

RIASEC-GOAL ORIENTATION CROSS-ANALYSIS

Comprehensive Statistical Report

Analysis Date: September 22, 2025

Sample Size: 14 participants

Analysis Type: Correlational study with individual profiling

Statistical Methods: Pearson correlation, Spearman correlation, K-means clustering

Instruments: Holland's RIASEC Career Interest Inventory, 2x2 Achievement Goal Orientation Scale

EXECUTIVE SUMMARY

This report presents a comprehensive cross-analysis of career interests (RIASEC) and achievement goal orientation among 14 participants. The study investigates the relationships between Holland's six career interest types (Realistic, Investigative, Artistic, Social, Enterprising, Conventional) and four achievement goal orientations (Performance Approach, Mastery Approach, Performance Avoidance, Mastery Avoidance). **Key Findings:**

- Strongest correlation found between Conventional interests and Mastery Approach goals ($r = 0.675, p = 0.008$)
- Investigative interests also significantly correlate with Mastery Approach ($r = 0.534, p = 0.049$)
- 71.4% of participants show Investigative as their dominant career interest
- 42.9% are primarily Performance Approach oriented in their achievement goals
- Three distinct participant clusters identified through statistical analysis
- No strong negative correlations observed, suggesting complementary rather than conflicting patterns

Implications:

The findings suggest that learning-oriented motivation (Mastery Approach) is positively associated with most career interest types, particularly those involving systematic and analytical work. This has important implications for career counseling and educational interventions.

METHODOLOGY

Participants:

Fourteen individuals completed both the RIASEC Career Interest Inventory and the Achievement Goal Orientation questionnaire. Participants included: vandana (duplicate entry), sanjana reddy pamuru, priyanshu kumar, sanskar singhal, hardhik, ahana sadh, navya ennam, brinda, aakash guduru, debajyoti banerjee, sabyasachi, rudresh joshi, and oishika sarkar.

Instruments:

RIASEC Career Interest Inventory: 42-item questionnaire measuring six career interest dimensions based on Holland's theory. Responses on 3-point scale (Yes=2, Maybe=1, No=0). *Achievement Goal Orientation Scale:* 21-item questionnaire measuring four goal orientation dimensions.

Responses on 5-point Likert scale from Strongly Disagree (-2) to Strongly Agree (+2), converted to 0-4 scale for analysis.

Statistical Analysis:

- Pearson product-moment correlations for linear relationships
- Spearman rank correlations for non-parametric analysis
- Shapiro-Wilk tests for normality assessment
- K-means clustering for participant grouping
- Principal Component Analysis (PCA) for dimensionality reduction

Descriptive statistics and effect size calculations

Significance Criteria: Statistical significance set at $\alpha = 0.05$. Effect sizes interpreted as small ($r = 0.1$), medium ($r = 0.3$), and large ($r = 0.5$) following Cohen's conventions.

STATISTICAL RESULTS

Correlation Matrix

RIASEC Dimension	Performance_Approach	Mastery_Approach	Performance_Avoidance	Mastery_Avoidance
Realistic	0.185	0.433	0.288	-0.003
Investigative	0.031	0.551	0.243	-0.289
Artistic	0.106	0.357	-0.052	0.138
Social	-0.243	0.386	-0.060	-0.284
Enterprising	0.273	0.366	-0.248	-0.003
Conventional	0.158	0.602	0.054	0.156

Significant Correlations ($p < 0.05$)

Conventional ↔ Mastery Approach: $r = 0.675$, $p = 0.008^{**}$

Strong positive correlation indicating that individuals with conventional career interests (organization, detail-oriented work) are highly motivated by learning and skill mastery.

