis, and structural equation modeling (SEM). The measurement model showed acceptable validity and reliability, confirming the structural model. Support and resources emerged as the most influential factors affecting job satisfaction (JAS) and organizational role satisfaction (ORS). Incorporating refereeing experience at major events into the model indicated only partial model fit. Findings highlight the role of structural empowerment in mitigating job dissatisfaction among referees. Future research with larger samples should further strengthen the understanding of the relationship between personality traits, empowerment, and job performance.

Keywords: personality traits; job performance; performance at the workplace; sport performance; judo

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1. Introduction

In sport, performance encompasses not only athletes and coaches but also referees, whose judgments directly affect fairness, safety, and the credibility of competition. Errors in officiating can alter match outcomes and undermine the legitimacy of entire tournaments (Duvinage & Jost, 2019). Despite this crucial role, referees have received significantly less scholarly attention compared to athletes and coaches, particularly in terms of psychological and organizational factors influencing their effectiveness.

Elite referees operate in highly demanding environments where they must make rapid, impartial decisions under pressure and withstand scrutiny from athletes, coaches, and spectators. In combat sports such as judo, these challenges are magnified: referees oversee intense one-on-one encounters and safeguard the martial values of respect and fair play (Predoiu et al., 2020). Such responsibilities underscore the importance of psychological resources, including emotional regulation, resilience, and self-confidence.

This gap is particularly relevant in judo, where officiating requires immediate judgments and strict adherence to both technical rules and ethical standards. To date, research has rarely integrated personality traits with broader organizational constructs such as

job satisfaction, role satisfaction, and empowerment, which are essential for sustaining long-term performance and retention.

The present study addresses these gaps by examining the influence of Big Five personality traits on the job performance of international judo referees. Specifically, it explores how structural empowerment mediates the link between individual traits and performance outcomes, providing new insights into the organizational psychology of elite refereeing.

1.1. Literature Review

In today's dynamic and competitive work environment, understanding the intricate relationship between work performance and personality is more crucial than ever. This chapter explores how individual differences in personality traits influence work-related outcomes, including productivity, job satisfaction, and overall performance.

1.1.1. Job Performance and Personality

Despite this growing body of work, referees remain relatively underexplored compared to athletes. Existing studies focus primarily on football and basketball officials. At the same time, elite-level judo referees—who operate in fast-paced combat environments demanding impartiality, concentration, and psychological resilience—have received little attention. Furthermore, prior research has rarely integrated personality traits with organizational constructs such as job satisfaction, role satisfaction, and empowerment, which are essential for understanding long-term referee performance and retention.

1.1.2. Personality in Sport Performance

Beyond athletes, personality is also critically relevant to officials and coaches. Referees and officials demonstrate distinct profiles, often scoring higher in agreeableness and conscientiousness and lower in neuroticism (Dodt et al., 2021; Üngür, 2021), with these traits linked to better cultural intelligence (Tufekci & Dinc, 2014), lower impulsivity (López-Aguilar et al., 2022), and improved decision-making performance (Sayfollahpour et al., 2013). Coaches and support staff similarly rely on self-regulation, motivation, and interpersonal skills to enhance performance outcomes (Predoiu et al., 2020).

1.1.3. Referees and Personality

Compared to athletes and coaches, referees have received less attention in personality research, despite their central role in ensuring fairness and integrity in sport. Refereeing requires rapid decision-making, emotional control, and resilience in stressful conditions, making personality an important determinant of performance (Dodt et al., 2021).

Studies in football and basketball referees show that traits such as openness and conscientiousness predict better adaptation, judgment quality, and cultural intelligence when officiating in diverse environments (Tufekci & Dinc, 2014; Sayfollahpour et al., 2013; J. Pla-Cortés et al., 2015a). Referees with higher self-efficacy and emotional stability tend to manage impulsivity and stress more effectively during competitions (López-Aguilar et al., 2022). Research on rugby and handball referees also highlights the role of confidence, anxiety management, and concentration, which align closely with Big Five personality dimensions (Nazarudin et al., 2014; Dodt et al., 2021).

