

REVELIAN



Game-Based Assessment for High- Stakes Personnel Selection

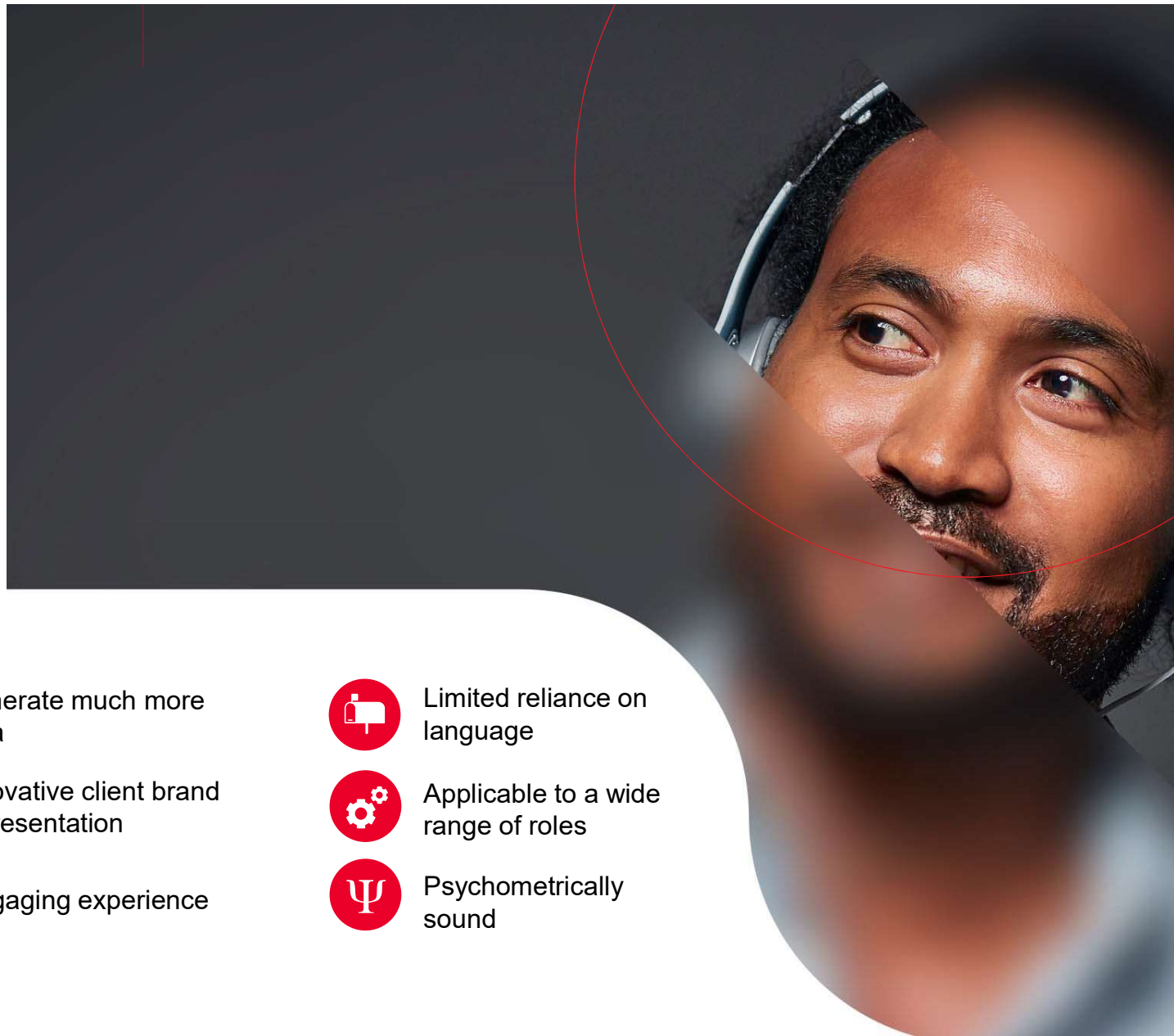
**Jason Blaik
Organisational Psychologist
Lead Psychometrician**

Revelian Assessments

| CONSTRUCT | REVELIAN ASSESSMENTS | WHAT IS MEASURED | WORKPLACE OUTCOMES |
|-----------------------------|---|---|---|
| Aptitude, cognitive ability | <ul style="list-style-type: none"> • Cognify • Cognitive Ability Test (RCAT) • Separate ability tests (verbal, numerical & abstract reasoning) | <ul style="list-style-type: none"> • General cognitive and problem-solving ability | <ul style="list-style-type: none"> • Better job performance • Reduced turnover (involuntary) • Improved training outcomes • Increased productivity |
| Work-related values | <ul style="list-style-type: none"> • Values Inventory (RVI) | <ul style="list-style-type: none"> • Organisation and cultural fit | <ul style="list-style-type: none"> • Improved organisational commitment, engagement and tenure • Reduced turnover (voluntary) |
| Preferences | <ul style="list-style-type: none"> • Work Preferences Profile (RWPP) | <ul style="list-style-type: none"> • Person-job fit | <ul style="list-style-type: none"> • Reduced turnover (voluntary) • Increased job satisfaction and engagement |
| Safety behaviour | <ul style="list-style-type: none"> • Work Safety Assessment (RWSA) | <ul style="list-style-type: none"> • Safety attitudes and behaviours | <ul style="list-style-type: none"> • Improved safety motivation and participation • Reduced LTIs, MTIs and work cover claims |
| Integrity and reliability | <ul style="list-style-type: none"> • Work Reliability Scale (RWRS) | <ul style="list-style-type: none"> • Attitudes to counterproductive behaviours | <ul style="list-style-type: none"> • Reduced incidence of behaviours such as fraud, theft, dishonesty, shrinkage and absenteeism |
| Emotional intelligence | <ul style="list-style-type: none"> • Emotify • Emotional Intelligence Test (MSCEIT) | <ul style="list-style-type: none"> • Identifying, understanding and using emotions at work | <ul style="list-style-type: none"> • Improved leadership performance and customer satisfaction • Improved communication and teamwork |
| Behaviour and personality | <ul style="list-style-type: none"> • Behavioural Profile (RBP) • 16 Personality Factors* | <ul style="list-style-type: none"> • Style and behaviour at work | <ul style="list-style-type: none"> • Team understanding • Team effectiveness • Reduced turnover (involuntary) • Improved communication and teamwork |
| Technical skills | <ul style="list-style-type: none"> • 900+ skills tests | <ul style="list-style-type: none"> • Core skills critical to the role | <ul style="list-style-type: none"> • Reduced training requirements • Increased productivity |