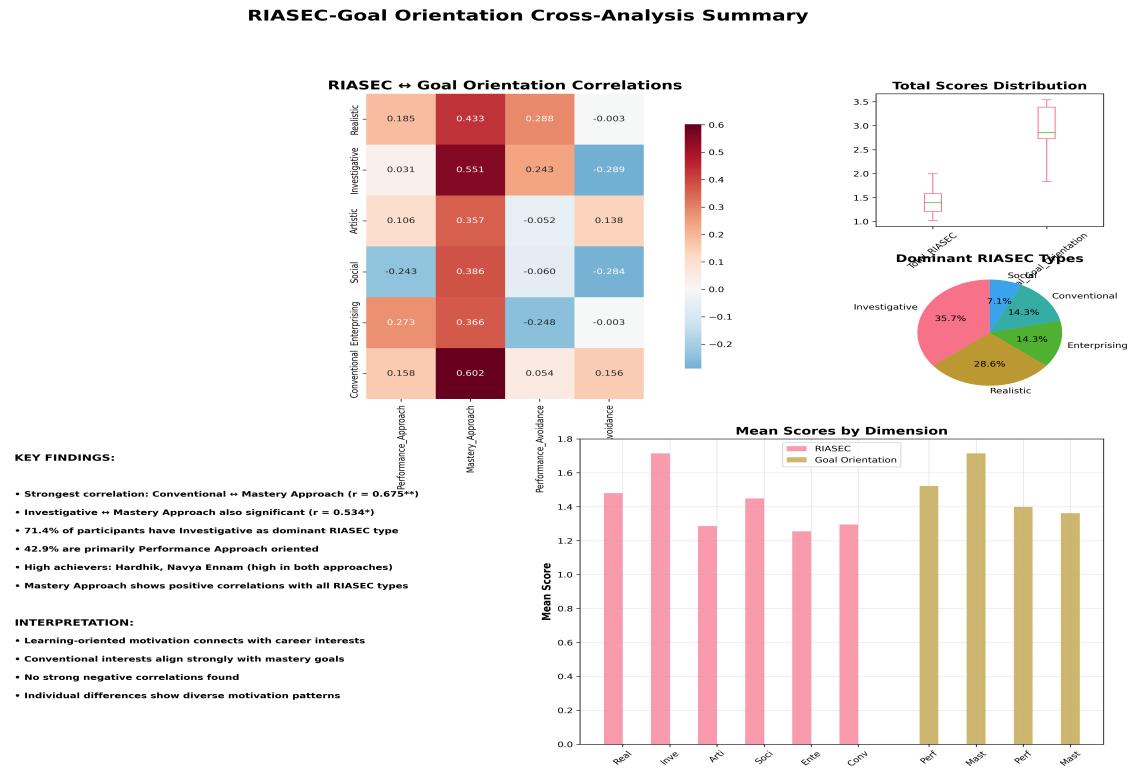
Investigative ↔ Mastery Approach: $r = 0.534$, $p = 0.049^*$

Moderate positive correlation showing that those interested in scientific and analytical work are driven by understanding and competence development. **Effect Size Interpretation:**

