



Selecting Astronauts

The Role of Psychologists

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A Snapshot of Astronaut Demographics

Who becomes a US astronaut?

US astronauts selected

Number, by year



Military or civilian?



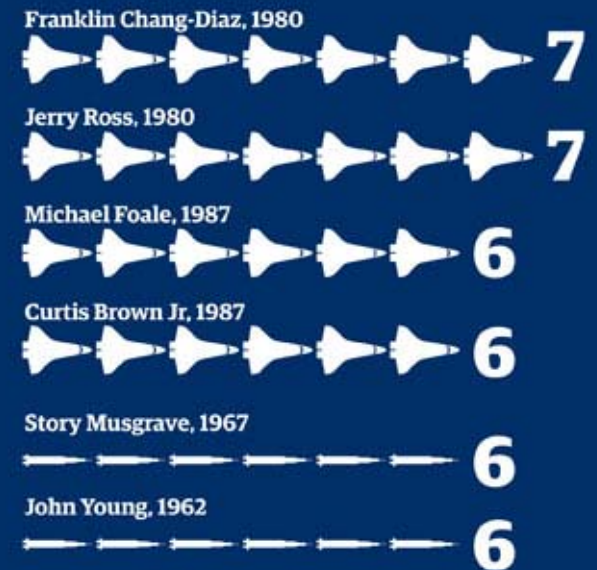
Hours of space flight time

Cumulative hours and year astronaut selected



Which ones have flown the most

By total number of flights and year selected



Sex of astronauts





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Where:

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Application Status

Your application materials have been submitted for consideration to the Johnson Space Center for [Astronaut Candidate](#).

Make sure that you have read the announcement carefully and submitted all required documentation and application materials. Please note that submitting your resume and documents from USAJOBS may not be the only step in the process.

You may monitor the status of your application for Astronaut Candidate on the [Application Status page on USAJOBS](#).

Milestones in Selection 2013

	N	2011		2012										2013									
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Applications received	6113																						
After review for basic qualifications, etc.	4552																						
Rating panel review	483																						
Six initial interview weeks-ASB	120																						
Five final interview weeks-ASB	49																						
ASB recommendations to JSC director	8																						
ASB recommendations to NASA Administrator	8																						
Notify interviewees and announce Class of 2013	8																						
ASCAN Class of 2013 reports for training	8																						

ASB = Astronaut Selection Board

JSC = Johnson Space Center

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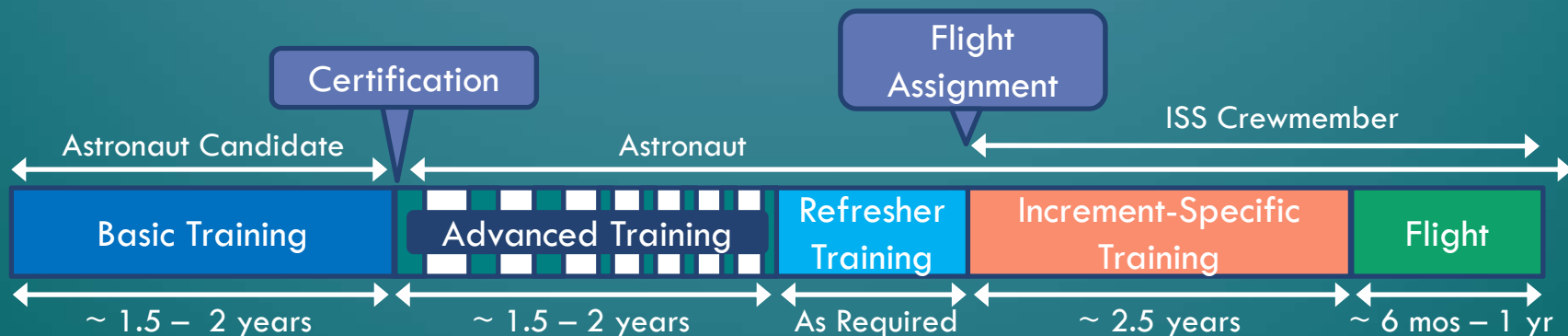
What is the goal of BHP?

- To weed out those not qualified to be astronauts due to medical psychopathology (Select-Out)
- To identify those best suited to being astronauts (Suitability)



What Makes Selecting Astronauts Challenging?

