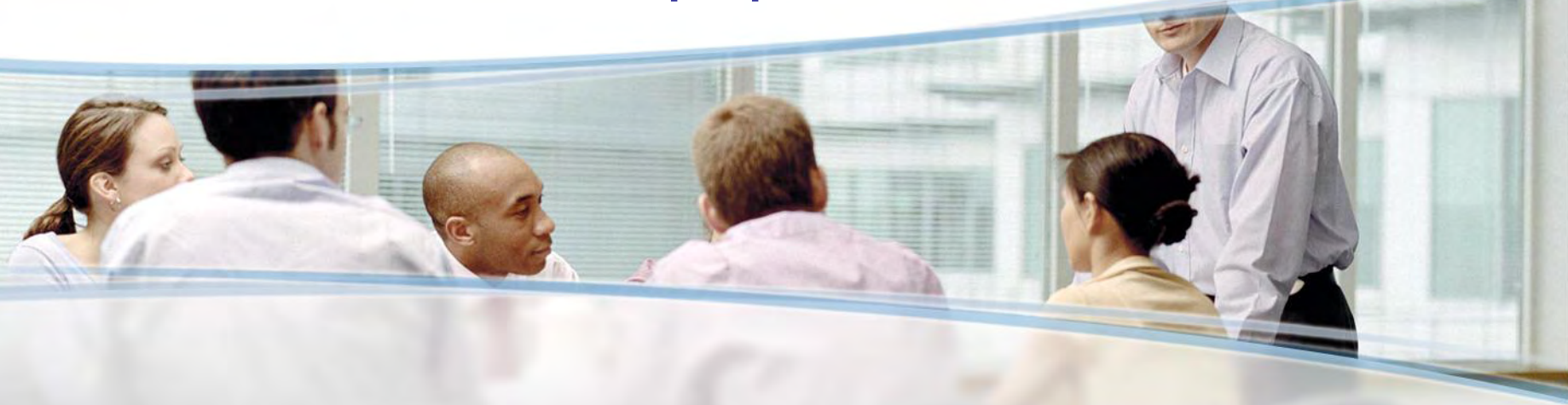


Non-Proctored Assessment: An Emerging Consensus?

Reid Klion, PhD, Chief Science Officer

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***pan* —A TALX Company**

We specialize in developing large-scale web-based human capital selection solutions for public sector and corporate clients

- Web-Based Test Delivery
- Assessment Process Tracking Systems and Integrations
- Network of 600 Proctored Testing Centers
- Human Capital Consulting Services



Goals of Presentation

- Motivations to Use Non-Proctored Assessment
- Risks Which Emerge Non-Proctored Assessment Considered
- Emerging Consensus on Models to Manage Risk



Why Non-Proctored Assessment?

- Increase Efficiency in Recruiting Process
- Decrease Cost
- Cycle Time
- Allocation of Staff Resources
 - How Should HR Best Invest its Resources?
 - Policy and Recruiting vs. Processing and Review
 - High Value vs. Lower Value Activities
- Focus Efforts on High Potential Candidates



Job Boards and Internet-Based Recruiting

- Driven by Technological Integration of HRIS
- Decreased Cost
- Faster Cycle Time
- Posting Broadcast to Large Audience
- Possibility of More Talented/Diverse/Larger Job Pool
- Centralized Program Management
- Typically Preferred by Both Employers and Candidates (~100K)

