

# Beyond Selection System Improvements

*Overcoming the “Applicant Pool  
Problem” to Reduce Adverse Impact*



# IPMAAC 2005 Orlando

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- Courtney Dean
  - Personnel Board of Jefferson County (PBJC)
- Anu Ramesh
  - University of Maryland and BellSouth
- Thank you to PBJC for the opportunity to collect this data.



# Background

- Adverse Impact Ratio =

# SELECTED<sub>Group1</sub>

---

# APPLIED<sub>Group1</sub>

> .80

---

# SELECTED<sub>Group2</sub>

---

# APPLIED<sub>Group2</sub>



# Past: 'It's a Selection Issue'

- Adverse Impact Ratio =

# SELECTED<sub>Group1</sub>

---

# APPLIED<sub>Group1</sub>

---

# SELECTED<sub>Group2</sub>

---

# APPLIED<sub>Group2</sub>

Sackett & Ellingson (1997); Sackett & Roth (1996); Hattrup, Rock, & Scalia (1997); Hakel (1998); Chan & Schmitt (1997)

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# Future: 'It's an Applicant Pool Problem'

- Adverse Impact Ratio =

# SELECTED<sub>Group1</sub>

---

# APPLIED<sub>Group1</sub>

---

# SELECTED<sub>Group2</sub>

---

# APPLIED<sub>Group2</sub>

Murphy, Osten, & Myors (1995); Ryan, Ployhart, & Friedel (1998)



# The 'Applicant Pool Problem'

- Poor applicant pool quality can make adverse impact virtually inevitable, thereby negating improvements in other aspects of selection testing
  - Murphy, Osten, & Myors (1995)
  - Ryan, Ployhart, & Friedel (1998)
- Applicant pool quality
  - Number and qualifications of majority and minority candidates



# Causes of the 'Applicant Pool Problem'

- HR's good intentions
  - Recruiting unqualified minority applicants
- Unequal access to information about the job
  - Limited access to informal networks
  - Lack of comparable experience
  - Fewer relatives and friends in the position
- Social support from friends and family
- Positions require minimum qualifications only



# Purpose

- Explore the applicant pool problem in a recent entry-level firefighter examination.





# About PBJC

- Responsible for testing for all public jobs
- Serves 17 independent municipalities, the JC Commission, the Health Dept, Emergency Management, and the public hospital
- Develops eligibility lists

Operates under consent decree



# PBJC Firefighter Candidates

- Entry level position
  - Only requirement is over 18 years old
- Multiple hurdle process
  - Biodata, structured interview
- Extreme background and educational differences
  - Recent high school graduates
  - Current volunteer firefighters
  - Retired firefighter officers

