Non-Proctored Assessment: An Emerging Consensus?

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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

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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
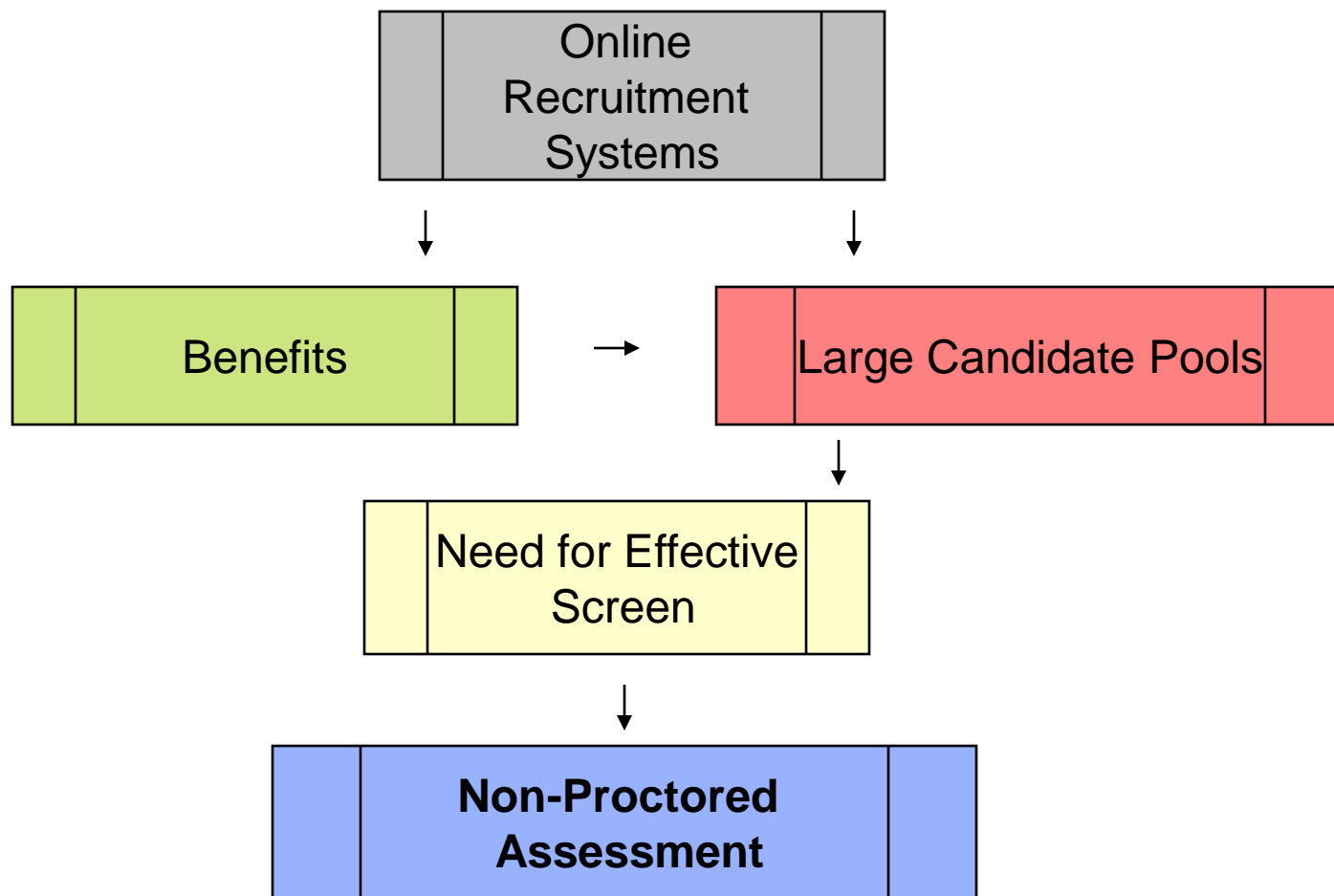
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Job Boards and Internet-Based Recruiting