However, most existing studies focus on football, basketball, or handball referees, leaving elite-level judo referees largely unexplored, given the unique characteristics of judo officiating—high-intensity combat, rapid sequences of actions, and the need for impartiality under pressure—the role of personality traits in referees' job performance warrants further investigation.

The conduct of athletes during judo events, the time allocated, and the use of specific types of equipment are crucial to the sport, and the responsibility lies with the referees.

Their judgment affects the level of fairness maintained during a match and how it ends, which means there is a link between referees and competitors (Duvinage & Jost, 2019). Research on personality traits and sports officiating emphasises the impact of conscientiousness and emotional stability on effective decision-making under pressure. At the same time, extraversion and agreeableness enhance referees' ability to manage interpersonal dynamics during competitions (Lampe et al., 2024).

1.1.4. Research Gap and Purpose of the Study

Although extensive research links the Big Five traits to job performance in general workplaces and among athletes, little is known about how these traits influence referees' performance in combat sports, particularly judo. The existing literature is fragmented: some studies emphasize stress and self-efficacy, others cultural intelligence or psychological skills, but few provide an integrated model linking personality traits to job satisfaction and organizational role satisfaction in referees.

This study addresses this gap by examining the relationship between Big Five personality traits, structural empowerment, and job performance among international judo referees. By focusing on referees in the World Judo Tour (2018–2022), it contributes to both organizational psychology and sport management literature.

1.1.5. Research Objectives and Hypotheses

Building on the theoretical and empirical insights reviewed, this study aims to pursue two interrelated objectives. First, it aims to examine how the Big Five personality traits are associated with structural empowerment (access to opportunity, information, support, and resources) among international judo referees. Second, it seeks to determine how these empowerment structures influence job satisfaction (JAS) and organizational role satisfaction (ORS), thereby shaping overall job performance.

Structural empowerment, as conceptualized by Kanter (1977), highlights that access to resources, support, and opportunities enables employees to perform effectively and experience satisfaction in their roles. When applied to elite refereeing, these structures may compensate for stressors inherent in officiating and enhance the positive expression of personality traits. Accordingly, the model tested through SEM integrates personality traits, structural empowerment, and performance-related outcomes.

Based on this framework, the following hypotheses are proposed:

H1: *Extraversion is positively associated with access to resources.*

H2: *Agreeableness is positively associated with access to opportunity.*

H3: *Conscientiousness is positively associated with access to opportunity and support.*

H4: *Emotional stability (low neuroticism) is positively associated with job satisfaction.*

H5: *Openness to experience is positively associated with organizational role satisfaction.*

H6: *Access to resources positively predicts job satisfaction (JAS).*

H7: *Access to support positively predicts job satisfaction (JAS).*

H8: *Job satisfaction (JAS) positively predicts organizational role satisfaction (ORS).*

H9: *Structural empowerment mediates the relationship between personality traits and job performance outcomes (JAS and ORS).*

H10: *Refereeing experience at major international competitions has a positive moderating effect on the relationship between structural empowerment and job satisfaction.*

Although the study aimed to examine both personality traits and structural empowerment, only empowerment constructs met reliability criteria for inclusion in the final SEM model. This indicates that, while personality traits may influence referee development, structural empowerment variables (resources, support, opportunities, and information) are the most robust predictors of job satisfaction and role satisfaction in this context. The findings highlight the need for future research with larger samples to fully test the theoretical framework.

2. Material and Methods

2.1. Sample

The study sample consisted of 63 judo referees who officiated World Judo Tour (WJT) events between 1 January 2018 and 31 December 2022. These participants represented a subset of 93 eligible referees and completed the online questionnaire in full. Although the sample size was relatively modest (N = 63), Structural Equation Modeling (SEM) was applied because it allows the simultaneous testing of multiple latent constructs in accordance with the theoretical framework of this research. To mitigate concerns regarding sample size and non-normal data, we employed Partial Least Squares SEM (PLS-SEM), a technique recommended for small-to-medium samples and data not meeting normality assumptions. Prior methodological work supports the appropriateness of PLS-SEM in exploratory research and in complex models with limited observations (Hair et al., 2010).

