Session 4
Screening questions, interviewer pay, and interviewer attrition

November 27, 2018
Sharon Simonton and Grant Benson

Agenda

- Session Goals
  - Screening questions, structured and unstructured
  - Interviewer pay
- Updates
- Suggestions? Feedback?

Recruitment Brownbag Series

- Session 1: Attrition measures, hypotheses, interventions, and new data
  - Sharon Parker, Grant Benson
- Session 2: The recruitment process – requirements, constraints, and goals
  - September 18th, 2018, Ken Szmigiel, Vivienne Outlaw
- Session 3: What's in an application or a resume – characteristics that define a good candidate
  - October 2nd, 2018, Carlos Macuada, Grant Benson
- Session 4: Screening questions, interviewer pay, and interviewer attrition
  - November 27, 2018, Sharon Simonton, Grant Benson

Session Goals

The Good Applicant, Redux	• Definitions and expectations
Sources and Methods	• Leveraging standardized applicant data and evaluating attrition outcomes • Select unstructured data analysis
Seeking input and suggestions	• What areas are we not looking at? • Are there other measures we should be using? • How can we improve?

The Good Interviewer Applicant, Redux

- Session 3 evaluated resume words related to hired and qualified status
  - Low model fit, but included "English", "Spanish", "Teaching", and "Interview"
- But what about *after* they are hired? What about probability of attrition?
  - Employer and employee-driven attrition (Session 1)
  - Basic skills, attitude
- Standardized, fixed choice questions and open-ended questions

Recruitment Screener Questions and Likelihood to Attrite

Applicant Screener Questions

- Applicants to the field interviewer position complete online standardized and project specific screener questions
- Generic questions include:
  - What is the highest level of education or degree you have completed?
  - Do you have survey research experience? (If yes, specify)
  - Do you have computer and/or data entry experience?
- Study specific questions may include:
  - Training will be held [DATES] in Detroit, MI (these include travel dates). Are you able to attend training?
  - Are you available to work up to XX hours per week from early [DATE] to [DATE]?
  - Interviewers will be required to interact with a diverse population and travel to a variety of neighborhoods, some being disadvantaged. Are you able to work in this environment?

Applicant Screener Questions

- Hypothesis: Screener questions are predictive of an applicants
  - Likelihood to attrite
  - Likelihood to resign
  - Likelihood to be terminated

Screener Questions and Likelihood to Attrite

Multinomial logistic regression models

- Used for modeling nominal outcomes having 3+ categories

- Here comparing interviewers who were terminated by SRO (employer initiated, n =45) and interviewers who chose to terminate themselves (employee initiated, n= 85) with interviewers who continued to be actively employed or were in holding status (reference group, n =106).

Measure of association: adjusted odds ratio (AOR)

Effect for each variable adjusted for effects of all other variables in model.

Continuous variable = the effect of a one-unit increase in the variable on the odds for the outcome relative to the reference group.

Categorical variable = Odds for the outcome relative to participants in or having the reference level of the variable in reference group.

Interpretation

AOR > 1.0: Indicates higher odds of attrition relative to the reference group

AOR = 1.0 : No association between measure and attrition

AOR < 1.0: Lower odds for attrition (protective)

Predictors in the models

- Education: Having (1) BA/BS or (2) Grad degree vs. High School diploma or less

- Fluency in other languages (1) Spanish (2) any other language vs. only English

- Access to equipment that would allow you to record a short video interview. Which of the following would you use. Check all that apply.