* The 16 Personality Factors assessment is only available in Australia and New Zealand

Game-Based Assessment



More than correct or incorrect response



Identify high potential candidates quickly



Device agnostic



Generate much more data



Innovative client brand representation



Engaging experience



Limited reliance on language

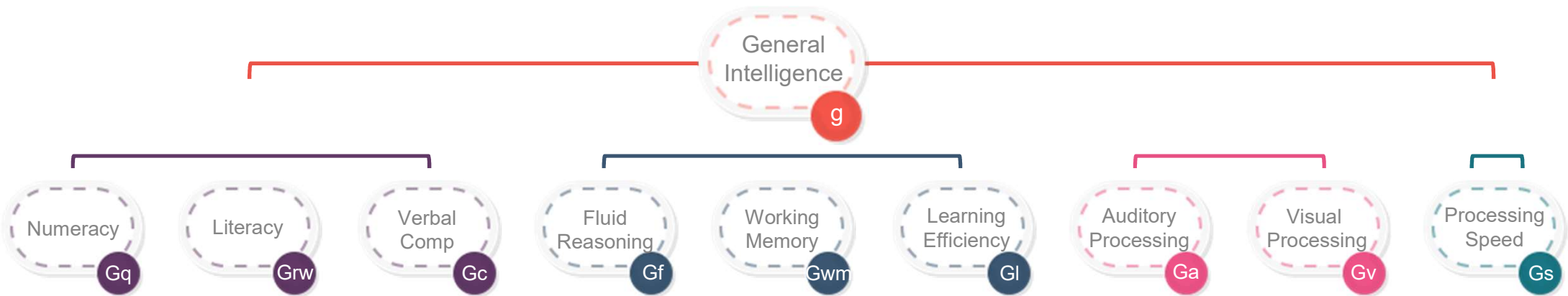


Applicable to a wide range of roles



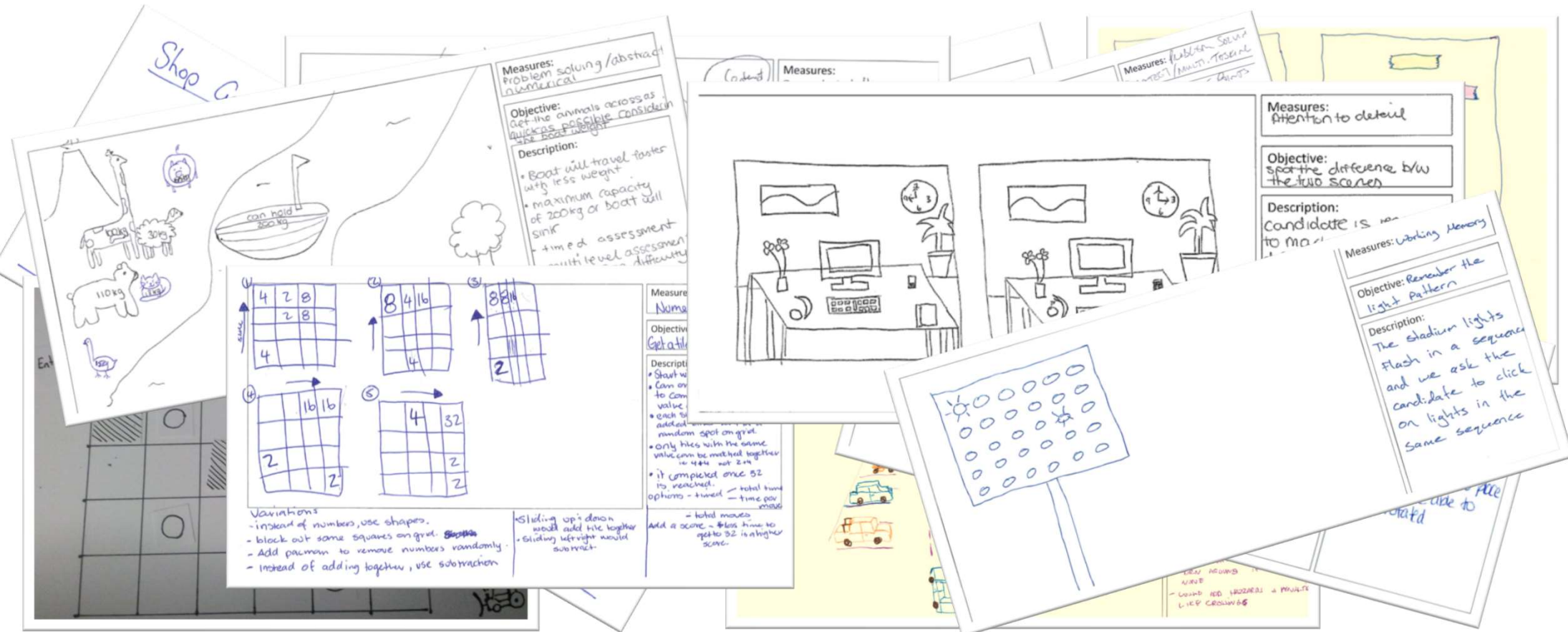
Psychometrically sound

