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# ASVAB CEP: Updates to Program and Non-Cognitive Measures

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## Discussion Topics

- ASVAB Career Exploration Program (CEP) Update
- New Form for the Find Your Interests (FYI) Inventory
- Initial Analysis of Responses from the Work Values Situational Judgment Activity (WV SJA)
- Summary
- Questions and Discussion

# ASVAB CEP Current State



# Achieving ASVAB CEP Vision—A Strategic Approach

## MISSION

The ASVAB CEP is a program sponsored by the Department of Defense (DoD) with a two-part mission: to provide a career exploration service to American youth and provide qualified leads to military recruiters.

## VISION

The ASVAB CEP assesses academic ability and vocational interests, which together help inform career decisions. Personalized career exploration, awareness of career-field entry requirements, and future-oriented planning tools help students work with parents and educators to develop post-secondary plans. Eligible participants can use their scores to explore enlistment and have no obligation to military service.



## ASVAB CEP Usage Metrics Year to Date (YTD)



# Nationwide Participation

13,105



SCHOOLS  
PARTICIPATED

619,926



STUDENTS  
TESTED



LEADS PROVIDED TO  
MILITARY SERVICES

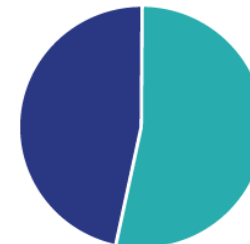
339,463

Paper & Pencil (P&P) vs. iCAT Participants



2018-19

91% — P&P — 54%  
vs.  
9% — iCAT — 46%



2023-24

There has been a significant shift from Paper & Pencil assessments to CEP iCAT assessments over the past five years.

# Areas of Focus by Business Strategies

School Year 2024/2025





## 2024 ASVAB CEP JAMBOREE

The CEP Jamboree is a three-day strategic planning session with stakeholders from the Defense Testing and Assessment Center (DTAC), Accession Policy (AP), Personnel and Readiness (P&R)/Manpower and Reserve Affairs (M&RA)/Military Personnel Policy (MPP), Defense Personnel Analytic Center (DPAC), and U.S. Military Entrance Processing Command (USMEPCOM). The event focuses on reviewing the past year's performance and achievements and brainstorming the direction of ASVAB CEP for school year (SY) 24–25 and beyond.



ASVAB CEP team members from AP and DTAC led the collaborative meeting with members of USMEPCOM HumRRO, Lattice Form, and Written LLC.



# ASVAB Career Exploration Program (CEP) Ecosystem of Integrated Business Strategies

School Year 2024–2025

## 7. UNDERSERVED POPULATIONS

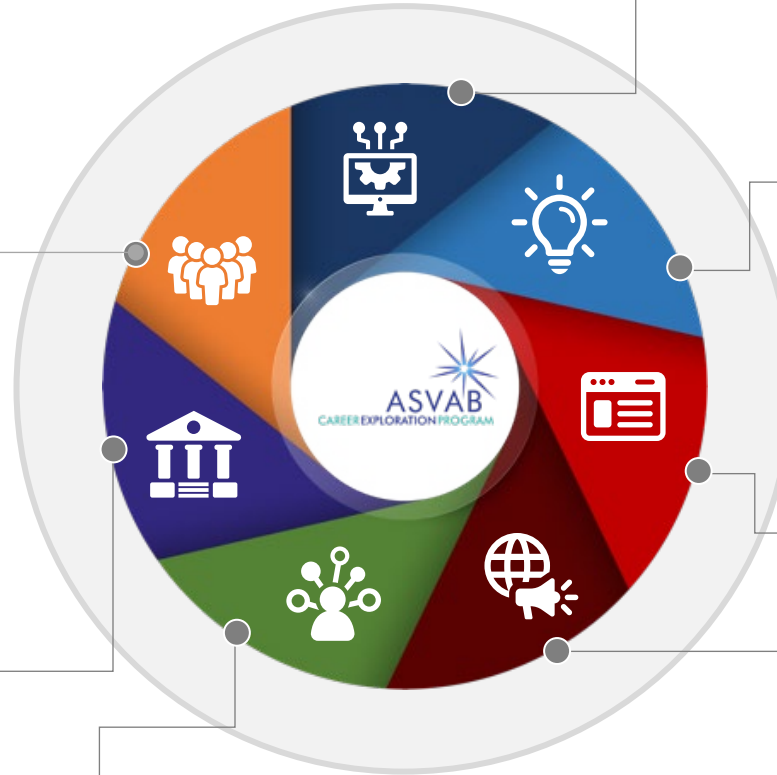
The ASVAB CEP benefits young adults. This initiative seeks to expand access to ASVAB CEP among eligible populations including post-secondary institutions, homeschool students, and students enrolled at schools that don't offer ASVAB CEP.

## 6. LEGISLATIVE ACTIVITIES

Monitoring ASVAB CEP legislative activities: (a) weekly monitoring and tracking of state and federal legislative activities, state education websites, and news sites, (b) systematize Department of Education connections, and (c) follow up on and maintain connections made at conferences.

## 5. WORKFORCE MULTIPLIER

The personnel responsible for delivering the ASVAB CEP require awareness and training. This initiative seeks to expand the numbers and the knowledge of those who can speak to the benefits of the program.



## 1. TECHNOLOGY

Optimize user experience by enhancing features and addressing bugs. Migrate CEP websites into Defense Personnel Assessment Center System (DPACS) boundary to enhance security. Consolidate backend systems for operational efficiency. Expand data analytics to inform decision-making.

## 2. NEW RESEARCH & INNOVATION **NEW**

Studies to evaluate and improve CEP measures/processes: (a) students' readiness to benefit from CEP, (b) use of AI to improve occupational crosswalks, (c) evaluation of non-cognitive measures, (d) expansion of post-test interpretation (PTI) delivery, and (e) use of external data to inform program impact.

## 3. OCCUPATIONAL WEBSITE DATA & CONTENT

One of the primary benefits to users of the ASVAB CEP is the data contained on the program's websites. This initiative focuses on the activities undertaken to collect, analyze, store, and share occupational data.

## 4. PROMOTION & ENGAGEMENT

Advertising, social media, content marketing, national events, and stakeholder engagement provide opportunities for knowledge sharing and interaction with various customer segments of ASVAB CEP's target audiences.

## ASVAB CEP Business Strategy SY24/25 Goals

- **Technology**—Migrate ASVAB Program and Careers in the Military (CITM) websites into the DPACS Boundary NLT August 2025
- **Research & Innovation**—Leverage research and innovation to enhance the ASVAB CEP program, improve occupational crosswalks, and address stakeholder needs and concerns
- **Occupational Data and Content**—Define Occupational Crosswalk Process and explore utilization of AI to further enhance collection and analysis

# ASVAB CEP Business Strategy SY24/25 Goals

- **Promotion & Engagement** Execute SY24/25 Social Media Strategic Plan, increase program awareness, and grow social media presence
  - Continue to support States with ASVAB CEP Month Proclamations (Alabama, Oklahoma, and Louisiana)



ASVAB CEP and members of all Service branches gather to witness Governor Kay Ivey sign proclamation at Alabama State Capitol declaring October ASVAB Career Exploration Month.