- Predicting behavior so far in the future
- Job likely to change before those selected fly
- Differentiating amongst a homogeneous pool
- Constrained by culture, ethics, law

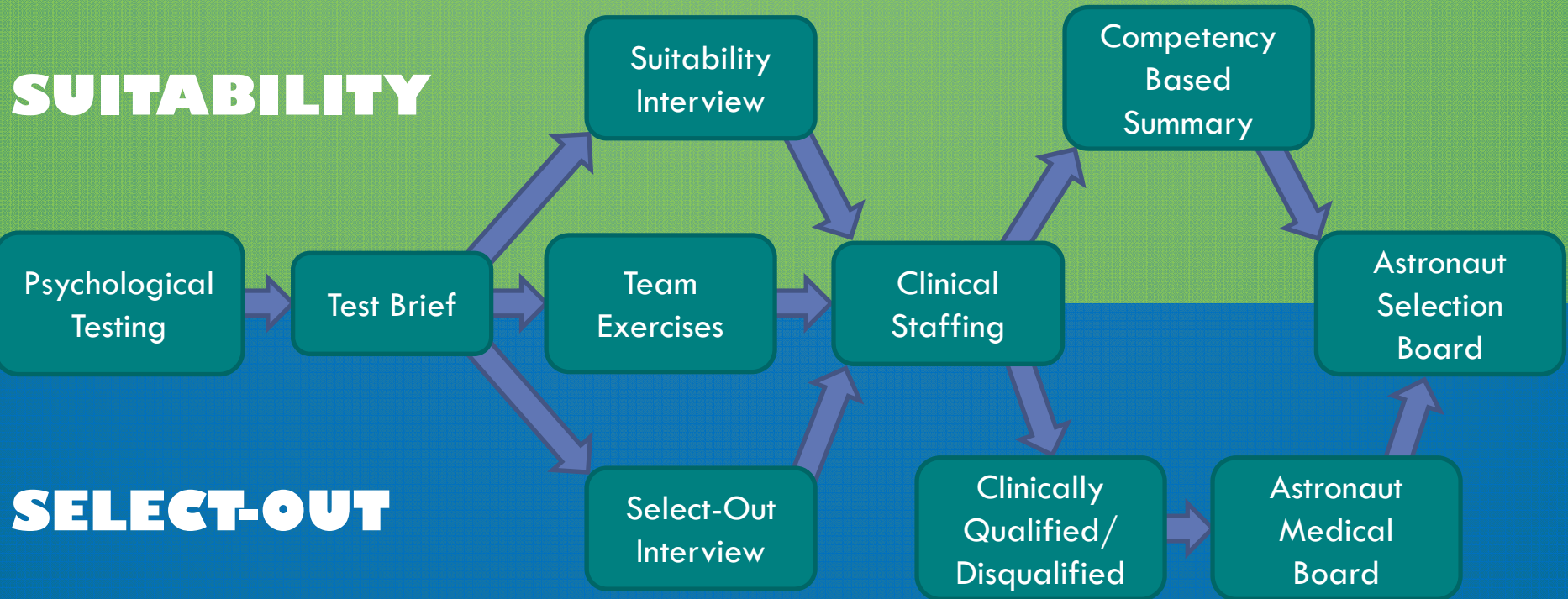


Simplified Overview of the BHP Role In Astronaut Selection

Round 1

Round 2

SUITABILITY



SELECT-OUT



The Select-Out Process

- What does it mean to be considered qualified (Q) or disqualified (DQ)?
- Why is this a binding decision?
- What criteria are used to determine medical psychopathology?
- Once DQ always DQ?



Generalizability of NASA BHP's Select-Out Process

- Greatest generalizability to public safety occupations
- Safety and ethics can be an issue at work for most any job
- More common methods for psychological select-out
 - Alcohol/drug screening
 - Situational judgment tests
 - Integrity/honesty tests
 - Counterproductive work behavior personality tests