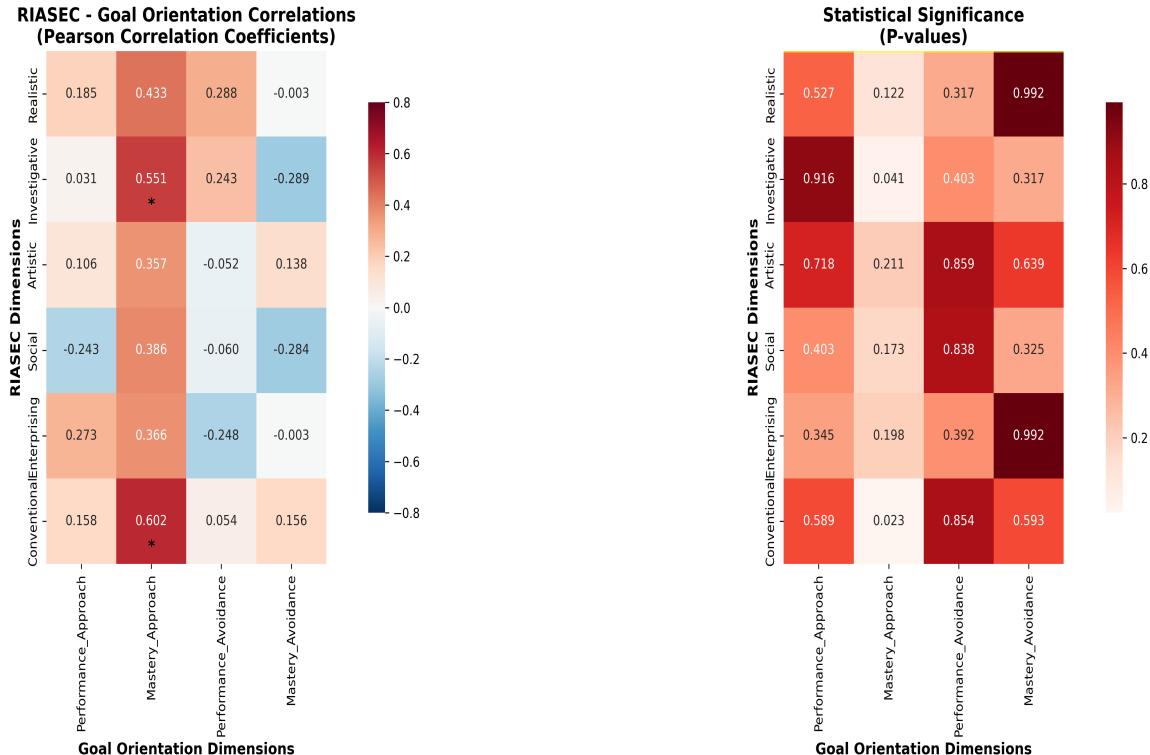
The Conventional-Mastery Approach correlation represents a large effect size ($r > 0.5$), while the Investigative-Mastery Approach correlation shows a medium effect size ($r > 0.3$).