Regarding sampling, referees were selected from the International Judo Federation (IJF) licensing system, which categorizes them into two levels. The continental license, administered by continental unions, permits officiating at national and continental competitions. The international license, the highest available, is issued under the authority of the IJF and allows referees to officiate at IJF-sanctioned events and competitions organized in cooperation with partner bodies, such as the IOC, IBSA, and FISU. The study included referees holding either continental or international licenses who were appointed to WJT events during the study period. Exclusion criteria were clearly defined: referees without an active IJF license, those retired from officiating, or those not appointed to WJT competitions between 2018 and 2022 were not eligible. Only active referees with official appointments were invited to participate.

2.2. Data Collection

The participating judo referees filled out an online survey composed of three sections. The first section collected demographic information, the second applied the Big Five Inventory (BFI), and the third included the Conditions for Work Effectiveness Questionnaire (CWEQ-II), which was adapted to the context of officiating within the IJF.

The Big Five Inventory (BFI) is a widely recognized instrument in psychological research for assessing personality traits. It consists of 44 items measuring five broad personality dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. Respondents evaluate each statement using a five-point Likert scale, ranging from strongly disagree to strongly agree, reflecting their self-perceptions.

The CWEQ-II assesses perceptions of structural empowerment in the workplace. Drawing on Kanter's (1977) theory, empowerment reflects employees' access to critical organizational structures—opportunities, information, support, and resources—that enable them to perform effectively. Kanter emphasized that both formal and informal power shape these perceptions. Formal power originates from visible, central roles that confer

autonomy and discretion, whereas informal power emerges through personal networks and alliances with colleagues, peers, or sponsors. Together, these forms of power influence how employees experience their work environment. Within this framework, empowerment is understood as access to three key elements: (1) information necessary for task performance, (2) support from colleagues and supervisors, and (3) resources required to accomplish organizational goals.

2.3. Procedure

The data analysis strategy was designed to accommodate the study's sample size and distributional properties. The study protocol was approved by the Ethics Committee of the International Judo Federation (IJF) (Protocol Number: SG2023002). As preliminary assessment via the Kolmogorov–Smirnov test indicated deviations from normality for several variables, non-parametric statistical methods were employed for all inferential analyses.

Data were processed using IBM SPSS Statistics (v21.0) and AMOS (v21.0.0). Descriptive statistics—including means, standard deviations, and ranges—were computed for ordinal and continuous variables, while categorical demographic data were summarized using frequencies and percentages. Composite variables were created by averaging responses within conceptually linked item sets.

Bivariate analyses were conducted using non-parametric tests: Spearman's rank correlation was used to assess relationships between ordinal or continuous variables, while group comparisons were performed using the Mann–Whitney U test (for two groups) or the Kruskal–Wallis test (for three or more groups). Associations between categorical variables were evaluated using chi-square tests of independence. When assumptions regarding expected cell frequencies were violated, alternative tests such as the Likelihood Ratio or Cramér's V were applied.

Scale structure and validity were examined through factor analysis. Exploratory Factor Analysis (EFA) using maximum likelihood extraction and varimax rotation was conducted to identify underlying constructs. The Kaiser criterion (eigenvalue > 1) guided factor retention, and sampling adequacy was confirmed via the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test of sphericity. Internal consistency for all multi-item scales—each measured on a five-point Likert-type scale—was assessed using Cronbach's alpha.

Confirmatory Factor Analysis (CFA) was performed using maximum likelihood estimation in AMOS to validate the measurement model. Finally, Structural Equation Modeling (SEM) was employed to test the hypothesized relationships among latent and observed variables, allowing for a comprehensive analysis of the complex interplay within the data. All analyses used a significance level of $\alpha = 0.05$.

The study analyzed data from 63 international judo referees officiating in World Judo Tour events between 2018 and 2022. Respondents were predominantly male (69.8%) with an average age of 48 years. Most referees held a seventh-level education and black belt ranks ranging from third to eighth Dan. Nearly half were from the European Judo Union, and 71.4% had completed IJF Academy Level 1 referee training. Around 25% had Olympic officiating experience.

