Wave-i

Technical Summary

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Wave-i Technical Summary

1.0 Introduction to Wave-i

- What does potential look like for us?
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These are questions that organizations are asking us and Wave-i is our answer. Wave-i goes beyond the constraints of one universal lens for looking at potential, giving you flex to capture the nuance that separates good from great.

Potential for what?

Capture the key characteristics of potential with the unique nuances separating good from great in your organization.

Traditional models of potential can be restrictive in terms of what they say and measure. They tend to present one very clear definition of potential that applies to all leadership across all organizations and fail to account for different types of leadership roles. Some also take a black-box approach, making it difficult to clearly see what sits behind an algorithm.

There are key characteristics for predicting leadership potential, and where these are backed by thorough research and scientific data, they are not to be discounted. However, sometimes we need to dive deeper. We know from working with our clients, one generic model of potential does not always work for all organizations, particularly those facing unique challenges. Whilst there may be overlap on the core, there could be differences on the key – this ability to flex is what unlocks truly successful high-potential assessments.

Potential for where?

Explore alignment to different types of leadership roles and create career paths for sustained performers.

In a survey of attendees to one of our webinars, 96% of organizations said the types of leadership roles they need are diversifying and nearly half (48%) said the number of specialist leadership roles in their organization is increasing. In the same way organizations shouldn't restrict themselves to looking at one definition of leadership potential, they shouldn't limit themselves to looking at one type of leadership role.

Career indicators are extremely valuable for highlighting the types of leadership roles or career tracks individuals are naturally aligned to. Are they more likely to be professional experts, people inspirers or pioneering innovators?

Capturing a lens on this has a dual benefit. Understanding the types of leaders coming through increases the chances of successfully closing any gaps and healing any weak links threatening the strength on your pipeline. We often see pinch points in the pioneering space, so by gathering data relating to this, you can be proactive rather than reactive. It also widens the opportunity for progression outside of what is often an exclusive cohort. Career tracks can be laid for everyone, whether identified as high potential or not. The webinar survey illustrated that 57% of organizations accept 20% or less of nominations on to their leadership programs. This means you are left with a situation where you are technically 'rejecting' more people than you are accepting.

However, unlike a recruitment campaign, the unsuccessful individuals are already employees, so careful consideration is needed. Telling someone you don't class them as high potential is incredibly disengaging and potentially damaging. Being able to position the program as something that helps everyone understand what their career path may look like provides a framework for positive development planning and career conversations outside of the limited hi-po group. It also strengthens organizational structures by developing people towards places they can add real value, outside of that very exclusive top tier.

Potential according to whom?

Minimize opportunity for bias and build more diverse leadership pipelines.

Despite unparalleled pace of change in many areas, the needle might be moving slower than we think when it comes to leadership development. Research from the Josh Bersin Academy showed that 75% of companies do not have DE&I included in their leadership development (Bersin, J. & Enderes, K., 2021). To improve the diversity of leadership pipelines for a new world of work, we need to look at who is identifying individuals as high potential. Most nominations onto leadership development programs involve the manager. Over half of the organizations in our survey relied on 'manager only' nomination, with just 7% saying they used self-nomination alone. The trouble with this is that managers often struggle to effectively identify potential. This is not just something we hear about from clients; we have seen it in our own research too. The reasons are multi-faceted, but unconscious bias is one of the most problematic. People identify those similar to them as high potential, which is not only inaccurate but also results in a pipeline of clones, seriously lacking in any diversity.

The 'tap-on-the-shoulder' manager- or stakeholder-nomination approach can also present motivational issues as these individuals haven't put themselves forward. Ambition and motivation are important aspects of potential and manager/stakeholder-nomination approaches by default fail to account for this. Self-nomination ensures individuals are motivated, however diversity issues can still occur; 'You can't be what you can't see'. If people don't see themselves represented higher up in the organization, they are unlikely to put themselves forward. There is also the issue of 'willingness vs readiness'. If certain experiences are key to being successful, this should be brought forward and made transparent at the start.

Why aren't more organizations opting for a self-nomination approach? Talking to Talent teams, hesitation around a hypothetical equation of increased opportunity and transparency will equal more rejection and disengagement. However, it could also be argued that the idea of this opportunity never being made available is disengaging and people already feel overlooked. A counter-balance to this reluctance is also the previously mentioned notion of career tracks.

