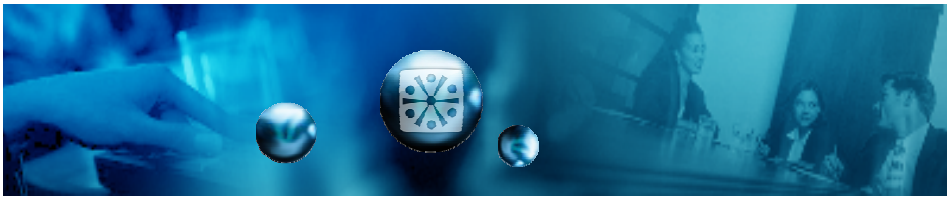
Situational Assessments by Prophecy

The Hard Science of Testing Soft Skills



Prophecy℠

Predicting Employee Success

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Presentation Overview

- Abstract
- Challenge
- Solution
- Study
- Results
- Implications
- Recommendations

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Abstract

- A holistic hiring process for entry-level and lateral entry nurses should, at a minimum, be balanced by measuring both soft ***and*** hard skills. Nurses who possess high levels of key soft skills such as interpersonal, teamwork, and stress tolerance contribute to a healthy and productive patient care environment. Nurses who do ***not*** possess these skills can lead to a medical facility that lacks the cooperative flow between various departments and may impact patient satisfaction.

- The challenge HR managers face in creating the "ideal" hiring process is that soft skills are difficult to measure with traditional testing. Readily faked in an interview and not easily measured on a written test, this evasive skill set remains perhaps the most important but yet most untapped gold mine in the host of skills required for quality nurses. The inherent challenges with measuring soft skills sometimes leaves hard skills over measured and soft skills totally absent from the screening process.

- Our cooperative study with St. Francis Medical Center has resulted in the successful development of an effective soft skills test in the form of a ***high-quality video based situational judgment test***. Our study resulted in scientific evidence that soft skills can in fact be effectively measured in the nurse hiring process using a set of 25 short (web delivered) vignettes that present nurse applicants with job related scenarios that measure how they handle complex interpersonal situations. Our statistical analyses revealed several significant correlations that demonstrate a clear relationship exists between test scores and job performance.

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Challenge

- Streamlining the hiring process.
- Selecting the nurses that best “fit” the organizational culture of quality and safety.
- Measuring the ***widest variety*** of **key skills** in the ***least amount*** of time.
- Hiring qualified nurses that have the most well-rounded skill sets—including ***BOTH*** “hard” and “soft” skills.

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Solution

- Develop and use statistically proven hiring tools
- Use “refined” and calibrated tools (i.e., tests that have been filtered down to only the most powerful components)
- Web delivered and instant results
- Tap into the widest range of the key skill sets
- Video-based “Situational Judgment Test” (SJTs) was the testing format chosen

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What are Situational Judgment Tests?

- An SJT includes test questions that **pose hypothetical situations** to applicants in a job-related context and then provide several plausible alternatives on the best way to handle the situation
- Most qualified applicants can discern the "**most** effective" and the "**least** effective" alternatives
- SJTs can be developed/administered in two formats:
  - *Written*
  - *Video*

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Sample SJT Question: Written Format

The "Poor Assignment" Scenario

(would be provided in writing or verbally during interview)

While working as a nurse in the ICU, you observe a situation at the Nurse's Station where Erica, a nurse from the M/S Orthopedic unit, reports for duty as a floating nurse to the charge nurse. After Erica introduces herself to the charge nurse, the charge nurse assigns Erica to Mr. Woods, a patient that you believe is not an appropriate assignment for Erica because he just had a craniotomy. You believe that Mr. Woods is a complex patient who is outside of Erica's scope of expertise. After privately discussing your apprehension with the charge nurse, she completely disregards your concern and states, "I'm in charge and I make the assignments. If you want to make them, you be in charge!"

