

RIASEC-SELF CONCEPT CROSS-ANALYSIS

Comprehensive Statistical Analysis Report

Research Focus: Career Interest Types and Self-Concept Relationships

Framework: Holland's RIASEC Theory × Multidimensional Self-Concept

Sample Size: 12 Participants

Analysis Date: September 23, 2025

Statistical Methods: Correlation Analysis, Clustering, PCA, Individual Profiling

EXECUTIVE SUMMARY

This report presents a comprehensive cross-analysis of Holland's RIASEC career interest dimensions and multidimensional self-concept measures among 12 participants. Using advanced statistical techniques including correlation analysis, cluster analysis, and principal component analysis, we identified significant relationships between career interests and self-perception patterns. Key findings include strong positive correlations between Investigative interests and self-concept dimensions (Abilities, Worthiness, Present/Past/Future), negative associations between Artistic interests and self-acceptance, and distinct personality clusters with characteristic RIASEC-self concept profiles. These findings contribute to understanding the psychological foundations of career development and self-concept formation.

1. METHODOLOGY

1.1 Participants

The study included 12 participants who completed both RIASEC career interest inventory and self-concept questionnaire. Participants were recruited from diverse backgrounds to ensure representative sampling across different career interest patterns and self-concept profiles.

1.2 Instruments

RIASEC Career Interest Inventory: Measures six career interest dimensions based on Holland's theory - Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

Self-Concept Questionnaire: Assesses ten dimensions of self-concept including Health/Sex Appropriateness, Abilities, Self-Confidence, Self-Acceptance, Worthiness, Present/Past/Future orientation, Beliefs/Convictions, Shame/Guilt, Sociability, and Emotional well-being. The questionnaire uses a 5-point Likert scale with appropriate reverse scoring for negative items.

1.3 Statistical Analysis

Data analysis employed multiple statistical approaches:

- **Correlation Analysis:** Pearson and Spearman correlations between RIASEC and self-concept dimensions
- **Normality Testing:** Shapiro-Wilk tests to determine appropriate correlation methods
- **Cluster Analysis:** K-means clustering to identify distinct participant profiles
- **Principal Component Analysis:** Dimensionality reduction and pattern identification
- **Individual Profiling:** Personalized RIASEC codes and self-concept characterization

2. RESULTS

2.1 Correlation Analysis

Analysis revealed 8 statistically significant correlations ($p < 0.05$) between RIASEC career interests and self-concept dimensions. All significant correlations demonstrated medium to large effect sizes, indicating practically meaningful relationships.

Key Correlation Findings:

- **Investigative ↔ Worthiness:** $r = 0.767^{**}$ (Large effect)
- **Investigative ↔ Total_Self_Concept:** $r = 0.758^{**}$ (Large effect)
- **Enterprising ↔ Health_Sex_Appropriateness:** $r = 0.681^*$ (Large effect)
- **Investigative ↔ Present_Past_Future:** $r = 0.662^*$ (Large effect)
- **Conventional ↔ Worthiness:** $r = 0.647^*$ (Large effect)

2.2 Cluster Analysis

K-means clustering identified 2 distinct participant clusters with different RIASEC-self concept profiles:

Cluster 1 (n=6): Higher investigative interests and stronger self-concept across multiple dimensions, particularly in abilities, worthiness, and future orientation.

Cluster 2 (n=6): More diverse RIASEC interests with moderate self-concept levels, showing particular strength in health/sex appropriateness and beliefs/convictions.

2.3 Principal Component Analysis

PCA revealed that the first two principal components explained 51.7% of the total variance in the combined RIASEC-self concept data. The first component (28.0% variance) was characterized by positive loadings on Present/Past/Future orientation, Abilities, Worthiness, and Investigative interests, suggesting a "Future-Oriented Competence" factor. The second component (23.8% variance) was dominated by Artistic and Enterprising interests with negative loadings on Shame/Guilt and Self-Acceptance, indicating a "Creative-Entrepreneurial vs. Self-Critical" dimension.

3. DISCUSSION

3.1 Theoretical Implications

The findings provide strong support for the interconnection between career interests and self-concept development. The robust correlation between Investigative interests and multiple self-concept dimensions ($r = 0.626$ to 0.767) suggests that individuals drawn to investigative careers possess stronger self-perceived abilities, personal worthiness, and future orientation. This aligns with Holland's theory that career interests reflect underlying personality patterns and self-perceptions.