Cattell-Horn-Carroll Theory of Cognitive Abilities



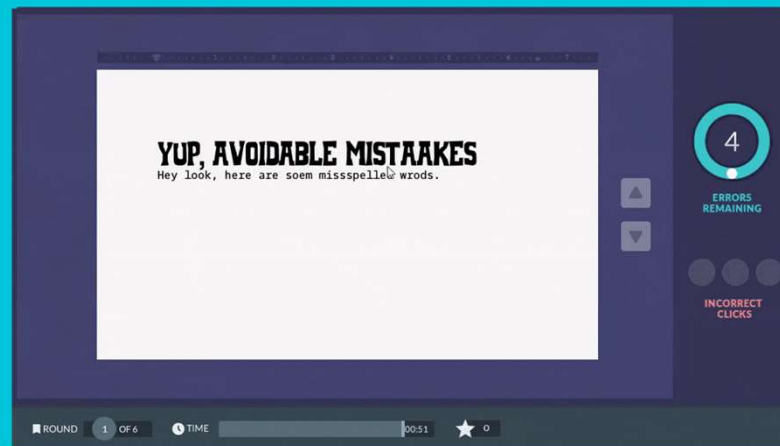
Schneider & McGrew (2018)

Low-Fidelity Prototypes



Game assessing Verbal Knowledge

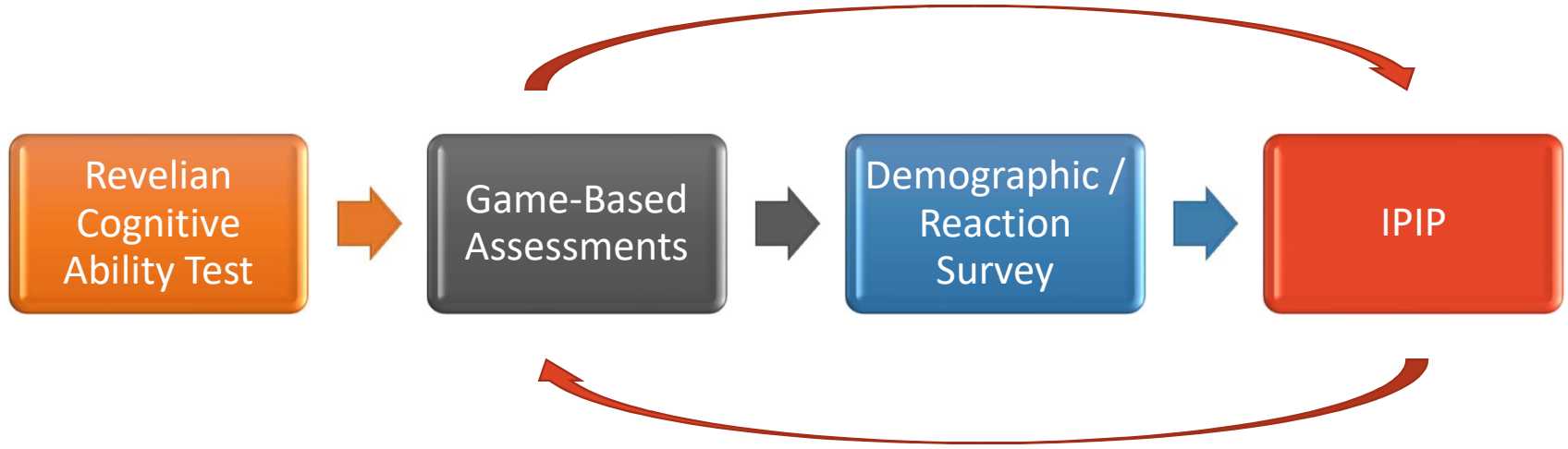
This game assesses the candidate's breadth of knowledge and ability with written (English) language, particularly spelling, grammar and identifying errors in text. This ability is important in roles which require reading and writing.



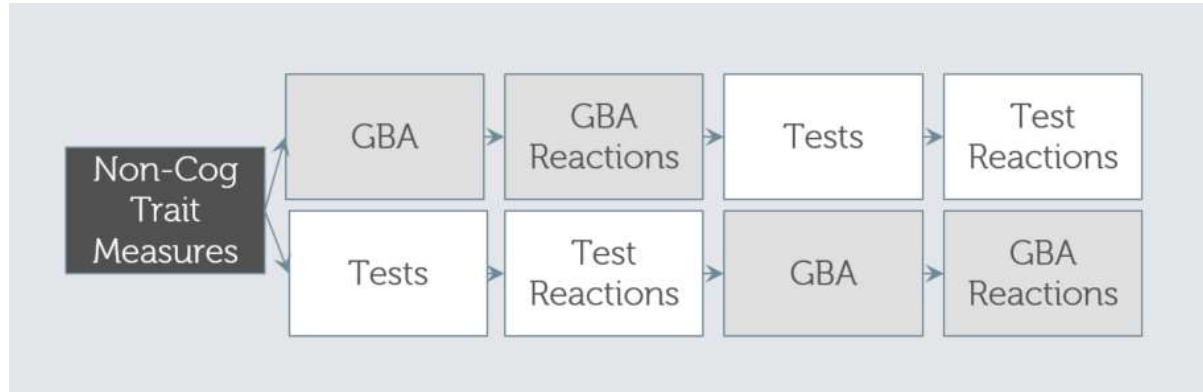
Proof It!