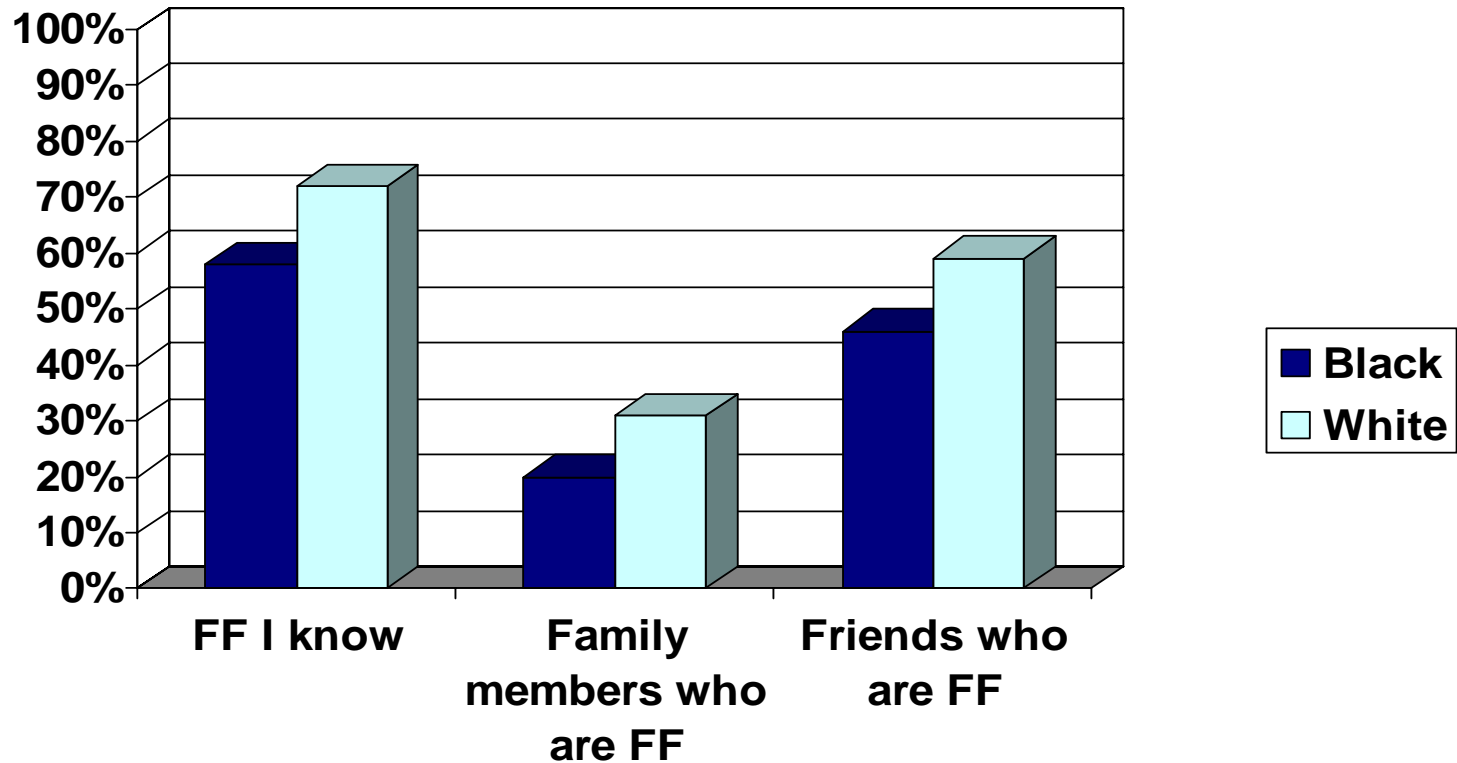


# Sample

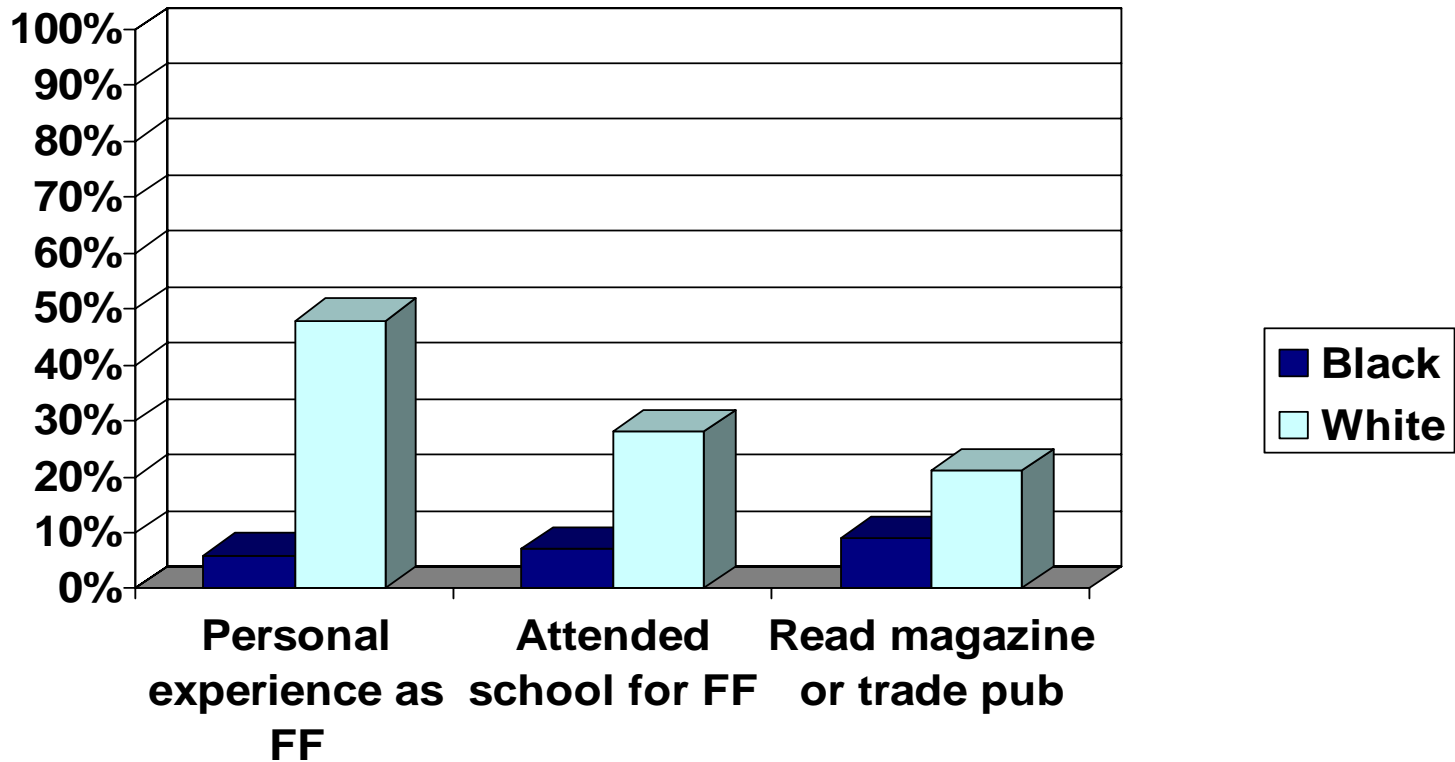
- N = 675 firefighter candidates
  - 1095 present
  - 62% response rate
- Survey administered during first hurdle
- Average age = 27 years
  - s.d. = 7
- Gender
  - 85% male
  - 9% female
  - 6% don't know
- Race
  - 46% African American
  - 43% White
  - 9% don't know
  - 2% other