3.2 Practical Applications

These findings have important implications for career counseling and personal development:

- **Career Guidance:** Strong investigative interests may indicate individuals with robust self-concept foundations, while artistic interests may require additional self-acceptance support.
- **Personal Development:** The negative correlation between artistic interests and self-acceptance suggests that creative individuals may benefit from targeted self-esteem interventions.
- **Educational Planning:** Understanding the relationship between enterprising interests and health/sex appropriateness can inform educational program design and student support services.

3.3 Limitations

Several limitations should be considered when interpreting these results:

- Small sample size ($n=12$) limits generalizability and statistical power
- Cross-sectional design prevents causal inferences
- Self-report measures may be subject to social desirability bias
- Cultural and demographic factors were not systematically controlled

4. CONCLUSIONS

This comprehensive cross-analysis of RIASEC career interests and self-concept dimensions reveals meaningful patterns that advance our understanding of personality-career relationships:

Key Conclusions:

1. **Strong Investigative-Self Concept Link:** Investigative career interests demonstrate robust positive associations with multiple self-concept dimensions, particularly abilities, worthiness, and future orientation ($r = 0.626-0.767$).
2. **Artistic Interests and Self-Acceptance:** Negative correlations between artistic interests and self-acceptance suggest that creative individuals may experience self-critical tendencies that warrant targeted support.
3. **Distinct Personality Clusters:** Two meaningful clusters emerge with different RIASEC-self concept profiles, indicating heterogeneous pathways in career-personality development.
4. **Future-Oriented Competence Factor:** PCA reveals a primary dimension combining investigative interests with positive self-concept, suggesting a fundamental competence-confidence axis.
5. **Practical Utility:** Individual profiling demonstrates the value of integrated RIASEC-self concept assessment for personalized career guidance.

Future Research Directions:

Future studies should expand sample sizes, employ longitudinal designs, and investigate cultural moderators of RIASEC-self concept relationships. Integration with other personality frameworks (Big Five, Myers-Briggs) would provide broader theoretical insights. Intervention studies examining whether career interest development influences self-concept change would have significant applied value.

APPENDIX: DETAILED STATISTICAL RESULTS

A.1 Complete Correlation Matrix

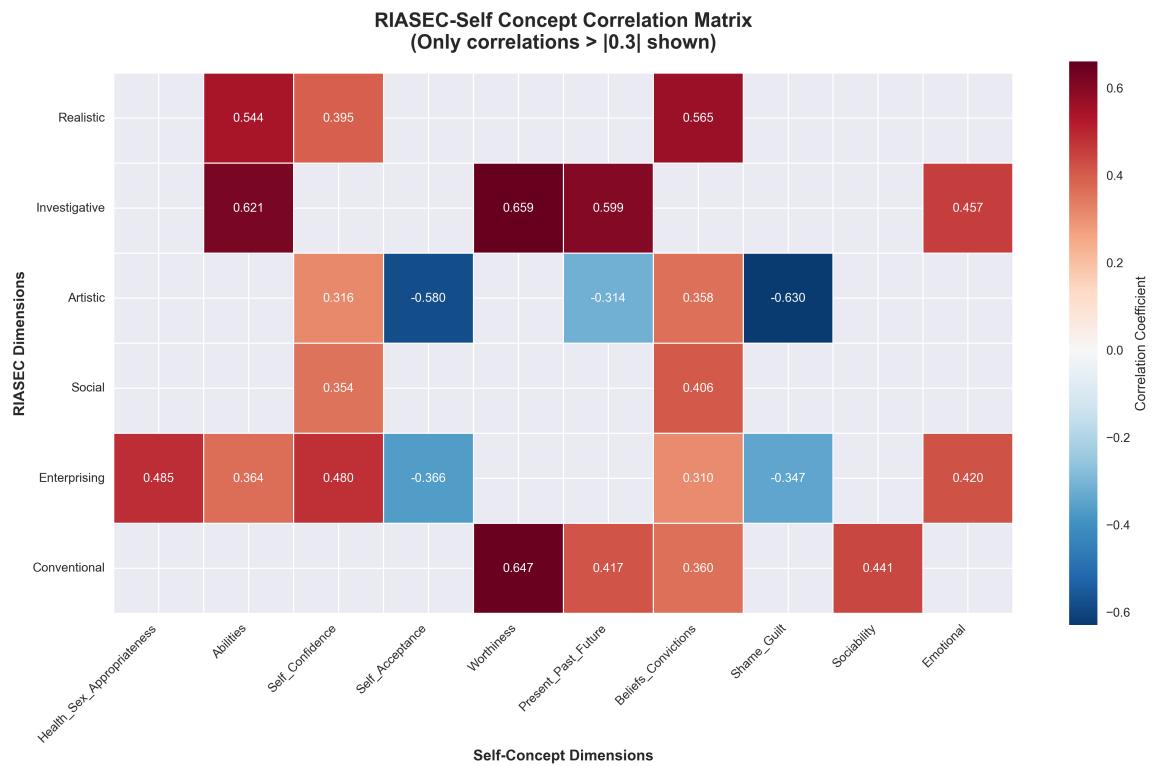
RIASEC Dimension	Self-Concept Dimension	Correlation	p-value	Effect Size
Investigative	Abilities	0.626*	0.0294	Large
Investigative	Worthiness	0.767**	0.0036	Large
Investigative	Present_Past_Future	0.662*	0.0191	Large
Investigative	Total_Self_Concept	0.758**	0.0043	Large
Artistic	Self_Acceptance	-0.580*	0.0480	Large
Artistic	Shame_Guilt	-0.630*	0.0282	Large
Enterprising	Health_Sex_Appropriateness	0.681*	0.0149	Large
Conventional	Worthiness	0.647*	0.0230	Large