The PLS-SEM model demonstrated acceptable fit (SRMR = 0.07). Access to resources ($\beta = 0.42$, $p < 0.001$) and support ($\beta = 0.39$, $p = 0.002$) significantly predicted job satisfaction (JAS), which strongly influenced organizational role satisfaction (ORS) ($\beta = 0.44$, $p < 0.001$). The model explained 47% of JAS variance. Additional exploratory modeling suggested that officiating experience at major events positively influenced perceived support and JAS but did not substantially improve model fit.

CFA confirmed the validity and reliability of empowerment constructs, while BFI personality dimensions were excluded due to low construct reliability in this sample.

3. Results

3.1. Description of the Sample Based on Demographic Characteristics

The sample included 44 men (69.8%) and 19 women (30.2%). The respondents' ages ranged from 36 to 61 years, with an average age of 48. Male respondents (M = 49, SD = 6) were, on average, older than female respondents (M = 45, SD = 6).

Regarding formal education, most referees had a seventh-level education (27 or 42.9%), followed by those with a sixth-level education (27 or 23.8%). Approximately one-tenth of the respondents had a fourth-, fifth-, or eighth-level education. Based on the judo level (black belt rank), respondents ranged from the third to the eighth level, with the largest groups being those at the fourth (17, or 27.0%) and sixth levels (14, or 22.2%). The sample included members from all continental judo federations, with nearly half coming from the European Judo Union (31 or 49.2%).

Nearly three-quarters of the respondents had completed the practical part of the IJF Academy Level 1 training for referees (45 out of 63, or 71.4%). A smaller portion (12 or 19.0%) had completed the entire IJF Academy Level 1 training module for coaches. Just under a quarter had not completed any of the mentioned training programs (15 or 23.8%).

Data on the competitive achievements of the referees during their active competitive careers, based on the number of medals won at major international competitions (continental championships, world championships, Olympic Games), indicate that out of the 63 referees surveyed, 17.5% (11 referees) had won medals at these competitions, with seven referees having one medal and four referees having two medals.

The number of IJF events—tournaments officiated by the study participants between 1 January 2018 and 31 December 2022—proves their refereeing experience. The largest portion of respondents, 38.1%, attended between 6 and 20 events, which implies that they were reasonably active in refereeing activities. A significant proportion, 33.3%, attended between 21 and 34 events, which suggests still higher levels of refereeing engagement. The respondents who attended between 1 and 5 events (27.0%) may require less engagement or be less experienced than the other, more active referees.

The average ratings of refereeing performance at competitions officiated between 1 January 2018 and 31 December 2022 show that most respondents (44.4%) received a rating between 7.0 and 7.5, indicating prevailing satisfaction with the quality of their refereeing. Those who achieved an average rating between 7.6 and 7.9 (23.8%) followed, suggesting a slightly higher level of satisfaction. A smaller proportion of respondents (15.9%) received higher ratings, between 8.0 and 8.5, indicating a high quality of their refereeing work. Around one-tenth of the respondents (9.5%) received lower ratings, between 5.5 and 6.8, which may indicate a need for improvements in their refereeing.

Experience officiating at major competitions, such as the Olympic and Paralympic Games, shows that of the 63 referees surveyed, 25.4% (16 referees) had officiated at the Olympic Games. In contrast, slightly fewer (20.6%, 13 referees) had officiated at the Paralympic Games. More than half of the referees (55.6%) had no experience officiating at such major events. The largest group of referees officiated at the Tokyo Olympic Games (23.8%, 15 referees), followed by the Tokyo Paralympic Games (17.5%, 11 referees). Only a few individuals had experience from the Rio de Janeiro Olympic and Paralympic Games, while just one referee officiated at the London Olympic Games.

3.2. Structural Model (SEM)

The Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed to test the hypothesized relationships between the validated constructs. The model demonstrated acceptable fit (SRMR = 0.07).

The structural paths revealed that access to resources (β = 0.42, 95% CI [0.18, 0.61], **p** < 0.001) and access to support (β = 0.39, 95% CI [.15, 0.56], **p** = 0.002) were both significant positive predictors of job satisfaction (JAS), together explaining 47% of its variance. In turn, job satisfaction was a strong predictor of organizational role satisfaction (ORS) (β = 0.44, 95% CI [.21, 0.63], **p** < 0.001).