Candidates need to identify as many misspelled words and punctuation errors as possible within the time limit.

Internal Validation



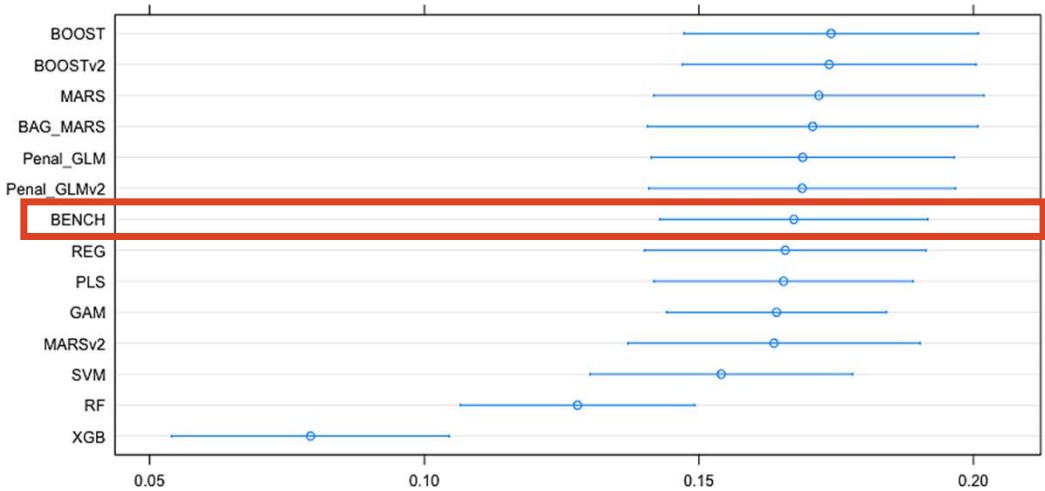
ODU Validation



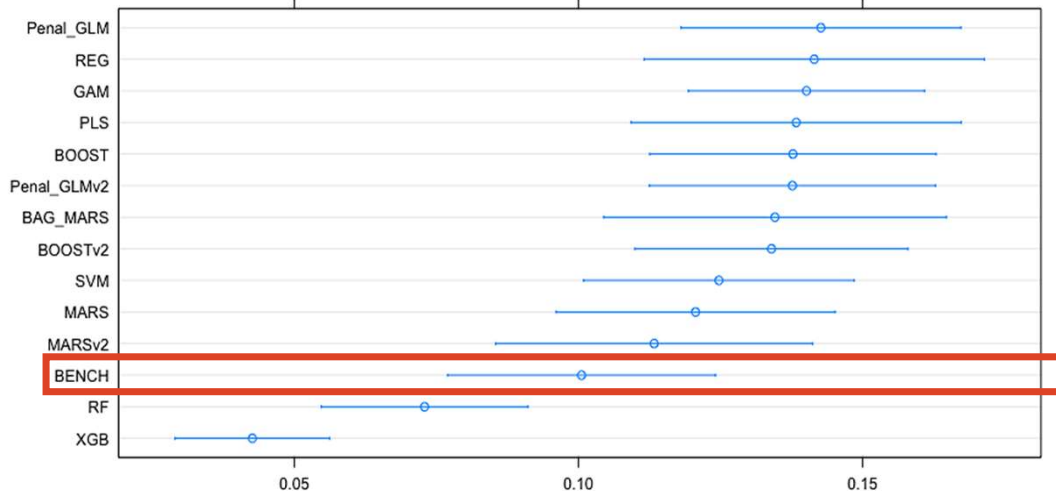
- People liked GBA - preferred general affect; job-related
- Perceived as more fair
- High level of convergence with stand-alone cognitive ability tests
- JAP paper in the works

Modern Prediction Methods

Proof It

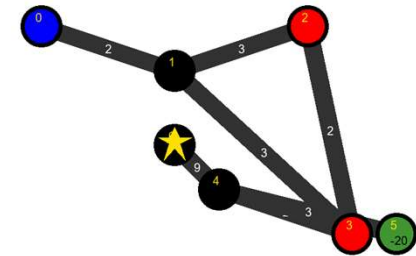
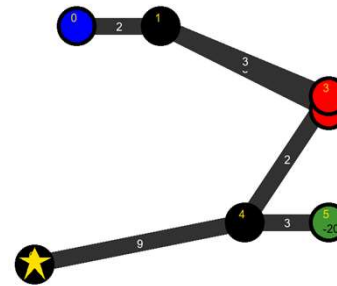
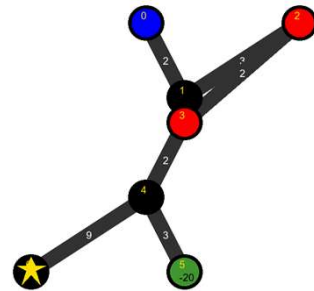
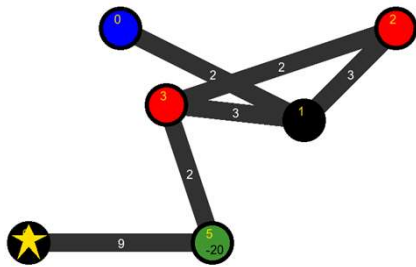
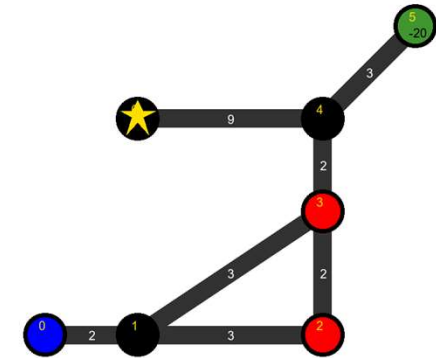
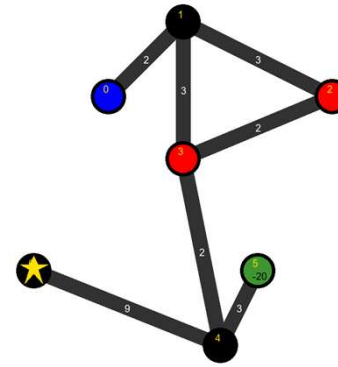
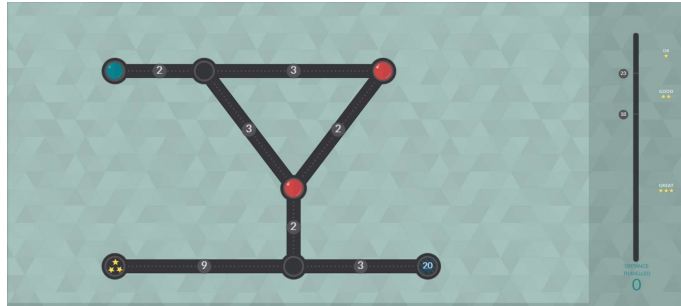