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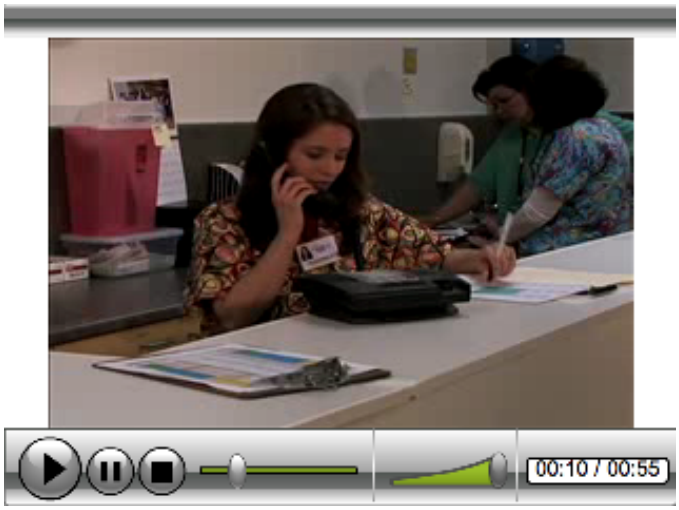
Sample VSJT Question

The "Poor Assignment" Scenario



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Sample VSJT Question

Situation Response Alternatives:

A - Notify the manager/supervisor on duty
B - Advise Erica to refuse the assignment
C - Assist Erica with the care of the patient
D - Accept Brenda's decision since she is the charge nurse

☑ **What is the most effective way to handle this situation?**
☑ **What is the least effective way to handle this situation?**

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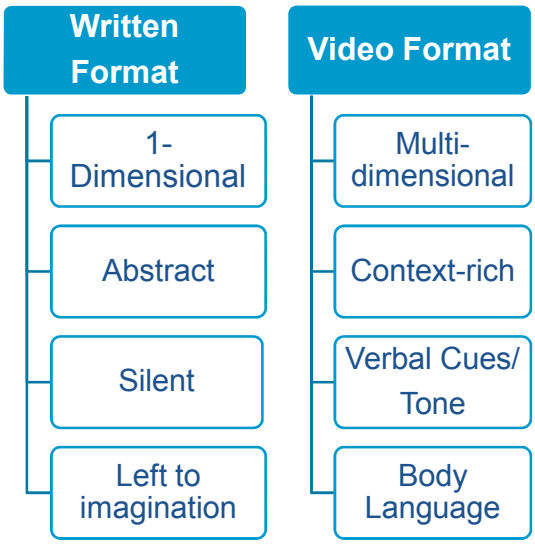
Written vs. VSJTs



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VSJTs Compared to Interviews

- **Interviews are great, however, they typically…**
  - Have low to medium predictive validity
  - Include very few raters, *who are often untrained!*
  - Measure only a few key skills/abilities, and frequently do not measure these very well…
- **VSJTs on the other hand…**
  - Have ***medium-high predictive*** validity
  - Are more likely to be considered "fair" by job applicants
  - Include a number of external raters involved in the keying process
  - Measure key skills/abilities in a robust manner
  - Because they are based on ***"consensus scoring,"*** they are more objective than interviews

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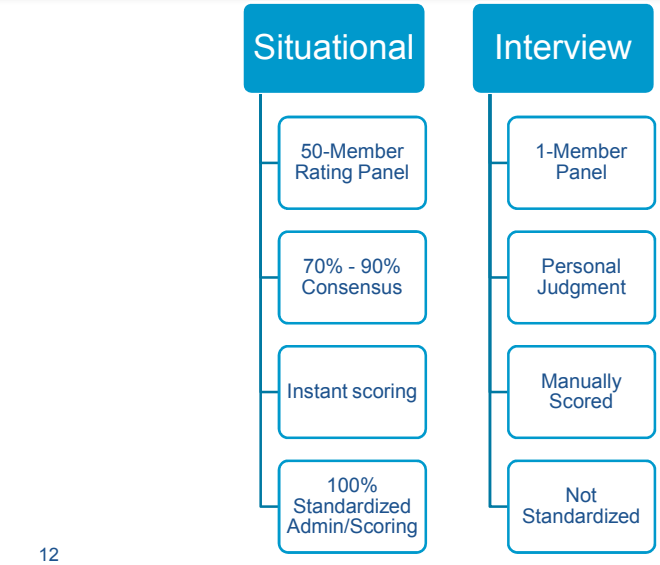
Situational Assessments *vs.* Interviews



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What About Adverse Impact?