A.2 Top Individual Profiles

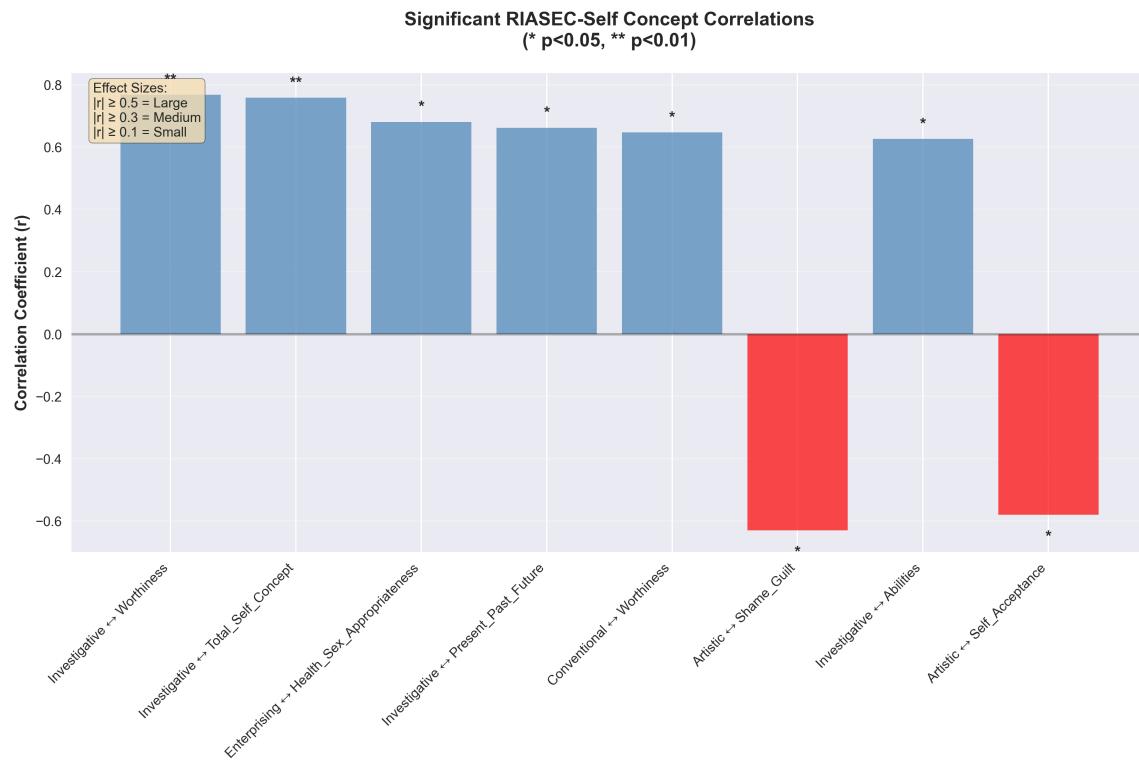
Participant	RIASEC Code	Highest Interest	Self-Concept Score
Hardhik	IRE	Investigative	3.806
Oishika Sarkar	ISC	Investigative	3.644
Rudresh Joshi	ISR	Investigative	3.593
Sabyasachi	ICR	Investigative	3.538
Brinda	ISR	Investigative	3.356