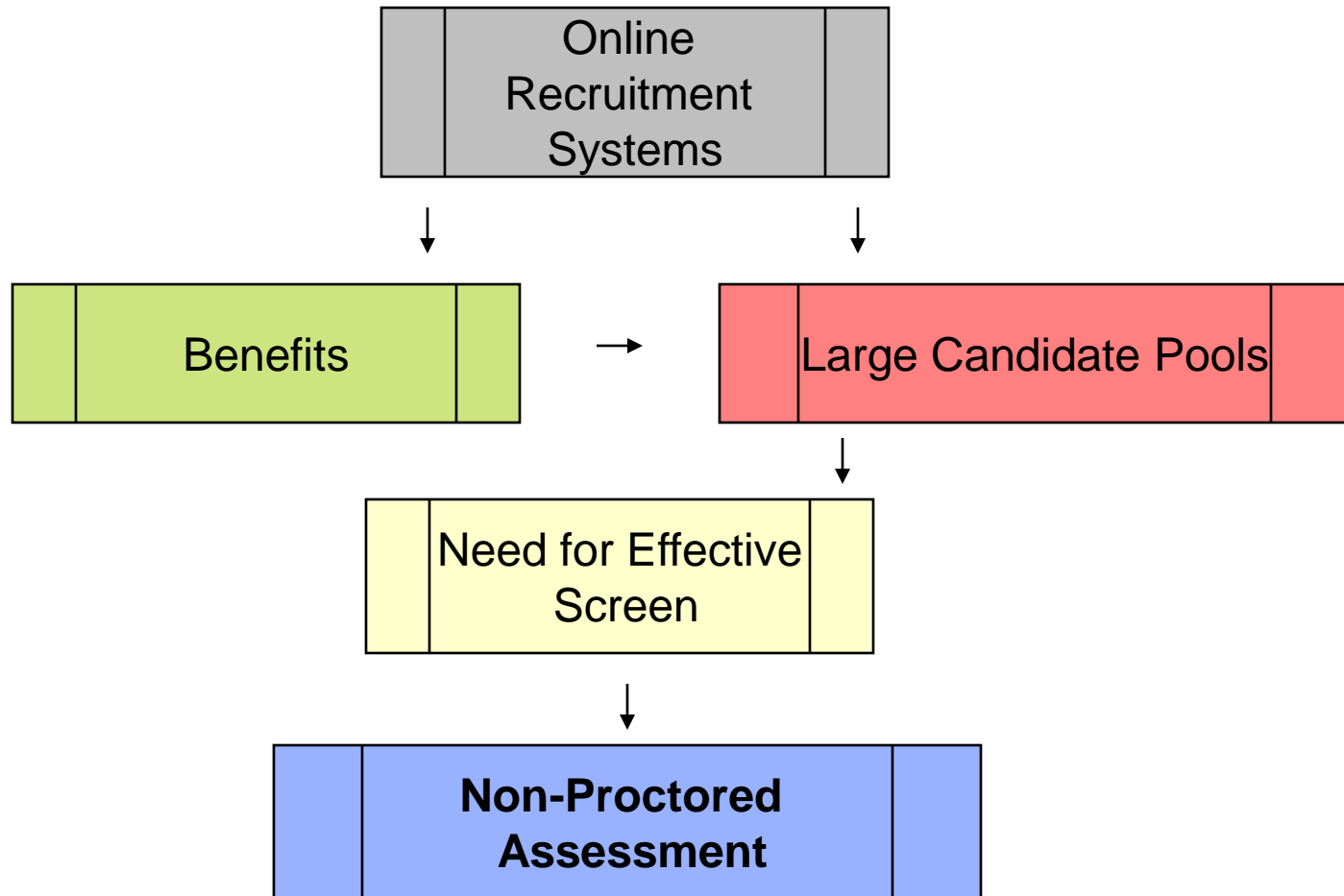


Challenges Posed by Internet Recruiting



Double-Edged Sword: Broad Availability of Online Recruiting Systems Can Result in Massive Applicant Pools

