

# Is the Face of Space Changing? Comparing Personality of Space Professionals Across Time

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# Disclosure Information

2015 Houston Human Factors & Ergonomics

*Sheryl L Bishop PhD*

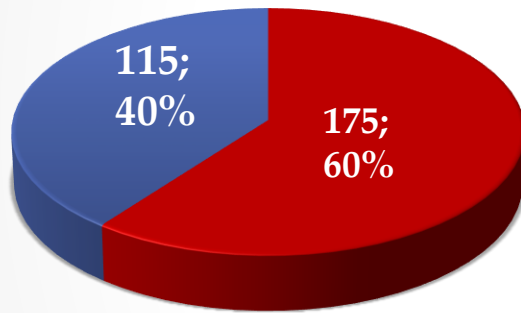
**I have no financial relationships to disclose.**

**I will not discuss off-label use and/or  
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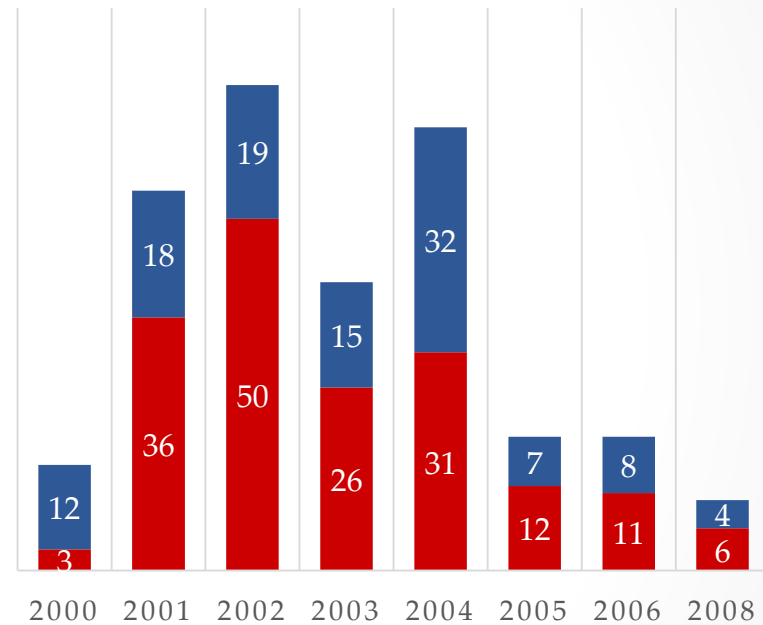
# International Space University 2000-2008

## PARTICIPANTS

### Gender



■ Males ■ Females



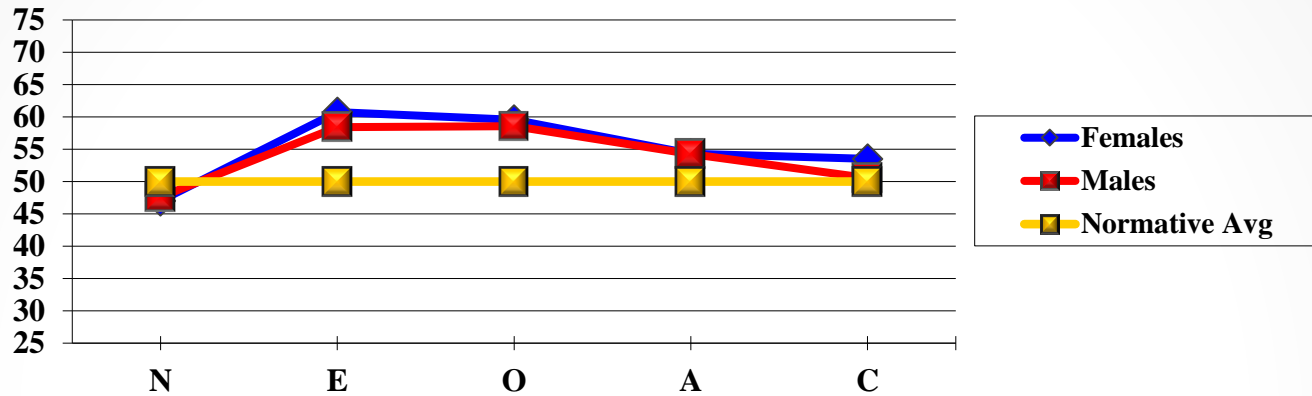
# NEO-PI

- Neuroticism measuring characteristics like anxiety, hostility, depression, self-consciousness, impulsiveness and vulnerability.
- Extraversion measuring warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions.
- Openness to Experience, which assesses fantasy, aesthetics, feelings, actions, ideas and values.
- And Agreeableness and Conscientiousness.