## ASVAB CEP Business Strategy SY24/25 Goals

- **Workforce Multiplier**—Continue to expand the PTI training program, including updates to the training content and tracking; work strategic partnerships with U.S. Army Recruiting and Retention College leaders, JROTC, and MEPS Battalion Commanders
- **State Legislative Activities**—Continue tracking state and federal legislation and development of interactive mapping and visualization tooling
- **Underserved Populations**—Create pilot program with the goal to increase private and homeschool testing as well as post-secondary institution participation



# New Form for the Find Your Interests (FYI) Inventory

# The FYI Inventory

- Original form developed c. 2005
  - Replaced the Interest Finder (Wall & Baker, 1997; Wall et al., 1996)
- 90-item RIASEC measure
  - Dislike/Indifferent/Like response options
- Scores are reported using norms
  - Total group
  - Gender-specific

# ASVAB CEP Expert Panel

- DTAC convened an ASVAB CEP Expert Panel in 2017 to comment on updated ASVAB CEP
  - Reviewed all components of the revamped program
  - Gave particular emphasis to the FYI Inventory
    - Lauded the measure
    - Suggested updating it to ensure (a) currency/relevance of items and (b) construct coverage per basic interests (Su et al., 2019)
- ASVAB CEP Expert Panel suggestions
  - Update dated/obsolete/biased items
    - “Study the effect of acid rain on plants”
    - “Add up store receipts”
  - Link FYI to basic interests
    - Original charge: “Develop basic interests scales”

## Basic Interests (from Su et al., 2019)

R	I	A	S	E	C
Agriculture	Life Science	Applied Arts and Design	Healthcare Service	Business Initiatives	Accounting
Animal Service	Mathematics/Statistics	Creative Writing	Human Resources	Law	Finance
Athletics	Medical Science	Culinary Arts	Humanities and Foreign Language	Management/Administration	Information Technology
Construction/Woodwork	Physical Science	Media	Personal Service	Marketing/Advertising	Office Work
Engineering		Music	Religious Activities	Politics	
Mechanics/Electronics		Performing Arts	Social Science	Professional Advising	
Outdoors		Visual Arts	Social Service	Public Speaking	
Physical/Manual Labor			Teaching/Education	Sales	
Protective Service					
Transportation/ Machine Operations					

R = Realistic, I = Investigative, A = Artistic, S = Social, E = Enterprising, C = Conventional



## FYI Form Development and Analysis

- HumRRO drafted 450 new FYI items for field testing beginning in 2019; effort driven by expert panel guidance
  - Focus on content validity, emphasizing construct coverage
  - Identify contemporary content related to emerging economic changes
  - Build on existing items with an enhanced item pool rated by a panel of experts
  - Identify Basic Interest Indicators, using Su et al. (2019) and the Strong Interests Inventory as frameworks for potential detailed basic interest markers
- “HumRRO employed Natural Language Processing (NLP) procedures to detect newly developed items, which might be considered ‘enemies’ or close clones of previously developed items” (Burke et al., p. 4).

## FYI Form Development and Analysis (cont.)

- Using field test data (230 of the 450 items were field tested), DTAC developed/proposed a new FYI form
  - Followed original FYI development process (Baker et al., 2010; Pommerich, 2004)
  - For each RIASEC scale, DTAC retained 7–10 items from the current form, adding 5–8 new items
    - Eight new items for Artistic; six new items for Enterprising
- Initial attempt
  - Used field test data (230 of the 450 items were field tested)
  - Followed original FYI development process (Baker et al., 2010; Pommerich, 2004)
    - Items selected based on item statistics and IRT item parameters
  - For each RIASEC scale, 7–10 items from the current form were retained, adding 5–8 new items
    - Eight new items for Artistic, six new items for Enterprising

## FYI Form Development and Analysis (cont.)

- Following construction, we reviewed the form for content
  - Emphasis given to the basic interests taxonomy per guidance from the ASVAB CEP Expert Panel
- Only partial coverage (61%) of the 41 basic interests in Su et al.'s (2019) taxonomy
  - **3 of 10 for Realistic**
  - **3 of 4 for Investigative**
  - 6 of 7 for Artistic
  - **3 of 8 for Social**
  - 7 of 8 for Enterprising
  - 3 of 4 for Conventional
- O\*NET has included Su et al.'s basic interests taxonomy in their recent update
- Given that CEP links to O\*NET occupational information, HumRRO proposed two other options for the new form that would increase coverage of the basic interests

# FYI Form Development and Analysis (cont.)

- Three forms considered
  - Form Version 1
    - Assembled with focus on item statistics and IRT parameters
    - Retains majority of original FYI Items
  - Form Version 2
    - More focus on basic interests, but . . .
    - Retains mix of original and field test FYI items
  - Form Version 3
    - Primary focus on basic interests
    - “From scratch”
      - Items selected to ensure coverage of all basic interests; no requirement to retain any previous items
      - Retains 19 (21.1%) items from the current form



## Original (Current) FYI Form—Basic Interest Coverage

Form (% BI)	RIASEC	Total BI	# BI Covered	% BI Covered	Missing BI
Original (61%)	Realistic	10	5	50.0	Animal Service, Athletics, Engineering, Outdoors, Protective Service
	Investigative	4	2	50.0	Mathematics/Statistics, Medical Science
	Artistic	7	6	85.7	Culinary Arts
	Social	8	3	37.5	Human Resources, Humanities/Foreign Language, Personal Service, Religious Activities, Social Science*
	Enterprising	8	6	75.0	Law, Professional Advising
	Conventional	4	3	75.0	Information Technology

\*Social Science appears under Social in Su et al.'s (2019) taxonomy. We have chosen to include it under Investigative given our items' content and our choice to focus more on actions than context. Putka et al. (2023) include Social Science under both Social and Investigative interests.

## Proposed Form Version—Basic Interest Coverage

Form (% BI)	RIASEC	Total BI	# BI Covered	% BI Covered	Missing BI
Version 1 (61%)	Realistic	10	3	30.0	Agriculture, Animal Service, Athletics, Engineering, Outdoors, Protective Service, Transportation/Machine Operations
	Investigative	4	3	75.0	Mathematics/Statistics, Medical Science
	Artistic	7	6	85.7	Culinary Arts
	Social	8	3	37.5	Human Resources, Humanities/Foreign Language, Personal Service, Religious Activities, Social Science*
	Enterprising	8	7	87.5	Law
	Conventional	4	3	75.0	Information Technology
Version 2 (87.8%)	Realistic	10	6	60.0	Animal Service, Athletics, Outdoors, Transportation/Machine Operations
	Investigative	4	4	100.0	
	Artistic	7	7	100.0	
	Social	8	8	100.0	
	Enterprising	8	7	87.5	Sales
	Conventional	4	4	100.0	
Version 3 (100.0%)	Realistic	10	10	100.0	
	Investigative	<b>5</b>	<b>5</b>	100.0	
	Artistic	7	7	100.0	
	Social	<b>7</b>	<b>7</b>	100.0	
	Enterprising	8	8	100.0	
	Conventional	4	4	100.0	

\*Social Science appears under Social in Su et al.'s (2019) taxonomy. We have chosen to include it under Investigative given the items' content and our choice to focus more on actions than context. These changes are reflected in the Total BI counts for Version 3 (**red text**).

## Form Version Reliability (Internal Consistency—Cronbach's $\alpha$ )

Occupational Theme	Current Form	Form Version 1	Form Version 2	Form Version 3
Realistic	.95	.96	.95	.85
Investigative	.94	.94	.93	.89
Artistic	.91	.93	.92	.88
Social	.92	.93	.91	.82
Enterprising	.92	.92	.91	.87
Conventional	.94	.93	.90	.86

Lower internal consistency reliability estimates for the HumRRO forms, but this is *desirable* given the heterogeneity of each RIASEC dimension.

