

Use of Educational Requirements for Employee Selection



Mike Aamodt
Radford University

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*I will show you my data
for beads!*

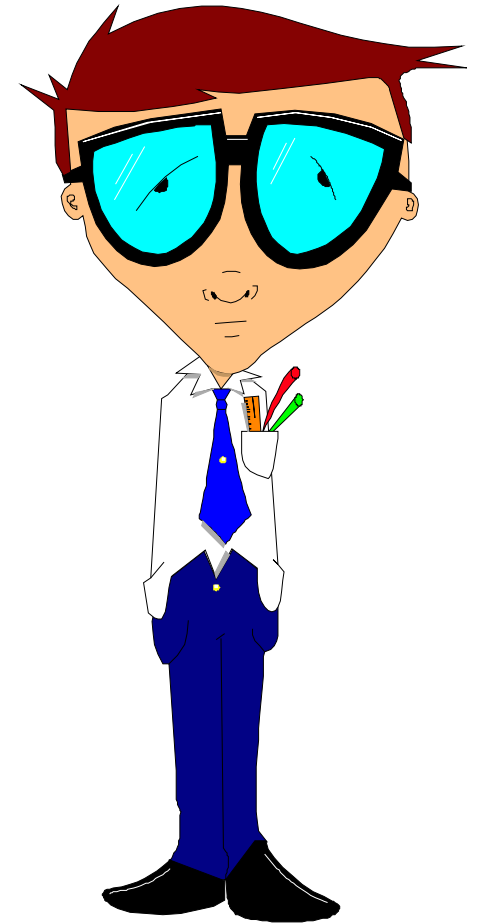


Questions to Answer

- Does education predict performance?
 - Degree/years of education
 - GPA
 - Major
- Does education add incremental validity over cognitive ability?
- Does education result in adverse impact?



Does Education
Predict
Performance?



Summary of Meta-Analyses

Meta-analysis	Occupation	K	N	r
Aamodt (2002)	Police	34	8,615	.35
Vineberg & Joyner (1982)	Military	35		.25
Hunter (1980) Hunter & Hunter (1984) Schmidt & Hunter (1998)	USES data base	425	32,124	.10
Dunnette (1972)	Entry level petroleum	15		.00

Validity of Education for Police

Our Updated Meta-Analysis

	Academy Grades	Supervisor Ratings	Discipline Problems
Number of studies	25	34	19
Sample Size	5,107	8,615	8,118
Uncorrected validity	.28	.18	- .09
Corrected validity	.52	.35	- .11

Our Meta-Analysis (Cont.)

Education level	Academy Grades		Patrol Performance	
	N	Score	N	Score
GED/HS Diploma	346	-.29 ^a	915	-.12 ^a
12-64 college hours	256	-.06 ^b	391	.02 ^b
AAS	93	.13 ^{bc}	139	.07 ^{bc}
64 college hours	53	.32 ^{cd}	45	.29 ^{bc}
Bachelor's	235	.39 ^d	441	.18 ^c

Education and the Honeymoon Effect

- The term *Honeymoon Effect* was coined by Helmreich, Sawin, and Carsrud (1986)
- The Honeymoon Effect means that what predicts performance early in a career may not predict later performance