Smart Phone	Borrow the equipment
Laptop w/camera	Go to library or other location w/equipment
Desktop w/camera	

- Sex and race/ethnicity not available

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Types of survey research experience/training/formal education

Generic screening

- Computer assisted interviews
- Cognitive interviews
- Focus group moderation
- Face-to-face interviews
- Market research produce research
- Paper & pencil interviews
- Phone interviews for survey research
- School-based interviews

Study specific screening

- Door-to-door survey experience
- Telephone survey experience
- Door-to-door market research
- Telephone market research
- Canvassing door-to-door
- Retail sales
- Telephone sales
- Customer service

Results

	Terminated / Employer Initiated (N=45) vs. Active Interviewers (N=106)			Terminated / Employee Initiated (N=85) vs. Active Interviewers (N=106)		
	AOR	95% CI	*p*-value	AOR	95% CI	P-value
Educational attainment						
High school or less	1.00			1.00		
BA/BS	0.42	(0.15-1.20)	0.105	0.57	(0.25-1.30)	0.183
MA/MS/PhD	1.13	(0.37-3.39)	0.832	0.71	(0.28-1.80)	0.474
Fluency in languages other than English						
English only	1.00			1.00		
Spanish	1.52	(0.57-4.04)	0.401	0.68	(0.30-1.52)	0.344
Language other than Spanish	0.92	(0.07-11.74)	0.951	0.47	(0.07-3.07)	0.428

Results

|	Terminated / Employer Initiated (N=45) vs. Active Interviewers (N=106)			Terminated / Employee Initiated (N=85) vs. Active Interviewers (N=106)		
	AOR	95% CI	*p*-value	AOR	95% CI	*p*-value
Types of survey research training/experience/education (generic screening)						
Computer assisted (CAI)	0.72	(0.23-2.22)	0.564	1.38	(0.57-3.38)	0.476
Market research/product research	1.44	(0.52-3.98)	0.483	0.79	(0.34-1.84)	0.589
Paper & pencil interviews	**0.27**	**(0.09-0.82)**	**0.020**	0.74	(0.33-1.66)	0.469
Types of experience working in rural, urban & diverse populations (study-specific screening)						
Door-to-door survey research	0.39	(0.11-1.32)	0.129	0.75	(0.28-2.04)	0.575
Telephone survey research	0.73	(0.22-2.47)	0.617	1.01	(0.37-2.74)	0.979
Door-to-door market research	**3.91**	**(1.08-14.17)**	**0.038**	1.49	(0.53-4.21)	0.449
Telephone market research	0.32	(0.08-1.20)	0.091	0.44	(0.16-1.25)	0.123
Canvassing door-to-door	0.67	(0.28-1.58)	0.354	0.59	(0.30-1.18)	0.136

Results

	Terminated / Employer Initiated (N=45) vs. Active Interviewers (N=106)			Terminated / Employee Initiated (N=85) vs. Active Interviewers (N=106)		
	AOR	**95% CI**	***p*-value**	**AOR**	**95% CI**	***p*-value**
Access to equipment that would allow you to record a short video interview						
Smart phone	0.56	(0.17-1.82)	0.334	0.56	(0.22-1.42)	0.219
Laptop w/camera	1.77	(0.60-5.21)	0.298	1.30	(0.55-3.05)	0.550
Desktop w/camera	1.02	(0.42-2.45)	0.970	0.48	(0.23-1.02)	0.057
Borrow equipment	0.43	(0.08-2.29)	0.323	0.94	(0.25-3.61)	0.929
Library or other location	**5.00**	**(1.07-23.35)**	**0.041**	**3.88**	**(1.04-14.51)**	**0.044**

Hiring for Attitude

Hiring for Attitude

- One potential untapped source of information about personalities is the use of pronouns, prepositions, conjunctions and other 'connection' words

- Evidence that these can be predictive of personality dispositions:
  - Analytical thinking
  - Authentic / honesty
  - Clout / confidence / leadership
  - Positive / negative tone