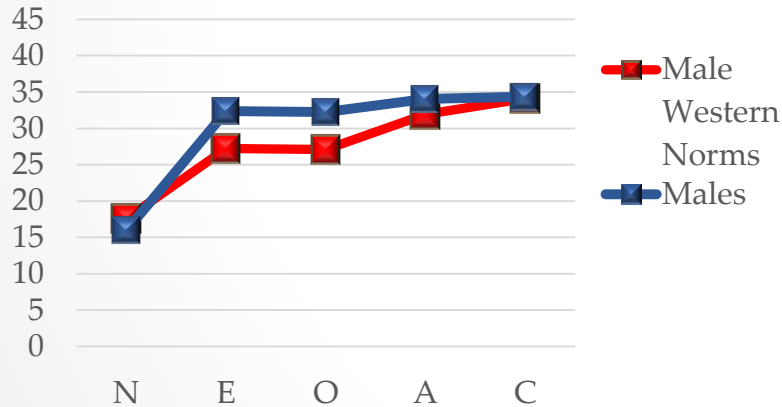
# NEO-Personality Inventory

2001-2008

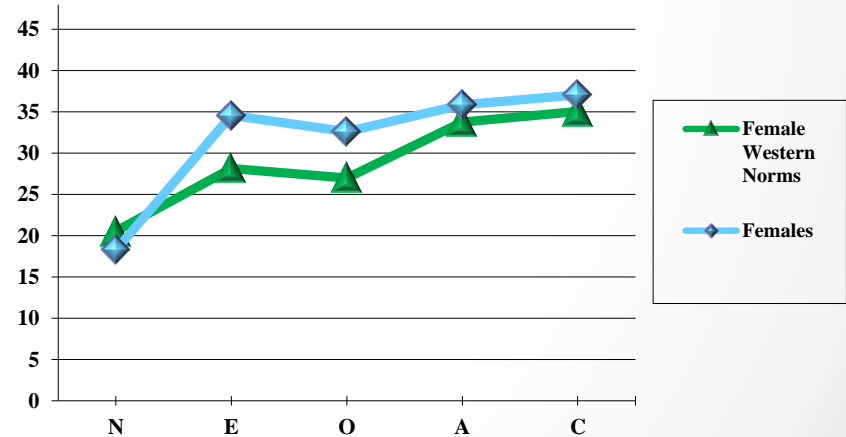
T-scores



Raw scores



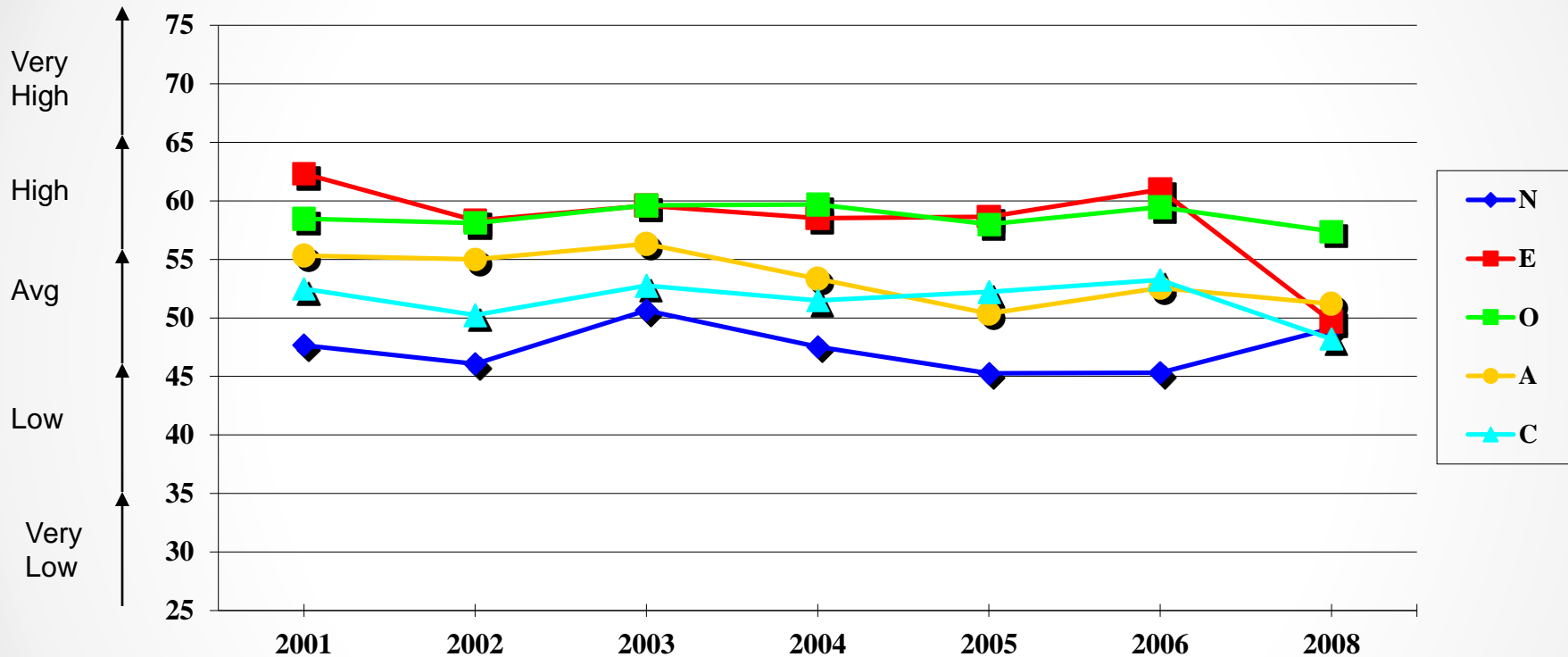
Raw scores



Raw scores

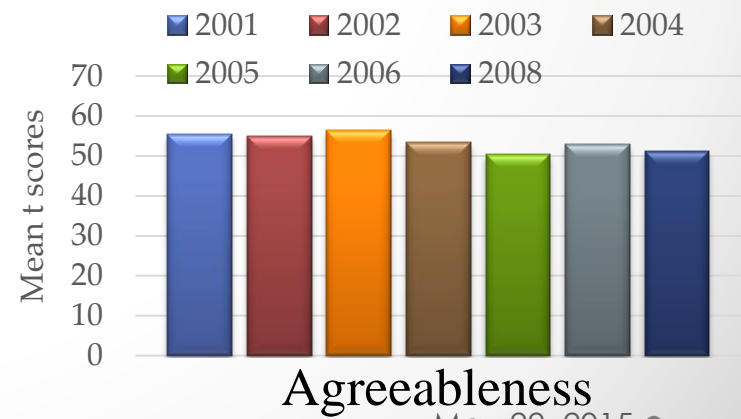