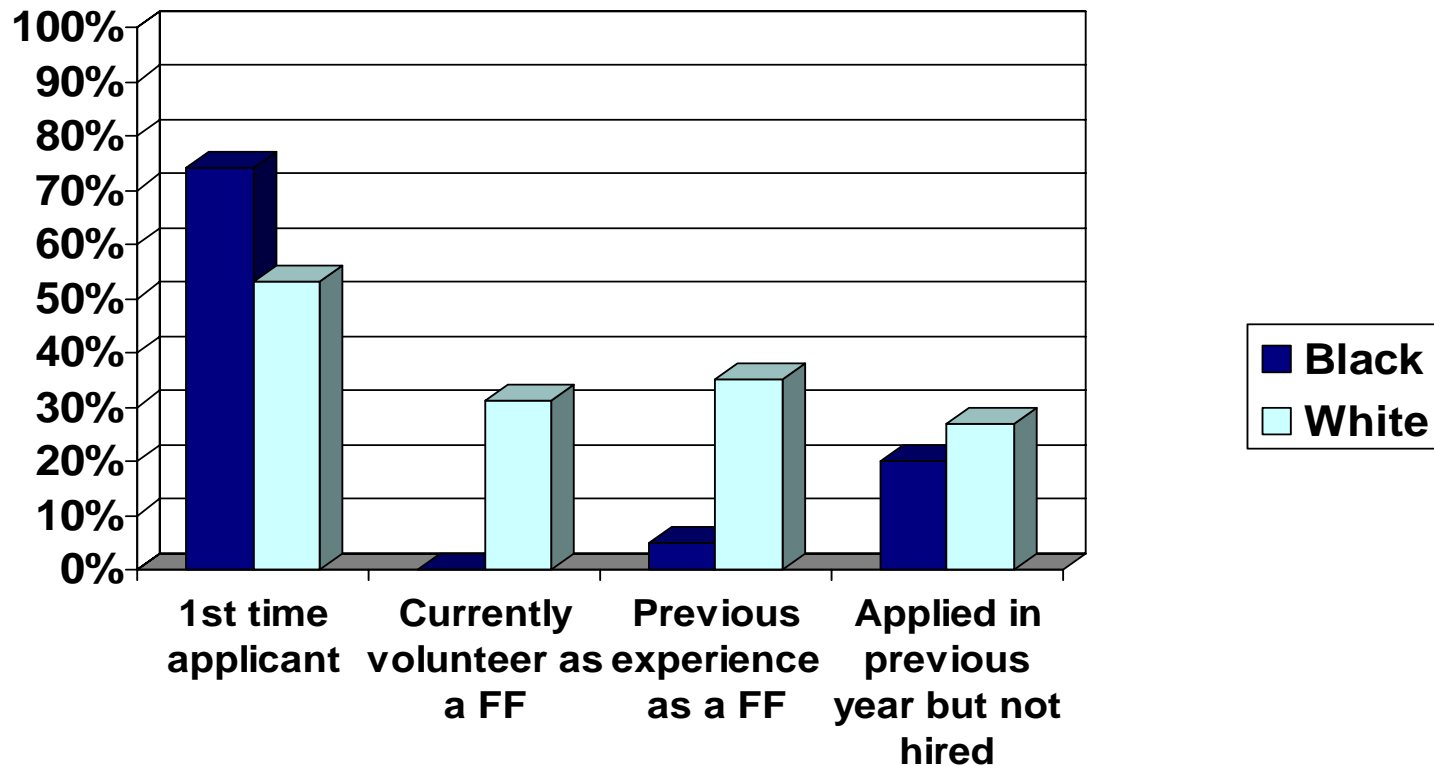
# Who did you talk to about FF?



