

Talent Themes and Academic Success among Agriculture and Natural Resources Students

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Background

- The land-grant mission calls for a liberal & practical education (NASULGC, 2008).
- College graduates are critical.
 - Workforce needs (Wheelan, 2016)
 - Personal gain (Mayhew, et al., 2016)
 - Societal economic savings & gains (Trostel, 2010)
- 36% of 25- to 34-year-olds have a bachelor's degree (McFarland, et al., 2017)
- Attrition = \$22M loss per year at Oklahoma State University (Education Policy Institute, 2013)



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Institutional Factors Influencing Performance, Retention & Graduation

- Instructional & student services expenditures (Mayhew, et al., 2016)
- Faculty-to-student interactions (Astin, 1993; Kuh, et al., 1997; Mayhew, et al., 2016)
- Other factors: Control, size, student services, faculty type, etc. (Astin, 1993; Bonet & Walters, 2016; Brazzell & Reisser, 1999; Tinto, 1975; Mayhew, et al., 2016; Strahan & Crede, 2014)



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Student Factors Influencing Performance, Retention & Graduation

- **Demographics** (Allen & Robbins, 2010; Astin, 1993; Alarcon & Edwards, 2013; Kappe & van der Flier, 2012)
- **Pre-college performance** (Allen & Robbins, 2010; Astin, 1993; Garton, et al., 2000; Garton, et al., 2002)
- **Prior agriculture involvement** (Ball, et al., 2001; Moore & Braun, 2005)
- **Student academic & co-curricular choices** (Astin, 1993; Gaspard, et al., 2011; Mayhew, et al., 2016; Talbert, et al., 1999; Tinto, 1975)



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Statement of the Problem

- College student retention and degree completion rates necessitate improvement.
- Both institutional and student factors influence student success.
- More than 600 institutions have engaged in using strengths development in their student success efforts (Lopez & Lewis, 2009; Louis, 2011)
- Merit of strengths education as a tool supporting retention and graduation is unclear.



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Purpose of the Study

Explore the relationship between implementation of strengths identification & development initiatives & college student success



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Research Questions

1. What differences exist in the criterion variables of students' college student success factors between the five independent predictor variables of the talent theme dimension groups?
2. Do the college success outcome variables of cumulative college GPA, semesters in academic distress, number of academic major changes, & degree completion efficiency significantly predict the five grouping variables of the talent theme dimension groups?



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Assumptions & Limitations

- Sincerity in responses
- Unchanged top talents or strengths
- Inability to access raw quantitative data from Gallup, Inc.
- Lack of generalizability
- Confounding factors influencing student success



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Theoretical Framework

Strengths Theory (Buckingham & Clifton, 2001; Hodges & Clifton, 2004)

- Identification, development & application of strengths yields greater success & fulfillment than equal efforts applied toward weaknesses

Table 1. Clifton StrengthsFinder® Talent Themes Grouped by Talent Theme Dimension

| Talent Theme Dimensions | | | |
|-------------------------|-------------|----------------|---------------|
| Relating | Impacting | Striving | Thinking |
| Communication | Command | Achiever | Analytical |
| Empathy | Competition | Activator | Arranger |
| Harmony | Developer | Adaptability | Connectedness |
| Includer | Maximizer | Belief | Consistency |
| Individualization | Positivity | Discipline | Context |
| Relator | Woo | Focus | Deliberative |
| Responsibility | | Restorative | Futuristic |
| | | Self-assurance | Ideation |
| | | Significance | Input |
| | | | Intellection |
| | | | Learner |
| | | | Strategic |



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Theoretical Framework

Person-Environment Fit Theory (Holland, 1959; Holland, 1973)

- People & environments may be characterized by RIASEC
- People seek out congruent environments & behavior results from interaction between person & environment