Three Ways to Reduce Adverse Impact…

1. Measure ***different*** skills/abilities, for example:
   - Personality factors
   - Problem-solving skills
   - Interpersonal abilities
2. Measure the ***same*** skills/abilities using a ***different format*** (e.g., video vs. written)
3. ***Use*** the test scores in a way that minimizes adverse impact (e.g., banding vs. ranking)

VSJTs Do All Three!

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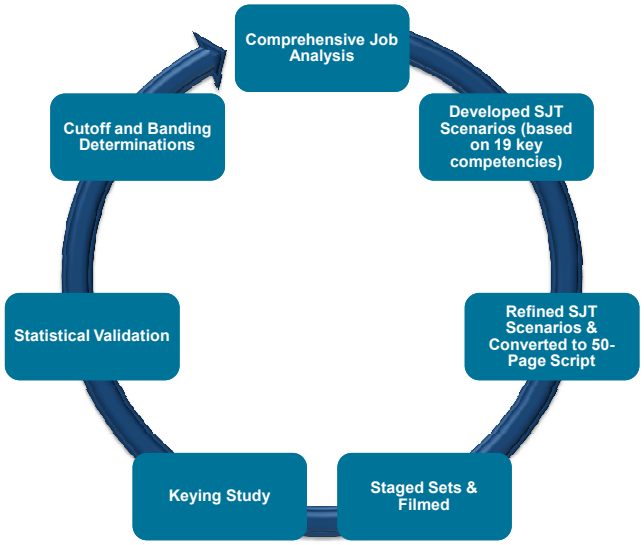
Study Overview: 7-Step Development Plan



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Step 1: Comprehensive Job Analysis

- Job analysis of registered nurses was conducted at four healthcare facilities around the nation
- 169 critical knowledge's, skills, abilities, and personal characteristics (competencies) were rated by Nursing Job Experts on elements such as:
  - *Frequency*
  - *Importance*
  - *Performance Differentiation (Best Clinicians)*
  - *Level Needed for Success*
- 19 key competencies were created and linked to the job analysis findings by a team of Nurse Managers
- Key competencies represented ***"day one"*** requirements, ***not geographically limited***, and differentiated ***"best clinicians"***

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Step 1-1: Final Competencies Selected

Final Competencies Selected for Test Development	
Honest & Conscientious	Problem Solving
Verbal Communication	Patient Care (calm & competent)
Administering Medications	Report Transitioning
Assertiveness	Continuous Observation
Change Adaptation	Developing Patient Relationships
Conflict Resolution	Patient Care Plan Management
Accountability	Patient Customer Service
Critical Thinking	New Technique Application
Multi-tasking	Delegating/Managing Patient Care
Following Clinician Instructions	*Overall Performance (Average)*

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Steps 2 - 4: Content Development

- Critical Incident/Scenario Development Workshop with 12 Job Experts (i.e., incumbent registered nurses and supervisory-registered nurses).
- Developed initial scenarios based around actions that would *differentiate* between qualified and unqualified nursing employees and/or actions would have a potentially **negative outcome** if performed incorrectly.
- All scenarios were designed to measure an applicant's ability to appropriately respond to situations that nurses might encounter starting the **first day they would be performing the job**.

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Steps 2 – 4 (Content Development) cont

- Step 2: Developed SJT Scenarios (based on 19 key competencies)
- Step 3: Refined SJT Scenarios & Converted to 50-Page Script
- Step 4: Staged Sets & Filming



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Step 5: The Keying Process

- Job Expert panel of **50 Senior Nurses** participated in keying process for choosing appropriate responses
- Rated each of the four alternatives as the "Most Appropriate" to "Least Appropriate"
- Multi-point keying process was developed by awarding the most points to applicants who agree with "high consensus" (≥ 90%) rater agreement items, fewer points to "moderate agreement (≥ 70%), and even fewer points to "majority agreement" (≥ 50%) items.
- Applicants who select a "high consensus" "best "choice as the "least effective" choice are penalized (scoring routine maximizes applicant agreement with keying Job Expert agreement)
- Keying Job Experts had exceptionally high levels of agreement (lower-bound estimate exceeded $r = .724$, upper bound is $r > .98$).