Story Line





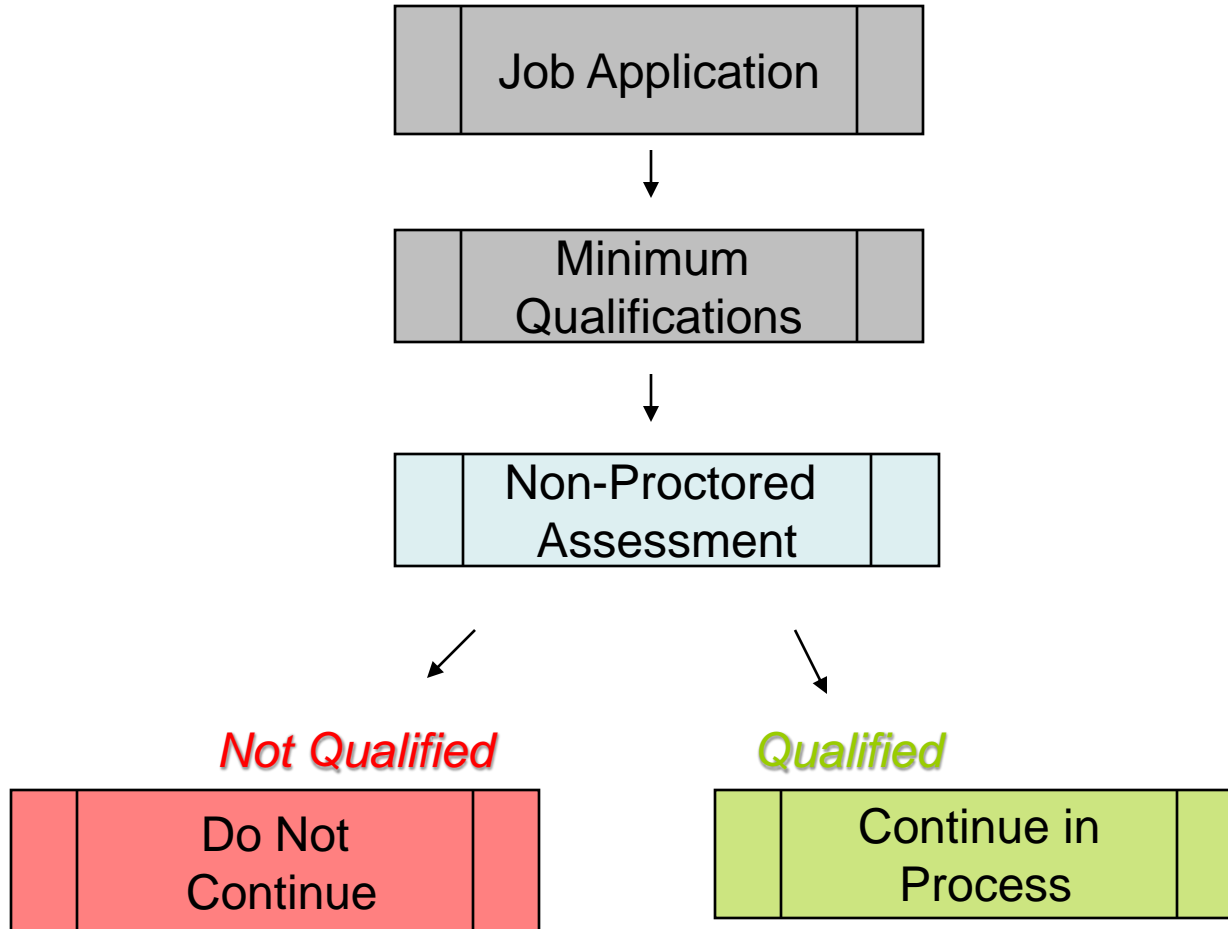
Solution: Non-Proctored Assessment

- “Traditional” Sorting Methods Not Wholly Effective/Efficient
- Cost and Process Efficiencies





Prototypic Process



Risks and Concerns

Who really took the test?



What's happening to my items?





Major Risks

Concern	Risk
Standardized Testing Conditions	<ul style="list-style-type: none">• Unfairly Disadvantage Candidates• Difficult to Provide Accommodations
Test Content Security	<ul style="list-style-type: none">• Compromise Validity of Items
Cheating and Candidate Identity	<ul style="list-style-type: none">• Unsure if Test Taken Under “Fair” Conditions• Unsure Who Actually Took Test

Concern #1: Managing Test Conditions





Control of Testing Conditions

- Potential for Non-Standardization
 - *Caveat: All Is Not Gold in the Paper-Pencil World*
- Technical Issues
- Environmental Issues
- **External Assistance (see under “Cheating”)**

Variable Testing Conditions

Tate and colleagues (2007): n= 534 Internet test takers

Interruptions: 46% (call, person, pet)