Suitability

What it is ... What it isn't



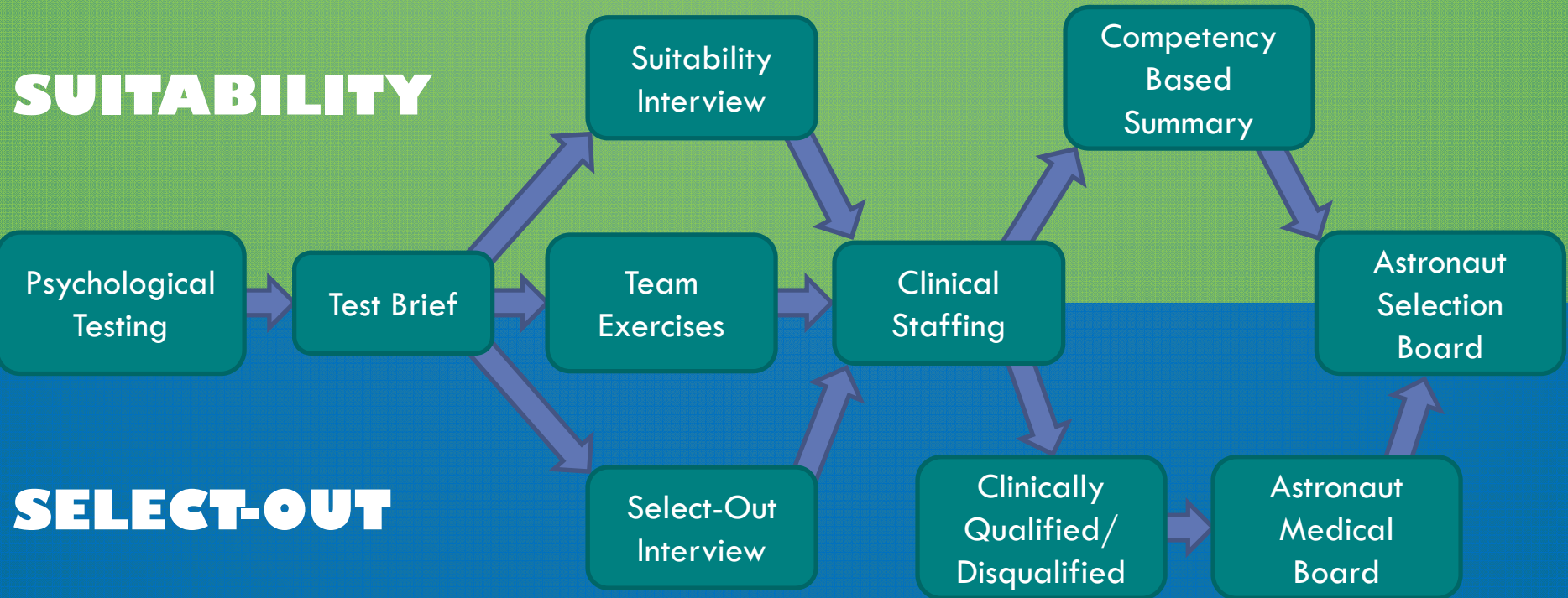
Chris Hadfield of Bowie's Space Oddity fame on YouTube

Simplified Overview of the BHP Role In Astronaut Selection

Round 1

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SUITABILITY



SELECT-OUT

Suitability: Sample Competencies

1 Mental/Emotional stability

2 Performance under stressful conditions

3 Group living skills

4 Teamwork skills

5 Family issues



Team Exercises

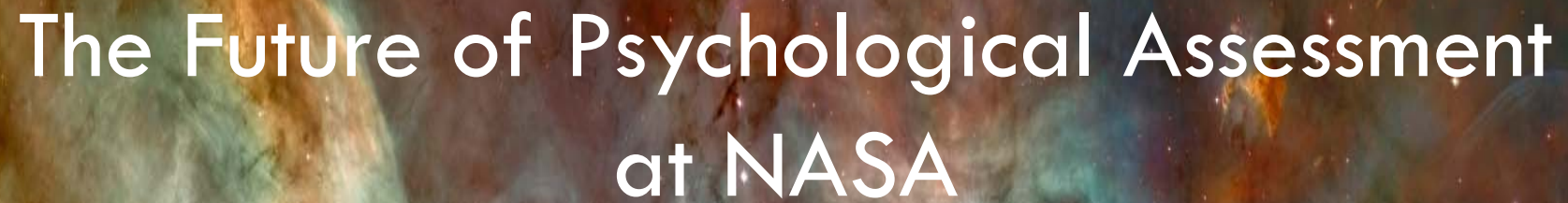
- Goals of team exercises
 - To assess an applicant's ability to perform in a team
 - To assess performance in terms of a subset of our competencies
- Development of team exercises
 - A lower fidelity simulation
 - Require applicants to work together to solve a series of tasks requiring physical and mental agility