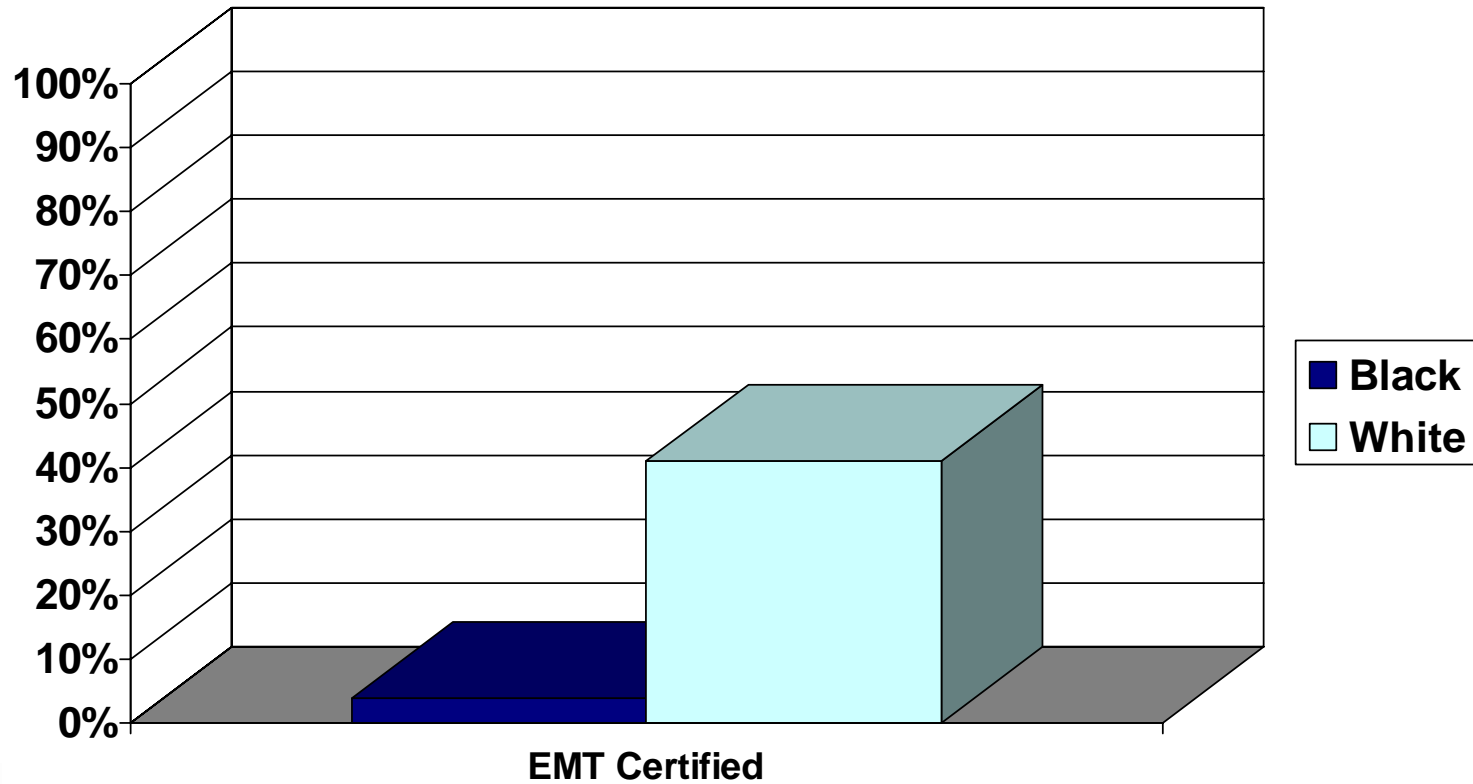
# How did you learn more about FF?



