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Enhancing Food Security Leadership using the FIKR (Facet, Insight, Knowledge and Resilience) Assessment Tool-Based Extension of Holland's RIASEC Personality Model

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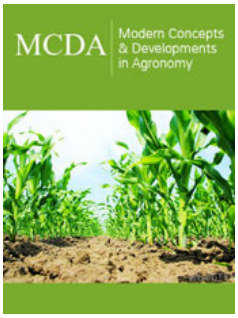

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Abstract

Food security is as much a leadership problem as a technical one. This article introduces a practical way to identify and develop leaders using the FIKR tool, which evaluates four dimensions: Facet, Insight, Knowledge and Resilience. Using data from 409 respondents assessed with a 200-item instrument aligned to RIASEC and 20 FIKR traits, we reinterpret patterns for food systems governance. We map trait to role links that matter for policy, operations and community partnerships. Enterprising traits co-occurred with control, extroversion and achievement, signaling readiness for decisive program leadership. Social traits clustered with nurturance and support, indicating strength in coalition building and participatory delivery. Investigative traits aligned with analytical and intellectual profiles that fit evidence-based planning and AI enabled early warning. Conventional traits aligned with structure and self-concept, supporting accountable procurement, standard setting and auditability. Factor analysis and principal components yielded three leadership clusters: Leadership and Execution (Enterprising, Social, Realistic), Structured Creativity (Conventional, Artistic, Realistic) and Cognitive Innovation (Investigative, Artistic). We translate these clusters into role archetypes and propose selection and coaching pathways that are regionally agnostic yet context aware. For policymakers, the contribution is a scalable method to match people to mission critical roles, reduce burnout and strengthen ethical, data informed decisions. For practitioners, it offers a practical template for the design of ministry, NGO and public-private partnership teams. In short, FIKR supports an equitable pipeline of leaders able to plan, mobilize and innovate to protect food and nutrition security in an insecure and unjust world.

Keywords: Food security leadership; FIKR assessment; Personality traits; RIASEC; Talent developmentmicroorganism; Biological control; Over dispersed count data; Zero-inflated models; Markov chain modeling; Spore attachment thresholds; Sustainable nematode management

Introduction

Food security is both a technical and leadership challenge. Eradicating hunger requires leaders who can connect science, policy, markets and communities across the challenges of climate shocks and fragile supply chains [1]. Current studies of food system leadership show that competency profiles are applicable to impact and that leaders need some blend of action orientation, communication, critical thinking and interpersonal ability to drive complex systems [2,3]. In Africa, for example, leadership capacity building is positioned as mission-necessary to scaling-up transformation of food systems [4]. Personality theories provide a practical way to identify and develop such leaders. Holland's RIASEC typology-Realistic,

Investigative, Artistic, Social, Enterprising and Conventional-remains structurally solid across cultures and education levels [5,6].

While critics argue that interesting typologies can narrow down the dynamic co-existence of people and rich work environments to their essentials, particularly when digital technology and data driven decision making reshape leadership environments [7,8]. The FIKR Personality Assessment Tool fills this gap by adding four leadership facing dimensions-Facet, Insight, Knowledge and Resilience-to 20 traits that cover control, achievement, structure, self-concept, empathy and endurance [9,10]. Together, RIASEC and FIKR connect who someone is to how they lead in precarious food systems wherein ethical decision-making, flexibility, use of evidence and formation of coalitions are essential [10-13]. This paper reinterprets results from a confirmed database of 409 adult adults completing a 200-item job personality survey. We maintain the statistical framework of the original study and redirect the focus to food security leadership. We show how FIKR's four dimensions, trait correlations, and emergent clusters transform into concrete leadership profiles for food policy, programs and operations across regions.