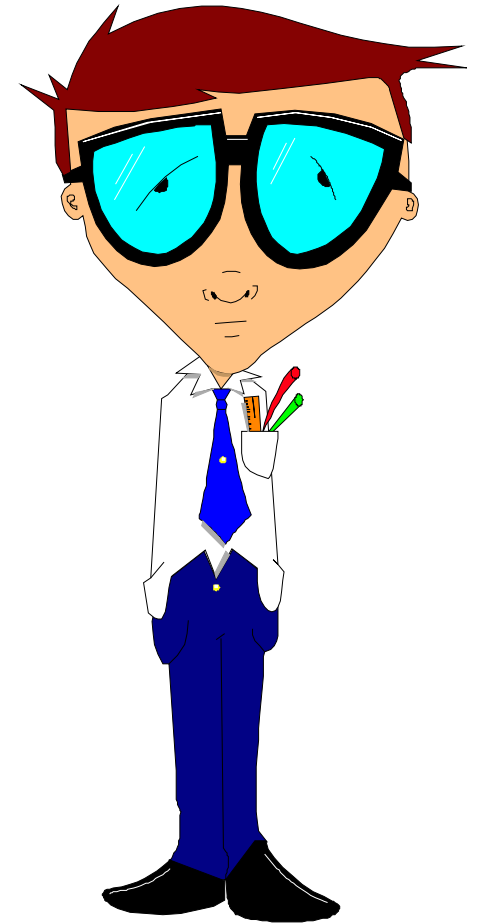
Interaction of Experience and Education on Patrol Performance

Educational Level	Experience		Total
	< 2 years	2 or more years	
High School Diploma	.01 ^{ab} (.92)	-.16 ^a (.98)	-.08 ^a
Some College/Associate's Degree	-.26 ^a (1.01)	.07 ^b (.94)	-.09 ^a
B.A. or Higher	-.01 ^{ab} (.95)	.34 ^c (1.12)	.17 ^b

Note: Standard Deviations are in parenthesis.

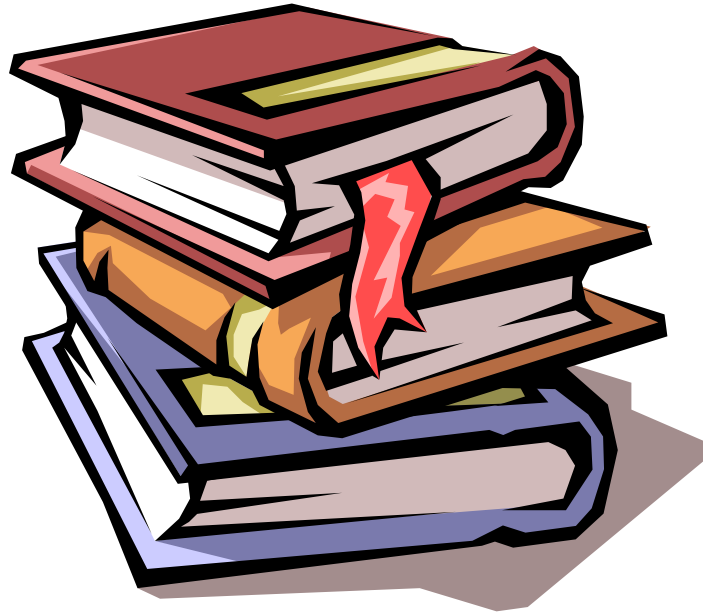
Means not sharing the same superscript are significantly different from one another.

Does Education
Add Incremental
Validity Over
Cognitive
Ability?



Education and Incremental Validity

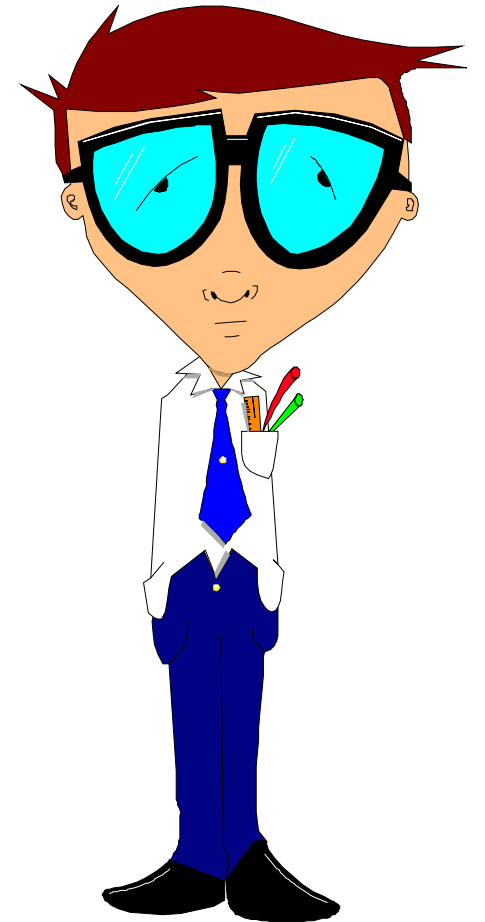
- Schmidt & Hunter (1998) say no
 - Cognitive ability ($r = .51$)
 - Cognitive ability and education ($r = .52$)