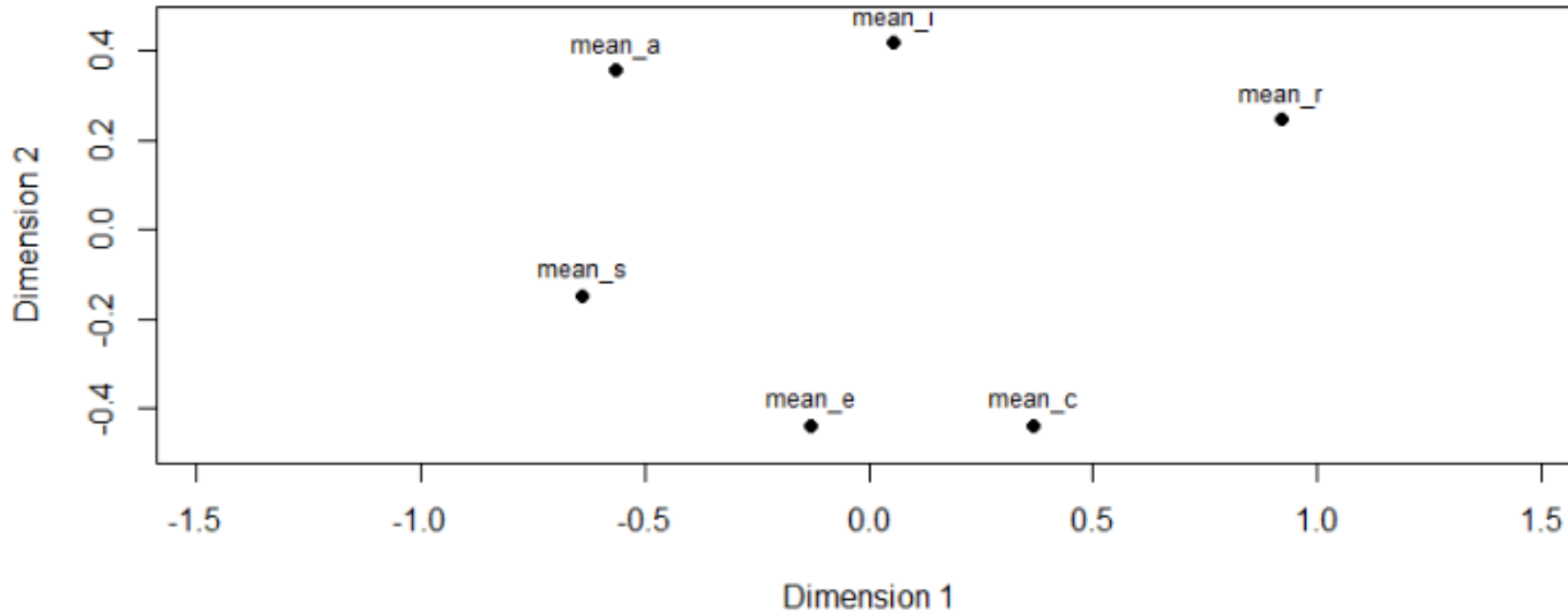
## Form Version Gender Differences (Cohen's *d*, Male–Female)

Occupational Theme	Current Form	Form Version 1	Form Version 2	Form Version 3
Realistic	0.88	0.91	0.90	0.72
Investigative	0.23	0.16	0.17	0.14
Artistic	-0.37	-0.32	-0.33	-0.30
Social	-0.72	-0.72	-0.70	-0.55
Enterprising	0.18	0.08	0.09	-0.02
Conventional	0.07	0.18	0.20	0.20

Smallest subgroup differences for our proposed Form Version 3. Higher Conventional *d* values due to inclusion of Information Technology.