Methodology

This study used a validated dataset from Humanology Sdn Bhd of 409 independent volunteers utilizing the FIKR personality evaluation tool. Random location sampling picked these respondents from 460 people. This sampling method ensured that the final sample represented Malaysia's various social class, marital status, religion, age and geographical dispersion. Married (35.21%), single (63.08%), divorced (0.98%) and widowed (0.73%). The sample included Muslims (87.04%), Hindus (6.85%), Christians (5.13%) and Buddhists (0.98%). The participants ranged in age from 20 to 53, with 84.6% between 21 and 36. Females made up 70.4% of the sample, while men made up 29.6%. A 200-item Occupational Personality Questionnaire (OPQ) was given to all participants in basic, accessible language to accommodate a variety of occupational backgrounds. Participants chose "Yes" (coded 1) or "No" (coded 0) for each item in the OPQ. This binary format allowed respondents to answer quickly and clearly, making data collecting more efficient. Holland's RIASEC hypothesis underpinned personality testing [14,15]. The six Holland Codes -Realistic, Investigative, Artistic, Social, Enterprising and Conventional-were operationalized using 20 personality dimensions. Realistic included Endurance, Variety and Aggressive; Investigative included Self-criticism, Analytical and Intellectual; Artistic included Intuition, Emotional and Perceiver; Social included Dependent, Nurturance, and Extrovert; Enterprising included Extrovert, Achievement and Control and Conventional included Support, Structure, Self-Conceptual and Autonomy.

NCSS [16] was used to conduct all statistical analysis. Bar Charts of Absolute Correlations were created to examine 20 common relations. Cluster analysis was used for determination of dataset patterns and groups. The Group Average method, also known as the Unweighted Pair-Group method, was used to cluster up to three groups to allow for interpretability as well as group variation. Factor analysis was further used for dimension reduction and latent structure extraction. This research utilized the eigenvalue criterion and Varimax rotation for factor structure clarification. Four salient factors with high interrelationships were uncovered in rotated solutions. Bar Chart of Absolute Factor Loadings and Bar Chart of Communalities following a Varimax rotation were used to investigate and compare these rotated factor solutions. These methods enabled component structure analysis and personality trait pattern extraction in occupational fields.

Result

Descriptive statistics of the six holland code facets

Table 1 presents the summary statistics-mean scores, standard deviations, and communalities-of the Holland Code model's six broad personality dimensions (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) based on the responses of 409 participants. Among the six domains, the highest mean score (M=29.85) was registered by Conventional traits, which reflect strong affinity among participants with traits concerned with order, structure and obedience behavior. This was followed by Social (M=23.08) which reflects a high inclination to interpersonal skills and helping behavior. Conversely, the Artistic dimension produced the lowest meaning (M=15.59), suggesting a relatively lower incidence of creativity-focused and expressive personality in the sample. The Investigative and Enterprising dimensions produced means of 18.22 and 20.12, respectively, which can be read as a moderate level of analytical interest and entrepreneurial inclination. The Realistic trait produced a mean of 21.74, suggesting a habitual preference for practical, hands-on pursuits. Communality, or the variance common to each facet and the derived factors from factor analysis, was highest for the Enterprising trait (0.83), followed by the Social (0.67), meaning that the two facets had a greater proportion of variance with the latent factor structure. Realistic, Investigative, Artistic and Conventional all had low communalities (ranging from 0.57 to 0.59), which indicated that the factors may be subject to more unique or heterogeneous underlying latent variables not completely explained in the factor solution. Overall, the most prevalent Holland Code configuration evident from the data was CSR (Conventional-Social-Realistic), indicating a general personality inclination for organized, cooperative, and hands-on work.

Table 1: Overall statistics of the six facets of personality traits of holland codes. N=409.

Variables	Mean	Deviation	Communality
Realistic	21.74	3.13	0.59
Investigative	18.22	4.22	0.59
Artistic	15.59	3.25	0.57
Social	23.08	3.56	0.67
Enterprising	20.12	4.68	0.83
Conventional	29.85	3.69	0.57

Note: The overall holland code generated=CSR.

Correlational analysis of holland codes and the 20 personality traits

Table 2 details the correlation coefficients between each of the six Holland Code dimensions and 20 targeted personality traits, facilitating nuanced understanding of how broad vocational personality orientations map onto individual behavioral tendencies. Under the Realistic dimension, the strongest correlations were recorded with Aggressive (r=0.79), Variety (r=0.73) and Endurance (r=0.56). This shows that Realistic-oriented individuals are action-oriented, enjoy variety and are highly persistent. Further, modest correlations with Extrovert (r=0.40), Achievement (r=0.40), and Analytical (r=0.46) corroborate the reality that Realistic individuals are goal-oriented, practical, and rugged. The Investigative dimension was most highly correlated with Analytical (r=0.80), Intellectual (r=0.76), and Self-criticism (r=0.48), consistent with Holland's theory that Investigative individuals are inquiring, introspective, and academically focused. Notably, Investigative is also substantially correlated with Perceiver (r=0.34), Variety (r=0.35) and Intuition (r=0.38), indicating an open and cognitive stance toward complexity. In the Artistic dimension, the strongest relationships were with Emotional (r=0.79), Perceiver (r=0.73) and Intuition (r=0.43), which cumulatively highlight the creative, emotionally attuned, and contemplative quality of artistically inclined individuals. Other significant relationships included Dependent (r=0.39), Support (r=0.44), and Structure (r=0.34), suggesting an interpersonal, softer side of artistic personalities.