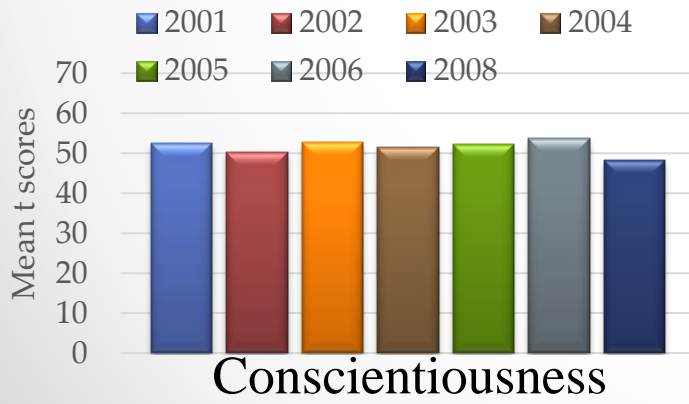
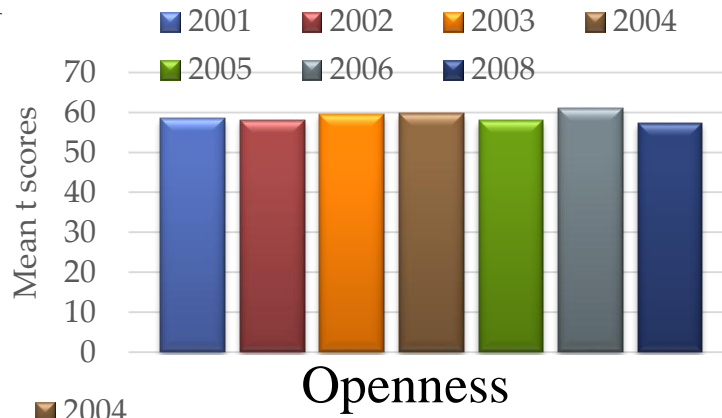
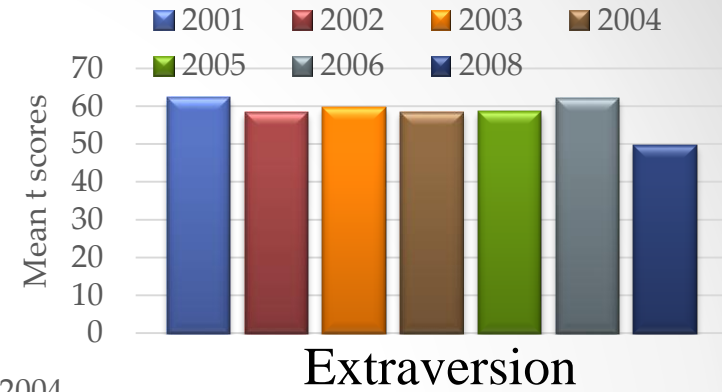
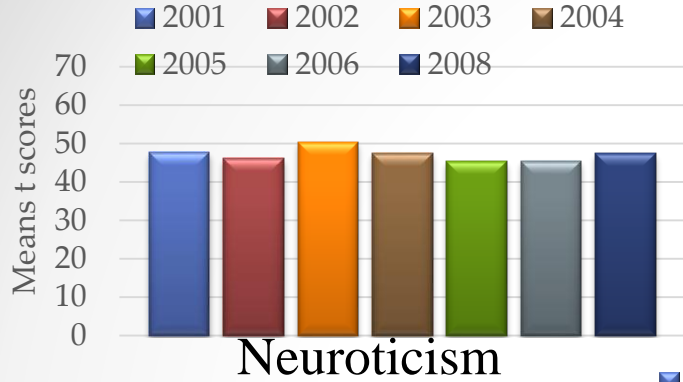
N=Neuroticism; E=Extraversion; O=Openness to Experience; A=Agreeableness;  
C=Conscientiousness

