E4 Bioscience Employment Selection Methods Overview

Cannabis analytical laboratories face a particularly difficult set of challenges when it comes to hiring and retaining top talent. The cannabis laboratory industry is highly specialized and has a limited pool of qualified candidates. Additionally, the pressure to keep pace with rapidly changing regulations, advancing technology, decreasing reimbursement, and fierce competition means that finding and retaining the right employees is mission critical. Unfortunately, many pre-hire employee selection methods (ESMs) used by cannabis laboratory hiring managers are much less effective than they believe and directly contribute to low productivity and morale, high turnover, loss of institutional knowledge, and reduced financial performance within the first year[1]. To help all analytical laboratories improve their hiring success rate, E4 Bioscience uses validated, proprietary, quantitative ESMs that quantitatively measure job eligibility, job suitability, personal traits, to predict job success including:

- Quantitative resume scoring for job eligibility.
- Quantitative trait assessment for job suitability.
- Quantitative paradoxical trait assessment to score emotional intelligence and work behaviors.
- Technical, laboratory specific interview questions that are recorded and benchmarked to other candidates,

Quantitative Testing

The hiring system uses an evidence-based, two-part online test that takes a candidate about 30 mins to complete[2]. It is typically used in the final stage of candidate vetting before a job offer is provided or an in-person interview requiring travel is scheduled.

Part 1: Eligibility & Suitability Testing:
The ability to test for future job performance is dependent upon correctly identifying the appropriate factors for the role. Assessing job eligibility through a resume alone represents a comparatively small portion of the critical factors to predict performance. When job suitability (behavioral competencies including work preferences, emotional intelligence, and personality) is also *quantitatively* measured, a high degree of accuracy is attained to predict individual performance in specific jobs. However, job suitability cannot be determined from a resume or CV and standard interviews are generally ineffective at revealing key factors. By combining eligibility and suitability test results using a validated mathematical

[1] FL Schmidt & JE Hunter "The Validity and Utility of Selection Methods in Personnel Psychology: Practical and Theoretical Implications of 85 Years of Research Findings" Psychological Bulletin (1998) Vol 124, No 2., 262-274
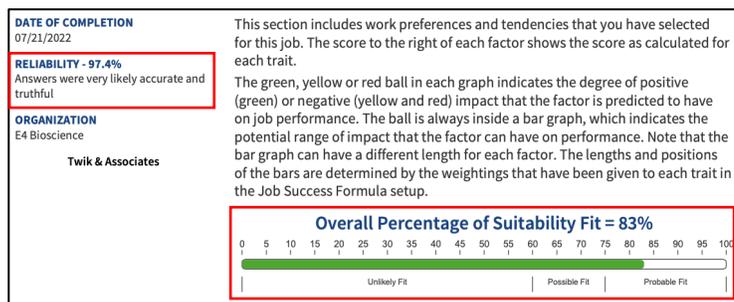
[2] Harrison D, "Harrison Assessments Technical Manual, Section I" (2015) http://www.agiledge.com/sites/default/files/booklets/HATechManualSection1.pdf. Last accessed Jan 3, 2023.

formula, a combined score indicating how closely the individual comes to having the ideal job behavior patterns is generated. The numerical result provides an easy comparison between multiple potential job candidates. The suitability score is determined by the traits that have been proven to relate to job success and therefore the process includes a comparison with others related to the most important overall criteria – job success.

Eligibility Factors – Resume Derived	Suitability Factors – Testing Derived
Educational Levels	Passion for the Job
Skills & Abilities	Interpersonal Skills
Specific Types of Experience	Work Preferences
Specific Amounts of Experience	Career Expectations
Educational Achievements	Behavioral Competencies
Education Subjects	Behavior Under Stress
Certifications	Interests

Job success scoring

By combining eligibility and suitability results using a mathematical formula, a score indicating how closely the individual comes to having the ideal job behavior patterns is generated. Because scoring follows a validated and systematic method, it creates consistency between interviewers by structuring the entire recruitment/assessment process to focus on key job-related factors, thereby allowing each interviewer to be more effective. Additionally, it provides a quantitative result allowing easy comparison between two or more potential job candidates.
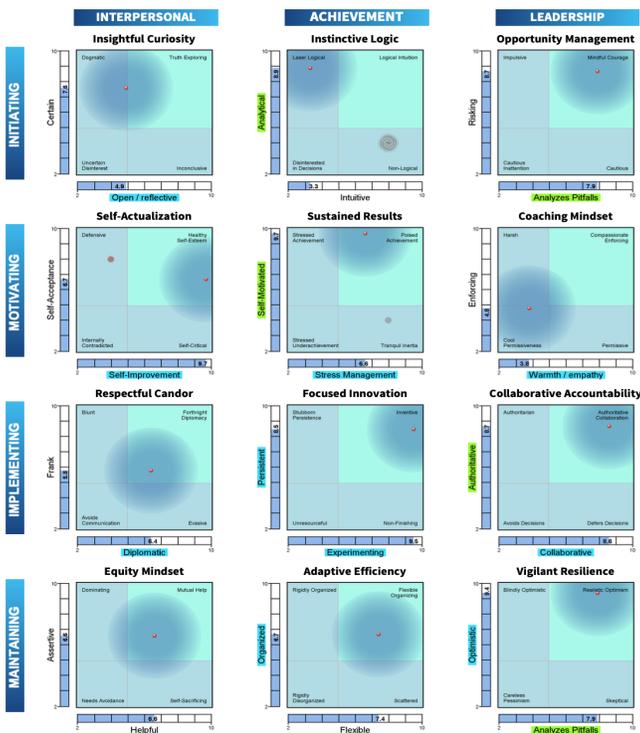

