

Balancing Professional Prototypes Increases the Valuation of Women in Male-Dominated Professions

Felix Danbold, Corinne Bendersky

What is a prototype?

- A constellation of traits that make up what a category is or should be like
- Used to unit members of one category and distinguish from other categories
- Professional prototype – the set of traits perceived to be essential for success

Think of some prototypes...

- Police
- Teacher
- Computer scientist
- Nurse
- CEO

Computer Scientist

Analytical

Savant

Intelligent

Genius

Anti-social

“Bro-grammer”

Computer Scientist

Analytical

Communication

Savant

Compassion

Intelligent

Empathy

Genius

Collaboration

Anti-social

Listening

“Bro-grammer”

Creativity

Computer Scientist



Prototype alignment affect on groups



- Default sense of belonging
- Higher status
- Use power to reinforce privilege by promoting stereotypes favoring their group



- Viewed as inferior
- Expected to conform to the prototypical group's norms

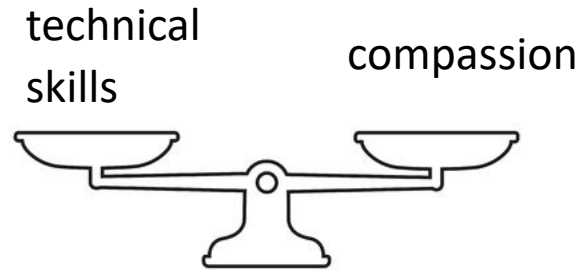
How do we fix this? Previous strategies and difficulties

- Shifting stereotypes about a demographic group
 - Incredibly difficult and largely unsuccessful
 - Subgrouping might occur
- Replace masculine prototypes with feminine prototypes
 - Dominant group feels threatened
 - Counterstereotypical women are negatively affected
- Increase perceived similarities among groups, prototype obscuring
 - Down plays critical between-group differences

Solution: Use **prototype inversion** to create a **balanced prototype** to reduce the devaluation of underrepresented demographic groups

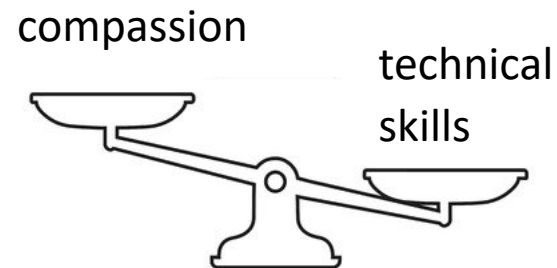
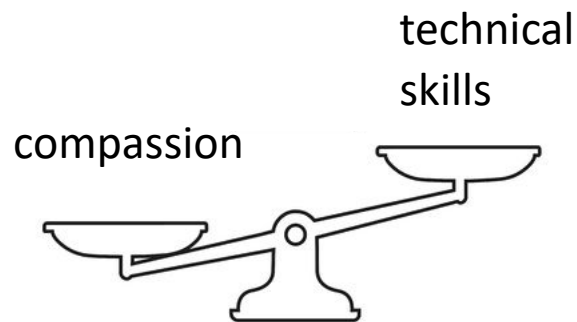
- **Balanced prototype**