# NEO-Personality Inventory Year Groups

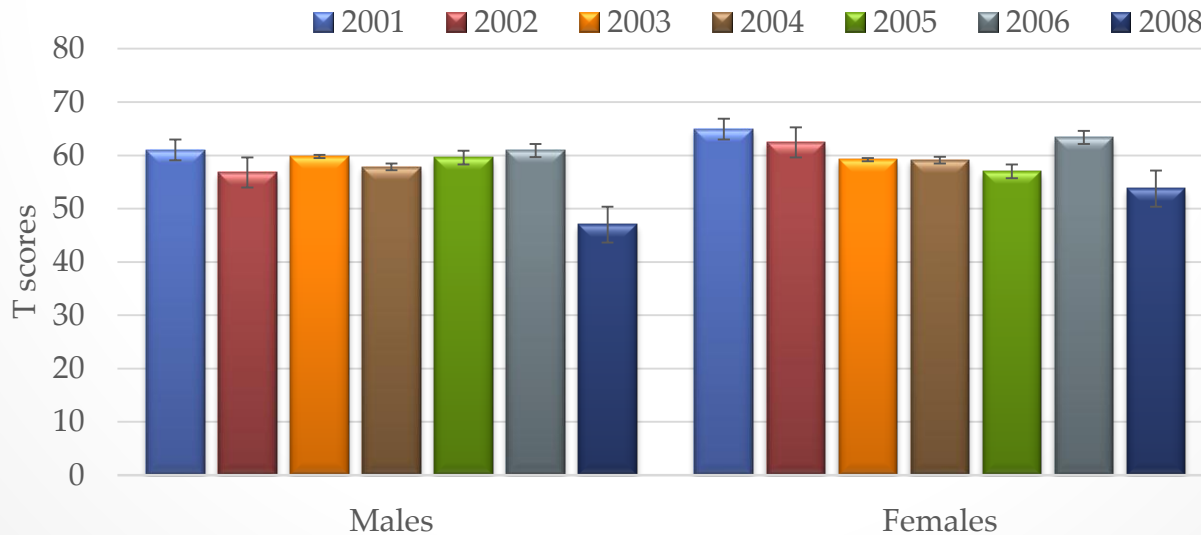
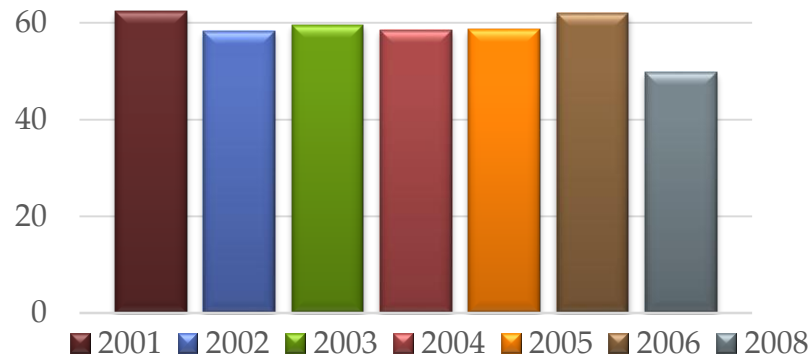


T scores: N=Neuroticism; E=Extraversion; O=Openness to Experience;  
A=Agreeableness; C=Conscientiousness

