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REVELIAN

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EMOTIONAL INTELLIGENCE AND GAME-BASED ASSESSMENT

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THE PERFECT FIT

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Harvard Business School says emotional intelligence is twice as important as intellectual ability.

# WHAT IS EMOTIONAL INTELLIGENCE?

The concept was first introduced more than 30 years ago by a graduate student named Wayne Leon Payne.

However, emotional intelligence (EI) didn't capture the public's attention until 1995 when Daniel Goleman published his book *Emotional Intelligence*. In 1998, he published an article in the *Harvard Business Review* called 'What makes a leader?' which became their most read article in 40 years.

In it, he proposed EI is essential to leadership: without it, a person can have all of the conventional intelligence and training in the world, but they won't make a great leader unless they are emotionally intelligent as well.

Meanwhile, Peter Salovey (President of Yale University, formerly Chair of Psychology) and John Mayer (Professor of Psychology, University of New Hampshire) put forward a more substantial model of emotional intelligence, defining it as the 'ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions.'<sup>1</sup> They also created a scientific model of emotional intelligence, which conceptualises EI validly and objectively.

They further defined emotional intelligence as an ability, like general intelligence, with four distinct branches:

<p><b>PERCEIVING EMOTIONS</b></p>	<p><b>USING EMOTIONS/ FACILITATING THOUGHT</b></p>
<p><b>being able to recognise what you and other people are feeling</b></p>	<p><b>being able to use emotions in thinking, problem-solving and decision-making</b></p>
<ul style="list-style-type: none"> <li>• Can you pick up on subtle cues from others?</li> <li>• Can you identify your own emotions?</li> <li>• Can you discriminate between genuine and inauthentic emotions?</li> </ul>	<ul style="list-style-type: none"> <li>• Can you generate emotions that will help you solve problems or be creative?</li> <li>• Are you able to empathise with others?</li> <li>• Can you use emotions to improve thinking?</li> </ul>
<p><b>UNDERSTANDING EMOTIONS</b></p>	<p><b>MANAGING EMOTIONS</b></p>
<p><b>having a strong understanding of complex emotions and how emotions can change over time</b></p>	<p><b>intelligently integrating emotional information in yourself and others to come up with strategies that lead to positive outcomes</b></p>
<ul style="list-style-type: none"> <li>• Can you understand different, possibly contradictory blends of information?</li> <li>• Do you understand ‘chains’ of emotions, such as how someone can be disappointed and then transition to anger?</li> <li>• Do you understand the causes and consequences of different emotions?</li> </ul>	<ul style="list-style-type: none"> <li>• Are you able to use emotions appropriately, for example, putting an emotion ‘on hold’ if it won’t be beneficial in a particular situation?</li> <li>• Can you manage people’s emotions to inspire and motivate them?</li> <li>• Can you make decisions that consider all of the facts, no matter how uncomfortable they are?</li> </ul>

More than 80 per cent of competencies that differentiate top performers are in the domain of EI.<sup>7</sup>

# WHY IS EI IMPORTANT?

Regardless of the occupation, industry or job level, people all over the world recognise that understanding their own and other people's emotions—and using emotions to solve problems—is a useful skill across many areas of life.

EI is vital in the workplace where colleagues are required to create and manage relationships effectively. Those with well-developed emotional intelligence can:

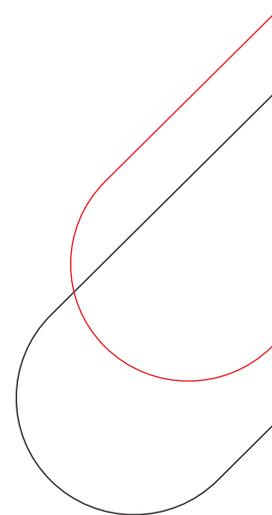
- work well with others
- regulate their emotions appropriately
- understand how others are feeling
- influence and inspire people.

These are all highly desirable traits for employees working in a team environment.