# Multidimensional Scaling Results: Proposed Form Version 1

FYI Form Version 1\_MDS



**Model:** Symmetric SMACOF

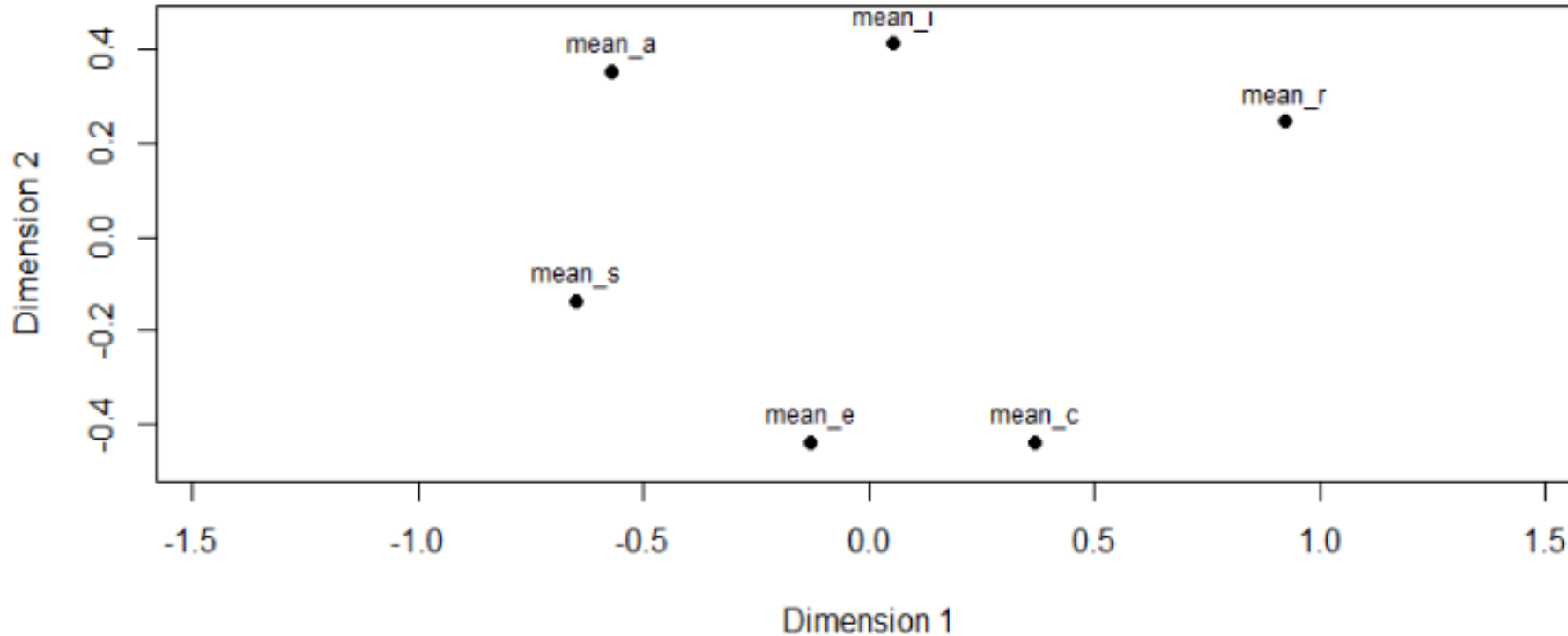
**Number of objects:** 6

**Stress-1 value:** 0.01

**Number of iterations:** 47

# Multidimensional Scaling Results: Proposed Form Version 2

FYI From Version 2\_MDS



**Model:** Symmetric SMACOF

**Number of objects:** 6

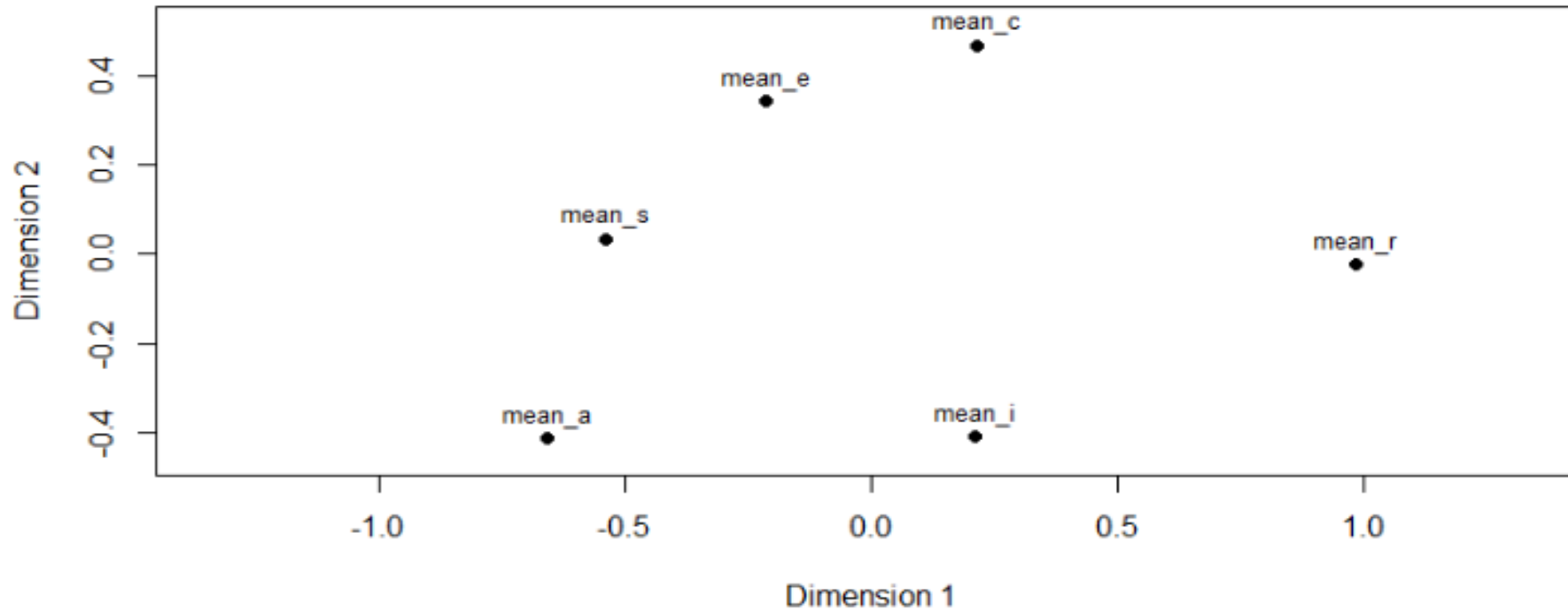
**Stress-1 value:** 0.01

**Number of iterations:** 59



# Multidimensional Scaling Results: Proposed Form Version 3

FYI Form Version 3\_MDS



**Model:** Symmetric SMACOF

**Number of objects:** 6

**Stress-1 value:** 0.004

**Number of iterations:** 91

# Summary: FYI

# Summary: FYI

- New FYI form
  - Recommend Form Version 3 (“from scratch”)
  - Provides strong psychometric characteristics
    - More reasonable internal consistency reliability estimates (still high, just not too high)
    - Smallest subgroup differences despite not purposefully selecting items with this criterion in mind
    - Complete coverage of the basic interests
  - Next steps
    - Finalize dimensionality analyses (item-level EFA; CFA models [standard, circumplex])
    - Field test and analyze new form
    - Establish norms for new form

# Questions for the DAC: FYI

## Questions for the DAC: FYI

- What are your reactions to the new FYI form? Any concerns?
- Is there additional analysis/information you would like to see before field testing the proposed new form?
- What suggestions might you have for designing the field test of the new FYI form?
- What recommendations might you have for establishing norms (gender-based, total-group) for the new form?

# Initial Analysis of Responses from the Work Values Situational Judgment Activity (WV SJA)



## A New Non-Cognitive Assessment for ASVAB CEP

- Goal: Explore the possibility of creating a work values assessment to add to the ASVAB CEP
- Work values tend to have greater meaning and utility for experienced workers
- The original idea was to introduce CEP participants to the concept of work values
  - Example: To facilitate discussions between students and counselors or teachers

## ASVAB CEP Work Values Situational Judgment Activity (WV SJA)

- Conducted a systematic review of pinnacle research publications
- Proposed various work values inventory formats
  - Ipsative, IRT-based scoring model pairing work values statements against one another
  - Situational policy-capture approach to measuring work values using regression-based methods for scoring
  - Multiple-choice item with basic mathematics for scoring
- Chose the third option in light of DTAC's valuing (a) administration time and (b) accessibility with paper-and-pencil administration

# Products of Our Development Work

- WV SJA
- Other proposed activities (versions were created for DTAC's review)
  - Realistic Job Preview
  - Personal Values and Work Values
  - The Intersection of Work Values and Work Interests
  - How Has the Pandemic Made You Think About What You Value?
  - Structured Interview

## WV SJA

- Situational Judgment Test (SJT) assessing the **six work values** from the Theory of Work Adjustment (Dawis et al., 1964, 1968; Dawis & Lofquist, 1976, 1978)
- Introduces students to work values
- Linked to occupations (as are the ASVAB and FYI) to permit career exploration in terms of work values

# Work Values and Their Definitions

**Achievement**—Workers who score high on Achievement are results-oriented. These workers often pursue jobs where employees are able to apply their strengths and abilities, which gives them a sense of accomplishment.

**Independence**—Workers who score high on Independence value the ability to approach work activities with creativity. These workers want to make their own decisions and plan their work with little supervision from a manager.

**Recognition**—Workers who score high on Recognition pursue jobs with opportunities for advancement and leadership responsibilities that allow them to give direction and instruction to others. These workers are often considered prestigious by their peers and others in their organization and receive recognition for the work they contribute.

**Relationships**—Workers who score high on Relationships prefer jobs that provide services to others and working with co-workers in a friendly, non-competitive environment. Workers in these jobs value getting along well with others and do not like to be pressured to do things that go against their morals or sense of what is right and wrong.

**Support**—Workers who score high on Support appreciate when their company's leadership stands behind and supports their employees. People in these types of jobs like to feel they are being treated fairly by the company and have supervisors who spend time and effort training their workers to perform well.

**Working Conditions**—Workers who score high on Working Conditions value job security and pleasant working conditions. These workers enjoy being busy and want to be paid well for the work they do. They enjoy developing ways of doing things with little or no supervision and depend on themselves to get the work done. They pursue steady employment that offers something different to do on a daily basis.

# WV SJA: Introductory Screen

## WORK VALUES: SITUATIONAL JUDGMENT ACTIVITY

**Instructions:** In this activity, 16 realistic scenarios are presented to help you determine the aspects of work that are important to you. If you are unfamiliar with the scenario, that is ok. Respond based on what you think you might prefer. There is NO right or wrong response. You may select only one response.

Then you can explore careers that align with your top work values in the OCCU-Find.

**The results of this activity will rank the six work values in order of importance based on your responses.**



Achievement



Independence



Recognition



Relationships



Support



Working Conditions



# Situational Judgment Test Format

## School Context

Your school requires you to fulfill a certain amount of internship hours in order to graduate. Which internship opportunity do you prefer most?

- An internship where you feel a sense of accomplishment from the work you do.
- An internship that will give you the opportunity to advance in your next job.
- An internship where you have a supportive supervisor.
- An internship that will keep you busy.
- An internship where you get along well with your coworkers.
- An internship where you are able to try out your ideas.

Relationships

Achievement

## Work Context

Your supervisor has set up a meeting to discuss your performance over the last 6 months at work. Which type of feedback would you value most?