Short Cuts



- Plot Legends (V2 = using all predictors vs. only those shortlisted for GLM based models)**
- BENCH = Regression using Revelian's current scoring
 - REG = Linear Regression
 - Penal_GLM = Regularised Regression (LASSO & Ridge)
 - GAM = Generalised Additive Model
 - MARS = Multivariate Adaptive Regression Splines + BAG MARS = Bagged Multivariate Adaptive Regression Splines
 - BOOST = Boosted linear model
 - PLS = Partial Least Squares Regression
 - SVM = Support Vector Machine
 - RF = Random Forest
 - XGB = Extreme Gradient Boosted Trees

Automated Item Generation (AIG)



Translation


Welcome

These assessments are likely to be different to other assessments you've done in the past. Before you begin, we've got some information on what you can expect.

You will be completing a few interactive mini-games, each one designed to measure your abilities in different ways. These games might be fun, but remember that you're being assessed. Play each game to the best of your ability.

How to Play

Select Assessment



You must complete all assessments on your own. Once you begin an assessment it can't be paused.

Read Tutorial



Each assessment will begin with a short tutorial. Read it carefully so that you can do your best.

Give It Your Best



The time remaining and number of rounds will be displayed at the bottom of each assessment.

Games to Complete




Bienvenue

Ces évaluations sont susceptibles de différer de celles auxquelles vous avez pu participer par le passé. Avant de commencer, nous souhaitons vous communiquer quelques informations sur ce à quoi vous devez vous attendre.

Vous devrez compléter quelques mini-jeux interactifs, chacun étant conçu pour mesurer vos capacités de différentes manières. Certains de ces jeux peuvent se révéler amusants. Toutefois, n'oubliez pas que vous participez à une évaluation. Veuillez faire de votre mieux pour chaque jeu.


Déroulement du jeu

Sélectionner l'évaluation




Vous devez passer toutes les évaluations par vous-même. Une fois que vous avez commencé une évaluation, vous devez la mener jusqu'à son terme.

Lire le tutoriel



Chaque évaluation débute par un bref tutoriel. Lisez-le attentivement afin de donner le meilleur de vous-même.