- 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*

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Story Line

```
                    ┌──────────────────┐
                    │ Online           │
                    │ Recruitment      │
                    │ Systems          │
                    └──────────────────┘
                       │            │
                       ▼            ▼
   ┌──────────────┐         ┌──────────────────────┐
   │ Benefits     │  ──▶    │ Large Candidate Pools│
   └──────────────┘         └──────────────────────┘
                                     │
                                     ▼
                    ┌──────────────────┐
                    │ Need for Effective│
                    │ Screen           │
                    └──────────────────┘
                             │
                             ▼
                    ┌──────────────────┐
                    │ Non-Proctored    │
                    │ Assessment       │
                    └──────────────────┘
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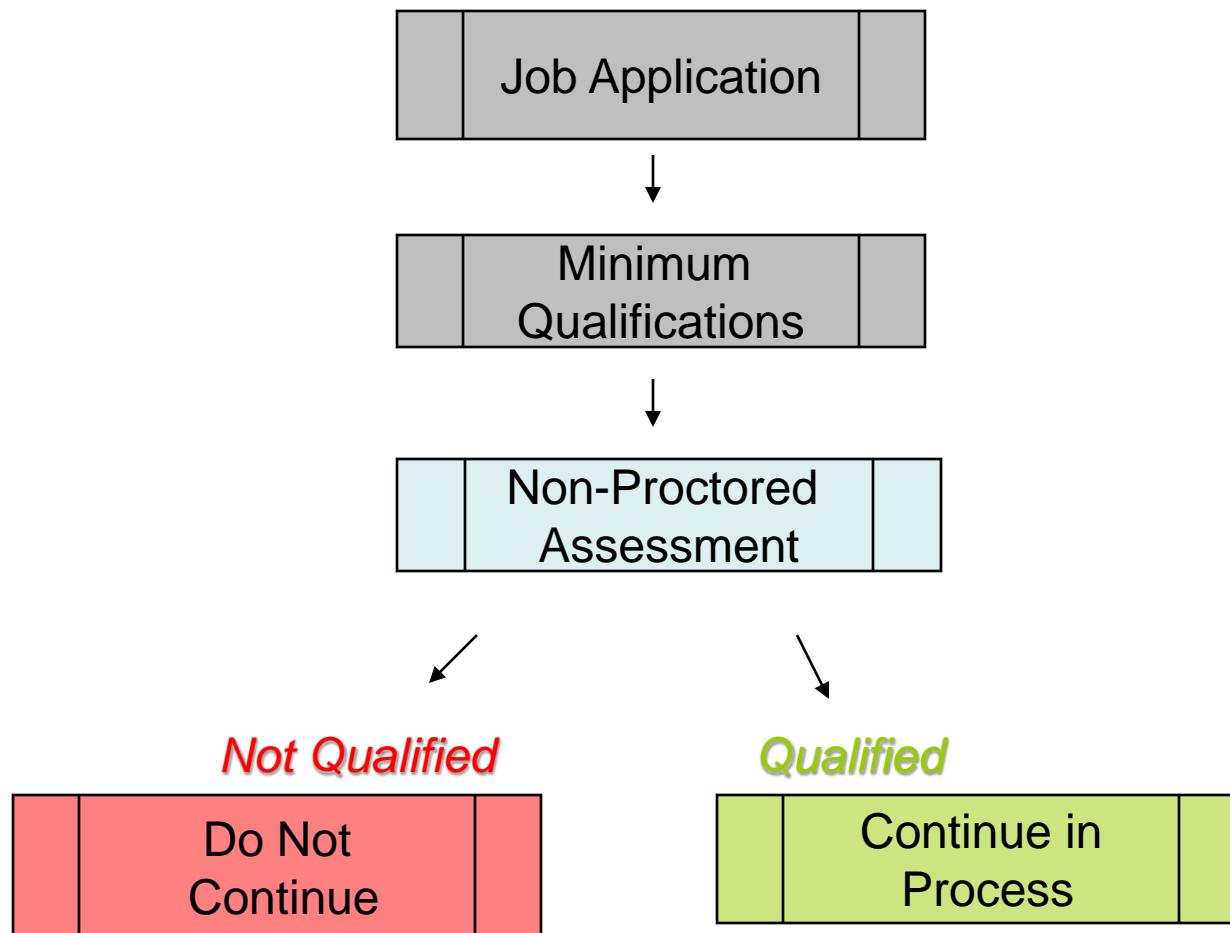
Solution: Non-Proctored Assessment

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

Prototypic Process

```
┌─────────────────────────┐
│      Job Application     │
└─────────────────────────┘
              │
              ▼
┌─────────────────────────┐
│         Minimum          │
│      Qualifications      │
└─────────────────────────┘
              │
              ▼
┌─────────────────────────┐
│      Non-Proctored       │
│       Assessment         │
└─────────────────────────┘
       ↙             ↘
```

Not Qualified   *Qualified*

| Do Not Continue | | Continue in Process |

Risks and Concerns

Major Risks

Concern	Risk
Standardized Testing Conditions	• Unfairly Disadvantage Candidates • Difficult to Provide Accommodations
Test Content Security	• Compromise Validity of Items
Cheating and Candidate Identity	• **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

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Who Won the Super Bowl in 2008?

New England Patriots
Washington Redskins
Oakland Raiders
Build Your Own Slides

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 #3: "Unfair" Testing Taking — Cheating and Candidate Identity Verification

"Unfair" Test Taking

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

- Proxy Test Taker

On The Complexities of Cheating….

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

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There Is Nothing New Under the Sun

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

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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

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Other Indices 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…

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

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Increase Monitoring
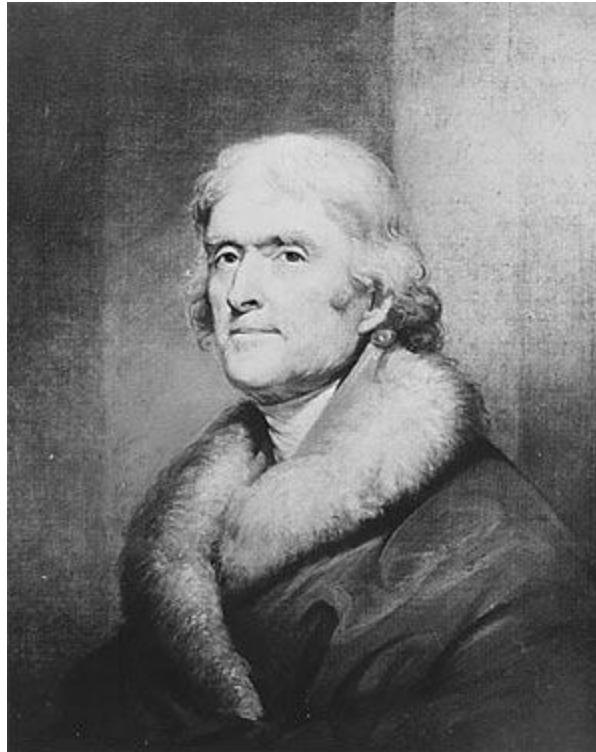
The price of freedom is eternal vigilance.

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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

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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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