DEEPER SIGNALS

The Assessio Learning Agility Assessment

Technical Manual

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Introduction

In the current landscape of heightened unpredictability and constant disruption, organizations are continuously required to thrive through ambiguity. Playbooks of the past are no longer pertinent to emerging challenges and the ability to remain agile and quickly change is becoming key to an organization's success. Effectively navigating this volatile environment is requiring organizations to seek new skills and abilities in the individuals and leaders they hire and develop. The ability to continuously learn, advance and adapt is becoming a critical requirement of today's workforce (De Meuse, 2017).

The concept of learning agility (LA) has emerged as a means to identify such employees who are able quickly learn from experience (DeRue, Ashford, & Myers, 2012). Learning Agility refers to "the ability to come up to speed quickly in one's understanding of a situation and move across ideas flexibly in service of learning both within and across experiences" (DeRue et al., 2012; p.262). It is becoming increasingly recognized to be an important indicator of high potential talent. Both scholars and practitioners recognize that LA plays a pivotal role in the success its leaders and the organization (De Meuse, 2017; Lombardo & Eichinger, 2000). It is for this reason we have developed the Assessio Learning Agility assessment.

This chapter describes the key characteristics of the LA assessment, specifically how the assessment can be used, intended audiences and an overview of the report insights. This chapter is intended help practitioners and stakeholders evaluate the LA assessment and assess it suitability within their organizations.

ASSESSMENT SCOPE

The LA assessment comprises five dimensions that are based on the model conceptualized by De Meuse, Dai, and Hallenbeck (2010). An overview of these dimensions is provided below, and the next chapter describes them in full detail. The five dimensions include:

- **Change Agility:** The tendency to be curious, flexible, and quick to change direction.
- **Mental Agility:** The ability to quickly identify patterns in data, reframe problems, and generate solutions.
- **People Agility:** The tendency to be collaborative, trusting, and open to others' perspectives.
- **Results Agility:** The tendency to be goal-driven, proactive, and persistent.
- **Self-Awareness:** The tendency to act with humility, remain open to feedback, and be prepared to admit gaps in knowledge.

HOW CAN THE LEARNING AGILITY ASSESSMENT BE USED?

The LA assessment is designed to support organizations in a variety of ways, across multiple talent management processes. Organizations will want to consider using the tool to support:

1. **Selection**: Given the shifting nature of today's business landscape, assessing for LA early in the selection process helps identify an individual's tendency to quickly learn and adapt to new

circumstances and thrive under ambiguity. The LA assessment provides a bias-free, and scientifically validated measure to assess these tendencies in individuals.

2. **Development**: Since insight and feedback are a critical force for change and development, the LA assessment is designed to promote self-awareness in individuals. It enables individuals to gain a deeper understanding of their strengths, opportunity areas and traits that have the biggest potential to help them thrive in today's organizational climate. Facilitating this self-awareness and providing these insights helps individuals identify where to target their development efforts to have meaningful impact.

3. **Workforce Planning**: As organizations seek to upskill or reskill their workforce to adapt to changing circumstances, identifying the capacity of current workforce members to be successful in today's shifting landscape is key. The LA assessment helps identify areas in the organization where these abilities are lacking and strategically plan for how to overcome these critical gaps across its talent pipeline. Moreover, identifying individuals and teams who currently possess these abilities could also be an important consideration when determining where upskilling efforts would be most effective and deliver maximum value.

4. **Hi-Po Identification & Leadership Development**: Learning agility is increasingly becoming a widely recognized indicator of high-potential talent. The ability of an organization to successfully navigate today's environment is highly dependent on leaders who display the ability to continuously learn, adapt, persist and thrive in highly volatile and ambiguous situations. The LA tool helps consistently evaluate individuals for these abilities and support the early identification of this talent across the organization. Moreover, insights from the assessment indicate where critical gaps lie and inform what development efforts to invest in order to support an organization's current and future leaders.

5. **Change Management**: The successful planning and execution of organizational change initiatives is highly dependent on the stakeholders who are impacted by the change and their capacity to change. Assessing for these abilities early in the process could help effectively plan for these efforts and identify required interventions. This assessment could be used to help conduct change readiness assessments and also determine suitable candidates to recruit as change agents and early adopters to champion the change.

TARGET AUDIENCE

The LA assessment was designed to be used in talent management contexts. Specifically, it can be used to inform talent decisions for those working in individual contributor, management and leadership roles. The assessment is industry agnostic, and scores are not impacted by previous vocational or educational experiences. The assessment was not designed to be used by anyone under the age of 18. The assessment was developed for English speakers. When translating the assessment, replication studies should be conducted to ensure there is measurement invariance between English and non-English versions.

Theoretical Rationale

Organizations are in a constant state of disruption, renewal and continuous transformation today. Amidst these uncertainties, the current workforce is required to learn new technologies, upskill or reskill into roles, perform in ambiguous positions and drive continuous improvement. Identifying and developing talent that can thrive in this climate requires assessing for a unique set of capabilities. As new ways of working, learning and leadership develop, LA is a construct that has emerged to be an indicator of individuals who can effectively adapt and successfully perform in this environment.

While the development of this construct is relatively recent, it has quickly seen widespread adoption by human resources professionals and consultants in assessing and developing talent. A recent meta-analytic study conducted by De Meuse (2019) endorses LA as an important determinant of leadership success. Learning agility is considered to not only be related to leadership potential but also leadership performance. Successful leaders are considered to possess higher levels of LA than their colleagues (De Meuse, 2019). Learning agility is also identified to have a considerably stronger relationship to performance than more established assessment methods such as IQ and EQ. Moreover, it has additional merits including avoiding adverse impact; having greater acceptance in being assessed (as it is perceived to be less intrusive than results of IQ tests); and unlike intelligence, LA comprises of behaviors that can develop over one's lifetime (De Meuse, 2019).

Broadly, LA refers to the ability to learn from experience and the willingness to subsequently apply that learning to successfully perform in new and challenging roles (De Meuse, 2019; De Meuse et al., 2010; Lombardo & Eichinger, 2000). The three most popular LA assessments are Korn Ferry's viaEDGE, Talentx7, and the most recent Burke Learning Agility Inventory (LAI). All three models share a similar theoretical foundation but vary in the detail and scope of the constructs they measure. For example, Burke's LAI model describes nine dimensions whereas the viaEDGE model, has four factors. A summary comparison of the three LA models can be found in **Table 1.**

In a 2012 review of the literature, DeRue and colleagues surmised that LA is related to three individual differences that are fundamental to understanding an individual's ability to learn from experience: an individual's goal orientation, cognitive ability and openness to experience (DeRue et al., 2012). Other researchers have pointed to humility or self-awareness as another key component of LA (De Meuse et al., 2010). Fortunately, Assessio's tools already measure these dimensions within its broad suite of assessment tools.

Given that the Assessio LA feedback report will be used alongside other proprietary personality reports, Assessio's LA model was designed with an effort to not duplicate or repeat insights. Parsimonious and narrowly defined constructs instead produce more accurate measurements of behavior and potential, and have a stronger scientific rationale yielding enhanced psychometric properties. Further, this improves the interpretation of user profiles and increases differentiation across Assessio's product offering.