Figure 2: Job suitability analysis. When behavioral competencies including work preferences, emotional intelligence, and personality are quantitatively measured, a high degree of accuracy is attained to predict individual performance in specific jobs. Job suitability is specific to a position (i.e. lab technician and lab sales representative have different suitability needs) and cannot be determined from a resume or CV. Standard interviews are generally ineffective at revealing these key factors or retention rates would be higher.

Part 2: Paradox Testing:

This assessment helps to identify 24 "paradoxical" traits that can support or hinder a candidate's work behaviors. Paradoxical traits are pairs of traits which may appear at first glance to be contradictory and detract from job performance but are in fact complementary and synergistic. For example, if a candidate is strong in both Frankness and Diplomacy, both will be genuine strengths when communicating. However, if person only has evidence of one trait, the other will necessarily be related to a counter-productive behavior and be a potential hiring red flag. Continuing the example, a candidate with a strong Frankness and weak Diplomacy will have a strong tendency to be disruptively blunt. This can lead to hurt feelings, lack of trust, and employee turnover. Alternatively, a person with strong Diplomacy and weak Frankness will tend to be evasive when communicating about laboratory needs, leading to confusion, misalignment, and unresolved issues. If a person is weak in both Frankness and Diplomacy, it can be expected that they will avoid communication. Any candidate without balanced diplomacy and frankness is a risky hire for any leadership position and should be very carefully vetted before offering them a position.

Figure 3: Paradoxical trait analysis. These traits are pairs of traits which appear to be contradictory and derail job performance but are in fact complementary and synergistic and ideally balanced in the upper right quadrant.

Accountability (Delegation)

The tendency to accept decision-making authority and invite input from others
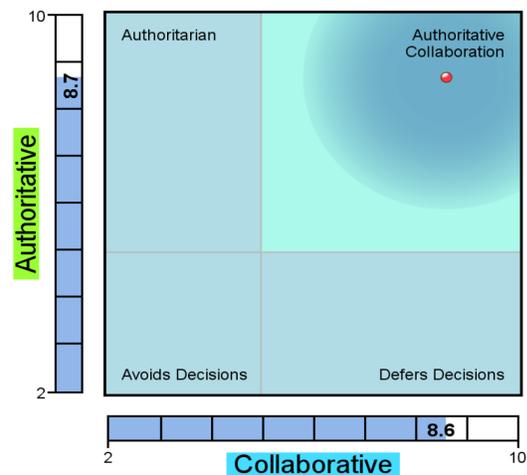
There are four possible combinations for this paradox:

Authoritative Collaboration: The tendency to take responsibility for decisions while at the same time allowing others to genuinely participate in the decision-making process (High Authoritative and High Collaborative)

Defers Decisions: The tendency to emphasize collaborative decision-making without sufficiently accepting responsibility for making decisions (Low Authoritative and High Collaborative)

Authoritarian: The tendency to make decisions independently without sufficiently collaborating with others (High Authoritative and Low Collaborative)

Avoids Decisions: The tendency to avoid decision-making authority as well as collaborative decisions-making (Low Authoritative and Low Collaborative)

Your tendencies for this paradox are:

You have a strong desire to have decision-making authority and are very willing to accept decision-making responsibility. You very much enjoy collaboration and are very willing to collaborate with others with regard to important decisions.

Your strong willingness to accept decision-making authority combined with your strong tendency to collaborate enables you to be very good at generating participation with decisions. By gaining the input of others, you tend to make better decisions. By encouraging participation from others, you increase their motivation and involvement which leads to the better implementation of decisions and strategies. Your preferred behavioral range (large blue area) is entirely in the Authoritative Collaboration quadrant, indicating that you pursue responsibility and yet encourage participation. This helps you to be more effective when delegating.

Employee Turnover & Performance

Turnover rates and actual job performance correlate closely with predictive job suitability testing. In a study with 341 employees, each employee completed a pre-hire assessment and overall performance was rated by supervisors scoring attendance, productivity, service quality, and safety at 6 months. Of the employees predicted to have probable success using pre-hire assessment testing, 91% were successful. *Of the employees predicted to fail using pre-hire testing, 75% were identified as poor performers or did not complete 6 months in the job.*

The financial and operational relevance of this data cannot be overstated to any company executive or hiring manager: 3 out of 4 pre-hire candidates *predicted* to fail in the future from poor performance or voluntary/involuntary termination, did!

n = 341 employees	Employee Turnover Rate (Under 6 Months)	Employee Turnover Rate (Projected Annually)
Best performers	2%	4%
Average to good performers	5%	10%
Poor performers	24%	48%

To learn more about the benefits of predictive pre-hire testing and other laboratory consulting services:

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