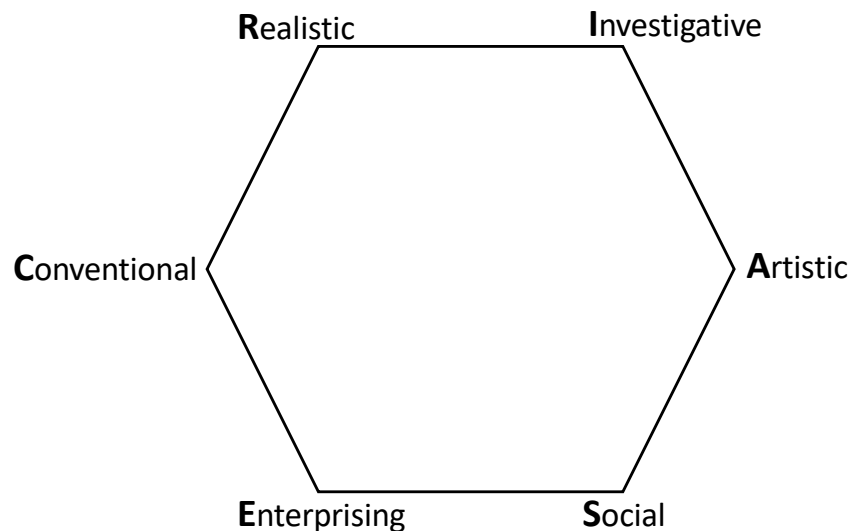


Figure 1. Holland's RIASEC hexagonal model representing relationships between personality and environment types. Adapted from *Self-Directed Search Professional Manual* (p. 41), by J. L. Holland & M. A. Messer, 2013, Lutz, FL; PAR. Copyright 2013 by PAR, Inc.



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Conceptual Framework

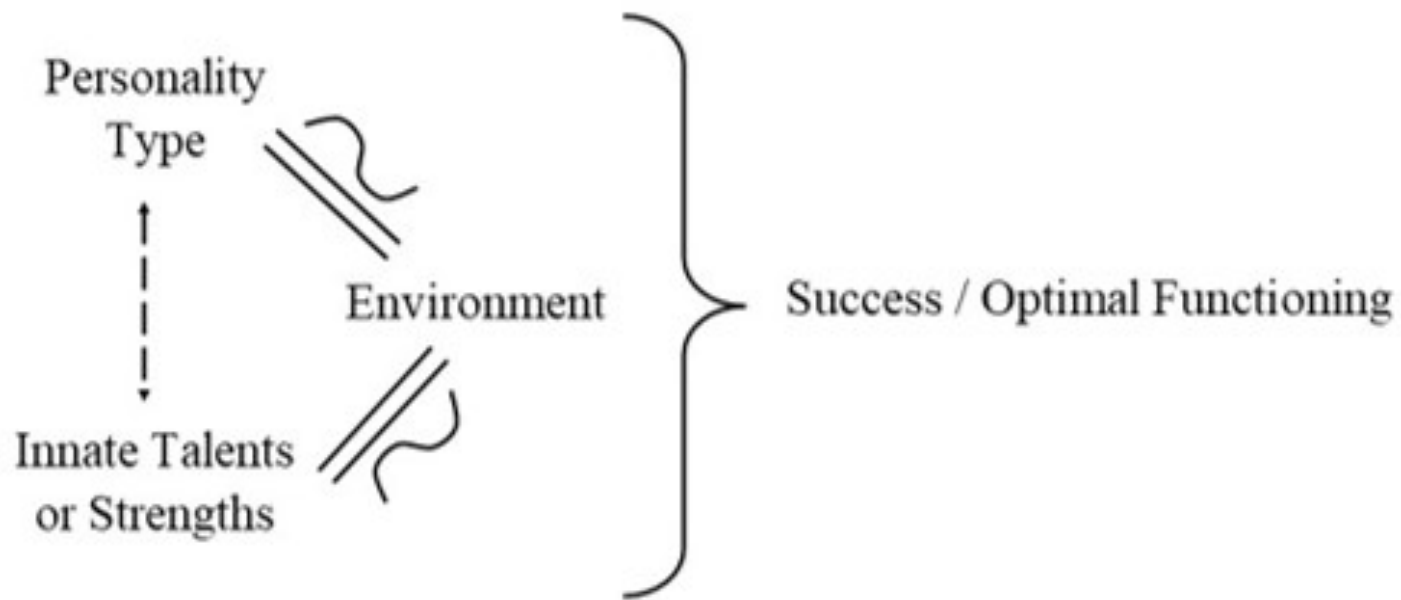


Figure 2. The relationship between Holland's personality types and strengths in producing personal success.