Table 2: Correlation coefficients between the six facets of personality traits with the 20 traits of holland codes. N=409.

Variables	Realistic	Investigative	Artistic	Social	Enterprising	Conventional
Age	-0.03	-0.13	-0.07	0.04	0	0.03
Marital	-0.01	0.17	0.09	-0.11	-0.09	-0.01
Religion	-0.04	-0.2	-0.05	-0.15	-0.1	-0.07
Gender	-0.06	-0.08	0.03	0.01	0.01	0.01
Endurance	0.56	0.31	0.07	0.38	0.48	0.27
Variety	0.73	0.35	0.36	0.3	0.32	0.35
Aggressive	0.79	0.42	0.4	0.35	0.4	0.49
Self-criticism	0.12	0.48	0.45	0.02	-0.1	0.2
Intuition	0.41	0.38	0.43	0.33	0.45	0.44
Dependent	0.29	0.24	0.39	0.53	0.09	0.36
Nurturance	0.25	0.27	0.02	0.66	0.43	0.16
Emotional	0.15	0.24	0.79	-0.02	-0.08	0.28
Extrovert	0.4	0.26	0	0.82	0.83	0.23
Achievement	0.41	0.4	0.27	0.44	0.57	0.39
Support	0.39	0.3	0.44	0.34	0.22	0.71
Analytical	0.46	0.8	0.24	0.38	0.5	0.33
Perceiver	0.35	0.34	0.73	0.18	0.13	0.3
Structure	0.25	0.28	0.19	0.25	0.3	0.54
Intellectual	0.49	0.76	0.23	0.36	0.58	0.36
Self-concept	0.3	0.2	0.2	0.26	0.3	0.58
Autonomy	0.37	0.28	0.3	0.08	0.25	0.62
Introvert	0.1	0.24	0.39	-0.15	-0.24	0.17
Control	0.48	0.46	0.18	0.37	0.84	0.38
Lie scale	0.36	0.16	0.08	0.29	0.35	0.22

Social facets are most strongly correlated with Extrovert (r=0.82), Dependent (r=0.53) and Nurturance (r=0.66). These convergences confirm social individuals as being sociable, empathetic and caring. Correlations with Support (r=0.34) and Achievement (r=0.44) further emphasize their interpersonal motivation and goal direction. In contrast, weak correlations emerged with Aggressive (r=0.35) and Control (r=0.37), indicating that social individuals are not as assertively dominant. In the Enterprising facet, the most strongly correlated were Control (r=0.84), Extrovert (r=0.83) and Achievement (r=0.57), validating the assertiveness, goal-orientation, and leadership of Enterprising people. Moderate correlations with Aggressive (r=0.40) and Analytical (r=0.50) also showed that these individuals are also dynamic and strategic. Lastly, Conventional dimensions most strongly correlated with Support (r=0.71), Structure (r=0.54) and Self-concept (r=0.58), in line with their liking for order, consistency, and role clarity. There were also significant correlations with Autonomy (r=0.62), Achievement (r=0.39) and Control (r=0.38), indicating that while Conventional types like structure, they also want personal effectiveness and leadership within controlled

environments. Surprisingly weak were demographic correlations (age, gender, religion, marital status) with the Holland Code dimensions, with coefficients mostly smaller than ±0.20, suggesting minimal influence of these demographic factors on vocational personality. However, a small positive correlation of Marital status with Investigative (r=0.17), and of Religion with Investigative (r=-.20), may be worth exploring.