Table 1: Comparing existing Learning Agility models

viaEDGE	Talentx7	Burke Learning Agility Inventory
People Agility	Interpersonal Acumen	Collaborating
		Interpersonal risk taking
Change Agility	Change alacrity	Experimenting
Results agility	Drive to excel	Performance risk taking
Mental agility	Cognitive perspective	Flexibility
Self-awareness	Self-insight	Feedback seeking
Feedback responsiveness		
Environmental Mindfulness		
	Speed	
	Information gathering	

CONSIDERATIONS FOR THE ASSESSIO LEARNING AGILITY MODEL

Although the three LA models have much utility, we made a strategic decision to build Assessio's LA model upon the same framework used by KornFerry's viaEdge™ tool. This decision was two reasons: First, the model was the original and most parsimonious framework to describe LA (Lombardo & Eichinger, 2000). Second, it has received the most attention from the scientific and practitioner community, resulting in many empirical research papers and widely understood within the industry (De Meuse, 2017).

To improve the psychometric and scientific foundations of the Assessio LA tool, a few modifications were made to this model. First, refinements to the definitions of the five dimensions were made so that they are more narrow and clearly defined constructs. This was motivated by previous tools having non-orthogonal factors and difficulties in defining what LA scales should be measuring. Second, an effort was made to not focus on *ability* but *agility* — a distinction other tools fail to make. Third, we operationalized constructs that are widely supported in the I/O literature, as opposed to poorly defined concepts, relabeled talents, or faddish ideas. Last, the Assessio LA tool also simplifies the scoring model to improve transparency. Doing so minimizes bias, limits loss of data through transformations, and minimizes assumptions. The Assessio scoring model is designed to be easily understood by consultants, who are required to know how LA scores are computed relative to other assessments scores and defend results to their clients.

DEFINING LEARNING AGILITY & DIMENSIONS

Integrating the scientific literature, Assessio's model identifies LA as the tendency to be curious and have a hungry mind, be quick to learn from experiences, and flexibly apply knowledge to overcome

new challenges (De Meuse, 2017; DeRue et al., 2012; Lombardo & Eichinger, 2000). In practice this describes an individual who seeks out opportunities to learn and expand their understanding. They are eager to develop new skills, create novel approaches and easily adapt to new situations. They are skilled at quickly changing course and are capable of abandoning behaviors that worked in the past and replacing them with new behaviors that meet demands of the future. High scoring individuals are intellectually quick, keen to learn, curious and cooperative. Low scoring individuals are routine thinkers, independent, somewhat rigid and unimaginative.

As described above, given its simplicity and popularity, the new Assessio LA model was conceptualized upon De Meuse et al.'s model (2010). To improve measurement accuracy and the psychometric properties, the definition of each dimension was narrowed. The five dimensions can be defined as:

CHANGE AGILITY

Change Agility refers to the tendency to be curious, flexible, interested in novelty, and quick to change direction. High scoring individuals enjoy experimentation, trying out different things and are open to new experiences. They seek simulating and changing work that offers new ways of doing things. Individuals with low Change Agility can be described as rigid and uninterested in new ideas. They tend to be traditional and prefer to stick with what is familiar. They seek stable, secure work with predictable colleagues and management.

MENTAL AGILITY

Mental Agility refers to the tendency to quickly generate viable solutions, reframe problems, identify patterns in data, and engage in complex thought processes. High scoring individuals have an analytical mindset, are comfortable working with unclear data. They are prepared to apply new approaches and discard behavior or ideas that no longer work. These individuals quickly make fresh connections and are comfortable with ambiguity. Individuals with low Mental Agility tend to struggle to find multiple solutions to unknown problems, they rely on "tried and true" approaches and methods, and do not creatively connect the dots. They are practical, prefer routines and dislike complexity.

PEOPLE AGILITY

People Agility refers to the tendency to be collaborative, open to others' ideas and perspectives, and trusting. High scoring individuals are prepared to cooperate, share information freely and communicate widely. They are highly collaborative, cooperative, and communicative. Low scoring individuals tend to be independent, reserved and competitive with others. They are disinterested in other's perspectives or ideas, skeptical and uncommunicative. These individuals tend to be individual contributors.

RESULTS AGILITY

Results Agility refers to the tendency to be goal-oriented, proactive and ambitious while remaining adaptive under tough circumstances. High scoring individuals set big goals, want to win and push themselves to achieve. They prefer competitive, challenging and demanding work that requires high

standards. Low scoring individuals are more likely to lose motivation and confidence when faced with obstacles, prefer unchallenging tasks and low competition projects with low demands. They are uninterested in progression and avoid testing circumstances.

SELF-AWARENESS

Self-awareness describes the tendency to act with humility, remain open to feedback, and be prepared to admit gaps in knowledge. High scorers seek help if needed, aren't arrogant or overconfident. They are particularly skilled at understanding and managing their emotions. They also have high levels of self-efficacy, self-esteem and internal locus of control. Conversely, low scorers struggle to keep their emotions in check, resist feedback, may over- or under-estimate their abilities, and lack awareness of their gaps.

Assessment Development & Psychometric Overview

This chapter first describes the process and methodology used to develop the LA assessment. We then present the assessment's psychometric properties, specifically descriptive statistics, estimates of internal consistency, and factor structure. Finally, we describe the scoring model and how it can be used to interpret results.

ITEM DEVELOPMENT & VALIDATION

A scientific and robust development process was used to create the LA assessment. First, Subject Matter Experts (SMEs) with advanced degrees in I-O psychology and psychometric assessments reviewed the scientific literature on existing models of LA. This led to the identification of the five behavioral domains described by De Meuse et al. (2010) that were ultimately used to build Assessio's LA model. These include: *Change Agility, Mental Agility, People Agility, Results Agility* and *Self-Awareness*.

Second, utilizing this behavioral taxonomy, the SMEs developed descriptive profiles for each LA dimension including strengths, weaknesses, displayed behaviors, values, and interests of each behavioral domain. They then reviewed and evaluated Assessio's MAP and MatchV assessment items against these LA dimension descriptions, and generated a pool of items that were hypothesized to measure the most characteristic motivations, attitudes and behaviors associated with each dimension. The initial item pool contained 151 item statements (e.g. "I like change" & "I like doing things differently"). Participants respond to the item statements using a 4-point Likert scale to indicate whether they agree or disagree with the statement. After generating the item pool, our team of SMEs performed face and content validity checks to ensure agreement.

Third, we sought to further reduce the number of items in an effort to retain those that created scales with the best psychometric properties. This was achieved by using data from a sample of 133 working adults and statistical techniques (i.e. descriptive statistics, item correlations, measures of internal consistency, and exploratory factor analysis). This process resulted in the number of items being reduced down to 42 items, with 9 items in the Change Agility, Mental Agility, People Agility and Results Agility scales and 6 items in the Self-Awareness scale. Each of the five scales were identified to have desirable psychometric properties, which are described in detail in the next section.