Team Exercises

Evaluation and Generalizability

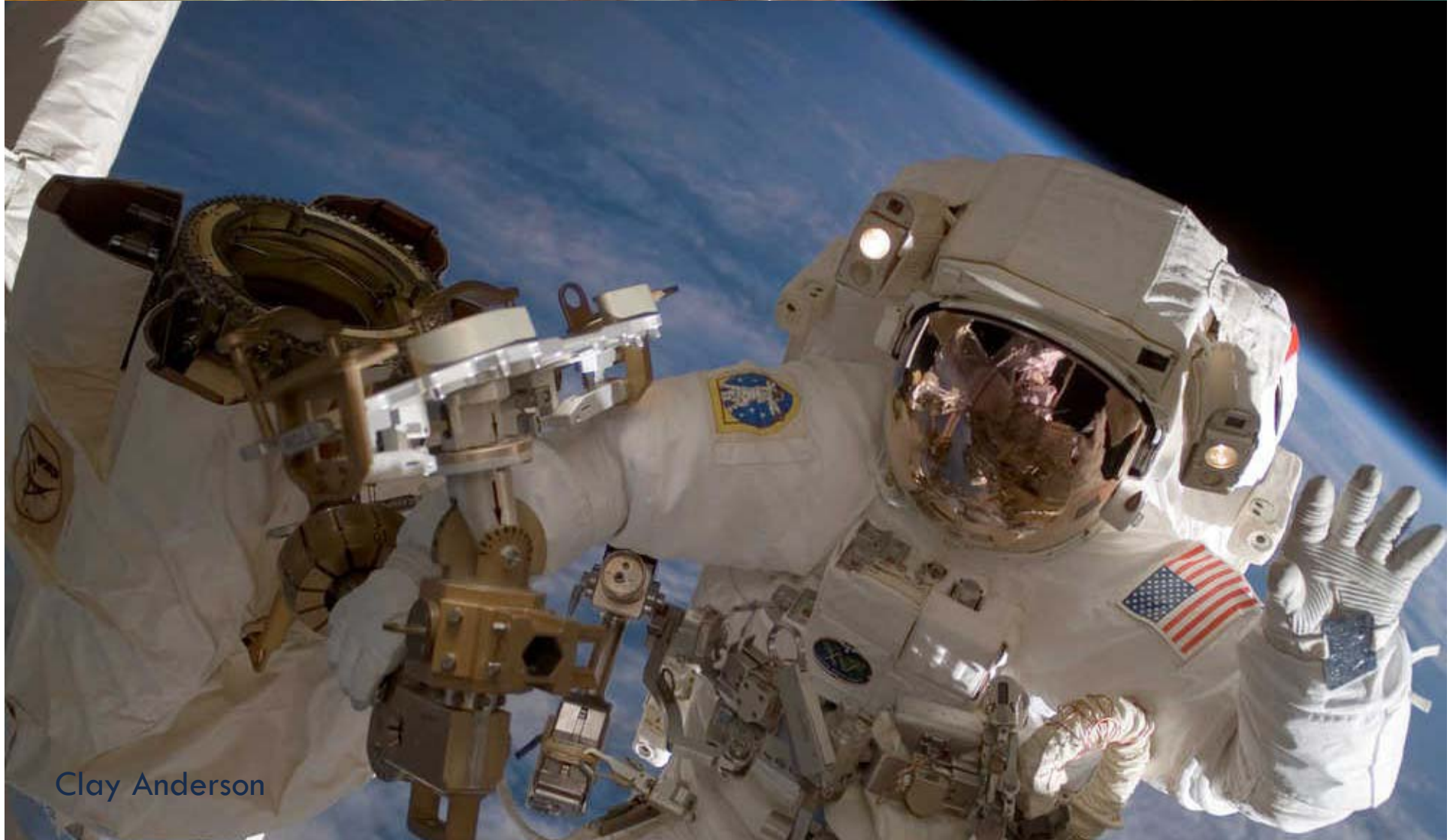
- Does it work?
 - Favorable feedback from astronauts, applicants, and assessors
 - Elicited a range of behaviors
 - Used BARS to assess on a tablet-based app
- Could it be applied to other jobs requiring problem-solving in the field?
 - Public safety occupations
 - Chemical and refinery plant and rig occupations



The Future of Psychological Assessment at NASA

- Remain a clinical process
- Revisions in response to updated competencies
- Little change to basic flow expected
- Continue to explore methods of gathering data
 - Situational judgment test
 - Biodata

Thank You



Clay Anderson