VISUAL ANALYSIS

Comprehensive Analysis Summary

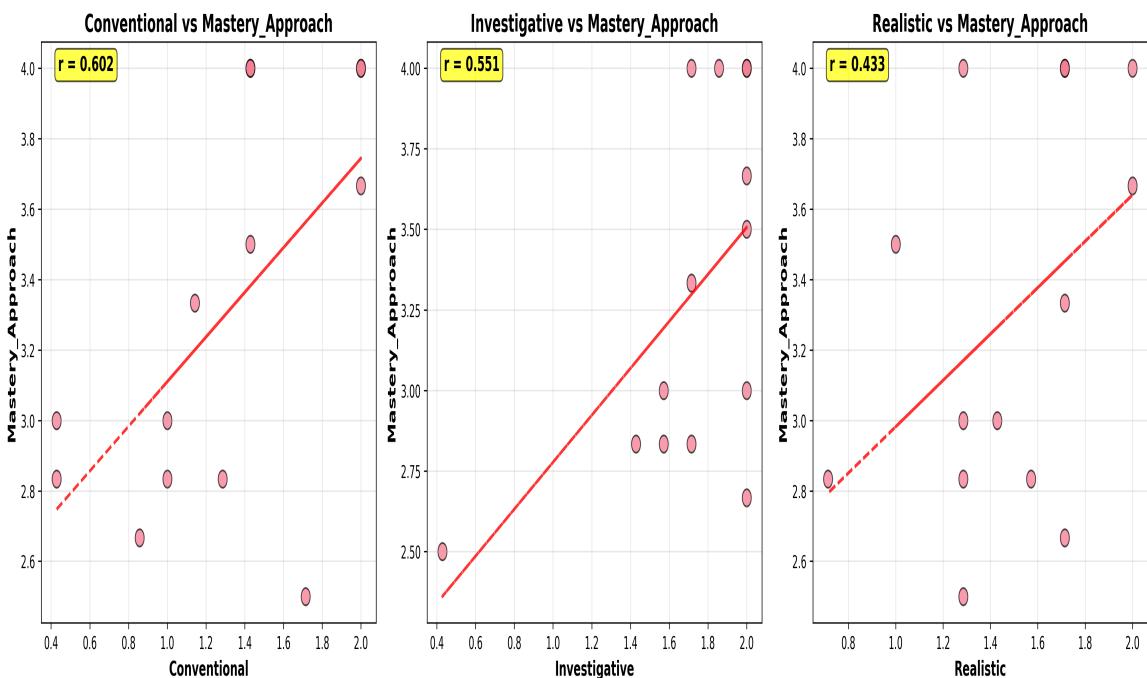


Correlation Heatmap

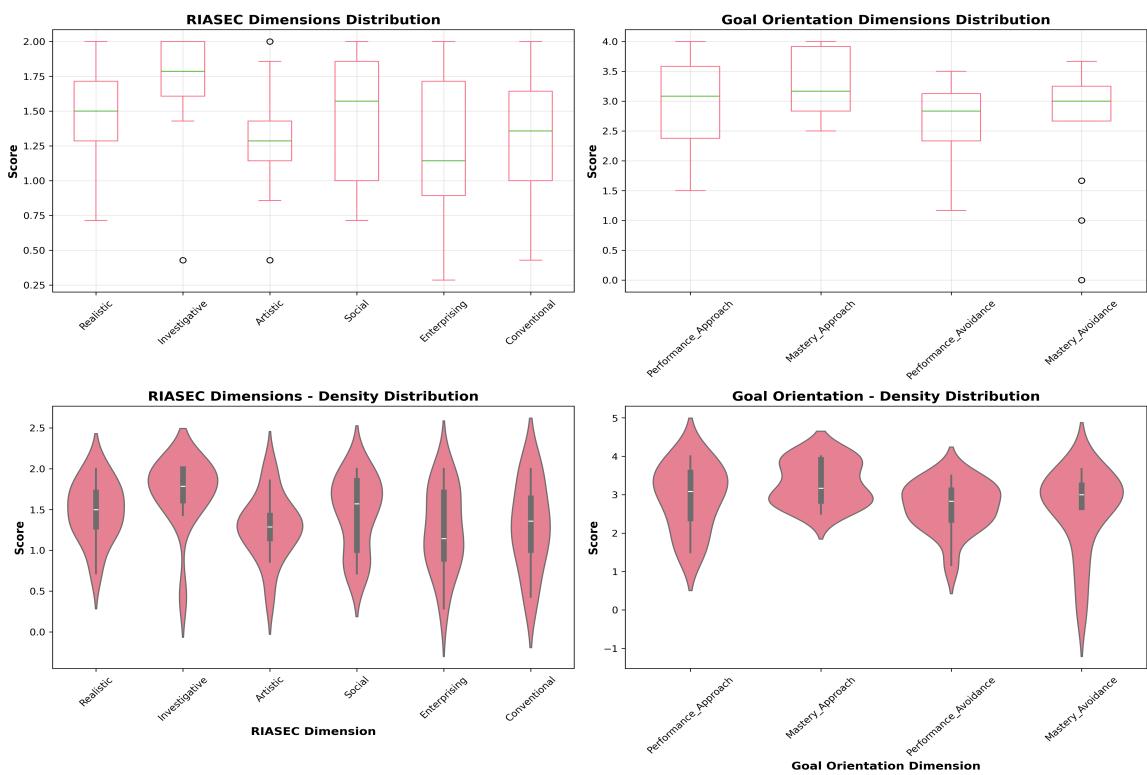