- Prototypes are a constellation of traits essential for success



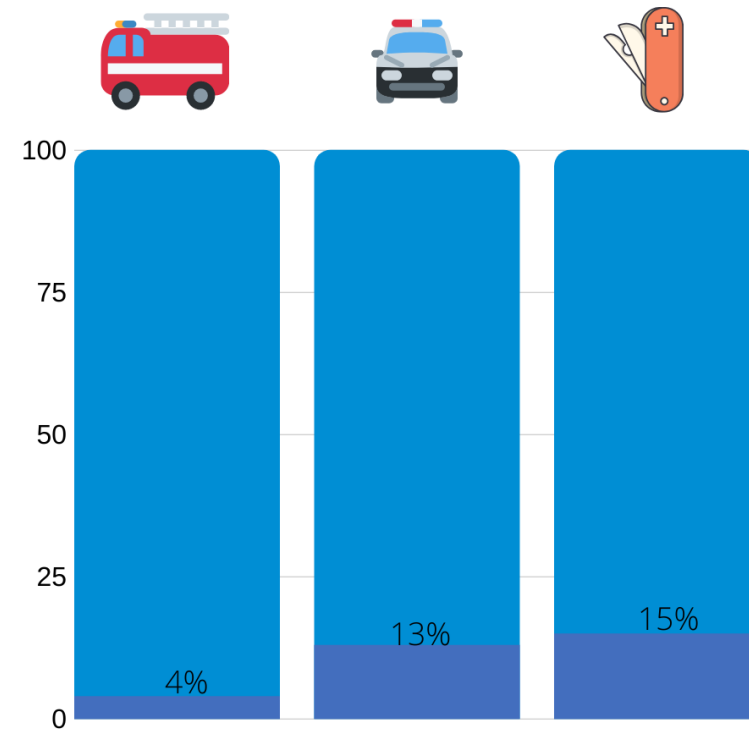
- **Prototype Inversion**

- Invert the existing prototype as a counterweight



Research Context: The U.S. Fire Service

- US Fire service extremely underrepresented in women
- A range of traits necessary
 - Physical strength, courage
 - Compassion, intelligence
 - Teamwork, trust



Study 1: Inductive Investigation of Masculine Firefighter Prototype

- Combination of one-on-one interviews and focus groups
- Observed two days of fire academy training and testing
- Asked about what traits associated with successful firefighters, perceptions of rookie firefighters, perception of minority firefighters

Study 1: Results

- A variety of prototype traits were valued, with no specific weighting
- Physical strength as a litmus test
 - Excuse for underrepresentation of women
- Women experienced a lack of fit
 - Excluded from training opportunities
 - Need to prove themselves beyond expectations
 - Social exclusion

Study 2: Manipulating the Firefighter Prototype

- Hypothesis: Achieve balanced prototypes by inverting of relative importance of feminine stereotyped traits without denying importance of masculine stereotyped traits.
 - Increase perceived ability of female
 - Reduce opposition to female fighters

Study 2a: Firefighter Field Experiment

Method

- Goal: test whether inverting firefighter prototype would increase perceived ability of women and lower opposition to women in fire service

What are the most important characteristics for modern firefighters to have in order to succeed in the fire service?

Traditional

Strength (M)
Team orientation (N)
Compassion (F)

Inverted

Compassion (F)
Team orientation (N)
Strength (M)

Control

No video control

Intro-only control

Team Orientation (N)

Study 2a: outcomes measured

- Perceived ability of rookie firefighters
 - Rescue and caring scenario
 - Rate confidence in rookie firefighter
 - Vary on race and gender
- Opposition to women in the fire service
 - "Many fire departments have made it a priority to increase the representation of women... without lowering...standards"
- Perceived trait importance

Study 2a: Results

- Perceived ability of women rookie firefighters
 - Ratings of females higher in inverted than in traditional
 - Slightly lowered perceptions of male firefighters' ability
- Opposition to women decreased in inverted condition compared to controls
 - Not significantly reduced compared to traditional condition
- Perceived Importance of feminine prototype traits
 - Only in inverted condition feminine traits rated equivalent to male

Study 2a: Results – Indirect Effects

- Perceived ability of women and greater importance of feminine traits
- Opposition to women and greater importance of feminine traits