The types of emotional ability that are relevant and useful in one role may not necessarily be valuable in a different role. For example, a lawyer might benefit from being confident and in control of their emotions, while a psychologist would find empathy and the confidence to express emotions more valuable to their role.

Many researchers have found strong correlations between EI and important organisational behaviours, including leadership, job performance, organisational citizenship, behaviours, commitment, job attitudes, stress, wellbeing and teamwork. High EI also increases the quality of interpersonal relationships, enhances decision-making, and improves the experience of stress, pressure and conflict.<sup>3</sup> Studies have also shown it increases positive attitudes toward work and enhances altruistic feelings,<sup>4</sup> while people with lower EI demonstrated poorer ability to cope with stressors at work and show counter-productive work behaviours.<sup>2</sup>

While emotional intelligence is important in most roles, it really comes into its own in roles that involve teamwork, customer service and managing other people.<sup>6</sup>



# EI AND LEADERSHIP

It's unfortunate but true:  
brilliant minds don't necessarily make brilliant leaders.

Studies have demonstrated that leaders with high EI are better able to identify, understand and empathise with their teams.<sup>8</sup>

A range of research has found that EI is positively related to emerging leaders, performing effective leadership behaviours—transformational leaders especially—and overall leadership effectiveness.<sup>9</sup>

In addition, leaders generally score higher on EI than followers<sup>10</sup> and can improve subordinates' job satisfaction.<sup>11</sup> Managers high in EI are also better able to cultivate productive working relationships with others and to demonstrate greater personal integrity according to multi-rater feedback.<sup>12</sup>

<b>Pepsico</b>	Pepsico reduced executive turnover by 87 per cent and saved \$5.4 million dollars by recruiting emotionally intelligent leaders. <sup>13</sup>
<b>FedEx</b>	By integrating EI assessment and development into a six-month process for new managers world-wide, FedEx Express experienced 72 per cent of participants significantly improving decision-making, 60 per cent improving quality of life and 58 per cent showing considerable improvement in influencing skills. <sup>14</sup>
<b>Google</b>	After completing the 'Search Inside Yourself' program created by Google, aimed at improving mindfulness and EI, the number of participants that demonstrated effective leadership skills increased by 20 per cent. <sup>15</sup>
<b>US presidents</b>	A study that looked at the successes and failures of 11 American presidents showed EI was the key quality that distinguished the successful from the unsuccessful. <sup>16</sup>

# EI AND CUSTOMER SERVICE

Emotional intelligence makes its strongest contribution to job performance when a role requires developing and maintaining positive interpersonal relationships.<sup>17</sup>

For people working in sales and customer service roles, it's important to establish trust and rapport with prospects, create positive moods, distinguish genuine interest, and recover from stress and setbacks. These are crucial factors for success.

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**L'Oreal**

At L'Oreal, salespeople who were selected on the basis of emotional competencies outsold people who were recruited traditionally. These people sold \$91,370 more than other salespeople, leading to a net revenue increase of \$2.5 million. They also had 63 per cent less employee turnover during their first year.<sup>18</sup>

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**Fortune 500**

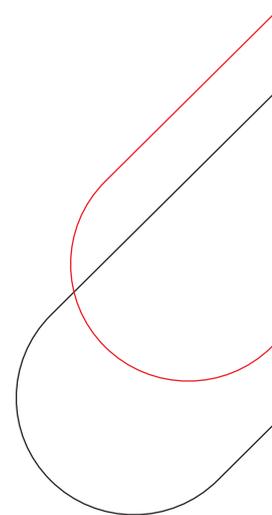
A study of more than 40 Fortune 500 companies revealed that sales people with high emotional intelligence out-performed those with medium to low EI by 50 per cent.<sup>19</sup>

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**Sanofi-Aventis**

Sanofi-Aventis found after a group of their employees took part in an EI development program, their sales performance increased on average 13 per cent compared to a group that didn't take part in the program.<sup>20</sup>

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# HOW DO WE MEASURE EI?

There are two main theoretical approaches to assessing emotional intelligence.

The first approach is known as the mixed-model framework, which generally includes instruments that require self-reporting to measure cognitive, personality and affective attributes.