Effect size analysis indicated moderate to strong contributions of resources ($f^2 = 0.19$) and support ($f^2 = 0.16$) to job satisfaction. The predictive relevance ($Q^2 = 0.21$) confirmed the model's robustness, and the confidence intervals for all significant paths excluded zero, supporting the stability of these estimates.

In the analysis of constructs, the variables or indicators representing the factors were trimmed to achieve the most with the fewest confirmed indicators. Specifically, reliable and valid constructs with sufficient indicators for confirmed model identification were selected, avoiding overly complex models, as the sample size does not permit this. Only those indicators that most clearly reflect the structure of a particular construct were chosen. It was found that the group of variables measuring psychological dimensions is unreliable for inclusion in the model due to the low sample size. Models with BFI constructs are not the most promising when working with them, as the AVE and CR measures for construct reliability and validity did not achieve satisfactory results. Regardless of the combination with another set of constructs (CWEQ), the BFI constructs proved problematic and have not remained in the model as sufficiently reliable constructs in any combination so far.

After reviewing the exploratory factor analysis (EFA), a confirmatory factor analysis (CFA) was conducted (Table 1). The main purpose of the CFA is to ensure reliable and valid constructs that represent sets of variables in a reduced manner and to determine whether the proposed measurement model, which uses multiple indicators for each latent construct to reduce measurement error, shows an acceptable fit with the data.

Table 1. Convergent validity.

Factor	Variable	λ	CR	AVE	α
PODPORA	Q13ic	0.934	0.948	0.767	0.905
	Q13ib	0.836			
	Q13ia	0.855			
ORS	Q13ld	0.763	0.886	0.596	0.814
	Q13lc	0.81			
	Q13lb	0.741			
VIRI	Q13jb	0.891	0.934	0.789	0.882
	Q13ja	0.885			
JAS	Q13kb	0.7	0.904	0.25	0.826
	Q13ka	0.923			

Legend: λ (lambda)—standardized factor loading, CR (Composite Reliability)—composite reliability, AVE (Average Variance Extracted)—average extracted variance, α—Cronbach alpha coefficient, ORS—informal power, JAS—formal power.

Composite reliability (CR) and convergent validity (AVE) were achieved in all cases. Internal consistency was determined using Cronbach's alpha coefficient. This confirms that all measurement scales are valid and reliable. Thus, the questionnaire demonstrates a high level of internal reliability.

Discriminant validity determines whether the constructs in the model are strongly correlated with each other or not. This procedure is described by Fornell and Larcker (1981). The generally accepted criterion for construct discriminant validity is that the square root of the average variance shared by the constructs and their indicators should be greater than the inter-construct correlations shared within the model (Barclay et al., 1995). This concerns

whether the constructs are sufficiently distinct from each other to represent a particular phenomenon and whether the indicators of these constructs do not correlate too highly with each other, leading to multiple correlations.

The model fit measures (Table 2) indicate that the structural model fits the data satisfactorily, confirming its adequacy. Absolute and incremental measures exceed recommended values, and the model is parsimonious. The CMIN or chi-square (with degrees of freedom and *p*-statistical significance) is reliable.

Table 2. The model fit.

Indicator	Abbreviation	Recommended Value	Value
Minimum Discrepancy (χ^2)	CMIN		43.781
Degrees of Freedom	df		31
p-value	*p*	>0.05	0.064
Root Mean Square Error of Approximation	RMSEA	<0.05 or 0.1	0.082
RMSEA (confidence interval)			(0.00, 0.134)
Comparative Fit Index	CFI	>0.90	0.964
Tucker–Lewis Index or Non-Normed Fit Index	TLI or NNFI	>0.90	0.936
Parsimonious Normed Fit Index	PNFI	>0.60	0.503

While the measurement model specifies the relationships between indicators representing constructs, the structural model defines interrelated causal connections between constructs (Anderson & Gerbing, 1988). Since the measurement model achieved the desired level of validity and reliability, we proceeded with the confirmation of the structural model, in which the construct "Support" acts as a mediator in the relationship between "Resources" and "JAS", indirectly influencing "ORS". Similarly to CFA, parameter estimates for the structural model were calculated using maximum likelihood analysis of covariance matrices for ten indicators. One factor loading for each construct was set to 1 to measure the metric of each latent factor.