Donnez le meilleur de vous-même

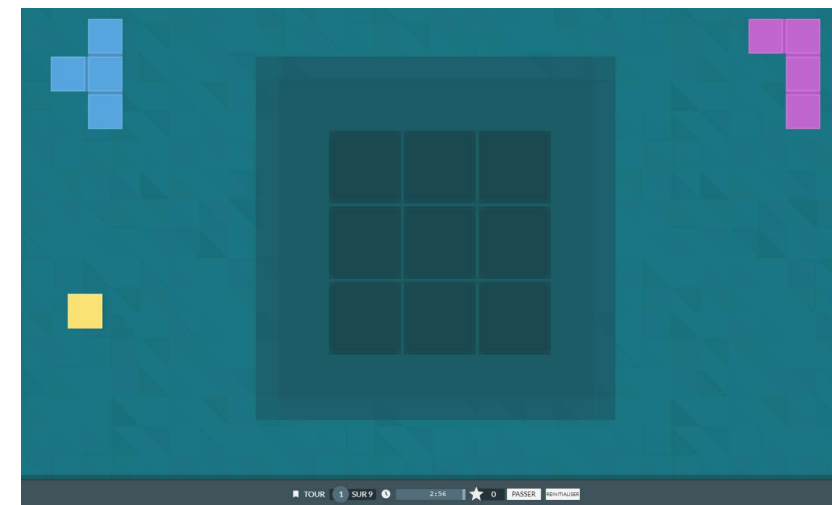
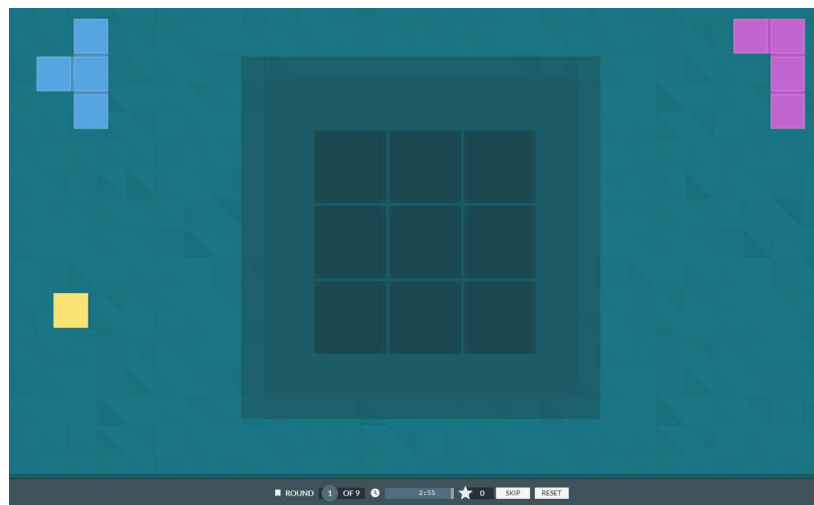
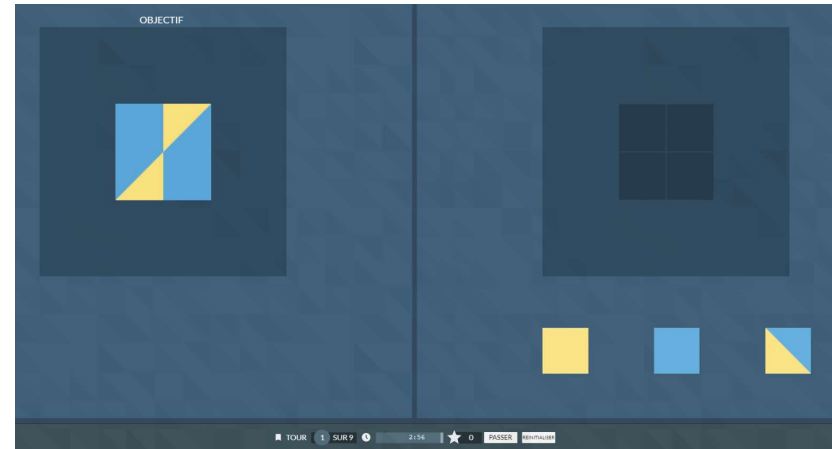
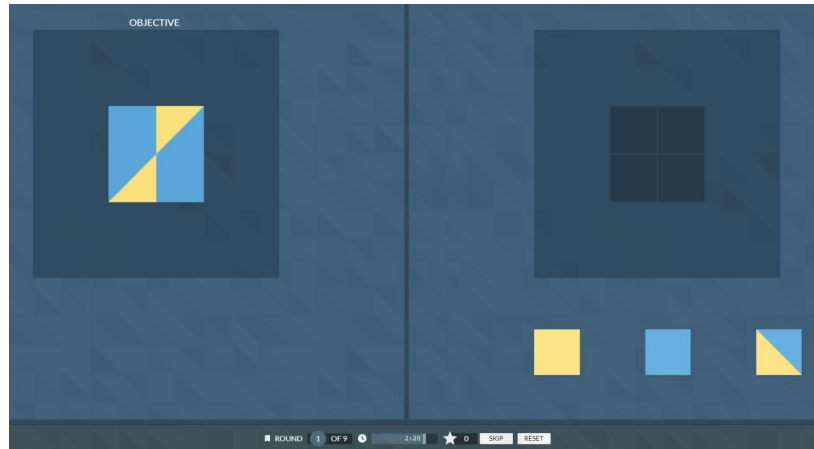


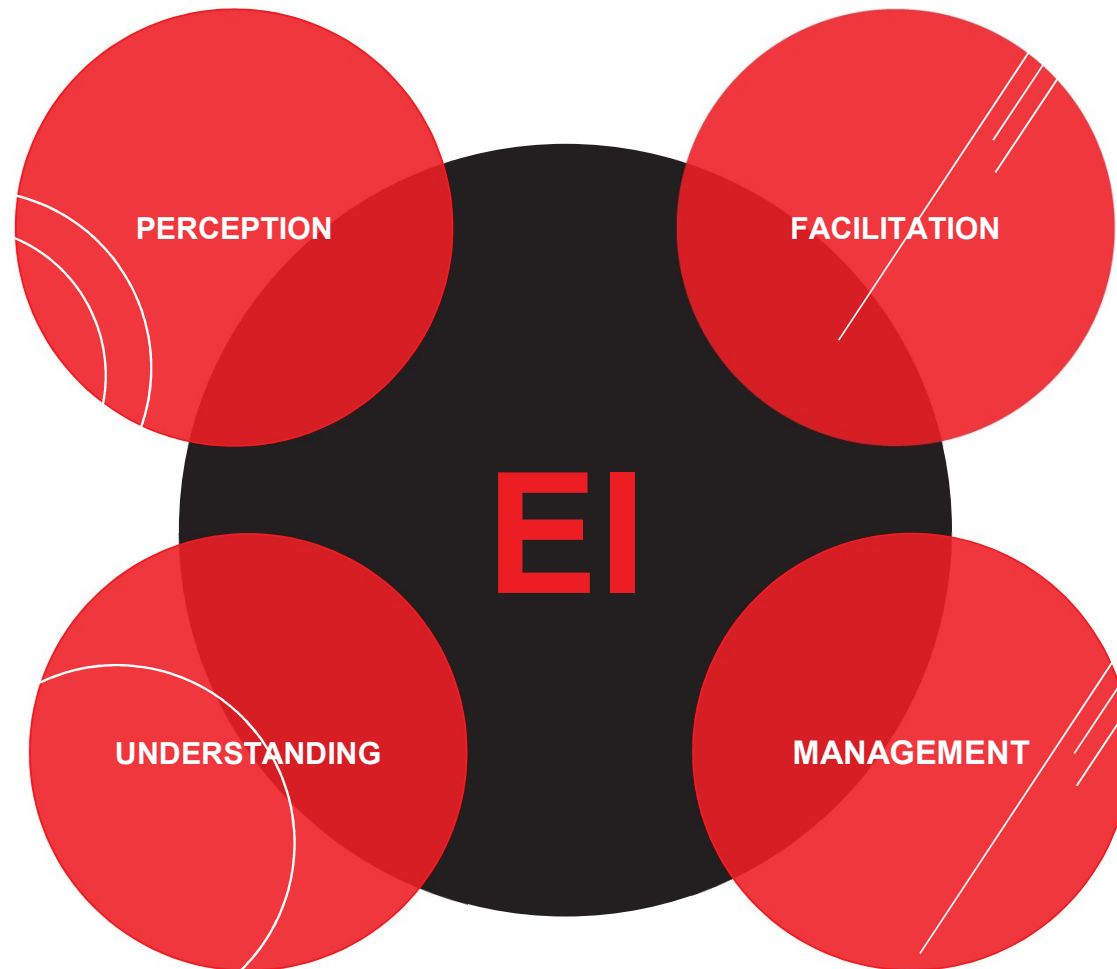
Le temps restant et le nombre de tours s'affichent dans la partie inférieure de chaque évaluation.