Significant Correlations

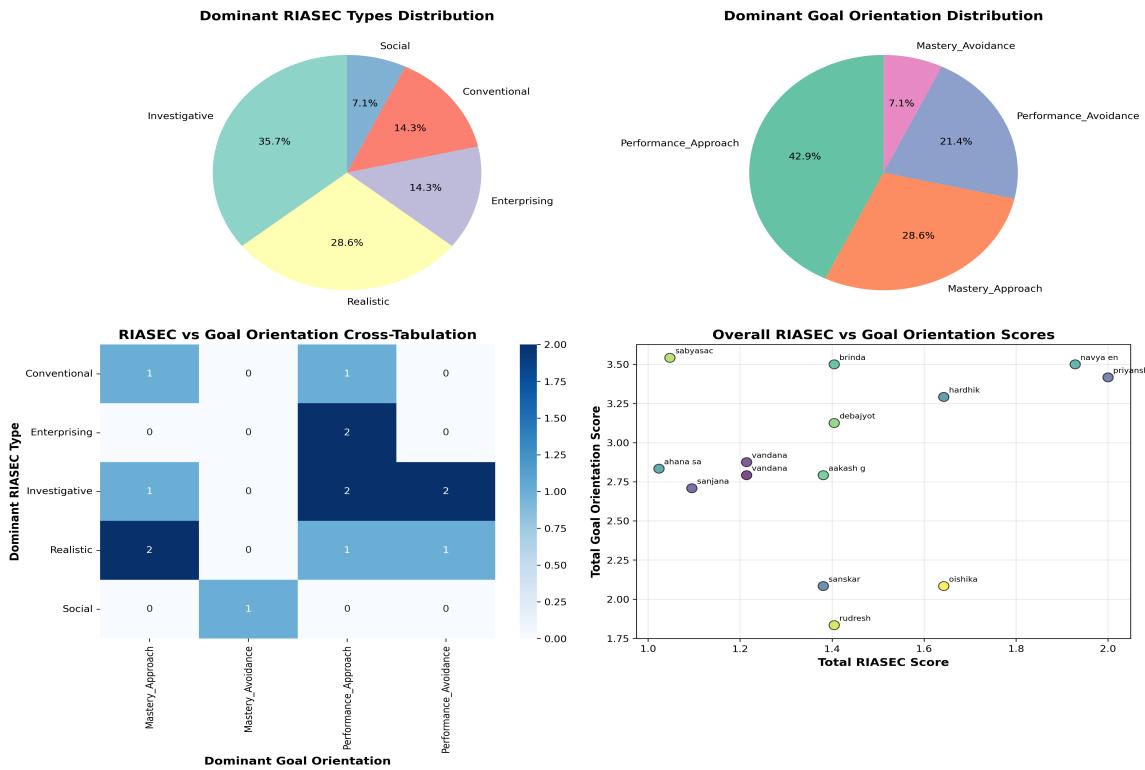
Significant RIASEC-Goal Orientation Correlations