# Year Groups x NEO mean ranks

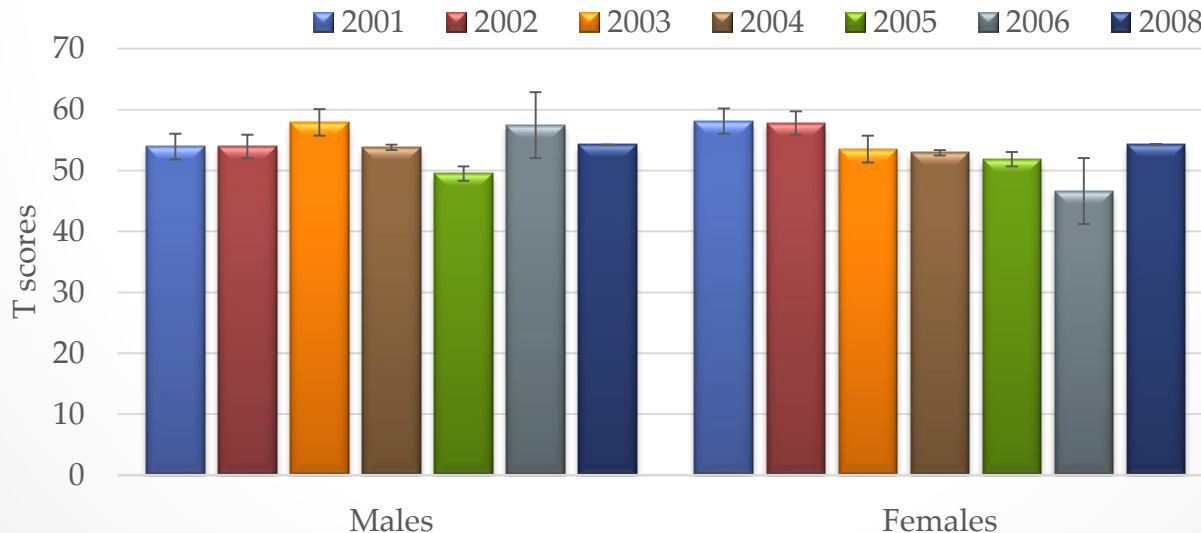
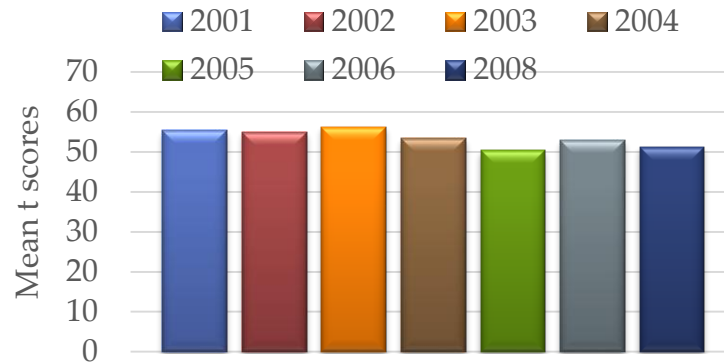


# Year X Gender on Extraversion

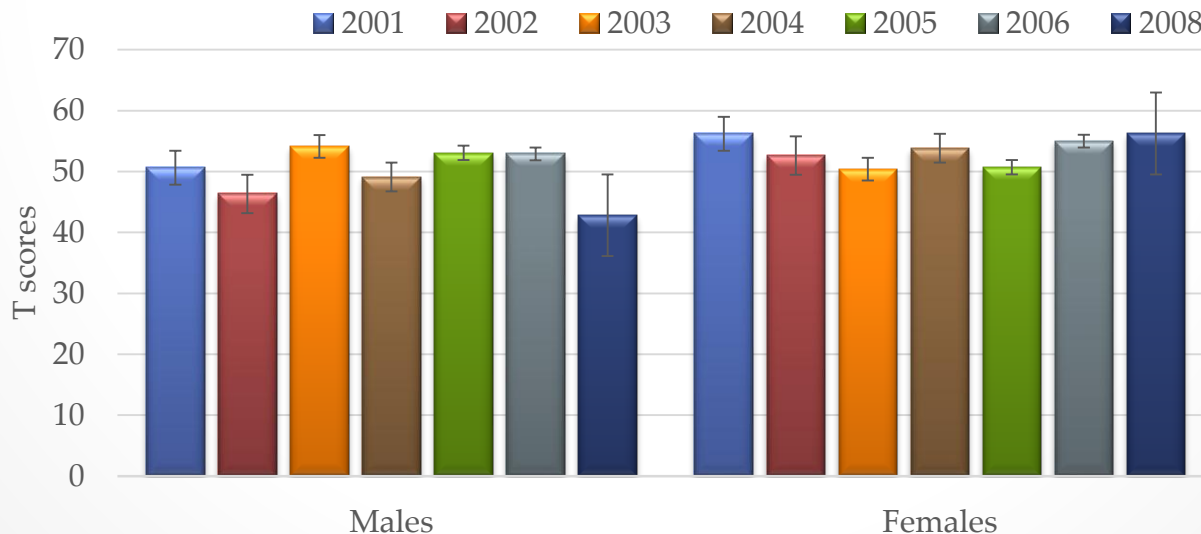
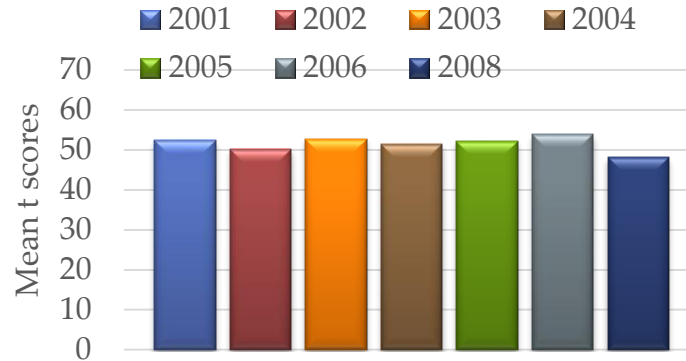