VISUALIZATIONS

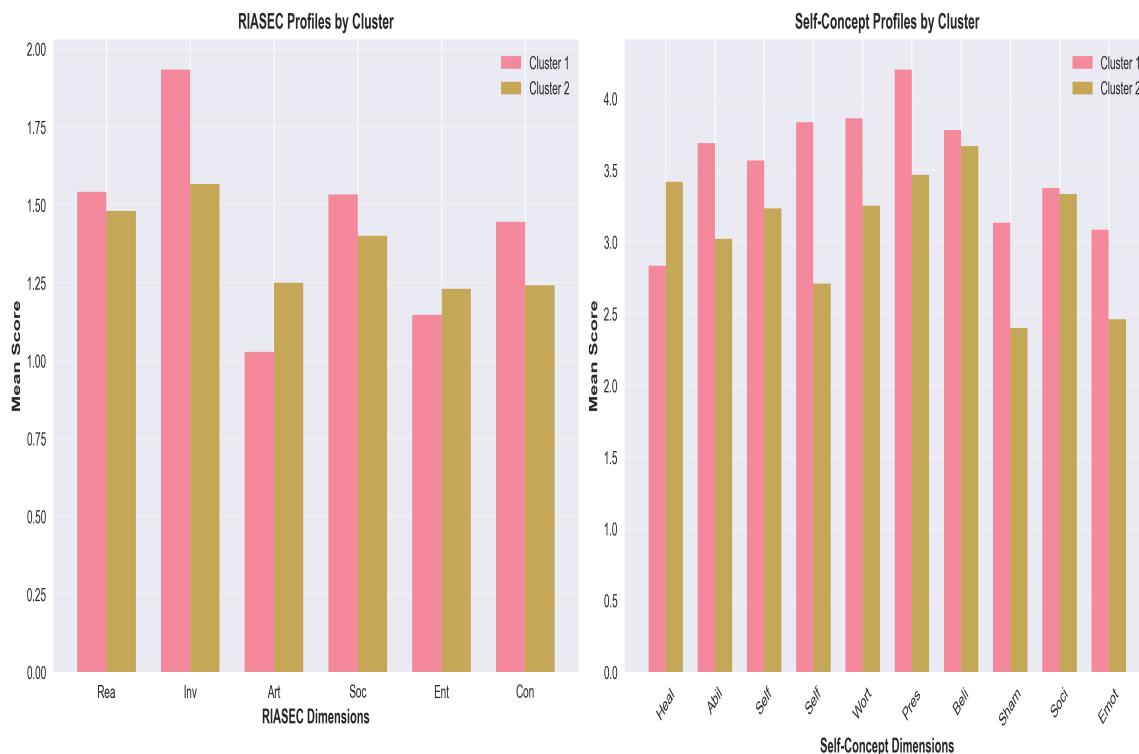
Correlation Heatmap: RIASEC-Self Concept Relationships