Parties à terminer



Translation





Mayer & Salovey (1997)

Concept & Design

The design concept includes several key components:

- User Interface (UI) Elements:**
 - Progress indicators: "1 OF 25" with "TIME LEFT", "PROGRESS", and "SCORE" labels.
 - Emotion labels: "FEAR", "HAPPY", "SAD", "SCARED".
 - Response buttons: "YES" (green), "NO" (red).
 - Score and Time Left: "00" (Time Left), "23" (Highest Combo), "SCORE".
- Emotion Grid:** A 3x3 grid of emotion selection options.

| | | | | |
|---|--------|--------|--------|---|
| ✓ | HAPPY | ✓ | [Face] | ✓ |
| ✓ | [Face] | X | SAD | ✓ |
| ✓ | ✓ | SCARED | X | ✓ |
- Emotion Slider:** A screen titled "Eric is likely to feel:" with sliders for:
 - ANGER
 - SURPRISE
 - JOY
 - FEAR
 - NONE
- Hand-drawn Sketches:**
 - Facial expressions for various emotions.
 - Flowcharts and diagrams showing user flow.
 - Scenarios: "Eric was sitting under a tree having a romantic picnic with his girlfriend. Another man sat on their blanket and started playing his guitar." and "Bob was telling his friend a really exciting story. This friend did not believe what Bob was saying."
 - A note: "Select the emotion that matches each face. Faces at a board room table to provide face validity."



HAPPINESS



TUTORIAL



0:02

MATCHING FACES



TASK

Correctly identify emotions in facial expression



MEASURES

Emotional Intelligence (Perception)



DETAILS

30 rounds, 90 seconds, highly speeded (3s).
Average time incl. tute 3.5 mins



CONTENT

Diverse emotions, gender, ethnicity, age,
match/no match. Random streaming



muel

Lucy



SELECT

EMOTIONAL TIES



TASK

Correctly identify emotions and emotional reactions to different situations



MEASURES

Emotional Intelligence (Perception; Understanding)



DETAILS

20 rounds (singles, duos, multis), 20 mins, powered. Average time incl. tute 16.5 mins



CONTENT

Generalisable context and language, diverse emotions, gender, ethnicity, age. Random streaming



John is running late for a job interview for a role he recently applied for.

When John arrives, he finds out the interviewer has been caught up in another meeting and is also running late.



Samuel and Lucy entered into a singing competition. They both chose to perform the same song. Samuel receives a standing ovation while Lucy is later booed off the stage.



Samantha bites into her apple at lunch. When she looks closer she sees a little worm wriggling inside of the apple.



Gaby is shopping on her overseas vacation and unexpectedly bumps into a close friend from home.

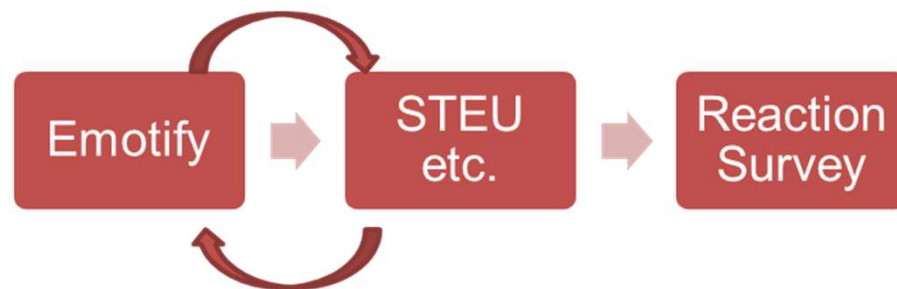


Karen is driving late at night when a cat runs out in front of her car.