# Year X Gender on Agreeableness



# Year X Gender on Conscientiousness



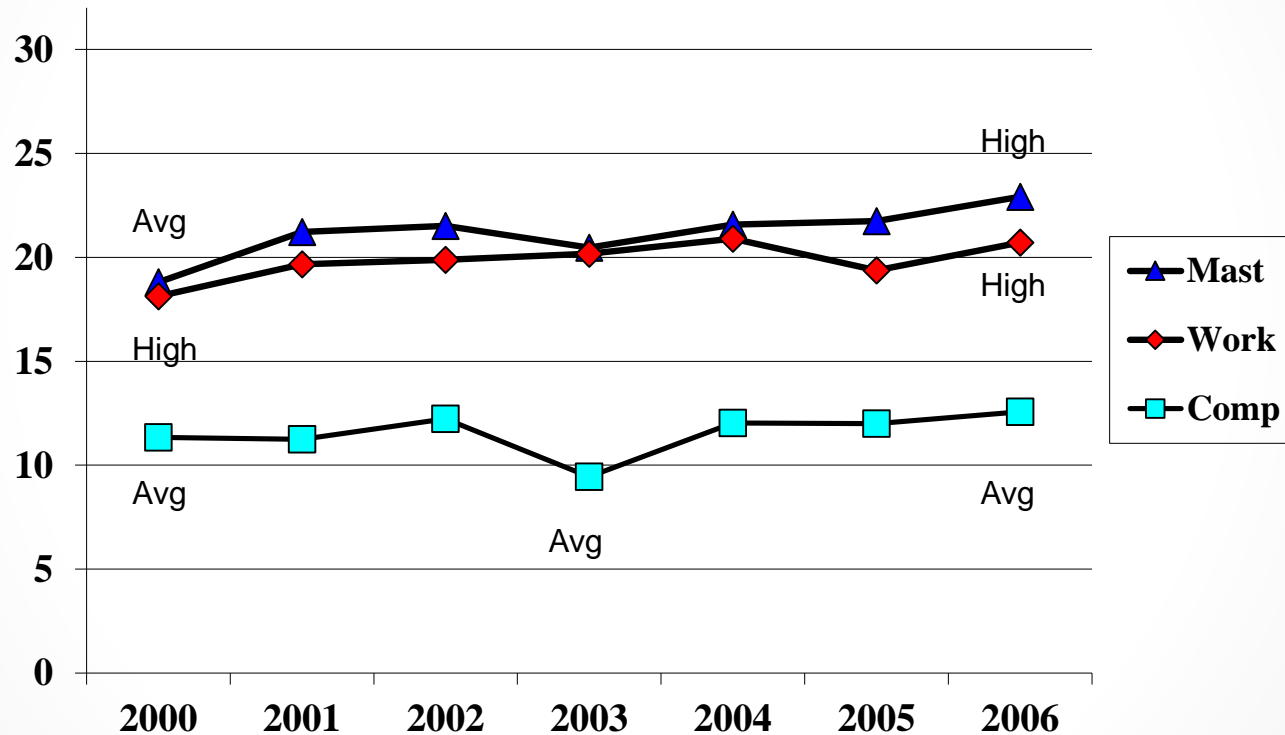
# Achievement and Interpersonal Orientation

A battery of personality tests were administered:

- **Achievement Motivation** assessing
  - **Mastery**-the desire to be in challenging situations;
  - **Work** – the willingness to apply oneself diligently;
  - **Competitiveness** – the desire to best others (need to compete).
- **the Personal Characteristics Inventory**
  - **Instrumentality** -self-assertive, instrumental or agentic traits that focus on the self and autonomy (self-assertion, aggressive, not passive, competitive)
  - **Expressivity** - interpersonally oriented expressive traits (emotionally sensitive, helpful, devotional)
  - **Negative Instrumentality** - agentic attributes carried to an extreme and can be thought of as reflecting arrogance and hostility ( Arrogant, boastful, egotistical)
  - **Negative Expressivity** -verbal passive-aggressive qualities (complains constantly, constantly criticizes).
  - **Negative Communion** - self-subordinating qualities and submissiveness and individual concern for others carried so far that concern for self suffers (gullible, weak-willed)