Fourth, we tested the assessment's construct and criterion validity, alongside confirm its psychometric properties. To achieve this, we collected two additional samples of working adults. The first sample was collected in a low-stakes, research setting (N = 456). When completing the Learning Agility assessment, participants also completed a battery of psychometric inventories. Specifically, measures of the Five Factor Model, the Dark Triad and other Learning Agility measures. The second sample was collected in a high-stakes setting as a part of a job application process (N = 1,214). Collecting data from multiple samples allowed us to test the stability and generalizability of the assessment's psychometric properties and validity.

The final step involved building a normative database so that an individual's scores can be compared, benchmarked against a representative population, and tested for adverse impact.

To achieve this, we aggregated all data that had been previously collected. In sum, data was collected from over 1,700 working adults to develop and validate the LA assessment. The following chapters describes the results of these analyses and the psychometric properties of each scale.

DESCRIPTIVE STATISTICS & SCALE RELIABILTY

The descriptive statistics for the five scales are presented in **Table 2**. For each scale, the mean score and its standard deviation are presented alongside the minimum and maximum scores, and an estimate of the scale's reliability.

Each item was designed to measure the characteristic motivations, goals, beliefs and attitudes associated with the five dimensions. Individuals respond to items using a four-point Likert scale (Strongly Disagree/Disagree/Agree/Strongly Agree; for value adjectives). As there are 9 items per scale, in the first four scales, the minimum score is 9 and the maximum score is 36. Since Self-Awareness scale only had 6 items, the minimum score is 6 and the maximum score is 24.

The mean score for each of the Agility scales are similar, ranging from 25.55 (Change Agility) and 30.51 (Results Agility). The standard deviations for all scales indicate a similar spread of scores around the mean. Respective minimum and maximum scores indicate that a wide range of scores were reflected. Overall, the scales are normally distributed as evidenced by the Skewness and Kurtosis scores. The Skewness and Kurtosis statistic for Results Agility however reveals a slight left skew in the distribution of scores. Finally, the scales display acceptable levels of internal consistency, suggesting that participants respond to each item in a consistent manner (estimates greater than >.60 are desirable; Cronbach, 1951). Moreover, reliability scores between participants that responded in a low-stakes context (research panel) and a high-stakes environment (as part of the job selection process) are comparable, suggesting the scales have good levels of internal consistency and are not overly influenced by contextual factors.

Table 2: Descriptive Statistics & Reliabilities

Scale	N	M	SD	Med	Min	Max	Skew	Kurtosis	α_1	α_2
Change Agility	1670	25.55	4.28	26	9	36	-.29	.24	.87	.78
Mental Agility	1670	27.58	3.84	28	10	36	-.42	.74	.83	.71
People Agility	1670	28.97	4.26	29	10	36	-.75	.70	.80	.75
Results Agility	1670	30.51	4.17	31	10	36	-.92	1.33	.89	.86
Self-Awareness	1670	18.35	2.90	18	7	24	-.38	.21	.69	.65
LA Total	1670	130.96	14.06	132	62	167	-.63	.82	.91	.88

Note: M = Mean, SD = Standard Deviation, Med = Median, Min = Minimum, Max = Maximum, Skew = Skewness, Kurt = Kurtosis; α_1 = Cronbach's alpha, low-stakes sample, α_2 = Cronbach's alpha, high-stakes sample.

SCALE CORRELATIONS

Table 3 displays the correlation between the five scales and the total LA score. These correlations were computed to understand how scores on each scale are related to each other. Overall, the scales hold moderate correlations with each other, and the size of these correlations does not vary much across the different scales.

Table 3: Scale Correlations

Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
Change Agility	—				
Mental Agility	.46	—			
People Agility	.31	.28	—		
Results Agility	.47	.40	.50	—	
Self-Awareness	.27	.27	.52	.51	—
LA Total	.72	.67	.73	.81	.67

Note: N = 1,670. * *p* < .05.

EXPLORATORY FACTOR ANALYSIS

Table 4 displays the results of an exploratory factor analysis with an oblimin rotation. As standard practice, a Scree plot was inspected to identify the number of factors to extract. This indicated 5 factors. Upon extracting 5 components and inspecting the rotated pattern matrix, items loaded on distinct components as hypothesized.

Overall, the factor analysis explained 42% of the variance. Results Agility and People Agility accounted for the most variance (12% & 9%, respectively), followed by Change Agility (8%), Mental Agility (7%) and Self-Awareness (6%).

Table 4: Results from an Exploratory Factor Analysis

Item	1. Results Agility	2. People Agility	3. Change Agility	4. Mental Agility	5. Self-Awareness
Change-1			.75		
Change-2			.62		
Change-3			.74		
Change-4	.26		.47		
Change-5			.49		
Change-6			.27	.33	
Change-7			.61		
Change-8			.29		
Change-9			.34		
Mental-1				.36	
Mental-2				.59	

Mental-3				.59
Mental-4	.35			.32
Mental-5	.33			.43
Mental-6				.82
Mental-7				.56
Mental-8	.30			.41
Mental-9				.30
People-1		.64		
People-2		.43		
People-3		.48		
People-4		.68		
People-5		.71		
People-6		.70		
People-7		.51		
People-8		.64		
People-9		.61		
Results-1	.63			
Results-2	.60			
Results-3	.68			
Results-4	.76			
Results-5	.81			
Results-6	.54			
Results-7	.67			
Results-8	.65		.30	
Results-9	.66			
Self-awareness-1				.67
Self-Awareness-2		.25		.59
Self-Awareness-3				.28
Self-Awareness-4				.42
Self-Awareness-5	.27			.38
Self-Awareness-6				.69

Note: *N* = 133. Loadings less .25 are not shown for presentation purposes.

CONFIRMATORY FACTOR ANALYSIS

A confirmatory factor analysis (CFA) was conducted in an attempt to replicate the factor structure and the hypothesized dimensionality of the LA assessment. To conduct the CFA, the data collected from the high-stakes sample was used (N = 1,214).

The specified model replicated the pattern matrix displayed in **Table 4** by featuring five covarying latent factors with the respective items loaded on to it. Model fit was assessed via a handful of indices: the χ^2 statistic (Bollen, 1989; which tests the hypothesis that an unconstrained model fits the correlation matrix as well as the given model; *p* > .05 is desired); the goodness of fit index (GFI; Tanaka & Huba, 1985; values above .90 are acceptable); the comparative fit index (CFI; Bentler, 1990; values

above .95 are acceptable); and the root mean square residual (RMSEA; Browne & Cudeck, 1993; values of .06 or below indicate reasonable fit for the model).