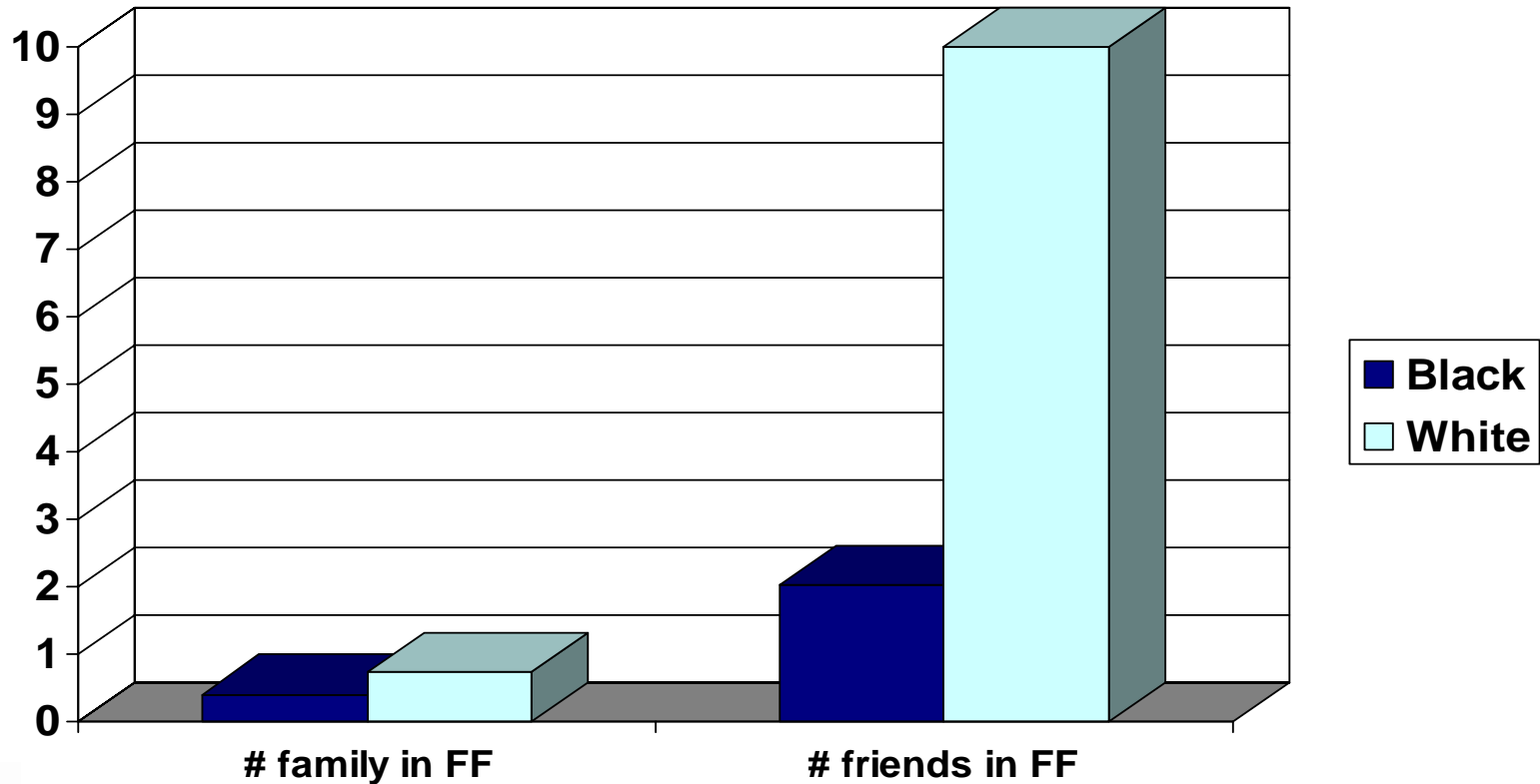
# Applicant Status



# EMT Certification

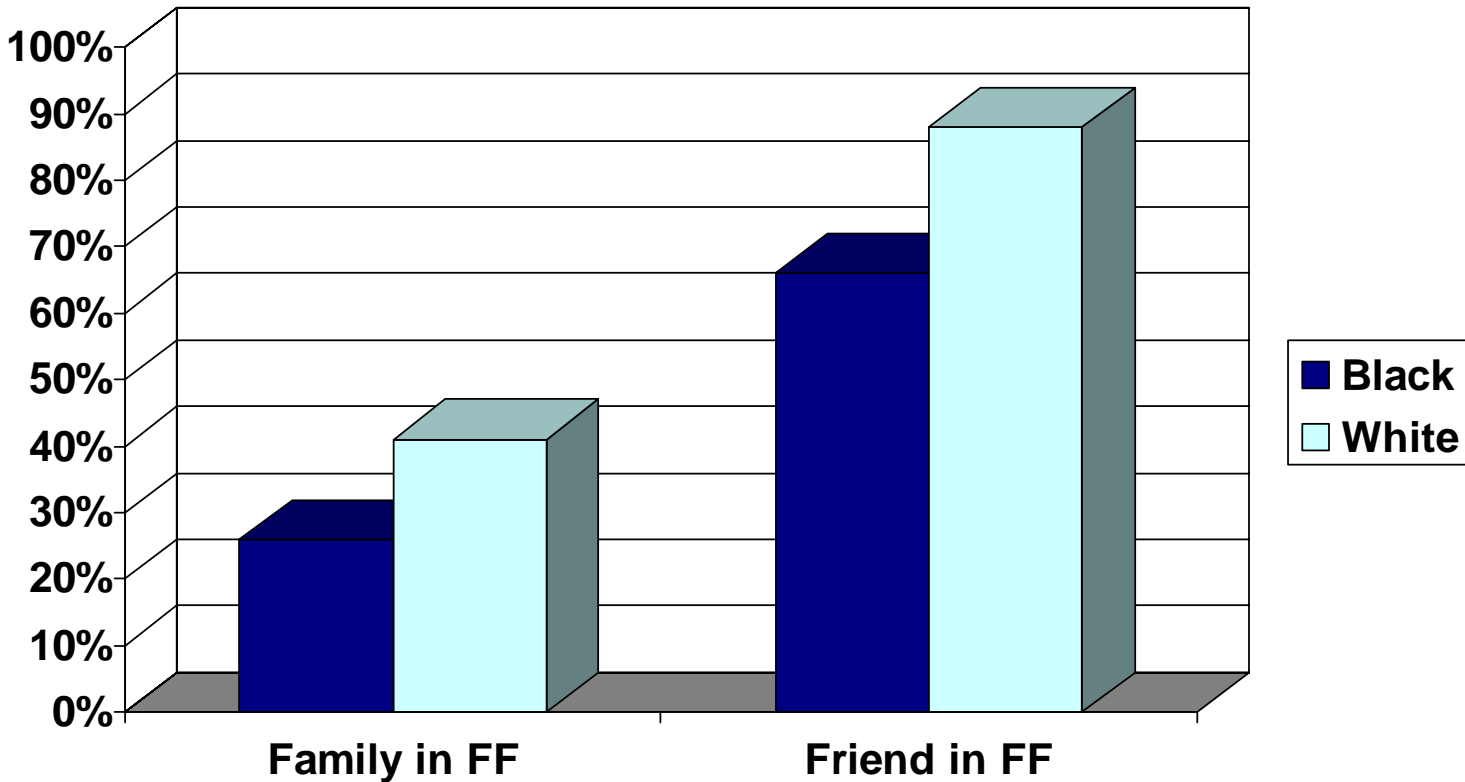


# Number of family and friends in firefighting

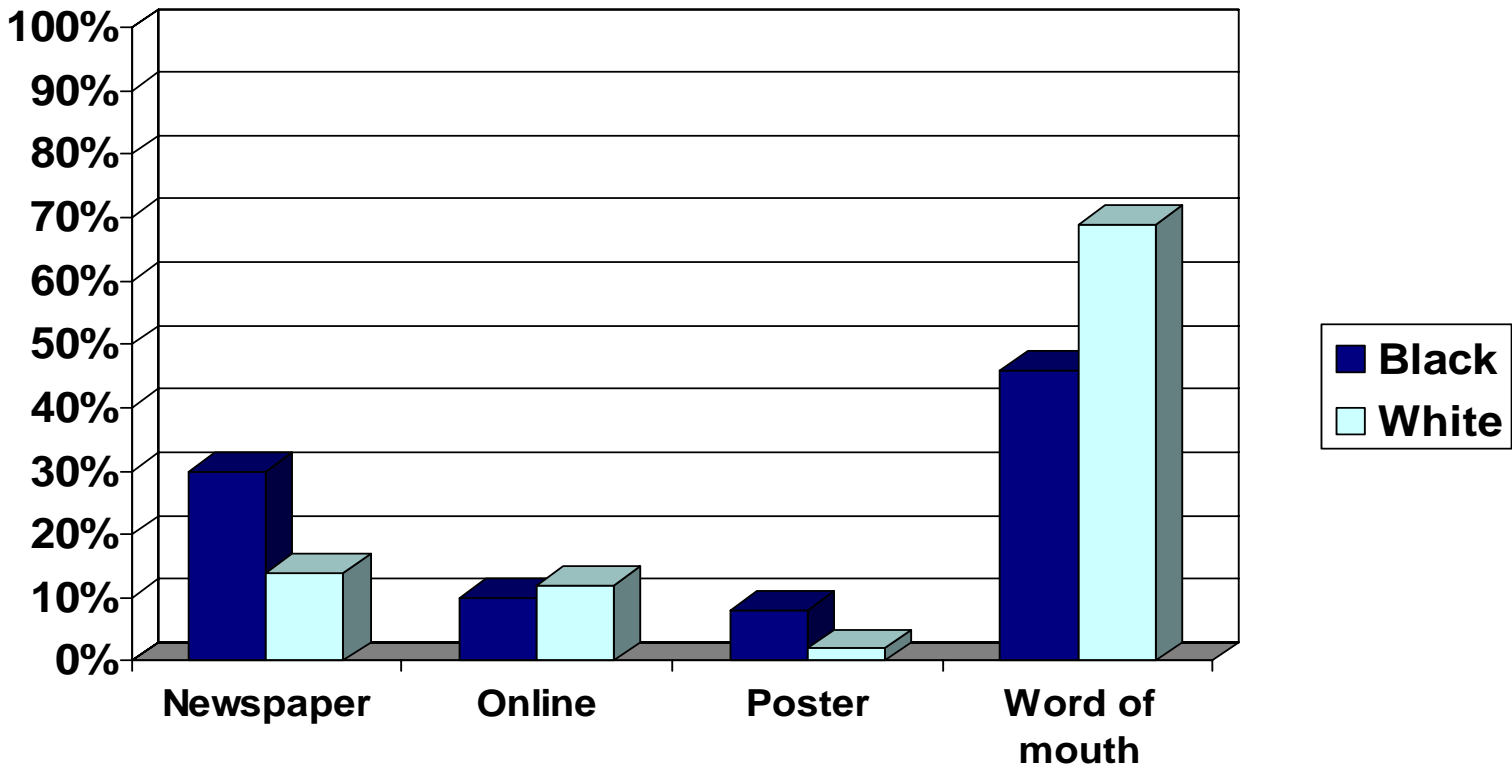




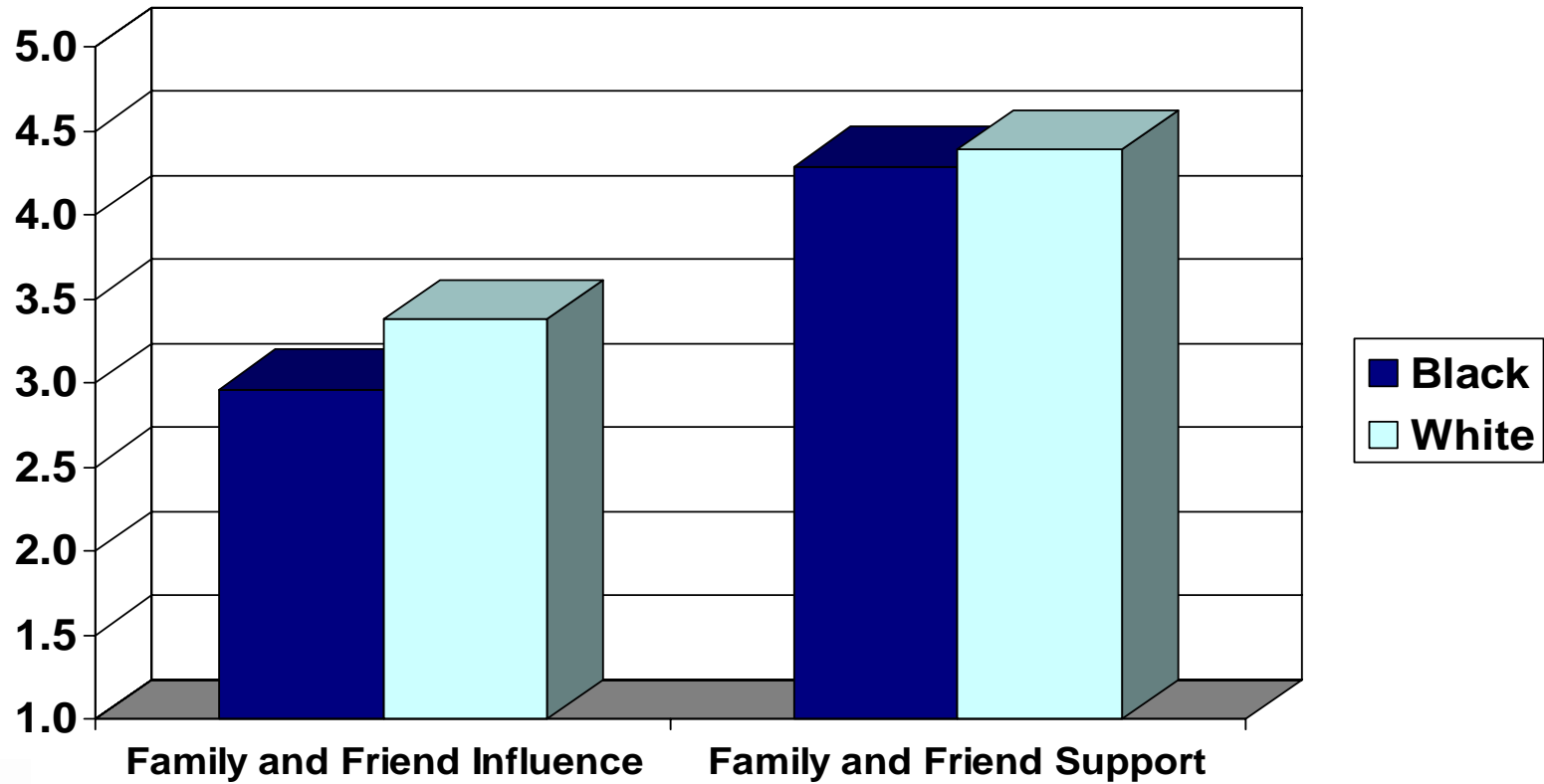
# At least one family member or friend in firefighting



# Recruitment Source



# Family and friend support



# Summary of Results

- Whites had **more experience** in firefighting than Blacks.
- Blacks were more likely to be **first time candidates** than Whites.