Study 2a: Reactance to manipulation

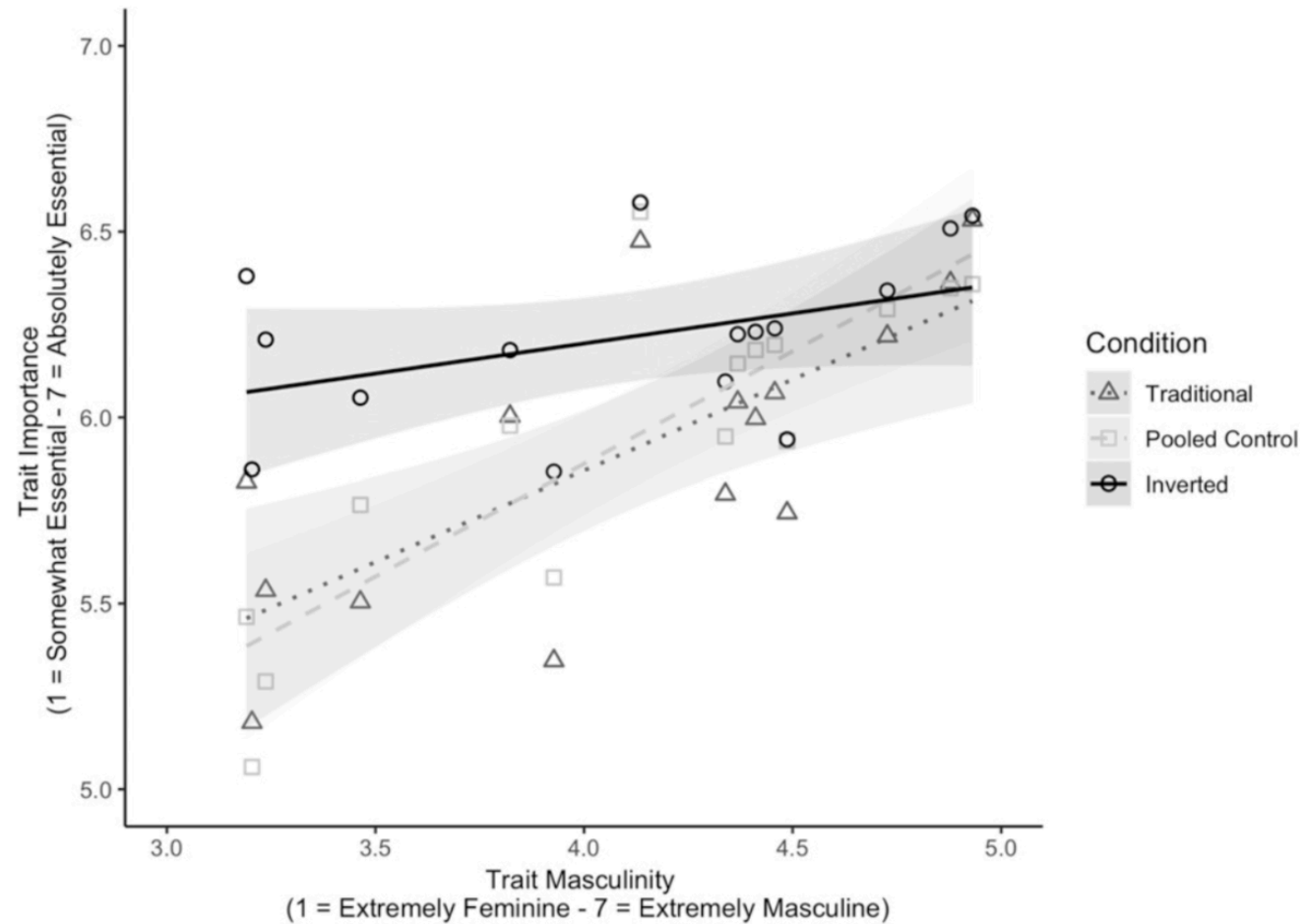
- Rejection of messages perceived as coming from “outsiders”
- Reactance was same rate for traditional and inverted conditions
- Including participants who had reactance to manipulation weakened results

Study 2b: General Population Replication and Extension

- Extension to the greater public via Mechanical Turk
- Similar experimental design

- Prototypicality threat
 - “I worry in the future, men will no longer represent what it means to be a firefighter”
- Prototype ambiguity
 - “What it means to be a successful firefighter is ambiguous to me”

Study 2b: Balancing the Firefighter Prototype



Study 2b: Results

- Prototypicality Threat
 - Prototype inversion induced prototypicality threat, but not significantly
- Prototype ambiguity
 - Ambiguity lower in traditional and inverted than control
 - No difference in traditional and inverted

Implications

- Shift away from thinking about how a prototype is associated with a group or not
- Inverting the prototype is important, simply articulating balanced prototype not enough
- Situation-focused solution vs person-focused solution
- Should be viewed as a part of a wide set of techniques
- Has benefit of not seeming like forced diversity training

Limitations and Future Directions

- Outcomes measured shortly after manipulation
- Lack of intersectionality and gender as a spectrum
- Effect on non-traditional members of groups and other groups
- Reactance to manipulation