The hypothesized model did fit the data: χ^2 (809) = 4427.86, p < .001; GFI = .83; CFI = .74; RMSEA = .06. Given this, modifications were made based on the modification indices, expected parameter change statistics, and standardized residuals. Parameters were added only if they made theoretical sense. The fitted model was found to fit the data: χ^2 (735) = 2102.76, p < .001; GFI = .92; CFI = .90; RMSEA = .04. An illustration of the fitted model can be seen in **Figure 1**. These results, in conjunction with the aforementioned EFA, confirm that the theorized structure and dimensionality of the LA assessment is empirically supported.
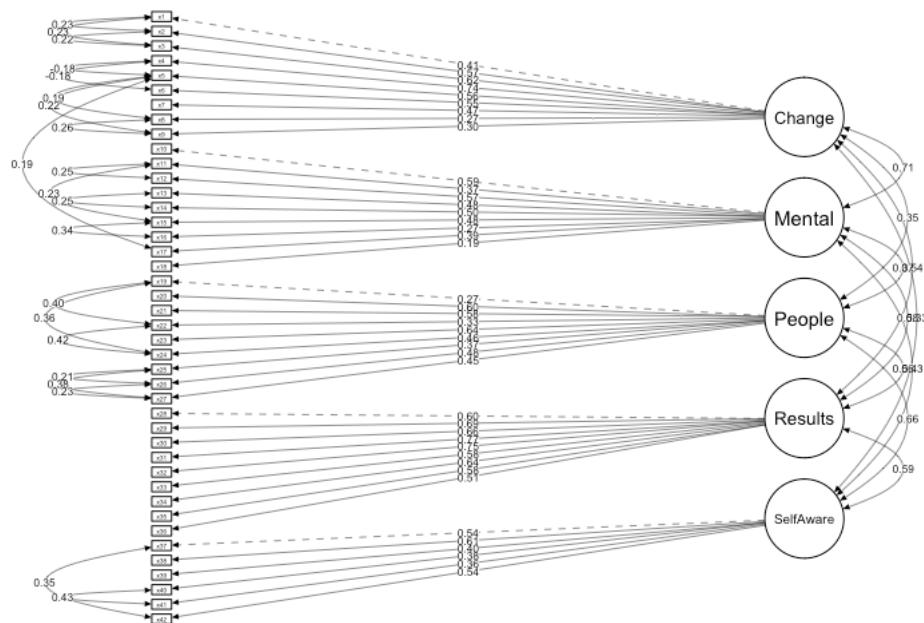
Figure 1: The Fitted CFA Model.
Note: All item loadings and covariances are statistically significant (*p* < .05). Loadings less .18 are hidden for illustration purposes.

NORMATIVE SCORING

To calculate an individual's level of LA across the five dimensions, and at an overall level, a scoring model was developed. This scoring model standardized scores so that meaningful comparisons of one's talent can be made. Further, it also weighted responses on the four Agility dimensions, based on one's level of Self-Awareness. This is in line with scholars who hypothesized Self-Awareness to moderate one's ability to be learning agile (De Meuse, 2017; DeRue et al., 2012).

To score the four LA dimensions, the following model is used:
1. For each dimension, including Self-Awareness, compute a raw composite score and then transform it into a Sten score.

2. For every 1 unit increase in the Self-Awareness Sten score, add .25 to all other dimension Sten scores.
3. Cap all transformed scores so that final LA scores are no less than zero or greater than ten.

To calculate the overall LA score:
1. Compute a single composite score from all item responses
2. Transform the composite score into a Sten score.
3. Cap the Sten score so that is no less than zero or greater than ten.

As the moderating influence of Self-Awareness on the four LA dimensions has only been theorized, and not empirically tested in previous scientific research, considerations were made when developing the scoring model. To limit the number of assumptions placed on the data, common method bias, and range restriction, it was decided that Self-Awareness should only serve as a positive, and not punitive, influence on dimension scores. This approach does not impose a fully hierarchical structure whereby Self-Awareness scores determine both upper and lower bounds on the other agility scores.

In practice, the scoring model allows for individuals to have "raw talent" and score high across the four agility dimensions, yet still lack Self-Awareness and have that as a developmental priority. Conversely, Self-Awareness can serve as a "coachability" indictor for individuals who score high on this dimension but lower on the four agility dimensions — highlighting what is possible with additional developmental support, coaching and training.

Finally, when deciding the weighting value for Self-Awareness, multiple solutions were tested, and their ability to further differentiate individuals was modelled. The final weighting value (.25 per unit increase in Self-Awareness) can be adjusted as more data is collected and research conducted.

Construct Validity

The previous chapter demonstrated that the assessment exhibits good internal reliability and factor structure. In this chapter, we explore the assessment's construct validity and answer the question: "to what extent do scores on the dimensions correlate with well-established psychological constructs?"

Two forms of construct validity were explored: *convergent validity* (the extent to which a scale correlates with other variables that are hypothesized to measure a similar behavioral domain) and *discriminant validity* (the extent to which a scale does not correlate with variables that measure different behavioral domains). Establishing convergent and discriminant validity is important in psychometric construction as it places the scales within a nomological network of psychological constructs. This serves as additional evidence that the LA scales are measuring the intended behaviors and increases the interpretability of scores.

Although the below analyses demonstrate multiple forms of construct validity for the LA assessment, further evidence is needed to confirm the tool's predictive validity. That is, its ability to predict future work outcomes. As stated by the American Psychological Association's guidelines and regulations, it is critical to demonstrate predictive validity if the tool is to be used in applied settings and inform selection or hiring decisions.

CONVERGENT & DISCRIMINANT VALIDITY

The below section describes the measures used to test the convergent and discriminant validity of the LA assessment, alongside the presentation and interpretation of these analyses. To test the assessment's convergent and discriminant validity, we chose inventories that were related to the assessments theoretical model, and widely used within research and applied contexts.

MEASURES

Assessio "Measuring and Assessing individual Potential" Inventory (MAP; Sjöberg, Svensson, & Sjöberg, 2019)

Assessio's MAP assessment is a personality inventory based on the Five Factor Model of personality. The assessment contains 200 items (40 per scale), which are scored into composites representing each dimension of the FFM. Further, there are five sub-scales per FFM dimension. Participants respond to items using a 4-point Likert scale (Strongly Disagree / Disagree / Agree / Strongly Agree). The MAP assessment can be used for screening and selection to predict workplace behavior, at the individual contributor, manager and leader level. The technical manual reports the assessment to have optimal levels of internal reliability (> .80), a robust factor structure, and to be predictive of critical outcomes, such as managerial performance.

Mini-IPIP Big Five Personality Inventory (Donnellan, Oswald, Baird, & Lucas, 2006)

The Mini-IPIP Big Five inventory is a 20-item version of the widely used IPIP Big Five inventory (Goldberg et al., 2006). It measures five dimensions: Extraversion, Agreeableness, Conscientiousness, Emotional Stability and Openness. The Big Five model of personality has become the de facto

taxonomy for organizing, describing and measure personality dimensions. The taxonomy has found to predict a host of life and work-related outcomes (Barrick & Mount, 1991). Participants responded to each item using a five-point Likert scale (Strongly Disagree to Strongly Agree).

The Deeper Signals Core Drivers Diagnostic (Akhtar, Ort, Winsborough, & Premuzic, 2019)

The Deeper Signals Core Drivers (CD) diagnostic consists of 60 forced-choice adjective pairs. The assessment requires individuals to choose adjectives that best describe them. It consists of six dimensions that are based on the Five Factor Model of personality. These are: Outgoing (Extraversion Sociability), Drive (Extraversion-Proactivity), Considerate (Agreeableness), Disciplined (Conscientiousness), Stable (Emotional Stability) & Curious (Openness). The scales display good levels of internal consistency (α >.70), and a high level of convergent validity with other measures of the Five Factor Model (r > .50), and other psychometric inventories.