Interrelationships among the six holland code traits

Table 3 presents the intercorrelation matrix of the six broad personality facets of the Holland Codes. The correlations reveal moderate to strong correlations between most trait pairs, indicating overlapping dimensions between the constructions. The strongest correlation was found between Enterprising and Social (r=0.71), with high amounts of persuasive, leadership-like qualities often accompanied by interpersonal warmth and cooperation. Another equally strong correlation was between Realistic and Enterprising (r=0.56), indicating that practical, down-to-earth personality traits can accompany goal-oriented, assertive behavior. The Realistic factor was also moderately correlated with Investigative (r=0.52) and Conventional (r=0.54), both indicating systematic and organized work orientations. Interestingly, Artistic factors were most strongly correlated with Conventional (r=0.49) and Investigative (r=0.45), which means that intellectual and detail-oriented tendencies can be compatible with creativity. Lowest were between Artistic and Enterprising (r=0.17) and Artistic and Social (r=0.19), validating the conceptual distinction between creative expression and social or managerial roles. Generally speaking, these relationships indicate that while the six Holland Code elements are distinguished from each other, they are not mutually exclusive, and people do have mixed trait profiles. These intercorrelations provide an empirical explanation for the factor and cluster structures later.

Table 3: Correlation coefficients between the six facets of personality traits of holland codes. N=409.

Variables	Realistic	Investigative	Artistic	Social	Enterprising	Conventional
Realistic	1	0.52	0.41	0.48	0.56	0.54
Investigative	0.52	1	0.45	0.37	0.48	0.43
Artistic	0.41	0.45	1	0.19	0.17	0.49
Social	0.48	0.37	0.19	1	0.71	0.37
Enterprising	0.56	0.48	0.17	0.71	1	0.42
Conventional	0.54	0.43	0.49	0.37	0.42	1

Factor analysis results after varimax rotation

Table 4 reports the factor analysis results with Varimax rotation extracting the underlying structure in the six Holland Code personality traits. Three factors emerged from the rotation, each defining a different set of traits in terms of common variance.

Table 4: Factor structure summary after varimax rotation using factor analysis of the six facets of personality traits of holland codes. N=409.

Factor 1	Factor 2	Factor 3
Enterprising	Conventional	Investigative
Social	Artistic	
Realistic	Realistic	
	Investigative	

a. Factor 1 grouped Enterprising, Social and Realistic, highlighting a core dimension that combines leadership, people interaction, and practical action. Factor 1 can be seen as an active leadership style, in which individuals are simultaneously action-oriented, socially adept and rooted in real-task application.

b. Factor 2 had a combination of Conventional, Artistic and Realistic traits. This is an unusual set of traits, possibly indicative of a combination of organization and aesthetic sensitivity in individuals who are creative and organizationally responsible. It may be an indicator of a systematic creativity factor-where following the rules is not in conflict with creativity but channeled into organized structures.

c. Factor 3 was dominated by Investigative types, with Realistic again appearing, indicating a field of intellectual exploration and practical reason. This factor is indicative of an analytic profile with inquiry, research orientation and pragmatic problem-solving, consistent with Holland's original conceptualization of Investigative personalities as being intellectual and task oriented.

The Realistic overlap between all three components indicates its multifaceted character, theorizing that Realistic will be capable of filling roles within leadership, systematic creativity, and investigative undertakings based on situations and correlated characteristics.

Principal component structure after varimax rotation

Table 5 provides the component structure derived through Principal Component Analysis (PCA) with Varimax rotation. In line with the factor analysis results, three Principal Components (PCs) were derived, which provided a valid dimensional reduction of the six traits into meaningful personality profiles.

Table 5: Component structure summary after varimax rotation using principal component analysis of the six facets of personality traits of holland codes. N=409.

PC 1	PC 2	PC 3
Enterprising	Conventional	Investigative
Social	Artistic	Artistic
Realistic	Realistic	

a. PC 1 comprises Enterprising, Social, and Realistic, the same as Factor 1 of Table 4. Once again, this factor emphasizes a cluster of personality based on active social interaction and practical skills, characteristic of active doers who deal with people and take initiative.

b. PC 2 includes Conventional, Artistic, and Realistic dimensions, which support the concept of systematic creativity. Individuals within this cluster may combine organizational order with innovative ideation and suit systematic creative roles such as design engineering, applied art, or administrative innovation.

c. PC 3 is made up of Investigative and Artistic traits. This factor has intellectual curiosity and creative sensitivity combined in a special manner, making up a profile typical of scholars, inventors, and researchers who approach knowledge creation both analytically and conceptually.