However, the obvious question you are wanting to ask is: ‘Won’t people just say they are better than they actually are?’

People are poor at estimating their own levels of intelligence—whether it is their general or emotional intelligence.<sup>21</sup>

Due to a lack of knowledge of what good problem-solving requires, personal estimates can be affected by self-confidence, self-esteem, wishful thinking and not understanding what is involved in successful reasoning.<sup>22</sup>

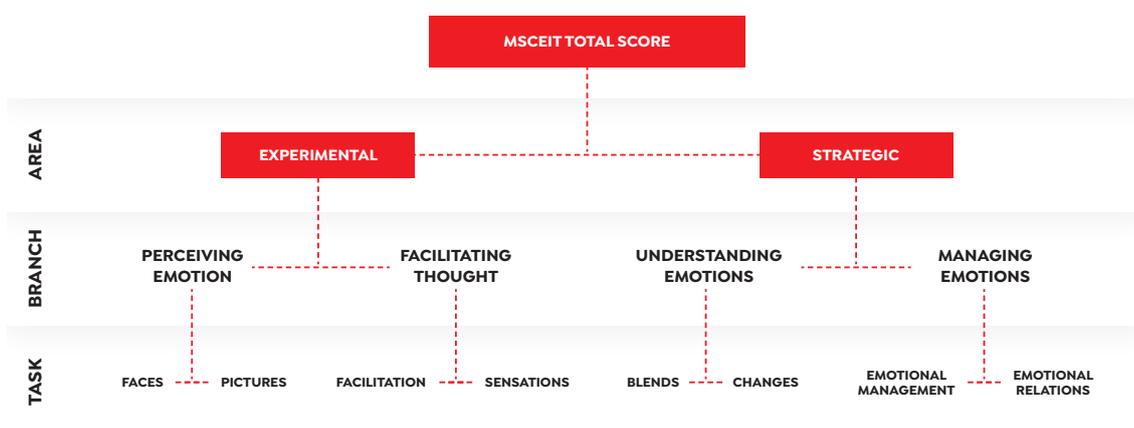
For this reason, at Revelian we recommend and endorse using the second, ability-model approach to ensure we accurately assess someone’s emotional intelligence.

The pre-eminent ability measure of EI was developed when Mayer and Salovey were later joined by David Caruso, the management psychologist at Yale. Together, they refined their original model to create the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).

Mayer, Salovey and Caruso wanted to build a way of assessing EI that would measure how people performed tasks and solved emotional problems, without them being able to exaggerate or manipulate their results.

To achieve this, they developed a comprehensive set of eight different tasks that would accurately measure the four different abilities of the MSCEIT. When people complete the assessment, their responses are compared with those who have also completed the measure.

## TOTAL EMOTIONAL INTELLIGENCE





The MSCEIT produces a broad range of scores, ordered by hierarchy, to give a clear understanding of how people perform across the different branches, factors and tasks included in the assessment.

You can use the MSCEIT for new hires to see how well they perform in each area. Certain factors or areas might be more important for particular roles. For example, salespeople must be able to recognise emotions, first responders need to be excellent at managing emotions, and call centre employees need to understand emotions.

In addition to our traditional MSCEIT assessment, we have combined the long-standing framework created by Mayer, Salovey and Caruso with our signature game-based assessment approach to offer our newest assessment: Emotify.

Emotify is one of the world's few ability-based measures of EI. This assessment has been specifically developed to assess a person's ability to perceive emotions accurately, and understand the connections between emotions and situations that lead to specific emotional reactions.

The game format of Emotify not only means test-takers will enjoy the experience, but they also perceive this format to be fairer and a better measure of their abilities.<sup>23</sup>

# GAME-BASED ASSESSMENTS

For the first time in history, we're seeing a trend where test developers are focusing on creating positive and dynamic experiences for test-takers.

More than 80 per cent of test-takers endorse game-based assessment (GBAs). In addition, around 75 per cent of candidates felt the testing experience was positive. Given most candidates don't enjoy being assessed, this is a significant result and suggests we are achieving a desirable mixture between validity and positive user experience.