Hogan Personality Inventory: International Personality Item Pool Form (HPI:IPIP; Goldberg et al., 2006; Hogan & Hogan, 2007)

The HPI:IPIP is a non-commercial version of the HPI — a popular personality assessment used in selection and development contexts. The HPI has been found to predict a range of relevant work outcomes, such as job performance, leadership effectiveness and innovation (for a review, see Akhtar, Humphreys, & Furnham, 2015). The HPI:IPIP measures seven behavioral dimensions: Adjustment, Ambition, Sociability, Interpersonal Sensitivity, Prudence, Inquisitiveness, and Learning Approach. The inventory consists of 70 items, with participants responding to each item using a five-point Likert scale (Strongly Disagree to Strongly Agree). The average correlation between the HPI:IPIP and HPI scales is .70, suggesting a high level of convergent validity between the commercial and non-commercial version of the assessment.

The Dark Triad Dirty Dozen (Jonason & Webster, 2010)

The Dirty Dozen is a 12-item inventory for The Dark Triad of personality. The Dark Triad represents three broad social malevolent and agentic dimensions of personality: Psychopathy, Narcissism and Machiavellianism. Individuals who score highly on these three dimensions of personality are likely to be callous, uncaring and selfish (Psychopathy), egotistical and over-confident (Narcissism), and manipulative and exploitative (Machiavellianism). These dimensions have been found to predict job performance, engagement and work-related behaviors (Furnham, Richards, & Paulhus, 2013). Participants responded to each item using a five-point Likert scale (Strongly Disagree to Strongly Agree). Each scale was found to have acceptable levels of internal consistency (α > .70).

The Computerized Adaptive Assessment of Personality Disorders (CAT-PD; Simms et al., 2011)

The CAT-PD was developed to measure the alternative DSM-V model of personality disorders. The assessment contains 216 items, measuring 33 specific problematic dispositions that can be organized into the five overarching domains. Given the applied nature of the LA assessment, data was not collected on all CAT-PD sub-scales due to their emotional sensitivity (i.e. depression, self-harm, etc.) or irrelevance (i.e. romantic disinterest). Data was only collected from the "Non-Perseverance" sub-

scale, measuring the tendency to lack drive, resilience and determination. Participants respond to each item using a five-point Likert scale (Very untrue of me / Untrue of me / Neutral / True of me / Very True of Me). The level of internal consistency for the selected sub-scale was .83.

Need for Cognition (Cacioppo & Petty, 1982)

The Need for Cognition (NCS) scale was developed to assess individual differences in how people tend to participate in and enjoy thinking. The scale includes 34 items and participants respond to each item using a nine-point Likert scale ranging from +4 = very strong agreement to -4 = very strong disagreement. This scale is identified to be positively correlated with general intelligence and have a weak negative relationship with being close-minded. The level of internal consistency for this scale was .79.

The Core Self-Evaluations Scale (Judge, Erez, Bono, & Thoresen, 2003)

The Core Self-Evaluations Scale (CSES) is a short 12-item scale designed to measure fundamental evaluations about how people think themselves, their own abilities and their own control. People who have high core self-evaluations will think positively of themselves and be confident in their own abilities. Participants responded to each item using a five-point Likert scale (Strongly Disagree to Strongly Agree). The CSES has been found to correlate significantly with four specific core traits - self-esteem, generalized self-efficacy, locus of control, and emotional stability. This scale is also identified to be significantly related to job satisfaction, job performance, feedback sensitivity and emotional regulation. The level of internal consistency for this scale was .82.

The HEXACO Personality Inventory (Lee & Ashton, 2004)

The HEXACO model of personality consists of six factors of personality: Honesty/Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness along with four facets of each factor. For the purposes of this analysis, participants only completed items from the Honesty/Humility scale. Persons with very high scores on the Honesty-Humility scale are humble, open to feedback, sensitive to the needs of others and skilled at managing their ego and emotions. Participants were asked their agreement (Strongly Disagree / Disagree / Neutral / Agree / Strongly Agree) with the statements. The scale consists of 10 items, has high levels of internal consistency and is found to be a valid predictor of life and work outcomes (Ashton & Lee, 2009).

HFMtalentindex Learning Agility Inventory (Hofkes & Busato, 2015)

HFMtalentindex's measure of Learning Agility, consists of five dimensions: *Change Agility, Mental Agility, People Agility, Results Agility* and *Self-Awareness*. Similar to the Assessio LA assessement, HFMtalentindex's tool is also comprised of personality and value statements. Although the two LA assessments measure similar dimensions, there are subtle differences in the way behaviors are operationalized. Most notably, Self-Awareness is measured as a function of one's level of Openness to Experience, whereas the Assessio LA tool operationalizes Self-Awareness as a function of one's level of self-efficacy and emotional regulation. The tool has been widely used in selection and development contexts throughout Europe and found to have good psychometric properties. Internal reports indicate that the reliability estimates for the five dimensions range between .73 to .86.

Learning Agility Self-Assessment (Gravett & Caldwell, 2016)

The Learning Agility Self-Assessment is a diagnostic tool developed by Gravett & Caldwell (2016) to raise self-awareness and direct professional development. This diagnostic contains 25 item statements measuring *Mental Agility* ("I easily retain new information."), *Change Agility* ("I can deliver results amidst changing circumstances"), *People Agility* ("I enjoy learning from others") *and Results Agility* ("I find satisfaction in digging deeply into ways to solve problems"). Our own analyses revealed this inventory to have good psychometric properties in that scales were normally distributed, had high levels of reliability ($\alpha > .70$) and a clear factor structure.

Self-Reflection Inventory (Mitchinson & Morris, 2014)

The Center of Creative Leadership's (CCL) Learning Agility framework consists of five dimensions: *Innovating, Performing, Reflecting, Risking and Defending*. Given the conceptual overlap with many of these dimensions with those assessed in other inventories we collected data on, for the purpose this analysis, participants only responded to the *Reflecting* dimension. Like Gravett & Caldwell's (2016) self-assessment, CCL's inventory is designed to be a self-assessment for development purposes. The authors define *Reflecting* as the tendency to be hungry for feedback and spend focused energy processing information so as to better understand their own assumptions and behavior. Four items were used to measure this dimension:

1. I make time to critically reflect on my professional experiences.
2. I examine past failures for lessons.
3. I move quickly from one task to another in order to accomplish more.
4. I put failure quickly behind me in order to focus on the next challenge.

Individuals rate themselves on each item using a five-point Likert scale indicating the extent to which they strongly disagree or strongly agree with the statements. Scores could range between 4 and 20, and the scale was found to have good levels of internal consistency ($\alpha = .76$).