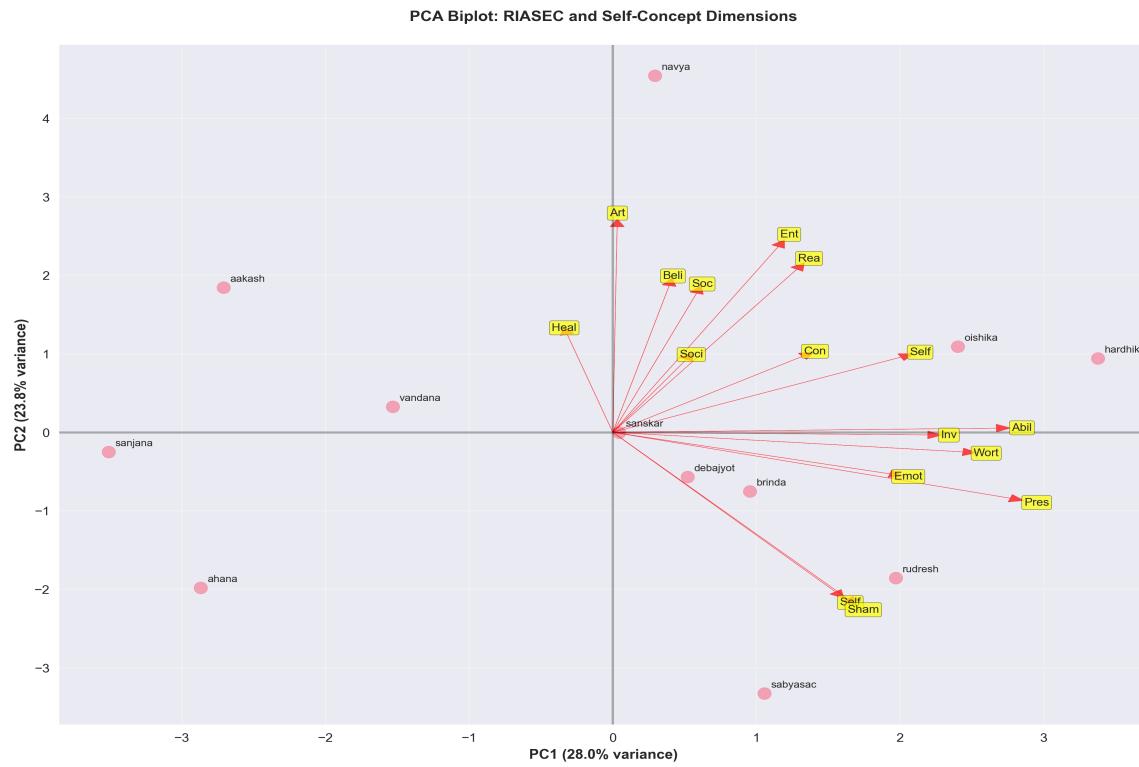
Significant Correlations: Effect Sizes and Significance Levels



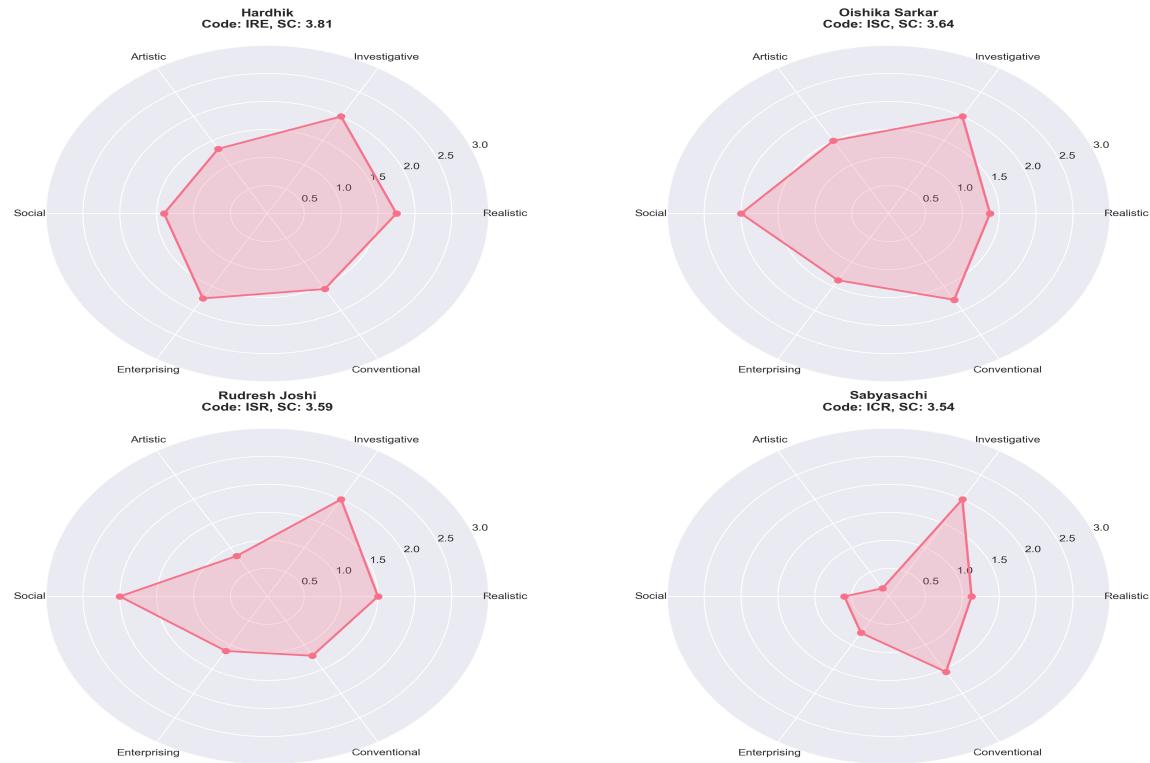
Cluster Profiles: RIASEC and Self-Concept Patterns