Alongside these results, we found 90 per cent of candidates felt GBAs were as good as—or better than—traditional assessment. Eighty per cent said they would recommend other employers adopt GBAs as part of their recruitment process.

## THE GAMES AND GAMIFICATION INDUSTRY

How significant are games to our society, and does it really make a difference?

The fact the game industry is bigger than the movie and music industry combined, and keeps growing by around 10 per cent each year, demonstrates our widespread love of games.

By the end of 2018, it was expected more than 2.3 billion gaming enthusiasts would have spent an estimated \$137 billion on games.<sup>24</sup>

The best games are developed with a scientific approach to player experience that borrows heavily from research on individual motivation and psychology. On the back of the obvious success of game industry, other industries are now attempting to apply some of the game industry's methods to their own fields.

Gamification is the process of applying game mechanics in a 'non-game' context through behavioural economics.<sup>25</sup> Some of the earliest applications were in the area of children's education. *Where in the World is Carmen Santiago* and *Reader Rabbit* were created in the 1980s to help children learn in a fun and rewarding context.

In the early 2000s, the 'serious games' movement erupted with a focus on games that trained players in physical fitness (e.g. *Wii Fit*), immunology and health (e.g. *Immune Attack*), trades (e.g. *Gamestar Mechanic*), literature (e.g. *Arden*) and even history (e.g. *Making History: the Calm and the Storm*).

Today, gamification is widely used in various fields to encourage desired behavioural outcomes<sup>26</sup> or applied for motivational purposes.<sup>27</sup> In 2011, it was touted as the 'next big thing' with Gartner indicating that by 2014, 70 per cent of Global 2000 organisations would have at least one gamified application.

## THE POWER OF GAMES

Gamification creates a deep level of engagement between the user and the process they're participating in.

From repetitive tasks such as completing forms—like completing your LinkedIn profile—to exercise programs that encourage better health and wellbeing, such as Nike+ and MyFitnessPal, gamification enhances the user experience to encourage deeper levels of commitment.

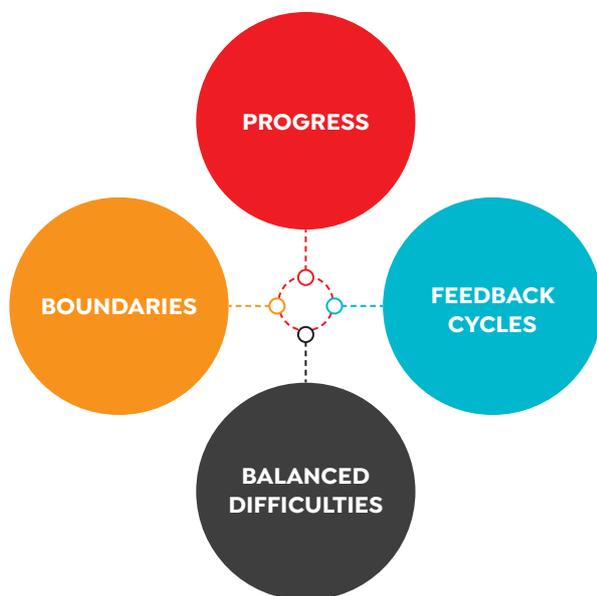
Gamification has also been found to help to increase compliance, appraisals and favourable ratings<sup>28</sup> in a wide range of areas including commerce, education and learning, health and exercise, sharing, sustainable consumption, work environments, data-gathering, and innovation and ideation.

## HOW GAMIFICATION WORKS

Gamification works by relying on the core concept of an accelerated feedback cycle, which maintains engagement and gives the user an indication of their progress, competency or standing.

Games also have clear boundaries, rules of play and goals, which provide a well-defined framework where a user easily understands what's expected of them and feels empowered to achieve specific goals. Clear rule sets allow players to feel confident, while also supporting autonomous exploration so players can seek out rewarding experiences on their own.