THE SECRET LIFE OF PRONOUNS

WHAT OUR WORDS SAY ABOUT US

JAMES W. PENNEBAKER
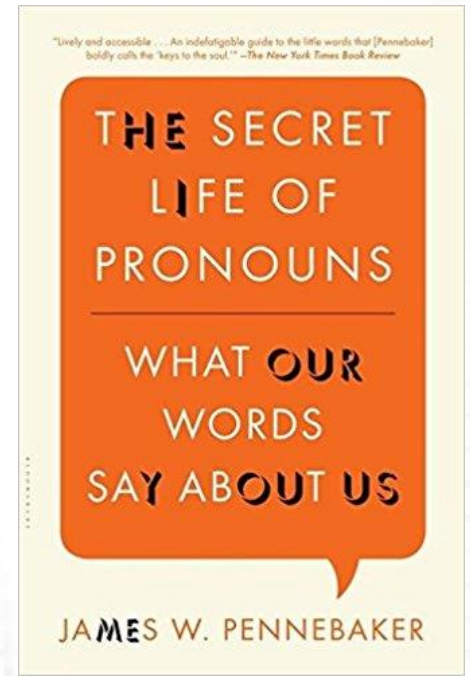
Basic Hypotheses: A Starting Point

- Analytical thinking (words that suggest formal, logical, and hierarchical thinking patterns; Higher score is more analytical) – **associated with higher QC scores**

- Honesty (expressions relating to the personal, humble, and vulnerable; Higher score is more honest) – *correlated with hired if interviewed, less likely to attrite*

- Confidence (words displaying comparative social status, confidence, or leadership; Higher score shows higher confidence) – **correlated with lower HPI**

- Positive (future tense, outgoing words; The higher the number, the more positive the tone) – *correlated with qualified and hired*, **as well as HPI, *less likely to attrite***

A First Take – Optional Text

- We are limited in the availability of codable narratives

    – Screener question: "Briefly describe your experience with [survey research activities]"

    – Screener question: "Please tell us about any other skills/experience that make you qualified for this position"

Number of Words in Open-Ended Screener Questions
N=200 Hired Applicants 2016-2017
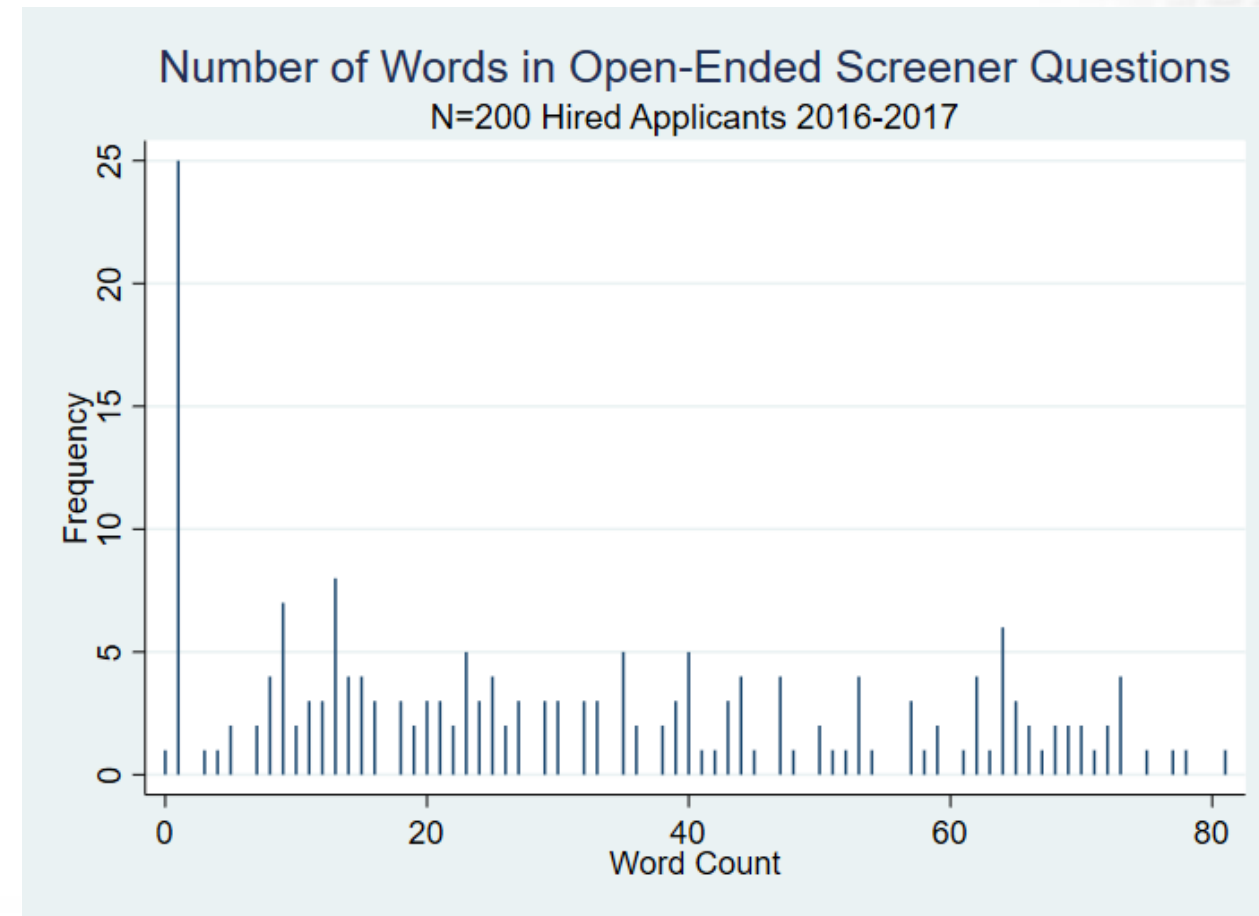
"Attitude" and Attrition – Mid-Study View