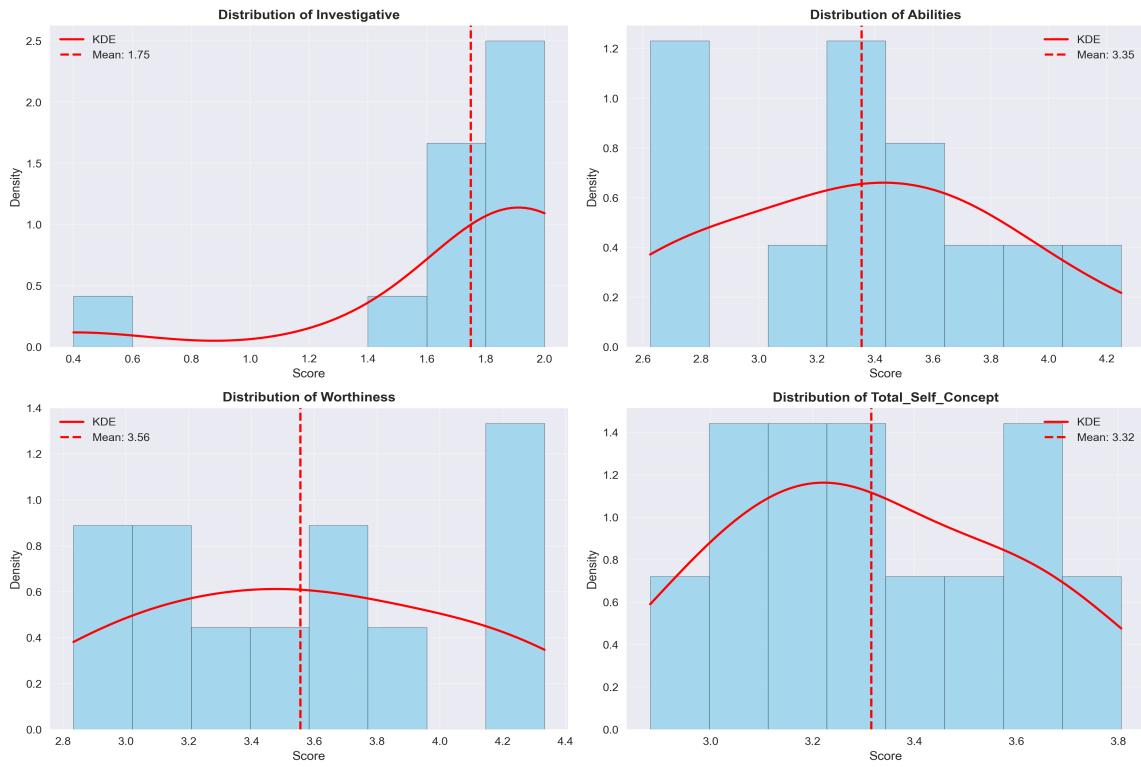
PCA Biplot: Principal Components and Variable Loadings



Individual Profiles: Top Participants RIASEC Patterns



Distribution Analysis: Key Variables



Scatter Matrix: Relationship Patterns