# Achievement Orientation by Year Group

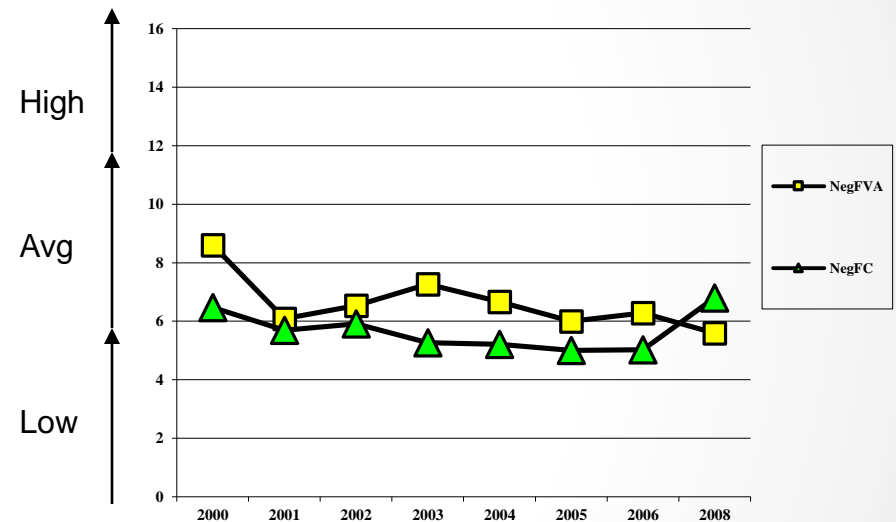
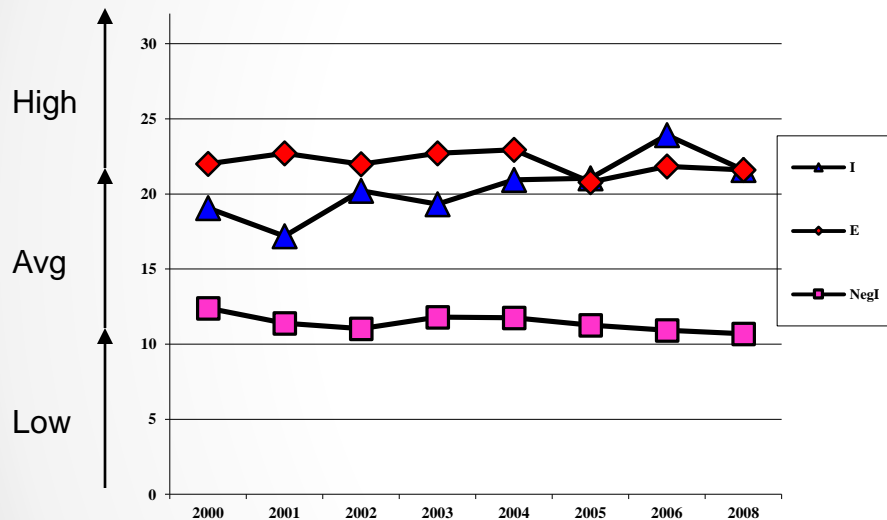
(means)



Mast=Mastery, Comp=Competitiveness; highest and lowest values are rated differently due to different number of items on each scale

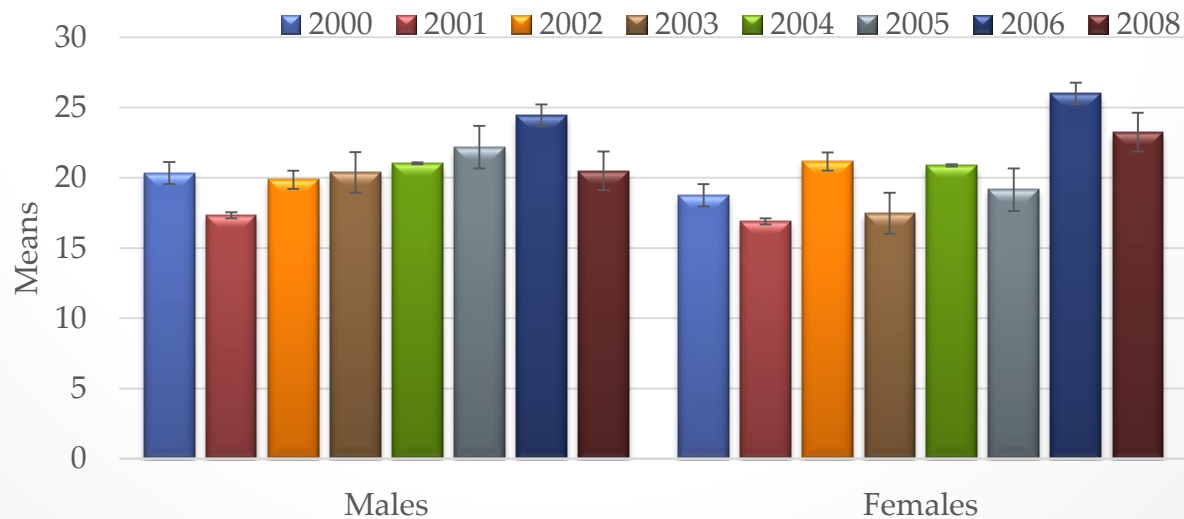
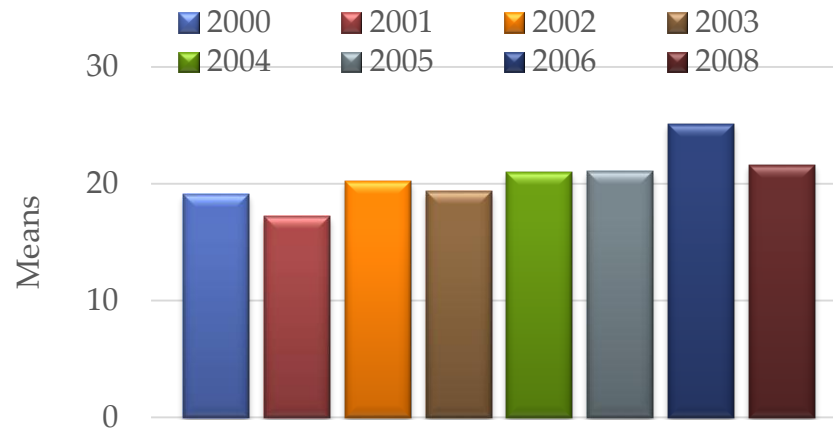
# Interpersonal Orientation by Year Group