The recurrence of Realistic traits in every component, such as in the factor analysis, suggests a hidden function for experiential, practical engagement across a variety of personality structures. Furthermore, the adaptability of the Artistic trait's twofold presence in PC 2 and PC 3 reflects its capacity to merge with traditional form and investigative depth in accordance with situation.

Discussion

What the dominant CSR profile means for food systems leadership

The most common pattern in the sample was CSR: Conventional, Social and Realistic. Conventional ranked highest on average, with Social and then Realistic following. Interpreted for food systems, this triad is equivalent to leaders who are rule-based and organized, people-oriented and operationally focused. Conventional strengths are valuable in policy compliance, procurement integrity, targeting and audit trails. High structure and supportive leaders preserve honest and predictable safety nets that serve to continue public trust and donor faith [17,18]. Social strengths are valuable to partnership-intensive endeavors like extension services, co-operative development, or multi-agency nutrition programs, where empathy and support strengthen team cohesion and community uptake [19,20]. Practical strengths play a vital role in field operations involving agricultural value chains, storage, logistics and emergency distribution where problem-solving and persistence on a practical basis are everyday necessities [21,22]. Job-person fit improves performance and reduces burnout, absenteeism and turnover, which are critical results in humanitarian and development settings [23,24]. The CSR triad is aligned with that evidence and offers a good basis for program implementation in ministries, municipalities, and NGOs.

Trait-level signals that predict leadership in food security

Correlation analyses uncovered patterns that fit neatly into food systems functions.

a) Enterprising was highly correlated with Control, Extroversion and Achievement. This is the classic program leader profile: directive, communicative, and goal driven. In food security, leaders with these qualities can set direction, make hard choices regarding resource allocation during crises, and maintain momentum towards coverage and outcome targets [11,12] Nassar, Tóth, and Vasa [25] also find that leadership competencies are a significant determinant of food security programming effectiveness in humanitarian contexts. Korea Science.

b) Social correlations to Extroversion, Nurturance and Support. These leaders excel at convening diverse stakeholders and sustaining engagement. They are a fit for participatory governance roles, from food policy councils to school feeding and community-based nutrition initiatives [19,20].

c) Investigative with correlations to Analytical and Intellectual. These leaders lead to evidence use, from early warning analysis to cost-effectiveness analysis. They match policymaking, monitoring and evaluation and climate risk evaluation functions, and they can bridge AI-backed tools and actual decisions [26-29]. In the food industry, leadership research confirms that analytical capacity and strategic planning are among the most important capacity areas for practitioners [3].

d) Conventional aligned with Structure, Self-concept and Autonomy. These leaders impose order, define roles and impose norms of governance. They fit into positions requiring standard setting, quality control and guardianship of public funds and information. Their self-concept allows for ethical judgment and stability in the face of pressure [10,13].

e) Artistic was paired with Emotional sensitivity and Perceiver. These leaders introduce creative problem-solving and human-centered design. They are valuable in behavior change communication, social entrepreneurship, and program design for context-specific solutions [30,31].

Perceived through FIKR's four lenses: Facet is concerned with leadership position and discipline, Insight is concerned with empathy and moral sensitivity, Knowledge is concerned with analytical rigor, and Resilience is concerned with adaptability and tenacity. This quartet echoes what food systems leadership literature requires: action, ability to change, communication, critical thinking and vision, interpersonal skills and process skills [2,3].

Three leadership clusters for food systems

Factor analysis and PCA resulted in three persistent clusters corresponding to real roles in food security. Leadership and implementation combine Enterprising, Social and Realistic. They are field generals who can plan, mobilize, and deliver. Regional food aid coordinators, national logistics managers, or government delivery unit chiefs are the kind of people who come to mind. They combine influence with operational expertise and work well in hybrid human-AI teams that must shuttle information and goods at speed [32,33]. Structured creativity integrates Conventional, Artistic and Realistic. These innovators produce in constraints. They are best fitted to policy innovation laboratories, virtual agricultural

enterprises and communications strategies where design thinking needs to be balanced with requirements and practical constraints [34]. Cognitive innovation combines Investigative and Artistic. They are innovators and system thinkers. They are in research, strategy and foresight positions that drive long-range policy and climate adaptation technology choice, market design, and nutrition administration [29,35]. A well-balanced food security team leverages all three. Through FIKR support, selection and development can actively construct teams that cross execution, innovation and strategy. This is also in accord with studies that person-role fit improves performance and well-being and leadership potential in food systems is multi-dimensional, not one size fits all [3,36].