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Methods

- IRB approved to obtain historical student records
- Academic data obtained by IRIM
 - Demographic information
 - High school GPA & ACT score
 - Pre-college academic credit
 - Cumulative GPA
 - Semesters below 2.0
 - Enrollment date for AG 1011 & major at enrollment
 - Graduation date & major
- Clifton StrengthsFinder® data obtained through CASNR
 - Top Five Themes of Talent



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Study Participants

- Census study of Fall 2008, 2009, & 2010 CASNR Freshmen
 - Declared majors in CASNR
 - Graduated within 6 years
 - $N = 551$
- 99.82% between 17-21 years of age

Table 2. *Race & Ethnicity of Study Participants*

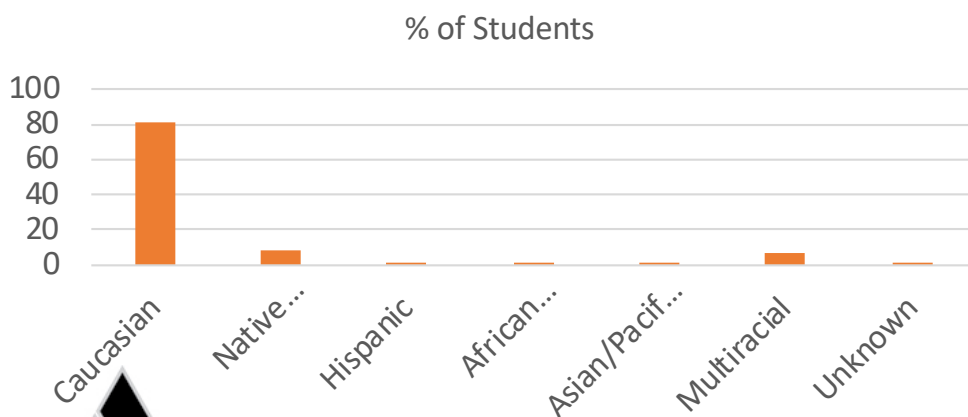
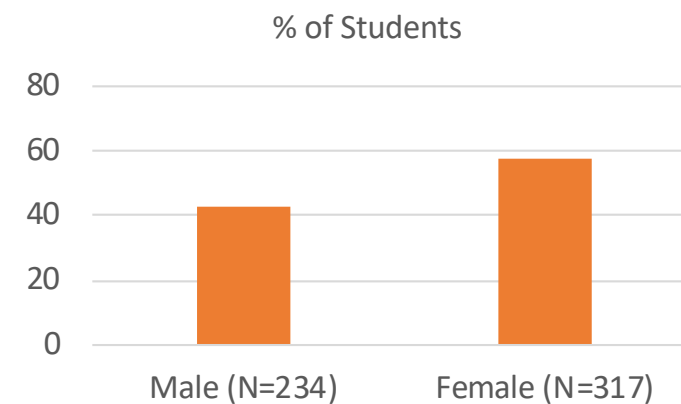


Table 3. *Gender of Study Participants*



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Methods

- Academic & strengths data matched
- Personally identifiable information removed
- Participants grouped by theme dimensions
- Data Analysis conducted using SPSS
 - ANOVA & ANCOVA
 - Discriminant Analysis



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Table 4. *Talent Theme Dimension Groups of Study Participants*

| Assigned Talent Theme Dimension Group | Domain Codes Represented Among Participants' Top Five Themes of Talent |
|---------------------------------------|--|
| Group R (Dominant R) | ≥ 3 talents in Relating dimension |
| Group I (Dominant I) | ≥ 3 talents in Impacting dimension |
| Group S (Dominant S) | ≥ 3 talents in Striving dimension |
| Group T (Dominant T) | ≥ 3 talents in Thinking dimension |
| Group D (Divergent) | ≤ 2 talents in any single talent theme dimension |



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Findings

Are there differences in college student success between the talent theme dimension groups?

Table 8. Means, Standard Deviations, and Univariate F Ratios for Discriminating Variables

| Discriminating Variables | Group R | Group I | Group S | Group T | Group D | F Ratio | Exact p |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|
| Cumulative GPA | | | | | | | |
| EMM | 3.20 | 3.19 | 3.26 | 3.23 | 3.30 | 1.31 | .27 |
| SE | 0.05 | 0.01 | 0.05 | 0.04 | 0.02 | | |
| Semesters in Academic Distress | | | | | | | |
| M | 0.03 | 0.14 | 0.13 | 0.10 | 0.08 | 0.48 | .75 |
| SD | 0.26 | 0.36 | 0.49 | 0.57 | 0.40 | | |
| Academic Major Changes | | | | | | | |
| M | 0.72 | 0.93 | 0.97 | 0.58 | 0.85 | 1.98 | .10 |
| SD | 0.97 | 0.92 | 1.03 | 0.85 | 0.94 | | |
| Degree Completion Efficiency | | | | | | | |
| EMM | 8.26 | 8.12 | 8.18 | 8.34 | 8.31 | 0.31 | .87 |
| SE | 0.14 | 0.30 | 0.14 | 0.13 | 0.06 | | |