- A supervisor telling you that you are supported by management.
- A supervisor telling you that you worked on a variety of projects.
- A supervisor telling you that you are good at making independent decisions.
- A supervisor acknowledging your goal achievement and setting new goals for the next six months.
- A supervisor telling you that you are highly regarded by your peers.
- A supervisor telling you that you get along well with your co-workers.

# WV SJA Results Page

## YOUR WORK VALUE ORDER

### 1 Support



Workers who score high on Support appreciate when their company's leadership stands behind and supports their employees. People in these types of jobs like to feel like they are being treated fairly by the company and have supervisors who spend time and effort training their workers to perform well.

### 2 Relationships



Workers who score high on Relationships prefer jobs that provide services to others and working with co-workers in a friendly, non-competitive environment. Workers in these jobs value getting along well with others and do not like to be pressured to do things that go against their morals or sense of what is right and wrong.

### 3 Recognition



Workers who score high on Recognition pursue jobs with opportunities for advancement and leadership responsibilities that allow them to give direction and instruction to others. These workers are often considered prestigious by their peers and others in their organization and receive recognition for the work they contribute.

[START EXPLORING](#)

[Retake Assessment](#)

# WV SJA Ties Report

## YOUR WORK VALUES ARE TIED IN SOME AREAS

Two or more of your work values ranked the same.

**Which sounds most like you?** Select one of the four tied values.

**Independence**



Workers who score high on Independence value the ability to approach work activities with creativity. These workers want to make their own decisions and plan their work with little supervision from a manager.

**Relationships**



Workers who score high on Relationships prefer jobs that provide services to others and working with co-workers in a friendly, non-competitive environment. Workers in these jobs value getting along well with others and do not like to be pressured to do things that go against their morals or sense of what is right and wrong.

**Support**



Workers who score high on Support appreciate when their company's leadership stands behind and supports their employees. People in these types of jobs like to feel like they are being treated fairly by the company and have supervisors who spend time and effort training their workers to perform well.

**Working Conditions**



Workers who score high on Working Conditions value job security and pleasant working conditions. These workers enjoy being busy and want to be paid well for the work they do. They enjoy developing ways of doing things with little or no supervision and depend on themselves to get the work done. These workers pursue steady employment that offers something different to do on a daily basis.

# Preliminary Results

## Analysis of WV SJA Response Data

- Currently have > 42k responses (uncleaned data)
- Initial results
  - Modal response profiles
  - Differences by gender, context (i.e., school, work)

## WV SJA Analysis Sample: Demographics

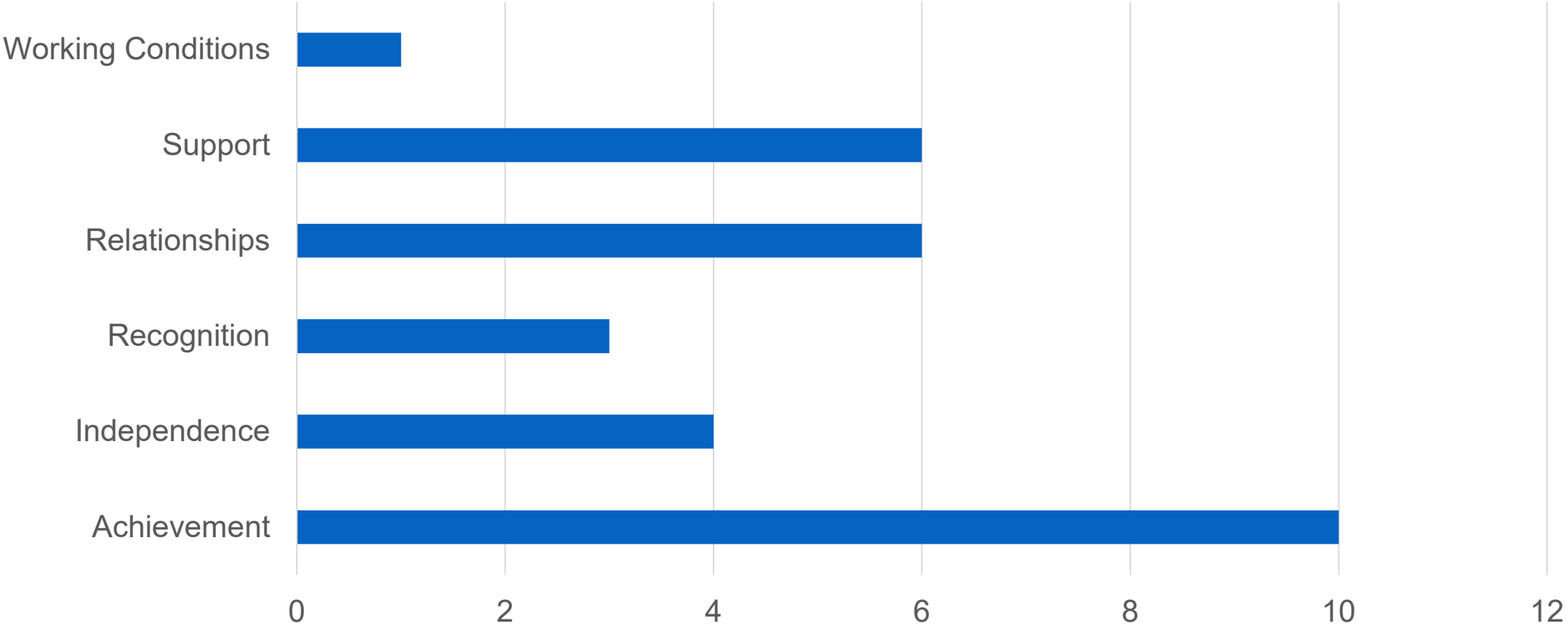
Demographic	Demographic Detail	Total Number of Students
Gender	Male	20,110
	Female	20,301
	NA	2,130
Education	10	9,444
	11	21,803
	12	8,916
	13	99
	14	22
	15	139
	NA	2,118
Race/Ethnicity	American Indian	1,961
	Asian	1,612
	African	2,593
	Native Hawaiian	469
	White	24,011
	Hispanic	6,888
	Not Hispanic	21,636
<b>Total</b>	<b>Total</b>	<b>42,541</b>