(means)

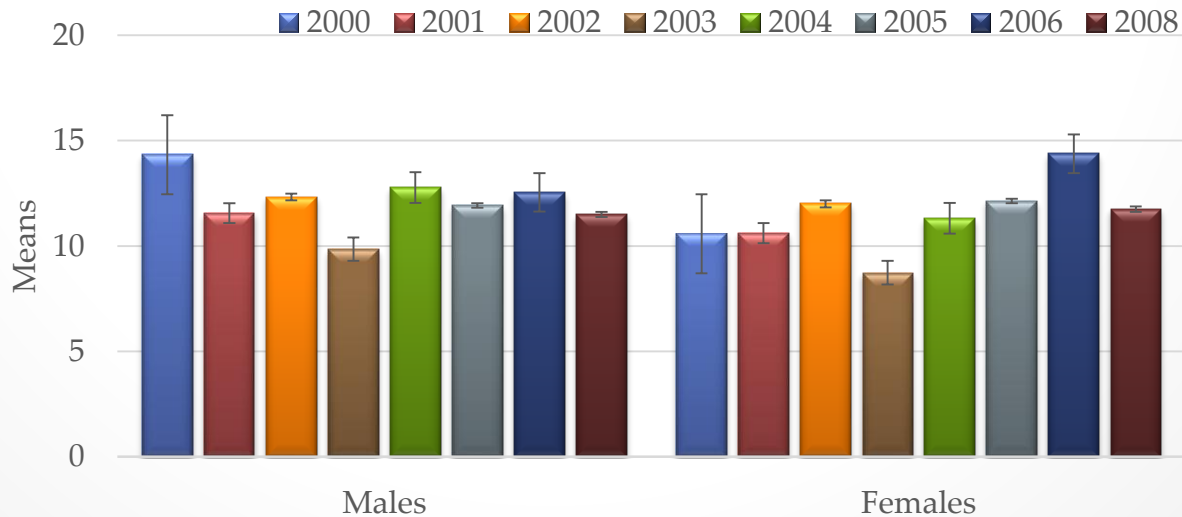
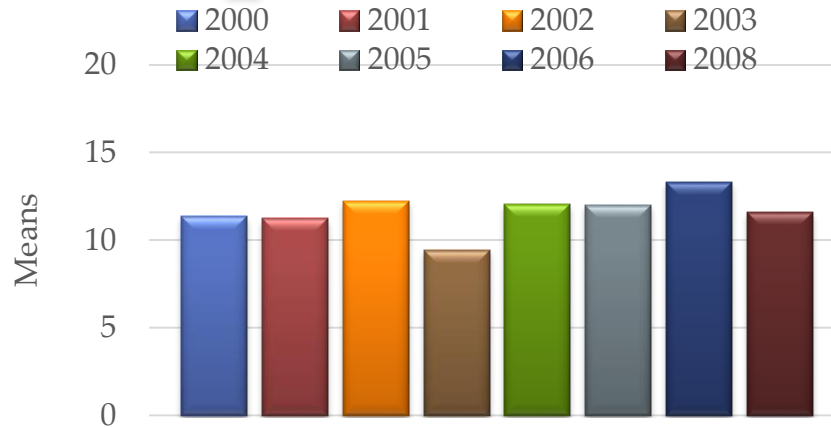


I=Instrumentality; E=Expressiveness; -I=Neg. Instru.(Hostility); NegFVA=Verbal Aggressiveness; NEGFC=Neg. Communion

# Year X Gender on Instrumentality



# Year X Gender on Competitiveness



# Summary

- So is the face of space changing?
  - Decrease in extraversion plus a rise in task orientation = a trend to more focused, pragmatic professionals.
  - The larger increases for females = more focused on performance and outcomes.
  - Decreases in agreeableness for males and increases in competitiveness for females = generational shifts in response to workplace pressures?
  - Space professionals are still highly educated, highly motivated and driven to succeed.
- Caveats
  - An international sample from 32 different countries.
  - Some years, small samples.



# Acknowledgements

- International Space University



- The University of Texas Medical Branch at Galveston



And the 290 ISU  
participants who wanted  
to know if they had 'the  
right stuff'

# Questions?