Believe Performance Impacted: 63%

Reported: 8%

Technical Issues: 32%

Believe Performance Impacted: 62%

Reported: 50%



Measures to Increase Standardization

- Use Stable and Reliable Technology
 - Screen Size Detection
 - Manage Timing Properly
- Candidate Management
 - Educate About Assessment
 - Give Specific Instructions
 - Use Appropriate Items and Test Length
 - Appeals and Accommodation Process



Concern #2: Test Content Security





Threats to Item Security

Items are:

- Broadly Distributed
- Unknown Persons
- Unknown Intent
- Non-Controlled Circumstances

General Principle: The More Frequently an Item is Used, the Greater The Probability of Disclosure



Measures to Increase Item Security

- Item Usage Management
- Consider Types of Items Used
- Web-Based Technology
- Candidate Management/Education



Item Management

- Not Unique to Non-Proctored Testing
- Randomization
- Rotating Item Pools
- Item Banking Systems
- Ongoing Item Creation/Cloning
- Computer Adaptive Testing
- Consider Measurement Goals of Assessment
 - Maximal Performance vs. Qualification



Consider Types of Items Used

- Cognitive vs. Non-Cognitive Items
 - Objective vs. Non-Objective Item Scoring
 - Benefits/Drawbacks of Cognitive Items
 - Risk of Exposure
- Avoid Novel and Salient Item Content
- Innovative Item Types
 - Performance Based Items
 - **“Foster” Items**



Who Won the Super Bowl in 2008?

Was it the Pittsburgh Steelers
Was it the New York Giants
Was it the Dallas Cowboys
Was it the San Francisco 49ers
Was it the New England Patriots
Was it the Indianapolis Colts
Was it the Baltimore Ravens
Was it the Denver Broncos
Was it the Chicago Bears
Was it the Oakland Raiders
Was it the Minnesota Vikings
Was it the Green Bay Packers
Was it the Carolina Panthers
Was it the Tampa Bay Buccaneers
Was it the Houston Texans
Was it the Arizona Cardinals
Was it the Atlanta Falcons
Was it the Seattle Seahawks
Was it the San Diego Chargers
Was it the Cleveland Browns
Was it the Detroit Lions
Was it the New Orleans Saints
Was it the Washington Redskins

Click On the Correct Answer When It Appears

Measures Based on Technology

- “Locked-Down” Browsers
- Kiosk Mode
- Prevent Printing





Candidate Management

- Candidate Education
- Candidate Affidavits/NDAs
- Discuss Verification of Biodata
- Discuss Verification Testing

Concern: “Unfair”: Testing Taking – “Te Cheating and Candidate Identity Verification



“Unfair” Test Taking **Test Taking**

- Cheating/Unauthorized Assistance
 - Prior Knowledge of Questions
 - Looking Up Answers
 - Calculator
- Proxy Test Taker



On The Complexities of Cheating...e s o f

- **Just Because Someone Cheats, Doesn't Mean That It Helps**
- Cheating May (or May Not) Impact on Screening Classification
- Unsure of Prevalence of Cheating

There Is Nothing New Under the Sun

- Tales of Cheating in Chinese Civil Service System
 - Han Dynasty (206 BCE-220)
 - Tang Yin (1470-1523)





Prevalence of Cheating

- 50- 75% of HS and University Students Admit to Cheating at Least Once During Careers
- Cubiks Survey: 11% Admit to Cheating on Non-Proctored Test
- Beatty, Fallon & Shepherd (2002): Cognitive assessment for IT training. High scorers re-tested and 6/75 had significantly lower scores



Other Indices of “Dishonesty” of “Dishonesty”

- Cubiks Study: ~12% Respondents Admit to Exaggerating on Skills Inventory
- Levashina & Campion (2008): >90% of Students Admit to Exaggerating Qualifications in Interview
 - Follow-up Questioning **Increased** Exaggeration