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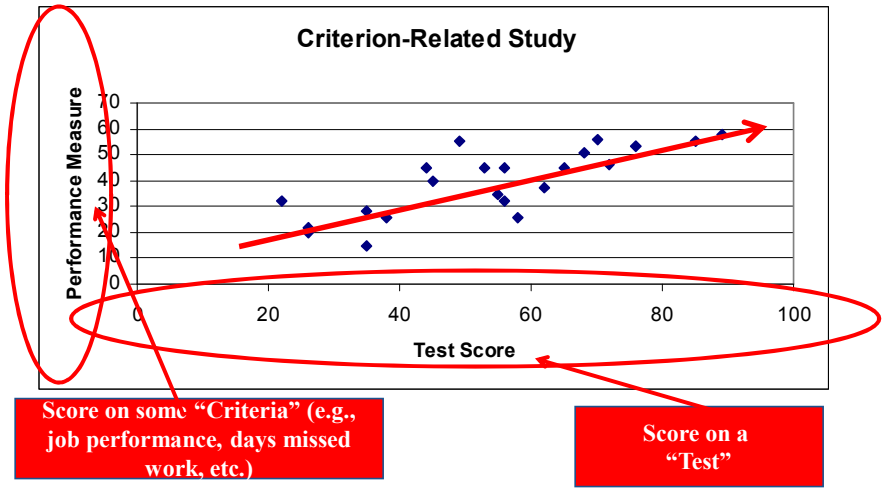
Step 6: Statistical Validation

- 27 Nurse Supervisors provided 827 performance ratings on entire nursing staff
- 347 Nurses completed test (191 matched data pairs)
- Uncorrected correlations between test scores and competency ratings ranged between .05 and .26, with 15 of the 19 correlations predicting significantly at the p < .05 level
- Corrected (for rater unreliability) correlations ranged from .08 to .33
- ***High level*** of "construct validity" based on Performance Dimension correlations

Step 6: Statistical Validation, cont



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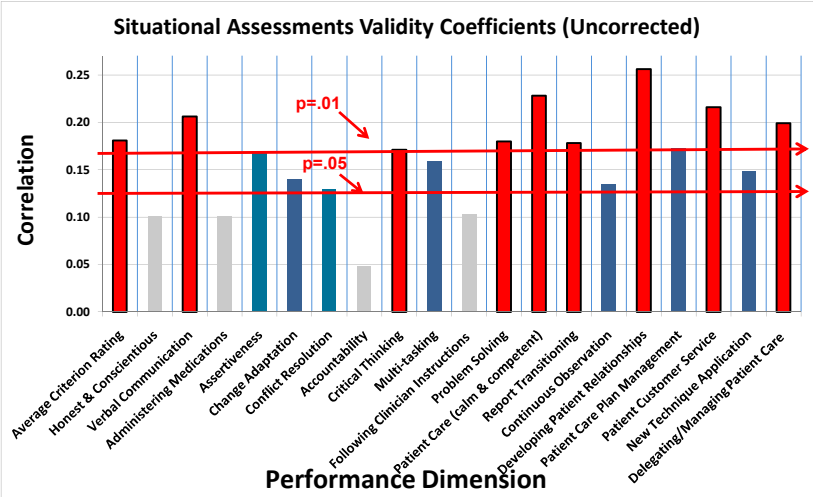
Step 6: Statistical Validation, cont



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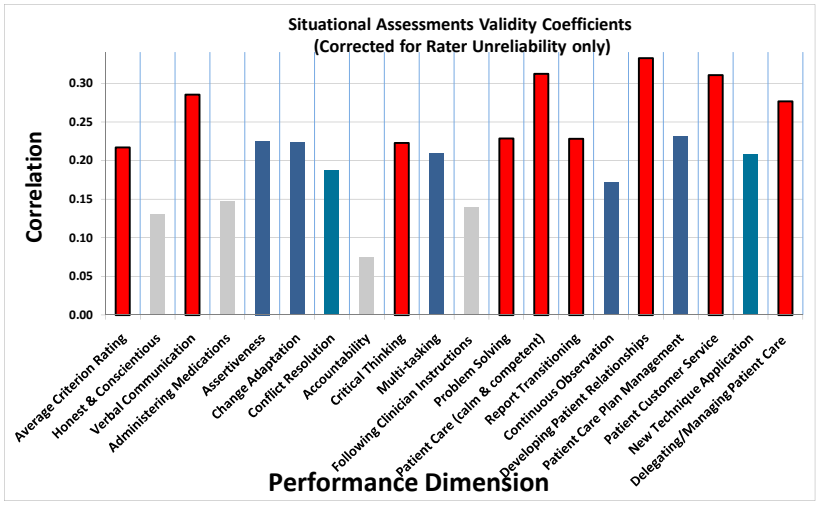
Step 6: Statistical Validation, cont