Region-agnostic policy recommendations

Apply FIKR in recruiting and constructing leaders for suitable roles. Ministries, agencies and networks of NGOs may interview to hire Enterprising-Social-Realistic as delivery unit and emergency operations leaders, Conventional-Artistic-Realistic as policy and design function leaders and Investigative-Artistic as analytics and strategy leaders. Develop coaching on the missing FIKR component. For example, high-Knowledge leaders need to practice Insight drilling to build coalitions. Align data and AI efforts with high-Resilience and high-Knowledge leaders. Targeting, market surveillance and early warning necessitate analytic acumen and consistent change management. Allocate leaders who score high on Analytical and Intellectual but also possess Endurance and adaptive problem solving [3].

Prioritize Insight for cross-sector governing. Food security is a team effort. Individuals with high support and empathy traits are better at convening government, private sector and communities and at sustaining inclusive and accountable governance [10,18]. African and regional leadership reports emphasize capacitation in systems thinking and closing policy and practice, which aligns with high Insight profiles [37]. Develop diverse leadership pipelines based on trait evidence rather than proxies. Personality measurement can identify high-potential women and youth and place them in roles where their profiles predict success. This creates inclusive teams and reduces reliance on tenure or narrow credentials that systematically exclude great leaders [38,39]. Track outcomes with leadership-relevant results. Combine FIKR-guided placement with indicators such as time-to-delivery in emergencies, cost per beneficiary and sustained coverage during financing crises. Evidence suggests that leadership capacity is associated with better intervention outcomes in humanitarian food security [25].

Conclusion

Food security demands leaders who are intellectually acuity, emotionally intelligent, morally grounded and resilient. The FIKR tool captures those skills in a form easy to scale and adaptable to RIASEC's broad profiles. Within our sample, the prevailing CSR configuration demonstrates a pool of leadership potential for ordered, people-centric deployment. Trait relationships map cleanly onto food system roles. The three clusters hold an actionable plan for team makeup. Along with emerging food systems leadership research, FIKR provides policymakers with a practical tool to deploy, direct and enable leaders to turn strategy into meals on the table despite hard times.

References

1. FAO (2023) The state of food security and nutrition in the world 2023. Food and Agriculture Organization.
2. Lamm KW (2023a) Issue leadership: Establishing a domain for a food systems leadership model. Foods 12(13): 2598.
3. Lamm KW (2023b) Assessing leadership capacity in the food system: The issue leadership scale. Foods 12(20): 3746.
4. Onyango J, Magale E, Achieng GF, Brouwer JH, Namugumya BS, et al. (2024) The role of food systems leadership and capacitation in transforming African food systems. African Food Fellowship.
5. Oliver KE, Waehler CA (2005) Validity of RIASEC among Native Hawaiians. Journal of Counseling Psychology 52(3): 448-452.
6. Nistal MTF, Soto JKM, Zaragoza FAP (2019) Structural validity of RIASEC in Mexico. Electronic Journal of Research in Educational Psychology 17(49): 707-730.
7. Schneider PL, Ryan JM, Tracey TJG, Rounds J (1996) RIASEC and the interpersonal circle. Measurement and Evaluation in Counseling and Development 29(3): 123-133.
8. Gaudron JP (2018) True change and true stability for RIASEC scores. Academic and Career Guidance 47(4): 579-596.
9. Yap CK, Leow CS, Leong WSV (2024a) Exploring the impact of personality traits on managerial skills using FIKR. Pakistan Journal of Life and Social Sciences 22(2): 5514-5524.
10. Yap CK, Leow CS, Leong WSV (2024b) Integrating ESG into leadership development using FIKR. Pakistan Journal of Life and Social Sciences 22(2): 5582-5590.
11. Sharma S, Elfenbein HA, Foster J, Bottom WP (2018) Predicting negotiation performance from personality traits: A field study across multiple occupations. Human Performance 31(3): 145-164.
12. Maurer TJ, Tarulli BA (1997) Managerial work, job analysis and RIASEC. Journal of Vocational Behavior 50(3): 365-381.
13. Salgado JF (1998) Big Five personality dimensions and job performance in Army and civil occupations: A European perspective. Human Performance 11(2-3): 271-288.
14. Holland J (1985) Making Vocational Choices. (2nd edn), Psychological Assessment Resources, Inc, Florida, USA.
15. Holland J (1997) Making vocational choices: A theory of vocational personalities and work environments (3rd edn), Psychological Assessment Resources, Florida, USA.
16. NCSS 2024 Statistical Software (2024) NCSS, LLC. Kaysville, Utah, USA.
17. Molleman E, Broekhuis M (2012) How working in cross-functional teams relates to core attributes of professional occupations and the moderating role of personality. Group Dynamics 16(1): 50-67.
18. Lappalainen P (2015) Predictors of effective leadership in industry. European Journal of Engineering Education 40(2): 222-233.
19. Sundstrom ED, Lounsbury JW, Gibson LW, Huang JL (2016) Personality and career satisfaction in training and development. Human Resource Development Quarterly 27(1): 13-40.
20. Cheng H, Treglown L, Montgomery S, Kornilaki EN, Tsivrikos D, et al. (2017) Personality, education, occupation and eczema. Journal of Health Psychology 22(7): 916-924.
21. Stewart LH (1971) Relationships between interests and personality scores of occupation-oriented students. Journal of Counseling Psychology 18(1): 31-38.