Carefully balancing the difficulty of achievable short-term goals and more challenging long-term goals helps users to enter a state of flow where they're neither stressed by an insurmountable challenge, nor bored because they are engaged in something too simple or meaningless.



# GAMIFICATION FOR HUMAN RESOURCES

In 2015, Gallup released research showing only 31 per cent of employees are engaged with their work, and millennials were the least engaged group with 28.9 per cent engagement overall.<sup>29</sup>

In an attempt to combat this engagement issue, HR departments of major companies launched gamification trials.

As a flow-on effect, the HR industry recognised the benefit of gamification and has shown an enormous interest in using it throughout the entire employee lifecycle. There are now gamified products and services across virtually every aspect of HR, particularly around employee engagement, feedback, performance management and employee development.

Job applicants' perceptions of an employer's organisation have been found to be positively impacted when the organisation uses cutting-edge technologies, including gamification.<sup>30</sup> As a result, a number of organisations have included gamification in their recruitment process to re-engineer the way they source and recruit applicants—particularly for entry-level and graduate roles.

Many of the top-tier companies receive between 4000–7000 applications each year for a handful of graduate vacancies.<sup>31</sup> And for these companies, attracting the best talent in an intensely competitive environment requires them to be efficient, present an attractive brand and stand out from other organisations vying for the same pool of applicants.

Now that job application pathways are effectively 'flattened' to the extent that the application process has become a bi-directional transaction,<sup>32</sup> consumer experience and brand reputation play an increasingly important role. For these reasons, graduate employers are often the first to experiment with innovative approaches like gamification.

<b>America's Army</b>	America's Army is a first-person shooter game that allows young Americans to virtually experience army life and training. The game has been highly successful in attracting new recruits, with more than 41 versions released since 2002.
<b>Google</b>	Created in 2003, Google Code Jam is a software-writing competition that finds fresh, new talent to work for the company. Applicants from around the world are tasked to solve challenging, algorithmic puzzles against the clock with the chance of winning monetary prizes. Google also uses it as a way to attract potential hires with the right skills for the job and their company.
<b>UK Government</b>	The UK Government Communications HQ created an encrypted message on their website which tested aspiring intelligence agents by asking them to decrypt and decipher what the hidden message is to proceed with the recruitment process.
<b>Siemens</b>	Siemens Plantville is a simulation strategy game that requires players to operate a plant while trying to improve productivity, efficiency, sustainability and overall health of their facility.
<b>Marriot</b>	My Marriot Hotel is a game where players create their own restaurant, buy equipment and ingredients on a budget, hire and train employees, and serve guests. Players are rewarded for excellent service, customer satisfaction and profit.
<b>Accenture</b>	Accenture Path to Success is a simple quiz-based game that tests the players' general knowledge. There are four levels to complete, representing the corporate ladder within Accenture (i.e. associate executive, senior associate executive, mid-level executive, and senior executive).
<b>RNZAF</b>	Royal New Zealand Air Force Virtual Missions (RNZAF) is a simulation game where players can switch roles of the various crew members involved in completing military missions to help applicants understand the importance of each discipline. The game was used to help combat perceptions that the Air Force is just about pilots.
<b>Telstra</b>	Telstra Job Jam offers a playful view into careers at Telstra. Players move through a series of short and fun mini-games to create happy customers and unlock more challenges to reach the highest score.
<b>L'Oreal</b>	L'Oreal in India used gamification tools that allowed players to experience working in a global firm, interact with avatars representing employees and get a sense of which department they might be suited for at L'Oreal.

# GAMIFICATION FOR EMPLOYEE SCREENING AND ASSESSMENTS

As part of this renewed focus on user experience, and to satisfy changing market needs, test publishers have started to add gamification to psychometric assessments.

The amount of gamification varies from one provider to another. The various offerings span from traditional web assessments with a superficial gamification layer—such as a progress bar, feedback mechanism, or progress mechanics—to carefully designed psychometric games, or game-based assessments, that specifically measure psychological constructs.