Due to the small sample size and study limitations, some fit indices are borderline adequate. The CFI and *p*-value support the model's adequacy, as the RMSEA (with its confidence interval) is not entirely reliable; however, according to Bentler and Bonett (1980), a value of 0.08 represents a reasonable fit for the model and the data.

Figure 1 summarises the results of the structural model, also known as a path model. The structural model with the hypothesised mediators fits the data well. All indices fall within the acceptable range for model fit, indicating strong empirical support for the theoretical model.

Unstandardised (B) regression weights allow predictions in measurement units. If Resources improved by 1 point on a 0–1 scale, it would increase ORS by 0.442 points. An increase in Support by 1 point on a 0–1 scale would affect JAS by approximately 0.684 points. An increase in R by 1 point on a 0–1 scale would affect an increase in S by 0.624 points. The standardised regression weight means a relative (and not absolute) comparison between effects, indicating which effects in the model are stronger or weaker. Testing the model as a segmentation analysis to compare the model structure and its parameters for the male and female segments has limitations due to the small sample size. Further analyses and interpretations should be approached with caution, as only 19 women and 44 men are among the respondents. The analysis results show that the model structure is the same regardless of gender. However, the strength of the influence of individual constructs is different—the model's strength is higher (75% explained variance) in the male segment compared to the female segment (55% explained variance). All influences between constructs have a greater mutual impact in the male segment. However, since the sample

size is inadequate, this could be attributed to insufficient conditions for a proper, reliable, and valid comparison. In future research, with a larger sample, gender differences could be compared; however, this study encountered a limitation at this point.

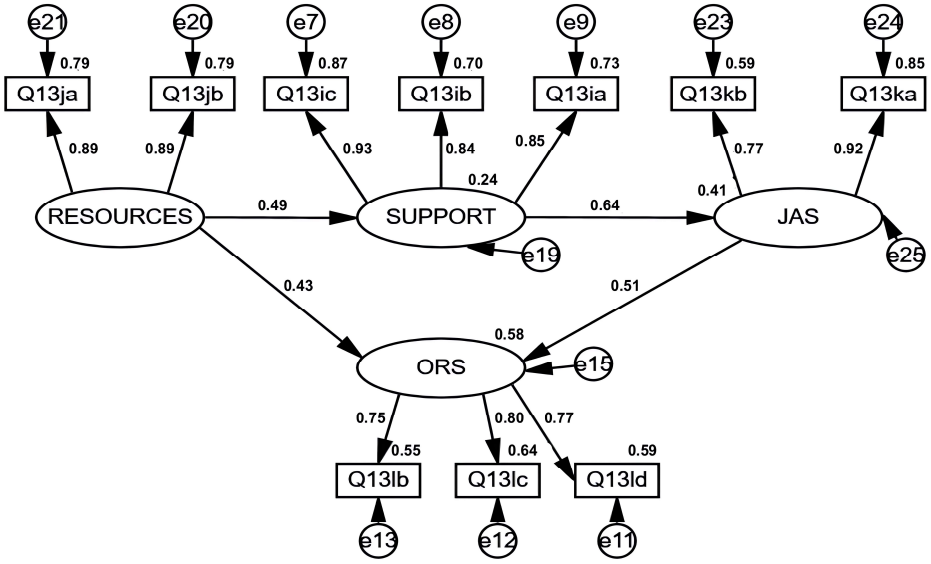


Figure 1. Structural model.

In the structural predictive model, an additional variable was included despite the sample size limitation, which should be read as an informative and unreliable finding that future research can address under better conditions or with a larger sample and further confirm. Informatively, we wanted to check whether such a structural model could include a manifest variable representing the number of experiences in judging at major competitions (Paralympic or Olympic judging). The manifest variable is the sum of experiences from major competitions, where a higher value indicates more experience, ranging from 0 to 2. We can infer that the model with the additional variable still conditionally fits the data (RMSEA = 0.096, CFI = 0.940, $p = 0.013$), with "experience" as an exogenous variable having a significant ($p < 0.1$) positive impact on "support" (0.27) and JAS (0.48). The "experience" variable was obtained by summing the judgments at major competitions (Q12a_1–Q12a_3, Q13a_1–Q13a_3), but the model's strength does not change significantly (by approximately 1% of the explained variance).