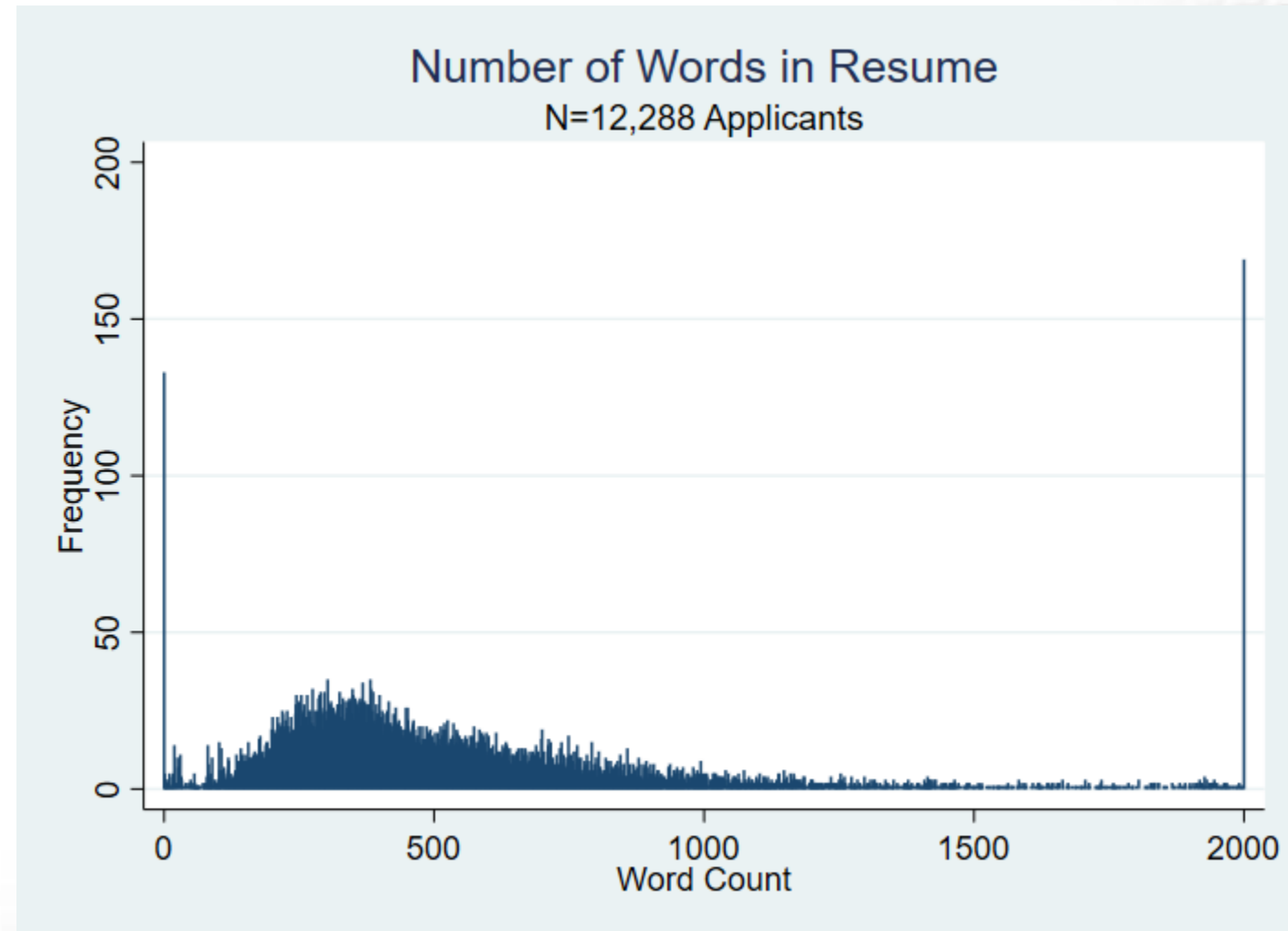| | Multinomial Logistic Model | | | | | Logistic Regression Model | |
| | Terminated / Employer Initiated (N=45) vs. Active Interviewers (N=106) | | Terminated / Employee Initiated (N=85) vs. Active Interviewers (N=106) | | | Terminated / All (N=130) vs. Active Interviewers (N=106) | |
	AOR	**P-value**	**AOR**	**P-value**		**AOR**	**P-value**
Analytic	1.01	0.438	1.00	0.769		1.01	0.646
Honesty	**0.98**	**0.046***	1.00	0.820		1.00	0.465
Confidence	1.00	0.963	1.00	0.789		1.00	0.862
Positive	**0.98**	**0.002****	**0.99**	**0.043***		**0.99**	**0.005****