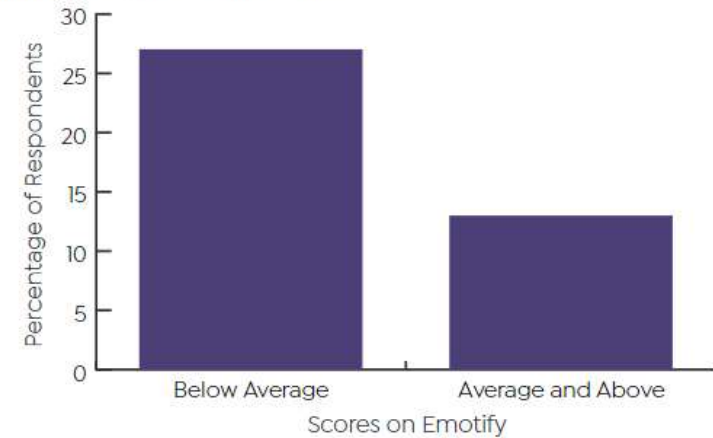
Validation & Analysis



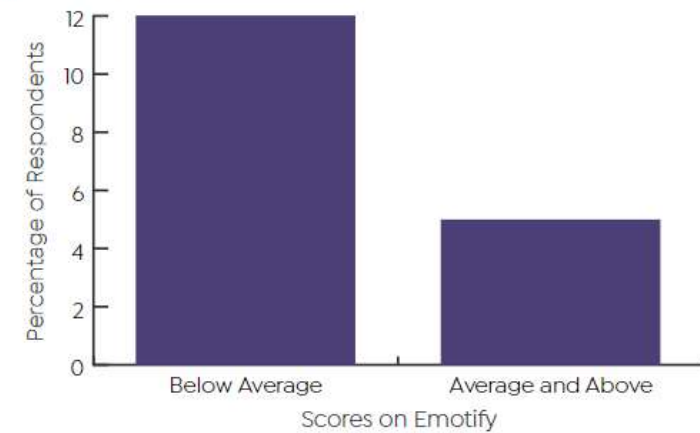
- $\approx 3,000$ participants; 2 phase validation
- Scoring models optimise rel'n between assessments and criterion (STEU)
- Validity MF = .45; ET = .54; Emotify = .65
- Reliability (test-retest) = .77
- Device agnostic; small gender effect ($d = .27$), ns age effect.

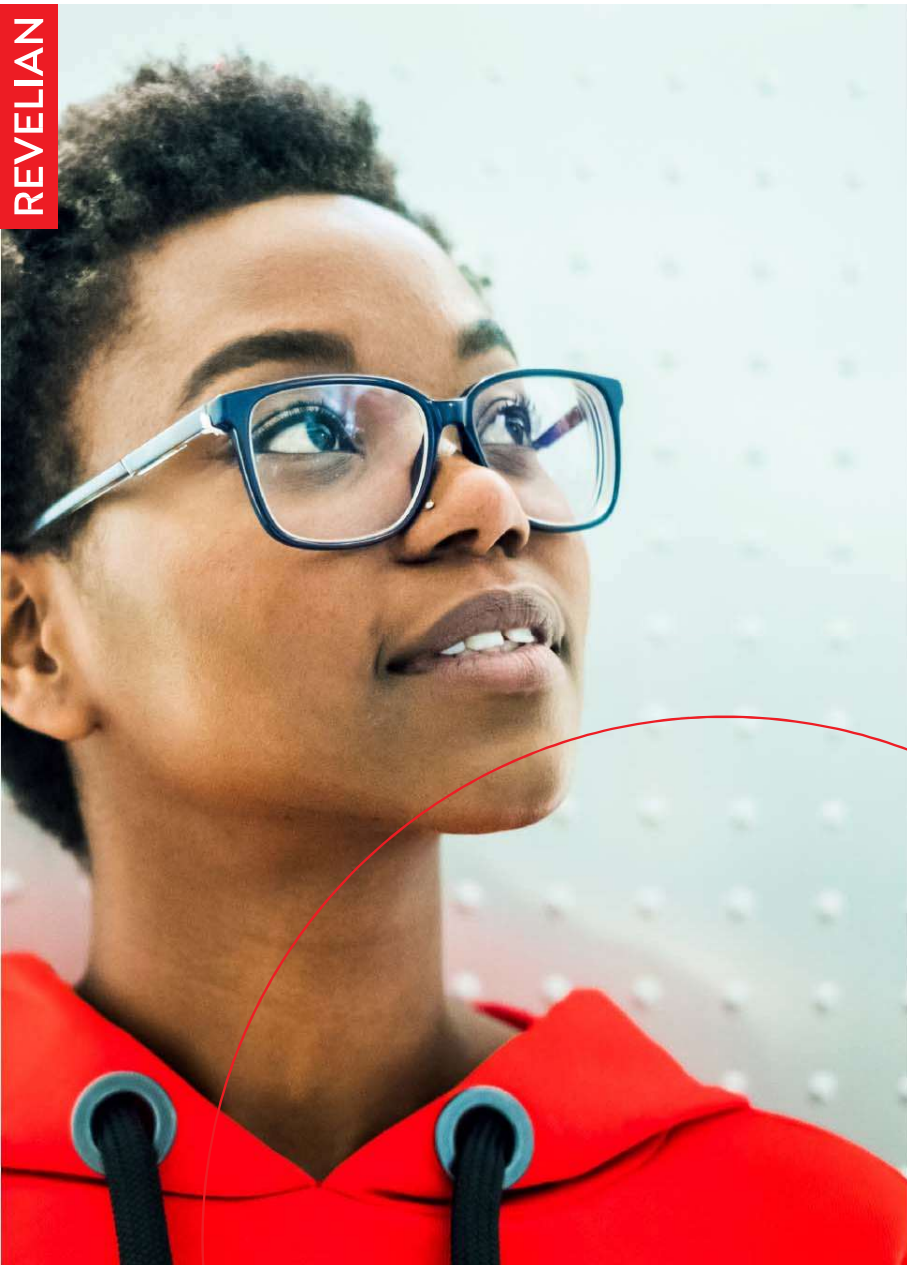
Some early criterion-related validity...

Percentage of people who agreed or strongly agreed that they have a hard time making it through stressful events



Percentage of people who agreed or strongly agreed that they experience a lot of conflict at work





Current Usage

Cognify

- Launched Oct 2016
- >140,000 completions
- >230 unique companies
- 23 different industries
- Varied management levels

Emotify

- Launched Jan 2019
- >10,000 completions
- >50 unique companies
- 14 different industries
- Mainly graduates

REVELIAN

Discover what lies
below the surface.

🖱️ revelian.com