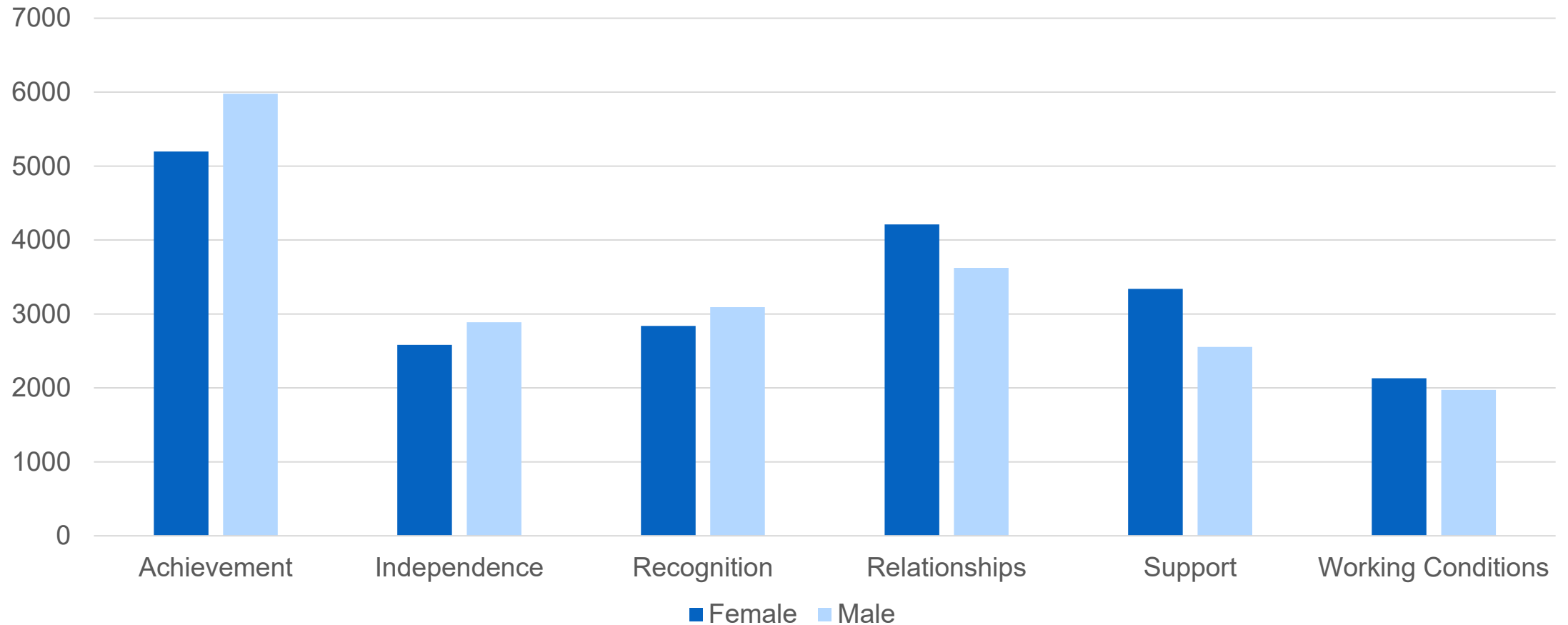
## Top Work Values Profiles

Rank Order	Work Value (1 <sup>st</sup> Position)	Work Value (2 <sup>nd</sup> Position)	Work Value (3 <sup>rd</sup> Position)	Number of Students
1	Relationships	Support	Achievement	948
2	Achievement	Relationships	Support	799
3	Achievement	Independence	Recognition	729
4	Relationships	Achievement	Support	708
5	Achievement	Support	Relationships	692
6	Achievement	Recognition	Independence	666
7	Support	Relationships	Achievement	624
8	Achievement	Working Conditions	Independence	595
9	Recognition	Achievement	Independence	536
10	Support	Achievement	Relationships	535

# Work Values Occurrence in Top Ten Profiles



## Top Work Values by Gender



## Top Work Values Profile by Gender

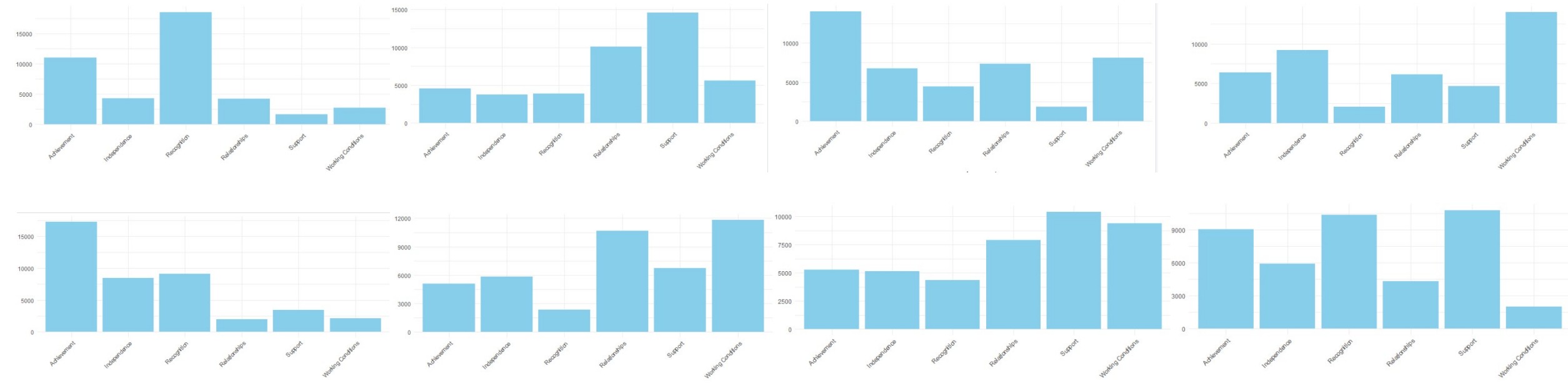
### Female

1<sup>st</sup>: Relationships, Support, Achievement  
2<sup>nd</sup>: Achievement, Relationships, Support  
3<sup>rd</sup>: Relationships, Achievement, Support

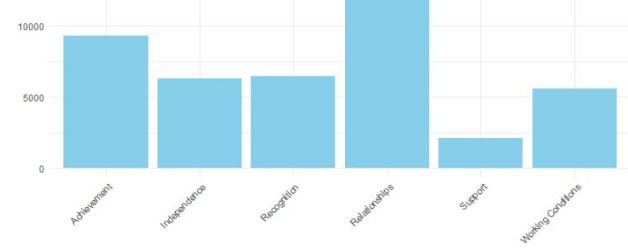
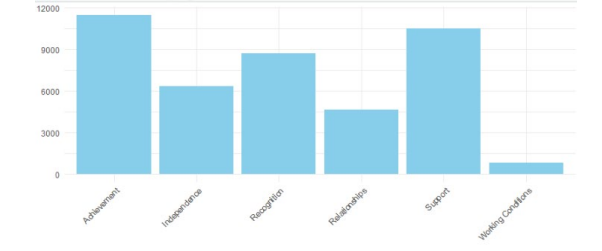
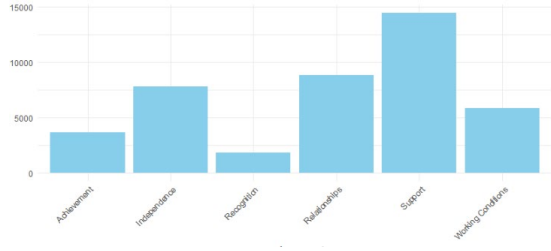
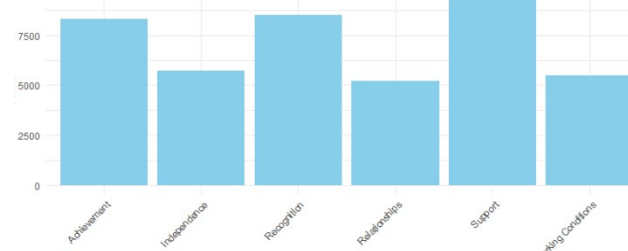
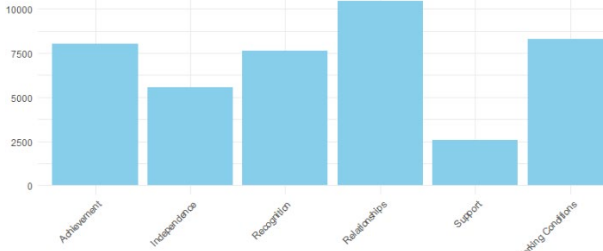
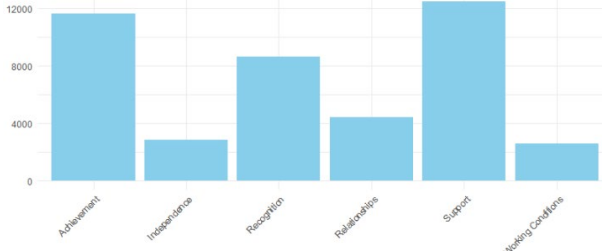
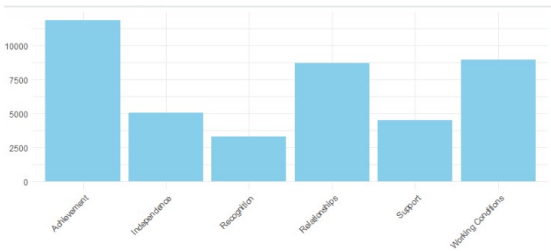
### Male