Feedback-Seeking Inventory

To measure the extent to which someone seeks out developmental feedback from their peers and colleagues to facilitate professional development, a short inventory was developed. Items were developed by our team of SMEs and evaluated for face and content validity. Before their inclusion in the validity analysis, data was collected to test the inventory's level of internal consistency, ensure it is a unidimensional measure, and scores were normally distributed. These conditions were met. The items used to measure this disposition were:

1. I regularly seek feedback from my supervisor so I can improve at work.
2. I welcome feedback from my colleagues.
3. I use feedback to develop as a professional.

Individuals rate themselves on each item using a five-point Likert scale indicating the extent to which they strongly disagree or strongly agree with the statements. Scores could range between 3 and 15, and the scale was found to have good levels of internal consistency ($\alpha = .76$).

The Values in Action (VIA) Classification of Strength (Peterson & Seligman, 2004)

The VIA Classification of Strengths inventory measures 24 universally valued positive traits that influence curiosity, kindness, hope and individual differences such as curiosity. The self-report measure comprises 240 items (10 items per strength) and is intended to be used by adults. Participants respond on a 5-point Likert scale ranging from 1= very much unlike me to 5 = very much like me. Each scale was found to have acceptable levels of internal consistency (α > .70). For the purposes of this analysis, participants only completed items from the Integrity scale.

Short Grit Scale (Duckworth & Quinn, 2009)

The Grit scale is a measure that was developed to assess the traits of *perseverance* and *passion* in individuals for long-term goals. The assessment contains 12 items and participants respond on a five-point Likert-type scale (Strongly Disagree to Strongly Agree). Adults with higher scores on the grit scale have been found to have advanced further in their academic pursuits and made a smaller number of career changes (Duckworth & Quinn, 2009)

CONVERGENT & DISCRIMINANT VALIDITY RESULTS

The following section describe the convergent and discriminant validity of the LA assessment. Attention is paid to highlighting and interpreting the largest and theoretically consequential correlations. We first discuss how the LA assessment correlates to other Five-Factor personality tools (e.g the MAP, Core Drivers Diagnostic, HPI, & Mini-IPIP), before discussing relationships held with other measures of Learning Agility (e.g. HFM), narrow measures of personality (e.g. Need for Cognition, Self-Reflection & Feedback Seeking), and inventories measuring dysfunctional dispositions (e.g. the Dark Triad).

Table 5 displays the correlations between LA and measures of the Five Factor Model of personality, specifically the Assessio MAP Inventory, the Mini-IPIP Big Five Personality Inventory, the Deeper Signal's Core Drivers and the Hogan Personality Inventory.

Studying the correlations, it can be seen that the LA assessment holds many large and statistically significant correlations with personality measures. Moreover, these correlations were consistent across the multiple measures of the Five-Factor dimensions. For example, Change Agility was most strongly correlated with measures of Extraversion. Mental Agility was most strongly correlated with measures of Openness. People Agility was most strongly correlated with measures of Agreeableness. Results Agility was most strongly correlated with measures of Conscientious and Ambition. Self-Awareness was most strongly correlated with measures of Emotional Stability. All dimensions were correlated with measures of ambition, proactivity and drive.

These correlations are theoretically aligned with the developed Learning Agility framework, and portray a learning agile individual as someone who is drawn to novelty and stimulation (i.e. Change Agility & Extraversion); enjoys thinking about and solving complex problems (i.e. Mental Agility & Openness); cooperative and collaborative (i.e. People Agility & Agreeableness); hard-working and goal-oriented (i.e. Results Agility & Conscientiousness); and able to understand, manage and regulate their emotions (i.e. Self-Awareness & Emotional Stability).

Table 5: The relationship with Five-Factor Model inventories

Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
1. Extraversion	.67*	.28*	.67*	.45*	.35*
2. Agreeableness	.31*	.29*	.83*	.26*	.27*
3. Conscientious	.33*	.42*	.29*	.80*	.40*
4. Emotional Stability	.44*	.33*	.50*	.58*	.81*
5. Openness	.34*	.64*	.27*	.19*	.07
6. Extraversion	.47*	.27*	.33*	.28*	.26*
7. Agreeableness	.03	.22*	.54*	.29*	.18*
8. Conscientiousness	-.03	.10*	.29*	.41*	.30*
9. Emotional Stability	.19*	.26*	.47*	.47*	.65*
10. Openness	.20*	.58*	.33*	.28*	.29*
11. Considerate	-.08	.02	.47*	.14*	.19*
12. Organized	-.26*	-.08	.13*	.27*	.10
13. Driven	.54*	.36*	.13*	.37*	.32*
14. Outgoing	.46*	.26*	.44*	.38*	.31*
15. Curious	.31*	.40*	.05	-.02	.03
16. Stable	.44*	.36*	.43*	.42*	.59*
17. Adjustment	.19*	.33*	.51*	.50*	.61*
18. Ambition	.47*	.49*	.49*	.56*	.54*
19. Sociability	.51*	.24*	.34*	.30*	.12
20. Interpersonal Sensitivity	.37*	.22*	.74*	.52*	.53*
21. Prudence	-.08	.04	.44*	.29*	.29*
22. Inquisitiveness	.44*	.68*	.13	.40*	.20*
23. Learning Approach	.23*	.49*	.13	.30*	.32*

Note: 1-5: MAP, N = 133. 6-10: IPIP Big Five, N = 456. 11-16: The Core Drivers Diagnostic, N = 456. 13-17: 17-23: HPI, N = 456. * Correlations are statistically significant at $p < .05$ level.

Table 6 displays the correlations between the Assessio LA assessment and two other LA inventories (Gravett & Caldwell, 2016; Hofkes & Busato, 2015). When examining the analogous scales, the Assessio LA assessment indicates a strong correlation with all corresponding dimensions on both inventories. The only exception was Self-Awareness. As previously described Hofkes & Busato's operationalization of Self-Awareness differs to how we have developed the scale. The former indexes heavily on one's level of personality curiosity and interest in intellectual development, while the latter focuses on one's level of emotional regulation and self-efficacy. Nonetheless, these finding demonstrate the Assessio LA assessment to have a high degree of convergent validity with other LA tools.

Table 6: The relationship with other Learning Agility tools

	Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
1.	Change Agility	.44*	.44*	.36*	.25*	.18*
2.	Mental Agility	-.02	.58*	.04	.12	-.04
3.	People Agility	.06	.03	.49*	.00	.00
4.	Results Agility	.38*	.32*	.14	.45*	.27*
5.	Self-Awareness	.22*	.33*	.13	.27*	.01
6.	Change Agility	.58*	.57*	.45*	.50*	.32*
7.	Mental Agility	.17*	.52*	.45*	.46*	.33*
8.	People agility	.57*	.55*	.62*	.56*	.28*
9.	Results Agility	.33*	.56*	.29*	.44*	.29*

Note: 1-5: Hofkes & Busato's Learning Agility Inventory, N = 133. 6-9: Gravett & Caldwell's Learning Agility Inventory, N = 456. * Correlations are statistically significant at $p < .05$ level.