These findings align with Kanter's (1977) empowerment theory and parallel results in organizational research emphasizing structural factors over individual traits for job satisfaction (Seibert et al., 2011; Spreitzer, 1996). In high-performance sport contexts, organizational support structures have been linked to improved resilience and retention among referees and coaches (Tingle et al., 2023). Research also demonstrates that empowerment predicts motivation and commitment in sports officials, suggesting practical pathways for referee education programs (Titlebaum et al., 2009).

4. Discussion

The primary aim of this study was to develop an integrated model linking personality traits, structural empowerment, and job performance among international judo referees. While the initial theoretical framework included the Big Five traits, the final structural equation model (SEM) could not incorporate them as reliable latent constructs due to constraints of the sample size. Therefore, the core findings of this analysis pertain to the robust relationships between structural empowerment and job satisfaction. Preliminary

bivariate analyses, however, suggested potential associations involving personality, which warrant further investigation with larger samples.

Bivariate correlation analyses indicated that agreeableness was positively associated with competitive achievements, hinting that referees with stronger interpersonal skills and cooperative tendencies might be more likely to achieve recognition. Similarly, these preliminary analyses suggested a link between conscientiousness and higher performance ratings, aligning with existing research on judgment accuracy and stress management in officials from other sports (Sayfollahpour et al., 2013; M. Pla-Cortés et al., 2015b). These initial observations suggest that personality may play a role in refereeing success, but they require confirmation through more powerful analytical methods.

Contrary to expectations derived from studies in other sports (López-Aguilar et al., 2022), neuroticism showed little explanatory power in our preliminary analyses. A plausible explanation lies in the high selectivity and rigorous training of international judo referees, which may create a homogenized pool with reduced variance in emotional stability. This finding underscores the critical importance of considering sport-specific contexts when applying broader psychological frameworks.

The central and most robust finding of this study, confirmed through SEM analysis, is that access to resources and support are pivotal direct predictors of job satisfaction (JAS) among elite judo referees. These findings provide strong empirical support for Kanter's (1977) theory of structural empowerment within the high-pressure environment of combat sports officiating. Referees who perceived stronger organizational support—likely through psychological services, mentorship, and structured feedback—reported greater satisfaction, suggesting that such mechanisms are crucial for buffering officiating pressures and sustaining motivation.

The SEM analysis further confirmed that job satisfaction is a significant predictor of organizational role satisfaction (ORS), highlighting a cascade effect where empowerment leads to personal job satisfaction, which in turn fosters a stronger satisfaction with one's role within the sporting organization. This model, explaining a substantial portion of the variance in satisfaction, shifts the focus from purely individual traits to the organizational structures that can be actively managed to improve referee well-being and performance.

From a practical perspective, the results highlight two key implications. First, while personality development may be beneficial, referee development programs should prioritize creating structurally empowering environments. This involves ensuring transparent access to resources, opportunities, and organizational support, which could significantly promote both performance quality and retention. Second, governing bodies like the IJF should consider integrating support systems such as mentorship programs and psychological resilience training into their official curricula to enhance perceived empowerment directly.

Despite these contributions, several limitations must be acknowledged. The most significant limitation is the small sample size (N = 63), which precluded the reliable inclusion of personality constructs in the SEM model and limits the generalizability of the findings. The reliance on self-report measures introduces the potential for common method bias. Furthermore, the cross-sectional design prevents inferences of causality. Future research should utilize larger, more diverse samples and longitudinal designs to properly test the full theoretical model and examine the causal relationships between personality, empowerment, and performance over time.

5. Conclusions

This study underscores the paramount importance of structural empowerment—specifically access to resources and support—as a direct driver of job satisfaction for

international judo referees. While preliminary correlations suggest that personality may play a role, the organizational context appears to be a more impactful and actionable lever for improving referee well-being and effectiveness. Investing in these empowerment mechanisms will be key to maintaining high officiating standards and ensuring the long-term health of the refereeing corps. These insights provide a clear roadmap for training policies and referee development programs within international sports organizations.

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