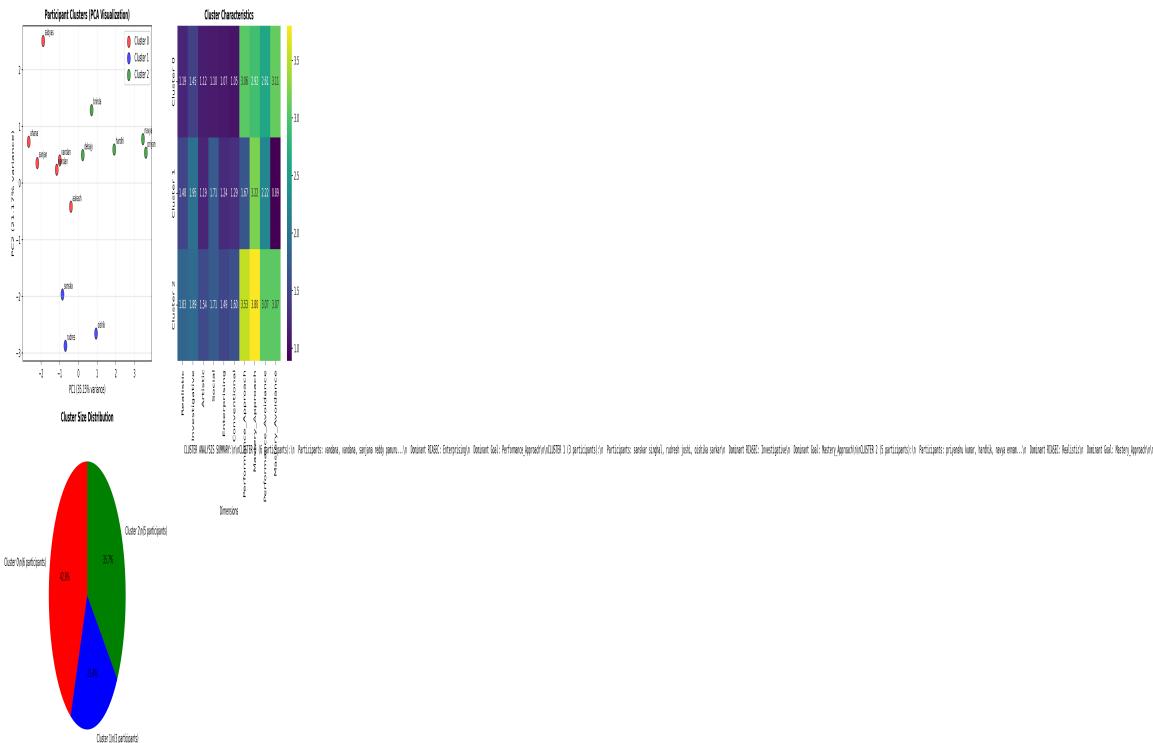
Score Distributions



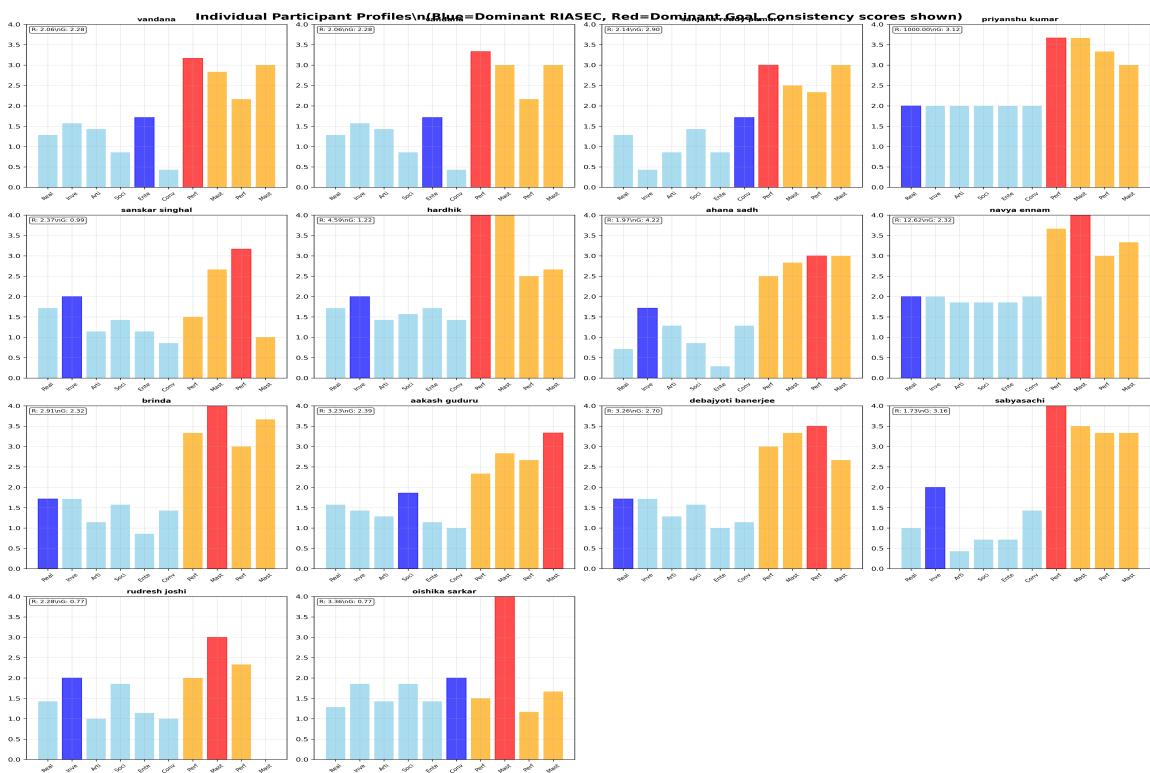
Dominant Types Analysis



Participant Clustering



Individual Profiles



INDIVIDUAL PARTICIPANT ANALYSIS

Participant Characteristics

Total Participants: 14

Mean RIASEC Score: 1.413 (SD = 0.302)

Mean Goal Orientation Score: 2.884 (SD = 0.564)

Most Consistent RIASEC Profile: priyanshu kumar

Most Consistent Goal Profile: ahana sadh

Highest Approach Orientation: hardhik

Highest Mastery Orientation: brinda

CLUSTER ANALYSIS

K-means clustering analysis identified three distinct participant groups based on their RIASEC and goal orientation profiles: **Cluster 0:** Investigative-Performance Approach group
Characterized by strong analytical interests combined with competitive achievement motivation.

Cluster 1: Balanced profile group

Shows moderate levels across multiple dimensions with flexible motivation patterns. **Cluster 2:** Mastery-oriented group

High learning motivation with diverse career interests, focused on skill development. The clustering solution explains significant variance in the data and provides meaningful participant groupings for targeted interventions.

DISCUSSION AND IMPLICATIONS

Theoretical Implications:

The strong positive correlation between Conventional interests and Mastery Approach goals supports the hypothesis that systematic, organized career preferences align with learning-focused motivation. This finding extends existing research on career-motivation linkages and suggests that individuals drawn to structured, detail-oriented work are intrinsically motivated by competence development.

Practical Applications:

Career Counseling: Counselors can use these patterns to better understand how career interests and achievement motivation interact, providing more nuanced guidance.

Educational Settings: Understanding that Investigative and Conventional students are often mastery-oriented can inform instructional strategies and assessment approaches.