Table 7 displays the correlations between the Assessio LA assessment and four separate measures of narrow personality dimensions that are conceptually linked to being learning agile: Need for Cognition, Feedback Seeking, Self-Reflection and Core Self-Evaluations (CSE).

Mental Agility had a strong positive correlation with Need for Cognition, indicating that individuals who are comfortable dealing with complexity also tend to be those who tend to engage in and enjoy thinking. People Agility was strongly correlated with the Feedback Seeking, indicating that individuals who tend to be collaborative also have the tendency to seek feedback from others and be self-evaluative. Finally, as indicated by the strong correlation with the measure of CSE, individuals who scored high on Self-Awareness were likely to have high levels of self-efficacy, internal locus of control and high levels of self-esteem — dispositions that are critical for personal development, coaching and growth.

Table 7: The relationship with narrow personality traits

Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
Need for Cognition	.41*	.76*	.35*	.45*	.37*
Feedback Seeking	.43*	.44*	.52*	.49*	.23*
Self-Reflection	.29*	.45*	.38*	.43*	.21*
CSE	.33*	.36*	.55*	.62*	.66*

Note: N = 456. * Correlations are statistically significant at $p < .05$ level.

Table 8 displays the correlations between the Assessio LA assessment and measures of Integrity, Honesty-Humility and the Dark Triad.

Integrity was found to be most correlated with measures of People Agility and Results Agility. This suggests that both collaborative and goal-oriented individuals value presenting themselves with honesty and taking responsibility for their actions.

Honesty-humility was correlated with measures of Self-Awareness. This suggests that individuals are aware of themselves and their emotions, are more likely to act with modesty and humility. This means they are willing to accept when they are wrong, do not have all the answers, and shy away from extrinsic recognition and praise.

Finally, People Agility, Results Agility and Self-Awareness held moderate negative correlations with Narcissism and Psychopathy. These results align with the previous observations on how these dimensions tend to have strong value for integrity, modesty and humility.

Table 8: The relationship with measures of pro- and anti-social behaviors

Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
Integrity	.14	.33*	.46*	.48*	.36*
Honesty-Humility	-.03	.09	.28	.26	.42*
Machiavellian	-.01	-.18	-.23*	-.27*	-.32*
Psychopathy	.03	-.19	-.41*	-.35*	-.39*
Narcissism	.31*	-.07	.02	-.03	-.40*

Note: N = 456. * Correlations are statistically significant at *p* < .05 level.

Table 9 displays the correlations between the Assessio LA assessment and measures of Grit and Non-Perseverance. Grit held moderate positive correlations with People Agility, Results Agility and Self-Awareness scores. This indicates that the tendency to be perseverant and passionate about long-term goals is associated with the tendency to collaborative, results-oriented and self-aware. An inverse pattern of correlations was also found between the aforementioned agility scales and a measure of Non- Perseverance. Together these results demonstrate that individuals who score on the LA assessment are likely to display high levels of determination, focus and resilience.

Table 9: The relationship with Grit and Perseverance

Scale	Change Agility	Mental Agility	People Agility	Results Agility	Self-Awareness
Grit	-.01	.26*	.38*	.47*	.45*
Non-Perseverance	.13	-.19*	-.35*	-.30*	-.36*

Note: N = 456. * Correlations are statistically significant at *p* < .05 level.

SUMMARY OF VALIDTY EVIDENCE

The presented analyses effectively demonstrate the Assessio LA assessment to have strong construct validity. Through analyzing the correlations held between the LA assessment and other measures of relevant broad and narrow personality constructs, it can be concluded that the developed assessment and its five dimensions accurately sample and measure the critical behaviors associated with being learning agile.

Group Differences

This final chapter reports on the extent to which different genders and age groups have statistically significant different scores on the LA assessment. Understanding such differences may aid in the interpretation of feedback reports and scores. We then present the result for adverse impact simulations to demonstrate that the scales do not discriminate on the bases of age and gender.

Independent samples t-tests were conducted to investigate whether males and females, and under/over 40-years olds scored significantly different across the five scales. Cohen's d was also computed to understand to what extent are such differences are practically meaningful.

Table 10 indicates that there are several differences in average scores between individuals who are over or under 40 years old. Although age groups significantly differ on the Change Agility, Mental Agility and Results Agility, alongside the total LA score. With the exception of Change Agility, Cohen's *d* indicates that these differences are small to moderate and not practically meaningful. In the case of Change Agility, it is well documented that younger individuals are more likely to be drawn to change, and novel situations and activities (Schwartz, 2006).

Table 11 indicates that there are there are statistically significant differences between females and males. On average men tend to score higher on Change Agility and Mental Agility scales. Cohen's *d* suggests that the genders differences in Mental Agility are small, and not practically meaningful. There is however a moderate gender difference in Change Agility — a difference possibly explained by larger population trends in gender roles and behavior (Schwartz, 2006).

In summary, although there are statistically significant differences in LA scores between different demographic groups, most differences are small and unlikely to be practically meaningful. It is important to note that these results were based on a sample of individuals who completed the assessment in a low-stakes environment. Results will need to be re-examined once data from a high-stakes sample has been collected.

Table 10: Age Differences

Scale	Over 40 Mean	Under 40 Mean	t	df	d
Change Agility	22.26	25.61	-7.34*	427.56	-.69
Mental Agility	25.81	26.90	-2.55*	438.30	-.24
People Agility	25.31	25.63	-.77	430.49	-.07
Results Agility	27.63	28.83	-2.76*	437.15	-.26
Self-Awareness	16.75	16.62	.44	428.28	.04
LA Total	117.76	123.59	-4.13*	440.00	-.39

Note: Over 40 N = 213, Under 40 N = 229. *t* = *t* value, *df* = degrees of freedom, * *p* < .05, *d* = Cohen's d effect size (.00 - .19 = negligible; .20 - .49 = small; .50 - .79 = moderate; .80 <= large).

Table 11: Gender Differences

Scale	Female Mean	Men Mean	t	df	d
Change Agility	22.47	25.28	-6.00*	450.31	-.59
Mental Agility	25.32	27.32	-4.79*	412.41	-.44
People Agility	25.39	25.62	-.57	449.32	-.09
Results Agility	28.06	28.61	-1.28	441.14	-.11
Self-Awareness	16.48	16.91	-1.57	443.69	-.15
LA Total	117.73	123.73	-4.34*	447.59	-.42

Note: Female N = 217; Male N = 238. *t* = *t* value*, df* = degrees of freedom, * *p* < .05, *d* = Cohen's d effect size (.00 - .19 = negligible; .20 - .49 = small; .50 - .79 = moderate; .80 <= large).

ADVERSE IMPACT SIMULATIONS

Adverse Impact (AI) can be defined as "a substantially different rate of selection in hiring, promotion, or other employment decisions which works to the disadvantage of members of a race, sex or ethnic group" (see section 1607.16 of the *Uniform Guidelines on Employee Selection Procedures*; Equal Employment Opportunity Commission, 1978). The "Four-Fifths rule" can be used to determine whether an assessment has AI. Specifically, when the "selection rate for any race, sex or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact." (1978, see section 1607.4 D). Furthermore, given the Age Discrimination in Employment Act (1967) states that individuals over 40 years old need protection, assessments should not adversely impact younger or older individuals.