- Whites had a greater number of **family and friends** in firefighting.
- Whites were more likely to be recruited from an **informal source** (e.g., word-of mouth) than Blacks.
- Blacks were more likely to be recruited from a **formal source** (e.g., newspaper ad) than Whites.

Whites report greater **family and friend influence and support** than Blacks.



# Reducing Adverse Impact: Selection System Solutions

- Reduce the cognitive load of the tests
  - Video-based interviewing
  - Reduce reliance on paper-and-pencil measures (e.g., reading comprehension)
- Test on variety of dimensions (e.g., teamwork, customer service orientation)
- Biodata
- Statistical solutions
  - Banding
  - Many-facet IRT to capture bias



# Reducing Adverse Impact: Applicant Pool Solutions

- Targeted recruiting
  - Targeted recruitment messages
  - Encourage informal recruiting (e.g., word-of-mouth) by minority firefighters
  - Active recruiting by organizational members
- Realistic job previews
  - Pre-test seminars
  - Community outreach
- Mentoring programs
  - Encourage volunteer firefighting



# Future Directions

- Job perception accuracy
  - Are these applicant pool factors related to job perception accuracy?
  - Does job perception accuracy lead to higher test performance?
  - Is race just a proxy for experience or job perception accuracy?



# Audience Discussion

- What advice do you have for solving the ‘applicant pool problem’?





# Thank You!

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