Some Findings on Non-Proctored Testing

Many Studies Do Not Find Differential Results

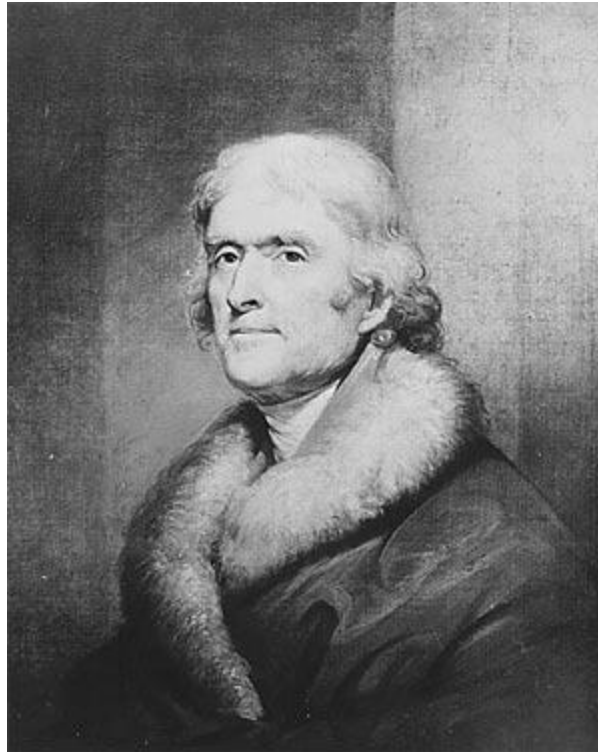
- Fritz Drasgow on Cognitive Tests
- Recent PreVisor Study
- Greater Elevation on Non-Proctored Personality Assessments
- No Significant Impact on Biodata



Measures to Manage Cheating/Identity Verification...c a t i o n ...

- Increase Monitoring
- Social Engineering
 - Legal Attestations
 - Threat of Follow-Up Testing
- Verification Process
 - Intra-Session Verification
 - Follow-up Verification Testing

Increase Monitoring



The price of freedom is eternal vigilance.

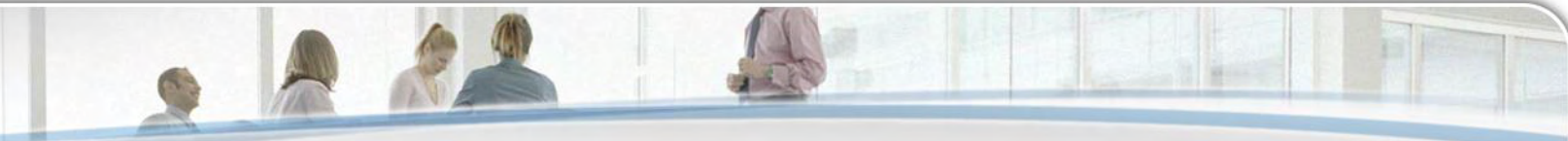
SecureExam





Monitoring of Test Performance

- Regular Part of Any Program
- Ongoing Psychometric Analysis
- Item Trends
- Evidence of Obvious Compromise



Social Engineering

- Honor Codes
- Affidavits
- Threat of Verification

Low Cost/Unclear Benefit



Intra-Session Identity Verification

- Keystroke Rhythm Verification
- Knowledge-Based Authentication

Useful for Detection of Proxy Test Taker but Less
So for Detection of Assistance



Verification Models

- Difference Score
- Dan Segall
 - IRT-Based Model
- SHL Verify Series of Ability Tests
 - **Commercial Test with “Built-in” Verification Test**

Balancing the Benefits and Risks of Non-Proctored Assessment



Organizational Decisions Need to Be Based Upon Informed Consent

Where You Stand Is Where You Sit



Different Process Owners Value Different Things



Some Means to Manage Risk

- Candidate Management and Education
- Non-Cognitive > Cognitive Items
- Content Protection
 - Item Exposure Measures
 - Continual Process of Item Creation
 - Consider CAT and Goal of Assessment Program
- Do Not Use as Only Criterion
- Consider Intra-Session Verification
- Verification of Results



Considerations

- Nature of Testing Program
- Philosophy and Image of Organization
- Analysis of Risks to Benefit Ratio

Questions?

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