1<sup>st</sup>: Achievement, Independence, Recognition  
2<sup>nd</sup>: Achievement, Recognition, Independence  
3<sup>rd</sup>: Relationships, Support, Achievement

# WV SJA Item Endorsement: School Context



# WV SJA Item Endorsement: Work Context



## WV SJA Average Endorsement Between Contexts

<b>Work Value</b>	<b>School Context Mean</b>	<b>Work Context Mean</b>	<b>Significance</b>
Achievement	1.514	1.801	Significant
Independence	1.318	1.048	Significant
Recognition	1.280	1.278	Not significant
Relationships	1.556	1.263	Significant
Support	1.252	1.417	Significant
Working Conditions	1.078	1.193	Significant

# Questions for the DAC: WV SJA



## Questions for the DAC: WV SJA

- Given the respondent population, should the WV SJA focus on a single context (i.e., work vs. school)?
- Do you have concerns with using the WV SJA to identify occupational matches?



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# Appendix

# Current FYI Form—Items and BIs Assessed

Items with yellow highlighting were retained and considered for use with the new FYI form.

Original FYI Form		
Item # (from form) and Item Stem	Basic Interest	BI Coverage
04. Adjust bicycle gears	Mechanics/Electronics	
10. Repair a leaky faucet	Construction/Woodwork	
16. Install kitchen cupboards	Construction/Woodwork	
22. Operate a farm	Agriculture	
28. Apply wood stains and varnishes to furniture	Construction/Woodwork	
34. Repair household appliances	Construction/Woodwork	
40. Build a deck for a house	Construction/Woodwork	
46. Tile a kitchen floor	Construction/Woodwork	
52. Use carpentry tools	Construction/Woodwork	
58. Build a stone wall	Construction/Woodwork	
64. Operate a riding mower	Transportation/ Machine Operations	
70. Refinish the floors in a house	Construction/Woodwork	
76. Detail a car	Physical/Manual Labor	
82. Assemble playground equipment	Construction/Woodwork	
88. Frame a house	Construction/Woodwork	50.0%
03. Investigate stars and black holes	Physical Science	
09. Discover a new strain of virus	Life Science	
15. Test DNA samples	Life Science	
21. Explore ancient ruins	Physical Science (iffy for Investigative)	
27. Study an active volcano	Physical Science	
33. Identify an unknown chemical substance	Physical Science	
39. Conduct lab experiments	All	
45. Study environmental science	Physical Science	
51. Predict earthquakes	Physical Science	
57. Analyze ocean currents	Physical Science	
63. Study the effects of acid rain on plants	Life Science	
69. Observe and classify a new species	Life Science	
75. Study planetary storms	Physical Science	
81. Observe and record animal life cycles	Life Science	
87. Study changes in Earth's atmosphere	Physical Science	50.0%
01. Attend an art class	Visual Arts (iffy)	
07. Act on stage	Performing Arts	
13. Write a movie script	Creative Writing	
19. Compose music	Music	
25. Illustrate a book	Visual Arts	
31. Design a set for a play	Applied Arts and Design	
37. Play a role in a musical	Performing Arts	
43. Attend a poetry reading	(this is interest in poetry, not doing it)	
49. Design a museum exhibit	Applied Arts and Design	
55. Create sculptures	Visual Arts	
61. Direct a musical	Performing Arts	
67. Paint portraits	Visual Arts	
73. Write a short story	Creative Writing	
79. Film a documentary	Media	
85. Play in a jazz band	Music	85.7%

02. Help children with after-school homework	Teaching/Education	
08. Serve as a playground activity leader	Social Service	
14. Help people cope with loss	Social Service	
20. Volunteer for a local community service	Social Service	
26. Assist a teacher in the classroom	Teaching/Education	
32. Organize activities at a community center	Social Service	
38. Teach people how to cope with stress	Social Service	
44. Counsel others about substance abuse	Social Service	
50. Help people resolve personal problems	Social Service	
56. Take care of a disabled person	Healthcare Service	
62. Teach parenting skills	Teaching/Education	
68. Serve as a dormitory counselor	Social Service	
74. Lead a group therapy session	Social Service	
80. Mentor a troubled child	Teaching/Education	
86. Reassure a nervous patient	Healthcare Service	37.5%
06. Chair a committee meeting	Management/ Administration	
12. Persuade committee members on an issue	Politics	
18. Campaign for a political office	Politics	
24. Manage a department in a company	Management/ Administration	
30. Conduct a business seminar	Public Speaking	
36. Market new products to retail businesses	Marketing/ Advertising	
42. Give a sales presentation	Sales	
48. Invest in new companies	Business Initiatives	
54. Recruit new customers for a business	Marketing/ Advertising	
60. Give a press conference	Public Speaking	
66. Persuade someone to finance a business	Business initiatives	
72. Sell residential and business properties	Sales	
78. Publicize an event	Marketing/ Advertising	
84. Plan meetings and conferences	Management/ Administration	
90. Serve as a company's spokesperson	Public Speaking	75.0%
05. Count and balance a cash drawer	Accounting	
11. Enter data in an accounting ledger	Accounting	
17. Count the inventory of a small business	Accounting	
23. Do accounting for a business	Accounting	
29. Process company payrolls	Accounting	
35. Prepare bank deposits	Accounting	
41. Add up store receipts	Accounting	
47. Type legal papers and documents	Office Work	
53. Organize and maintain personnel files	Office Work	
59. Compute fees and charges	Accounting	
65. Review financial records	Finance	
71. Enter data in a database	Office Work	
77. Prepare bills and invoices	Accounting	
83. Maintain paper and electronic data files	Office Work	
89. Record business transactions	Accounting	75.0%