Note. M=Mean. SD=Standard Deviation. EMM=Estimated Marginal Means. SE=Standard Error.

* $p < .05$



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Conclusion

Are there differences in college student success between the talent theme dimension groups?

College student success, as documented by cumulative GPA, semesters in academic distress, number of academic major changes, or degree completion efficiency, does not differ between talent theme dimensions groups, for this population.

Supported by:

- P-E congruence supports optimal behavioral functioning (Holland, 1973)
- Experiences amenable to application of strengths result in increased success (Buckingham & Clifton, 2001; Hodges & Clifton, 2004)
- Talents are developed into strengths through knowledge, skill, & application, & strengths may be used to compensate for weaknesses (Buckingham & Clifton, 2001)

Refuted by: Sutton et al. (2011) – Negative relationship between Impacting & GPA



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Recommendations for Further Research

- What differences exist in academic college student success factors between talent theme dimension groups when examined at the FR, SO, & JR years?
- What differences exist in co-curricular college student success factors between talent theme dimension groups when examined at the FR, SO, & JR years, & at graduation?
- Are any differences in academic and co-curricular college student success factors between talent theme dimension groups the same when examined at the major level as when investigated at the college level?



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Findings

Do college success outcome variables predict the five grouping variables of the talent theme dimension groups?

Table 10. *Structure Coefficients and Standardized Discriminant Function Coefficients for Discriminating Variables*

| Discriminating Variables | Function 1 | | Function 2 | | Function 3 | | Function 4 | |
|--------------------------------|------------------------|---|------------------------|---|------------------------|---|------------------------|---|
| | Structure Coefficients | Standardized Discriminant Function Coefficients | Structure Coefficients | Standardized Discriminant Function Coefficients | Structure Coefficients | Standardized Discriminant Function Coefficients | Structure Coefficients | Standardized Discriminant Function Coefficients |
| Cumulative GPA | 0.62 | 0.77 | 0.41 | 0.58 | 0.54 | 0.54 | -0.40 | 0.02 |
| Semesters in Academic Distress | -0.01 | 0.32 | 0.52 | 0.72 | -0.57 | -0.55 | 0.63 | 0.50 |
| Academic Major Changes | -0.71 | -0.76 | 0.55 | 0.53 | 0.42 | 0.42 | 0.13 | -0.07 |
| Degree Completion Efficiency | -0.07 | 0.23 | -0.29 | -0.33 | 0.38 | 0.58 | 0.88 | 0.80 |



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Conclusion

Do college success outcome variables predict the five grouping variables of the talent theme dimension groups?

College student success factors cannot be used to predict Clifton StrengthsFinder® talent theme dimensions in this population.

Supported by:

- Brashears and Baker (2002): Talent theme dimensions have no predictive value for GPA.
- Optimal performance in a congruent environment using strengths is unlikely to allow prediction based upon Strengths Theory & P-E Fit Theory (Buckingham & Clifton, 2001; Hodges & Clifton, 2004; Holland, 1973)

Refuted by: Sutton et al. (2011) – Negative relationship between Impacting & GPA



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Recommendations for Further Research

- Do academic & co-curricular college success outcome variables predict student classification into the talent theme dimension groups when examined at graduation & at the conclusion of students' FR, SO, & JR years?
- Is the predictive value of academic & co-curricular college success outcome variables in discriminating between talent theme dimension groups different when examined at the academic major level as when investigated at the college level for students at the conclusion of FR, SO, & JR years & at graduation?



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Recommendations for Practice

- Research other assessment options in an effort to identify a more valid & reliable instrument that may be used as a part of strengths education initiatives to more accurately identify students' innate talents.
- Commit to further integrating intentional strengths development opportunities & interventions beyond the first semester & throughout students' entire curricular & co-curricular experience.



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