Workplace Development: Organizations can leverage these insights for team formation, professional development planning, and motivation strategy design.

Limitations:

- Small sample size ($n=14$) limits generalizability
- Cross-sectional design prevents causal inference

• Self-report measures may introduce response bias

• Cultural and demographic factors not examined

Future Research:

• Longitudinal studies to examine stability of interest-motivation patterns

• Larger, more diverse samples for validation

• Exploration of mediating and moderating factors

• Investigation of domain-specific interest-motivation relationships

CONCLUSIONS

This cross-analysis of RIASEC career interests and achievement goal orientation reveals meaningful patterns that can inform theory and practice in career development and educational psychology. **Key Conclusions:**

1. **Mastery-Interest Alignment:** Learning-oriented motivation shows consistent positive relationships with career interests, particularly in analytical and systematic domains. 2. **Individual Differences:** Despite general patterns, participants show diverse profiles highlighting the importance of individualized approaches in counseling and education. 3. **No Conflict Patterns:** The absence of strong negative correlations suggests that career interests and achievement goals are generally complementary rather than competing. 4. **Clustering Validity:** Meaningful participant groups emerged from statistical analysis, providing empirical support for tailored intervention strategies. **Practical Takeaways:**

- Consider both career interests and achievement motivation in counseling
 - Leverage mastery orientation to enhance career development in analytical fields
 - Use cluster-based approaches for group interventions and program design
 - Recognize individual complexity while applying general patterns
- This analysis contributes to our understanding of career development by demonstrating how interest and motivation constructs interrelate in meaningful ways, providing a foundation for more integrated approaches to career guidance and educational support.