Traditional psychometric assessments have been used since the early 1900s and have a large literature base behind them. While there have been some advances in measurement models, like adaptive testing and delivery methodology (from paper and pencil to desktop and mobile), the user interface and experience has not advanced much.

Gamified assessments are traditional tools with one or more game elements added (e.g. a progress-tracking mechanism or a narrative to help immerse the player) to enhance the user experience. They're easy to implement and can provide candidates with a sense of progress, timing and performance. They don't fundamentally change the assessment process but can add a layer of interest to web-based assessments.

Game-based assessments (GBAs) are designed from the ground up to measure and assess psychological qualities. They resemble recreational or commercially available games, but are often developed with sophisticated analytical engines to help model and quantify gameplay activity in relation to psychometric outcomes and job performance predictors. GBAs comply with traditional psychometric validity while valuing the test-taker's perceptions and engagement in the assessment process.

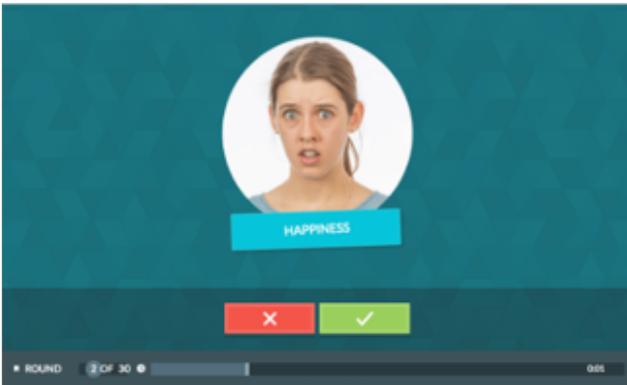
Unlike traditional assessments—and to an extent, gamified assessments—where an individual is presented with a distinct task to complete, GBAs integrate challenges, problems or tasks more seamlessly into an experience as part of a narrative, or progress toward an overall end goal.<sup>33</sup> Gamified assessments, while innovative, have not deviated too far from traditional methods and are based on historical psychometric models which ignore micro-level variations in activity or candidate approaches.<sup>34</sup> We can see a response to a question, but not how a candidate arrived at that response.

In more complex and interactive games, players make their own choices about how they want to progress, navigate, investigate and accomplish goals.<sup>35</sup> GBAs give us the ability to record and monitor changes in candidates' temporal micro-patterns and strategic shifts, as well as the context in which these changes occur. Candidate interactions, gameplay and manipulation of game mechanics provide important evidence of their thinking. The importance and advantage this extended capability delivers is greater insight than traditional psychometric assessments.<sup>36</sup>

# EMOTIFY

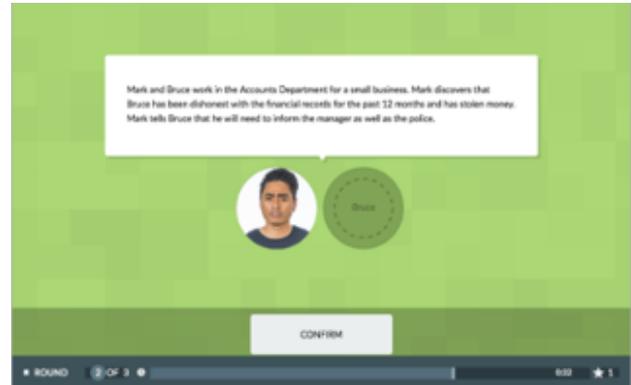
Emotify comprises two separate assessments.

## MATCHING FACES



Matching Faces requires candidates to quickly identify the emotion displayed on a person's face.

## EMOTIONAL TIES



Emotional Ties requires candidates to read a number of everyday situations and predict the types of emotional consequences that may arise as a result of these situations.



Emotify uses a device-agnostic approach and natively displays in common browsers without the need to download any additional plugins or settings. This ensures all candidates have a positive and frictionless testing experience, no matter the operating system, device type or size.