While the previous analyses demonstrated statistically significant, although only small to moderate, group differences, AI simulations of the 4/5ths rule were conducted to further demonstrate that the five scales do not adversely impact protected groups. To test for AI, we compared the selection rate of protected groups (e.g. females & over 40 year olds individuals) against the selection rate of non-protected groups (e.g. males & under 40 year olds). Ratios greater than or equal to .80 indicate that the assessment as no AI.

Although organizations do not need to conduct validity studies for selection tools that do not adversely impact protected groups, it is best practice that organizations do continually test for AI and continue to build evidence of criterion validity. As such, we recommend that organizations who use the LA assessment pilot the tool and collect such evidence before using it to inform their employee selection and development practices.

Table 12 contains the recommended cutoff scores when using the LA assessment for selection, promotion and hiring decisions. Cutoff scores represent a balance between screening out individuals with the lowest scores and not create adverse impact. While we supply these scores, we stress that low scores do not imply negative, unproductive or harmful behaviors. Accordingly, we recommend organizations conduct a job analysis to identify the most suitable personality profile before using the

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tool to make personnel decisions. Adding to this, if organizations use different cutoff scores to those listed below, it is their responsibility to evaluate the potential for AI.

Table 12: Recommended Selection Decisions Rules

	Does Not Meet Cutoff		Meets Cutoff	
	Raw Score	**Sten Score**	**Raw Score**	**Sten Score**
Change Agility	≤ 19	2	> 19	2
Mental Agility	≤ 21	1	> 21	1
People Agility	≤ 24	2	> 24	2
Results Agility	≤ 24	2	> 24	2
Self-Awareness	≤ 14	2	> 14	2
LA Total	≤ 110	1	> 110	1

Note: N = 435.

Using the cut-off scores listed above, we conducted AI simulations for two demographic dimensions: age and gender. **Table 13** contains the results of our AI analyses for gender groups, **Table 14** contains the results of AI analyses for age groups. Given that the AI ratio was greater than .80 across each scale and demographic group, we conclude that when using the recommended cut-off scores organizations should not expect to see adverse impact or bias.

Table 13: Selection & Adverse Impact Ratios for Gender

Scale	Female SR	Men SR	AI Ratio
Change Agility	.72	.85	.85
Mental Agility	.75	.93	.81
People Agility	.61	.62	.98
Results Agility	.84	.85	.99
Self-Awareness	.73	.82	.89
LA Total	.69	.84	.81

Note: SR = Selection Ratio; AI = Adverse Impact Ratio.

Table 14: Selection & Adverse Impact Ratios for Age

Scale	Over 40 SR	Under 40 SR	AI Ratio
Change Agility	.73	.85	.86
Mental Agility	.81	.88	.93
People Agility	.61	.62	.98
Results Agility	.81	.86	.94
Self-Awareness	.76	.79	.96
LA Total	.72	.80	.90

Note: SR = Selection Ratio; AI = Adverse Impact Ratio.

References

Age Discrimination in Employment Act of 1967. , Pub. L. No. Pub. L. No. 90-202, et seq (1967).

Akhtar, R., Humphreys, C., & Furnham, A. (2015). Exploring the relationships among personality, values, and business intelligence. *Consulting Psychology Journal*, *67*(3), 258–276.

Akhtar, R., Ort, U., Winsborough, D., & Premuzic, T. C. (2019). *The Deeper Signals Core Drivers Diagnostic Technical Manual*. New York, NY: Deeper Signals.

Ashton, M. C., & Lee, K. (2009). The HEXACO-60: A short measure of the major dimensions of personality. *Journal of Personality Assessment*, *91*(4), 340–345.

Barrick, M. R., & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance: A Meta Analysis. *Personnel Psychology*, *44*(1), 1–26.

Bentler, P. (1990). Quantitative methods in psychology: Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238-246.

Bollen, K. A. (1989). Structural Equations with Latent Variables. In *Structural Equations with Latent Variables*.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. B. and J. S. Long (Ed.), *Newbury Park, CA: Sage.* (pp. 136–162). Newbury Park, CA.

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, *42*(1), 116–131.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*(3), 297–334.

De Meuse, K. P. (2017). Learning agility: Its evolution as a psychological construct and its empirical relationship to leader success. *Consulting Psychology Journal*, *69*(4), 267–295.

De Meuse, K. P. (2019). A Meta-Analysis of the Relationship between Learning Agility and Leader Success. *Journal of Organizational Psychology*, *19*(1).

De Meuse, K. P., Dai, G., & Hallenbeck, G. S. (2010). Learning agility: A construct whose time has come. *Consulting Psychology Journal*, *62*(2), 119–130.

DeRue, D. S., Ashford, S. J., & Myers, C. G. (2012). Learning Agility: In Search of Conceptual Clarity and Theoretical Grounding. *Industrial and Organizational Psychology*, *5*(3), 258–279.

Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment*, *18*(2), 192–203.

Duckworth, A. L., & Quinn, P. D. (2009). Development and Validation of the Short Grit Scale (Grit–S). *Journal of Personality Assessment*, *91*(2), 166–174.

Equal Employment Opportunity Commission, Civil Service Commission, U.S. Department of Labor, & U. S. D. of J. (1978). Uniform guidelines on employee selection procedures. *Federal Register*, *43*, 38290–38309.

Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of Personality: A 10 Year Review. *Social and Personality Psychology Compass*, *3*(7), 199–216.

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. G. (2006). The international personality item pool and the future of public-domain personality measures. *Journal of Research in Personality*.

Gravett, L., & Caldwell, S. (2016). *Learning Agility: The Impact on Recruitment and Retention*. New York, NY: Palgrave Macmillan.

Hofkes, K., & Busato, V. (2015). *Learning Agility*. Amsterdam: HFM Talent Index.

Jonason, P. K., & Webster, G. D. (2010). The dirty dozen: a concise measure of the dark triad. *Psychological Assessment*, *22*(2), 420–432.

Judge, T. A., Erez, A., Bono, J. E., & Thoresen, C. J. (2003). The core self-evaluations scale: Development of a measure. *Personnel Psychology*.

Lombardo, M. M., & Eichinger, R. W. (2000). High potentials as high learners. *Human Resource Management*, *39*(4), 321–329.

Mitchinson, A., & Morris, R. (2014). *Learning about Learning Agility*. Greensboro, NC: Center for Creative Leadership.

Peterson, C., & Seligman, M. (2004). *Character Strengths and Virtues: A Handbook and Classification*.

Schwartz, S. H. (2006). Basic Human Values: An Overview. *Jerusalem Hebrew University*, 49–71.

Sjöberg, S., Svensson, C., & Sjöberg, A. (2019). *Measuring and Assessing individual Potential - Technical Manual*. Sweden: Stockholm: Assessio International AB.

Tanaka, J. S., & Huba, G. J. (1985). A fit index for covariance structure models under arbitrary GLS estimation. *British Journal of Mathematical and Statistical Psychology*, *38*(2), 197–201.