A Second Look – Resume Review

- Advantage – far more data, more text for more applicants

- Disadvantage – formally structured documents that minimize use of pronouns and prepositions

Number of Words in Resume
N=12,288 Applicants

Resume "Attitude" and Outcome – No Results

	Multinomial Logistic Models Hired (N=619) vs. Qualified Not Hired (N=940)			Bivariate Regression Models % Major Error Rate (N=104)		HPI (N=84)	
	AOR	**P-value**		**t**	**P>|t|**	**t**	**P>|t|**
Analytic	0.997	0.463		-0.25	0.799	-0.89	0.375
Honesty	0.998	0.435		0.02	0.982	1.83	0.070
Confidence	0.997	0.470		0.44	0.659	-0.94	0.348
Positive	1.001	0.689		-1.48	0.143	1.32	0.192

Next Steps

- ## Hire Lag and Attrition
  - Does time between hire and data collection impact attrition rates?
- ## Evaluating productivity
  - Do some questions predict performance?
  - Does travel time predict attrition?
- ## Open-ended text
  - Potentially promising, but need a better, more consistent source
  - In conjunction with effort to hire for motivation, ask an open-ended question for why the applicant would be suited for this position

Follow-up from Last Presentation

- Successfully loaded over 17,000 resumes, linked to over 15,000 completed applications for over 12,000 unique individual applicants (many applied multiple times)
- Generated a series of keyword and phrase-driven predictive categories for qualified and PIPPA performance scores
- Overall model fit continues to be low
  - Surprisingly, *language* words (English, Spanish, language, write) no longer predictive
  - Interviewing experience (field, field interviewer, interview, survey, etc.) correlated with qualified status
  - Other survey organization experience (BLS, Census, NORC, RTI, etc.) correlated with qualified status