Education and Incremental Validity

- Our meta-analysis for police says yes
 - Academy Grades
 - Cognitive ability ($r = .58$)
 - Cognitive ability and education ($r = .70$)
 - Patrol Performance (uncorrected)
 - Cognitive ability ($r = .19$)
 - Cognitive ability and education ($r = .29$)

Does Grade
Point Average
Predict
Performance?



Validity of GPA

Meta-Analysis Results

	Uncorrected Validity	Corrected Validity
Work-Related Criteria		
Job Performance (Roth et al., 1996)	0.16	0.36
Training Performance (Dye & Reck, 1989)	0.29	
Promotions (Cohen, 1984)	0.16	
Salary (Roth & Clarke, 1996)		
Starting Salary	0.13	0.20
Current Salary	0.18	0.28
Graduate School Performance (Kuncel et al., 2001)		
Grades	0.28	0.30
Faculty Ratings	0.25	0.35

Validity of GPA

- GPA is a valid predictor of performance on the job, training performance, starting salary, promotions, and grad school performance
- GPA is most predictive in the first few years after graduation (Roth et al., 1996)
- GPA will result in high levels ($d=.78$) of adverse impact (Roth & Bobko, 2000)
- People with high GPAs
 - Are intelligent ($r=.50$; Jensen, 1980)
 - Are conscientious ($r=.34$; Bevier et al., 1998)

Predicting Graduate School Performance

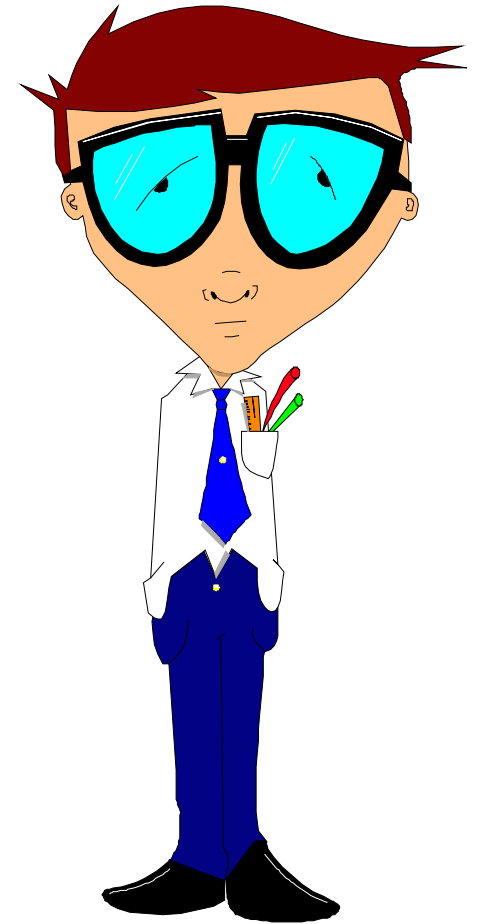
	Graduate GPA	Teaching Ratings
GRE Score	.33*	.00
GPA – Overall	.31*	.02
GPA – Psych	.32*	.03
GPA – Junior/Senior	.40*	.09
Faculty References		
Mental agility	.25*	- .08
Vigor	- .26*	- .07
Extroversion	.03	.24*
Agreeableness	-.11	.06
Conscientiousness	.16	- .04

Work-Related Training as a Predictor of Job Performance

Aamodt (2000) Meta-Analysis

- Performance in the academy predicts patrol performance ($r = .21$)
- Performance in the probationary period predicts patrol performance ($r = .26$)

Does College
Major Predict
Performance?