## CANDIDATES SAY:



*Easy to use, challenging and applicable. Makes you think about how the game applies to your skill set and those required by the employer.*

*Friendly and relaxing, with just enough of a competitive urge to do well.*

*Very interactive, clearly tested my skills, but in a more enjoyable way than other similar assessments.*

### Candidate reactions

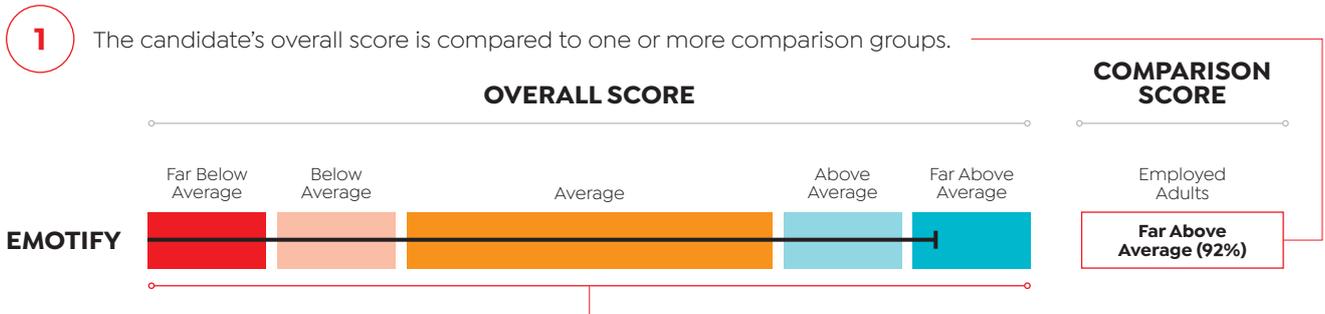
- 89% wish employers would use tests like this
- 76% feel Emotify is better than other employment tests
- 93% candidates are comfortable completing Emotify as part of a job application

### Candidates love:

- The use of real people
- Diverse representation of people
- Interesting everyday situations
- The clear and easy-to-understand experience
- How it didn't feel like a test
- Understanding how important this skill is in the workplace

## SCORING AND REPORTING

Results indicate a test-taker’s ability to perceive and understand emotions—two of the branches developed by Mayer and Salovey in their model to conceptualise emotional intelligence.



**2** The score is given a rating of Far Below Average to Far Above Average and a percentile, which shows how the candidate compares to others in the group.

## Results indicate ability to perceive and understand emotions

PEOPLE WHO SCORE IN THE <b>BOTTOM</b> RANGE:	PEOPLE WHO SCORE IN THE <b>MIDDLE</b> RANGE:	PEOPLE WHO SCORE IN THE <b>TOP</b> RANGE:
Have difficulty identifying emotions in people	Will usually identify the appropriate emotion in themselves and others	Are highly accurate in identifying different emotions
Misinterpret emotional situations and events	Generally interpret emotional situations and events correctly	Are highly skilled in interpreting emotional situations and events
Are unsure how emotions are influenced by different situations	Usually understand the connection between emotions and situations and how emotions change and evolve	Accurately understand how emotions change and evolve in different situations
<b>BELOW AVERAGE (0-19%)</b>	<b>AVERAGE (20-79%)</b>	<b>ABOVE AVERAGE (80-100%)</b>

# VALIDATION

Validation studies have demonstrated the strong psychometric properties of Emotify.

As part of two large-scale validation exercises, more than 3000 participants completed the two Emotify mini-games—Matching Faces and Emotional Ties—and the Situational Test of Emotional Understanding (STEU).

Adopting a cross-validation approach to modelling, scores for Matching Faces, Emotional Ties and Emotify Overall were found to strongly correlate with STEU performance:  $r = .40 (.45), .54 (.61), .57 (.65)$  respectively. Note: the second correlation presented here in brackets represents the corrected coefficient, accounting for the unreliability of the criterion.

For each mini-game, the metrics that combine to produce both game and overall Emotify scores each contribute in statistically unique and significant ways to predict the convergent measure (STEU). This indicates that scoring for each game is not only valid but has also been derived in a manner that takes account of the multiple aspects of emotional intelligence.