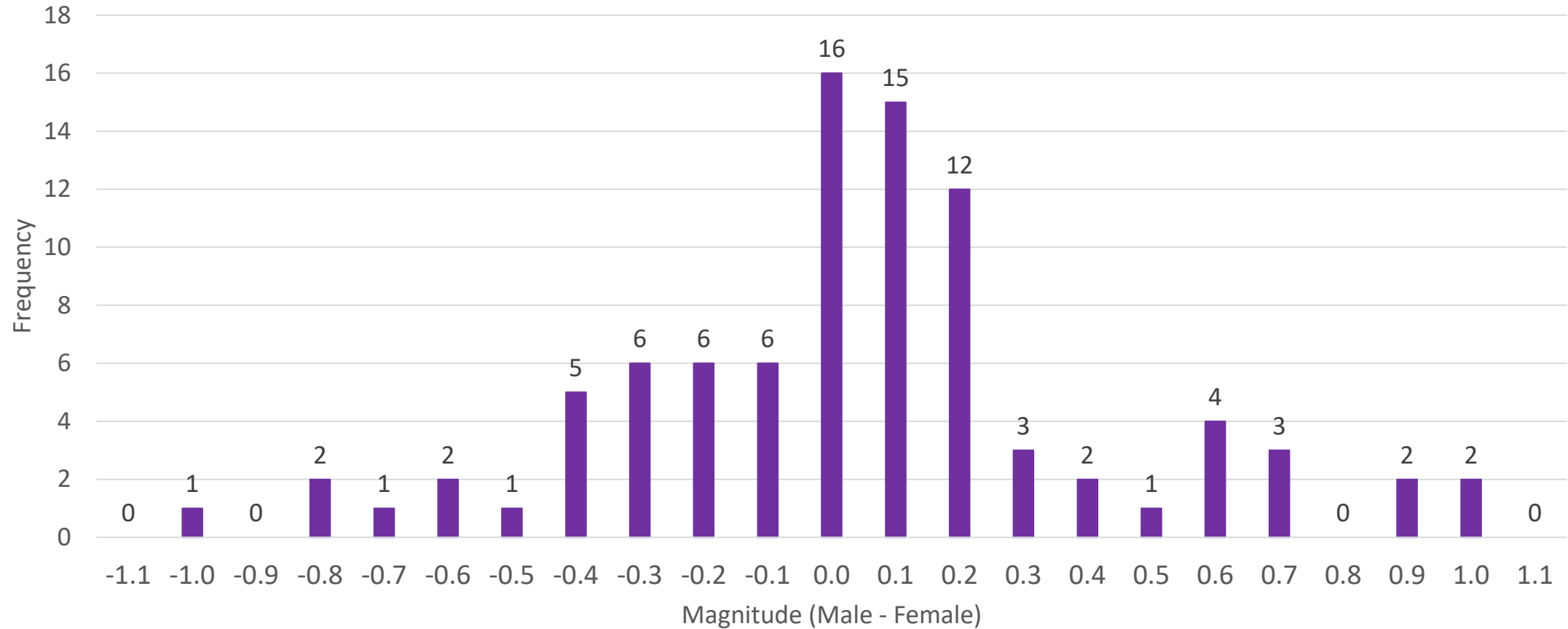
# HumRRO's Proposed FYI Form—Items, BIs Assessed, and *d* Values

Items with magenta highlighting are on the current FYI form (19/90 = 21.1%)

Item ID	Item Stem	Basic Interest	Cohen's <i>d</i> (M-F)
UID5	Apply wood stains and varnishes to furniture	Construction/Woodwork	0.41
UID15	Frame a house	Construction/Woodwork	0.78
UID94	Train athletes	Athletics	0.28
UID98	Fight forest fires	Protective Service	0.60
UID99	Maintain hiking trails	Outdoors	0.30
UID101	Move furniture	Physical/Manual Labor	0.57
UID105	Groom an animal	Animal Service	-0.42
UID108	Plant crops	Agriculture	0.23
UID111	Treat an animal's wound	Animal Service	-0.22
UID115	Inspect equipment for defects	Engineering	0.78
UID117	Install electrical wiring	Mechanics/Electronics	1.00
UID119	Repair a computer	Engineering	0.98
UID122	Track and monitor wildlife	Outdoors	0.21
UID124	Pilot an aircraft	Transportation/Machine Operations	0.66
UID131	Service a car	Mechanics/Electronics	0.98
UID17	Discover a new strain of virus	Medical Science	-0.04
UID21	Identify an unknown chemical substance	Physical Science	0.17
UID22	Conduct lab experiments	All	0.17
UID27	Observe and classify a new species	Life Science	0.13
UID30	Study changes in Earth's atmosphere	Physical Science	0.20
UID134	Forecast the amount of products a store should order	Mathematics/Statistics	0.20
UID136	Discover patterns in data	Mathematics/Statistics	0.28
UID139	Study how species evolve	Life Science	0.12
UID152	Study how medicine affects the body	Medical Science	-0.33
UID153	Conduct a scientific study	All	0.18
UID157	Diagnose a mental illness	Medical Science	-0.67
UID159	Create graphs to explain survey results	Mathematics/Statistics	0.10
UID160	Develop an internet survey	Social Science	0.09
UID162	Calculate the economic impact of a new law	Social Science	0.20
UID143	Research environmental problems	Physical Science	-0.01
UID32	Act on stage	Performing Arts	-0.25
UID33	Write a movie script	Creative Writing	-0.09
UID35	Illustrate a book	Visual Arts	-0.39
UID44	Film a documentary	Media	-0.01
UID176	Create a new dessert	Culinary Arts	-0.31
UID178	Create a podcast	Media	0.09
UID182	Perform a song	Music	-0.09
UID183	Play a musical instrument	Music	-0.01
UID194	Create a music video	Media	-0.03
UID195	Design an office space	Applied Arts and Design	-0.31
UID199	Participate in a dance class	Performing Arts	-0.84
UID200	Decorate a cake	Culinary Arts	-0.80
UID203	Apply makeup to someone	Applied Arts and Design	-1.00
UID205	Draft a cartoon strip	Visual Arts	-0.01
UID207	Write a fictional story	Creative Writing	-0.25

UID222	Bring food to those in need	Social Service	-0.44
UID51	Organize activities at a community center	Social Service	-0.52
UID247	Teach at an elementary school	Teaching/Education	-0.71
UID54	Help people resolve personal problems	Social Service	-0.49
UID166	Use artifacts to understand an ancient civilization	Humanities and Foreign Language	0.28
UID218	Monitor the health of a patient	Healthcare Service	-0.63
UID217	Assist a patient with mobility	Healthcare Service	-0.37
UID224	Help others improve their work	Human Resources	-0.16
UID231	Educate employees about a new policy	Human Resources	-0.02
UID239	Serve as an interpreter	Humanities and Foreign Language	-0.16
UID241	Provide spiritual guidance	Religious Activities	-0.30
UID243	Provide personal training at a gym	Personal Service	0.37
UID244	Lead a prayer service	Religious Activities	0.01
UID248	Tutor a student	Teaching/Education	-0.47
UID250	Serve others beverages	Personal Service	-0.29
UID64	Manage a department in a company	Management/Administration	0.16
UID73	Publicize an event	Marketing/Advertising	-0.14
UID74	Plan meetings and conferences	Management/Administration	-0.22
UID252	Start a business	Business Initiatives	0.19
UID259	Promote a new policy	Politics	0.11
UID261	Resolve a customer complaint	Sales	-0.04
UID263	Communicate a company's strategy	Public Speaking	0.21
UID264	Persuade a jury	Law	-0.13
UID268	Interpret the law	Law	0.07
UID273	Coach a sports team	Professional Advising	0.22
UID274	Promote a product	Marketing/Advertising	0.10
UID278	Persuade the public to support an issue	Politics	-0.11
UID280	Lead a workshop on professional achievement	Professional Advising	0.33
UID282	Convince others to try a product	Sales	0.11
UID283	Act as a spokesperson for a group	Public Speaking	-0.06
UID80	Process company payrolls	Accounting	0.23
UID84	Organize and maintain personnel files	Office Work	-0.15
UID88	Prepare bills and invoices	Accounting	0.16
UID289	Review financial transactions	Finance	0.28
UID290	Prepare financial reports for a business	Finance	0.14
UID291	Prepare someone's taxes	Accounting	0.12
UID293	Prepare a budget	Accounting	0.15
UID294	Create computer code	Information Technology	0.60
UID295	Build computers	Information Technology	1.00
UID296	Estimate the cost of a product	Finance	0.47
UID303	Document steps taken during a study	Office Work	-0.09
UID306	Manage someone else's schedule	Office Work	-0.43
UID316	Monitor security technology	Information Technology	0.77
UID319	Record court proceedings	Office Work	-0.29
UID321	Program computer updates	Information Technology	0.68

## Frequency Chart of HumRRO FYI Form Item Effect Sizes ( $n_i = 90$ )



Mean effect size = 0.05

61.1% of effect sizes fall between  $-0.3 < d < 0.3$

$d > 0 = 48$  (Males score higher)

$d < 0 = 42$  (Females score higher)