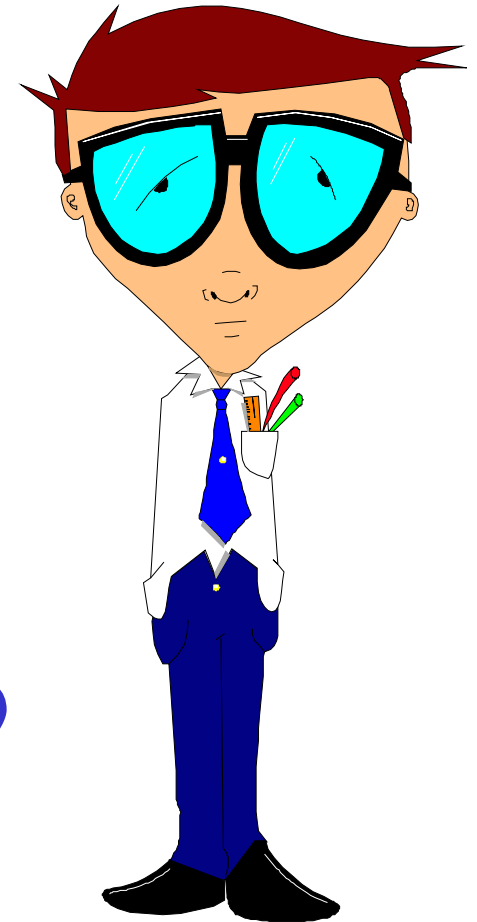


College Major as a Predictor of Job Performance

- Aamodt (2000) meta-analysis
- Validity of having a criminal justice major

	<u>r</u>	<u>k</u>	<u>n</u>
Patrol performance	- .02	8	1,585
Academy grades	.01	6	976

Will Education
Requirements
Result in
Adverse Impact?



Adverse Impact

Technique	White-Black	White-Hispanic	Meta-analysis
Cognitive ability	1.10	.72	Roth et al. (2001)
GPA	.78		Roth & Bobko (2000)
Biodata	.33		Bobko et al. (1999)
Reference Ratings	.25		Aamodt (2002)
Structured interview	.23		Huffcutt & Roth (1998)
Recommendations	.22		Aamodt (2002)
HS diploma	.20	.52	Aamodt (2002)
Bachelor's degree	.18	.26	Aamodt (2002)
Personality	.09		Schmitt et al. (1996)
Integrity tests	.07	-.05	Ones & Viswesvaran (1998)

Can You Substitute Education for a Cognitive Ability Test?

- Education has less adverse impact
- But
 - Cognitive ability and education are only slightly correlated
 - .28 in our police data
 - .00 assumption by Schmidt & Hunter (1998) of applicants applying for a particular job
 - .55 estimate by Schmidt & Hunter (1998) for the general population
 - Education adds incremental validity for law enforcement
 - Our dataset contains plenty of college graduates with low cognitive ability

Lingering Questions

- Is the validity of education job specific?
- What is the actual incremental validity of education over cognitive ability?
- Why would education predict performance?
 - Knowledge
 - Liberal arts skills
 - Mental ability
 - Motivation



References

Explaining a Conference in New Orleans

- Your Boss Says
 - Your nose looks red.
Were you drinking?
 - Did you get to that
great 8:00 a.m.
session?
 - Did you learn much?
- Your Response
 - No, I sat too close to
the overhead projector
 - Unfortunately, a
hurricane at Pat
O’Briens kept us from
getting to the hotel
 - Let’s just say I have a
real “bead” on this
assessment stuff



Questions about this Presentation?

Michael G. Aamodt, Ph.D.

Department of Psychology

Radford University

Radford, VA 24142-6946

(540) 831-5513

maamodt@radford.edu