22. Feather NT, Simon JG (1975) Reactions to success and failure in sex-linked occupations. Journal of Personality and Social Psychology 31(1): 20-31.

23. Zotova OY, Karapetyan LV (2015) Occupation as a factor of personality subjective wellbeing. Psychology in Russia: State of the Art 8(2): 126-136.

24. Marchand A, Demers A, Durand P (2006) Social structures, personality and mental health. Human Relations 59(7): 875-901.

25. Nassar S, Tóth ZN, Vasa L (2022) The impact of leadership skills on food security intervention. Journal of Asian Finance, Economics and Business 9(9): 131-141.

26. Armstrong PI, Day SX, McVay JP, Rounds J (2008) Holland's RIASEC model as an integrative framework for individual differences. Journal of Counseling Psychology 55(1): 1-18.

27. Deng CP, Armstrong PI, Rounds J (2007) The fit of Holland's model to US occupations. Journal of Vocational Behavior 71(1): 1-22.

28. Prediger DJ, Vansickle TR (1992) Locating occupations on Holland's hexagon. Journal of Vocational Behavior 40(2): 111-128.

29. De Fruyt F, Mervielde I (1997) The five-factor model and Holland's types. Personality and Individual Differences 23(1): 87-103.

30. Pizur-Barnekow K, Knutson J (2009a) Personality and behavior changes in co-occupation. Journal of Occupational Science 16(3): 157-162.

31. Pizur-Barnekow K, Knutson J (2009b) Personality and behavior changes in solitary occupation. Journal of Occupational Science 16(3): 187-193.

32. King DD, Ott-Holland CJ, Ryan AM, Huang JL, Wadlington PL, et al. (2017) Personality homogeneity in organizations and occupations. Journal of Business and Psychology 32(6): 641-653.

33. Knox D, MacDonald R (2017) Broadcasting personalities and occupations. Psychology of Music 45(5): 645-664.

34. Zheng Y, Gao Y, Li M, Dang N (2023) Leadership styles and employee pro-environmental behavior. International Journal of Hospitality Management 113: 103509.

35. Hershey DA, Farrell AH (1997) Perceptions of wisdom and occupations. Current Psychology 16(2): 115-130.

36. Rossetti C, Biemann T, Dlouhy K (2025) The emergence of similar personalities in similar occupations. Journal of Organizational Behavior.

37. Anni K, Vainik U, Mõttus R (2024) Personality profiles of 263 occupations. Journal of Applied Psychology 110(4): 481-511.

38. Chun KT, Campbell JB, Yoo JH (1975) Perceived trustworthiness of occupations. Journal of Cross-Cultural Psychology 6(4): 430-443.

39. Bradley-Geist JC, Landis RS (2012) Homogeneity of personality in occupations and organizations: A Comparison of Alternative Statistical Tests. Journal of Business and Psychology 27(2): 149-159.