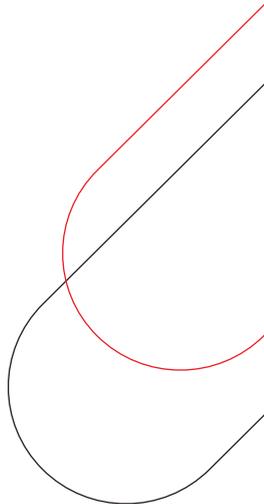
A significant correlation was demonstrated between Emotify scores and self-reported conflict at work, i.e. “I experience a lot of conflict with people at work,”  $r = -.19^{***}$ ,  $p < .001$ .

Another significant correlation was demonstrated between Emotify scores and self-reported stress management, i.e. “I have a hard time making it through stressful events,”  $r = -.12^{***}$ ,  $p < .001$ .

Small gender differences, with women performing slightly better than men, were observed for Emotional Ties ( $d = .28$ ) and Emotify overall ( $d = .27$ ). This is commensurate with general research findings where similar gender differences in emotional intelligence are often reported.

A non-significant correlation was found with respect to age and Emotify performance, indicating that performance on Emotify was not related to the age of participants. This was further evident when contrasting the  $<40$  and  $\geq 40$  age groups, where no difference in performance was again evident.

A small, negative correlation was demonstrated with respect to age and performance on Matching Faces,  $r = -.19^{**}$ ,  $p < .01$ , which incorporates a speeded aspect in its administration. However, such effects do not persist at an overall level where metrics across both games are combined and weighted when calculating a final Emotify score.



# WHY EI AND GBAS ARE A PERFECT FIT

## **Properly constructed games based on psychometric science and reputable models of human intelligence**

While games are fun, most of them don't have any bearing on how someone is going to perform on the job.

Emotify assesses the highly desirable characteristic of EI in future employees by using Mayer, Salovey and Caruso's reliable and valid model for conceptualising emotional intelligence.

## **Relevant for all roles**

While some of the games in the marketplace are more suited to graduate and entry-level recruitment, Emotify represents a new breed of sophisticated and clean gaming design that appeals to a much broader audience.

This is crucial because regardless of the occupation, industry or job level—people all over the world recognise that understanding their own and other people's emotions, and using emotions to solve problems are incredibly useful skills across many areas of life.

## **Enhancing candidate experience promotes the employer's brand**

More so than ever, organisations are realising the importance of optimising a candidate's journey through their recruitment process. With 80 per cent of candidates recommending game-based assessment, it's clear that today's digital natives prefer a more technologically rich, immersive recruitment experience.

## **Hard to 'fake'**

A common problem with traditional assessment methods—and indeed much of the recruitment process—is the candidate's desire to present themselves in the best-possible light. Games make it more difficult for candidates to distort their responses, which gives employers a more robust and accurate appraisal of their suitability for a role.

Emotify assesses a candidate's ability to perceive and understand emotions without exposing the nature of the construct being assessed. It offers a unique candidate experience each time the game is played, while delivering an equal level of difficulty to ensure a fair comparison.

## **More complete assessment of each candidate**

Another way Emotify supersedes traditional assessment methods for emotional intelligence is in the amount of data collected for each candidate. While other assessments record a right or wrong answer, Emotify records and analyses every aspect of gameplay—and potentially thousands of data points. This means you get a better understanding of how each candidate approached different problems and situations and arrived at their solutions. This gives you more sophisticated insights into each person.

## **Applies to all ages, genders, ethnicities and backgrounds**

While emotional intelligence is important in most roles, it is most vital in roles that involve teamwork, customer service, or managing other people.<sup>6</sup> These job positions tend to be filled by a highly diverse group of individuals, making it important that Emotify be used to assess any candidate, regardless of their demographic characteristics.



*Candidates forget they're completing an assessment, which means they're less stressed, and you get more authentic data about their performance, as well as promoting your brand as an innovator.*

**Cherie Curtis, Revelian CEO**

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