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Step 6: Statistical Validation, cont

Performance Dimensions Predicted by Situational Assessments	
Honest & Conscientious	Problem Solving
Verbal Communication	Patient Care (calm & competent)
Administering Medications	Report Transitioning
Assertiveness	Continuous Observation
Change Adaptation	Developing Patient Relationships
Conflict Resolution	Patient Care Plan Management
Accountability	Patient Customer Service
Critical Thinking	New Technique Application
Multi-tasking	Delegating/Managing Patient Care
Following Clinician Instructions	Overall Performance (Average)

Yellow = Exceptionally High Correlation ($p < .01$), Orange = Significant Correlation ($p < .05$), Grey = Not Significant Correlation

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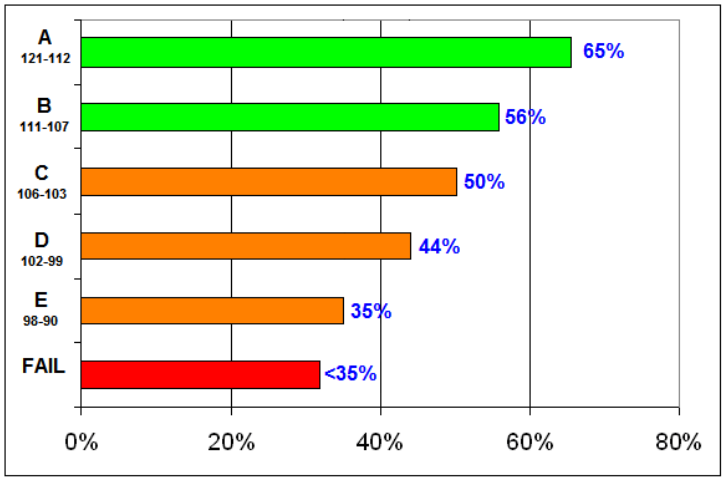
Step 7: Cutoff and Banding Determinations

Job Performance Expectations at Various Score Levels



Interpretation: "Band A" applicants have a > 65% likelihood of exceeding performance expectation, assuming that 50% of the applicants "show up" qualified

Step 7: Cutoff and Banding Determinations, cont

Band	Cumulative percentage of nurses likely to score in band
A	20%
B	45%
C	67%
D	83%
E	95%
FAIL	< 5%

Cumulative percentage of nurses in the validation sample who scored in a given band. For example, 20% of the nurses in the validation sample (*n* = 100) scored in "Band A."

Implications & Recommendations

Monetary Returns for Using Situational Assessments		
Factors	**Inputs**	**Notes**
Test Validity (Operational)	0.26	Input the operational validity of the test, which is typically 30% higher than the "raw, observed" validity coefficient. For example, if test has a .30 correlation, input .39 as an estimate of the operational validity.
Standard Deviation of Job Performance in Dollars (per Year)	$10,000	Input the SD of job performance in dollar values. For example, if an "average" nurse is "worth" $70,000 and 68% of nurses are worth between $60,000 and $80,000, a SD of $10,000 should be used.
Average Test Score of Those Selected (%)	70%	Indicate the average test score (as a percentage) of the selected (i.e., hired) group. Use values **higher** than 50%.
Cost of Testing Per Job Applicant	$125	Cost of testing per applicant.
Number of Applicants Tested	350	Number of applicants tested.
Number of Applicants Selected	200	Implies the number of applicants selected (based on Average Test Score, above).
$ Gain Per Worker Hired	$1,166	This is the benefit (expressed in dollar values) for each hire by using the test.
Value of Testing Program	$233,133	This is the total benefit for the testing program.

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Implications & Recommendations, cont

- Streamlining hiring process
- Produces a more qualified, balanced nursing workforce
- Video-based SJTs can add a valid mix of “soft skills” into the nurse hiring process
- **Assists facility compliance with Joint Commission Standard LD.03.01.01: “Disruptive behavior that intimidates others and affects morale or staff turnover can be harmful to patient care. Leaders are encouraged to “regularly evaluate the culture of safety and quality using valid and reliable tools.”**

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