What is Wave-i?

Wave-i is the end-to-end solution for strategically identifying and developing emerging talent and leaders. It offers a new way of capturing potential to accurately reveal the types of career or leadership role individuals will thrive in.

We define demonstrating potential as seeking career progression, demonstrating capabilities required for high-level roles and showing potential for promotion. Different behaviors are important for different roles, particularly those that involve more specific skills. However, we can also focus on the consistent behaviors which are linked to more general potential for higher-level and leadership roles.

Our Leadership Impact Model is a hierarchical model of leadership behaviors. At the top of the hierarchy, the 3P factors represent three main approaches to workplace leadership – Professional, People and Pioneering. We have created career indicator algorithms, based on behaviors most related to these three areas, to provide organizations with an indication of career leadership areas feeding into their talent pipeline and to provide individuals with guidance on the areas of leadership they are likely to be more suitable for to help guide development activities.

We have developed powerful prediction of potential based on over 15 years of Wave and performance data. The Wave-i algorithms were developed based on over 7,000 ratings of potential, refined to maximize fairness based on a group of over 18,000 international professionals and managers and further explored using a sample of over 30,000. These algorithms provide a data-driven approach to identifying individuals with core leadership potential and to hone in on the types of leadership they may be more suited to. The algorithms are weighted based on the Wave dimensions which have been identified as Critical, Highly Desirable and Desirable in core leadership, Professional leadership, People leadership and Pioneering leadership.

The Wave Professional Styles questionnaire utilizes the dynamic online rating and ranking format which results in both normative and ipsative scoring. This format is designed to give the benefits of both normative and ipsative formats, while reducing some of the negative consequences of each. One of the main drawbacks of normative scoring is the impact of acquiescence and social desirability, which is not an issue with ipsative scoring. Our standard reports display scores which combine both normative and ipsative, and in the case of Competency Potential scoring also upweights the ipsative scores to control more for acquiescence. In addition, the Ratings Acquiescence score is provided to aid interpretation of an individual's profile. Wave-i dashboarding is often applied to high-stakes scenarios where individuals may be more likely to respond in a generally positive way across the Wave behaviors. Where we develop algorithms based on scores from across a Wave behavioral tool to be used in high-stakes situations, we recommend using scores heavily weighted towards ipsative or even just ipsative scores. Therefore, Wave-i is based on ipsative scoring only.

Wave-i Model of Leadership Potential

i-Potential

The key potential score, based on our own research and big data. Individuals with strong core leadership potential will be those most likely to achieve leadership success in an organization.

Career Indicators

Additional scores that help to understand where individuals are more naturally orientated towards a particular type of career.

- **Professional**
  - Individuals with strong Professional potential are likely to be curious experts, with a desire to grow into best-in-class specialists in their fields
  - With strong positive impact on: Service & Product Delivery, Managed Risk, Expert Reputation
- **People**
  - Individuals with strong People potential will likely rally, inspire and bring people together to work towards a common goal
  - With strong positive impact on: Organizational Commitment, Successful Teams, Communication
- **Pioneering**
  - Individuals with strong Pioneering potential will likely drive towards growth, either through innovation or a sharp commercial focus
  - With strong positive impact on: New Products/Markets, Organizational Transformation, Organizational Growth

The intercorrelations of the career indicators demonstrate very good construct separation, which provides good evidence as these being three distinct areas of leadership. The Professional career indicator correlates -.61 with the People career indicator and .09 with the Pioneering career indicator. The People career indicator correlates -.08 with the Pioneering career indicator. The career indicators are all positively correlated with the i-Potential indicator which is reassuring given these three areas represent routes of leadership and i-Potential represents overall leadership potential. The Professional career indicator correlates .10 with the i-Potential indicator and the People career indicator correlates .36 with the i-Potential indicator. The Pioneering career indicator correlated .71 with the i-Potential indicator, which is higher than we would have liked, but unavoidable given the importance of behaviors which related to Pioneering in forecasting general potential. Development work focused on reducing this correlation while ensuring the concept of Pioneering was still captured and the validity of this career indicator was maximized.

2.0 Dashboarding and Reporting

The Wave-i dashboard presents group results against the Wave-i i-Potential and career indicators. It can be used to order and cut the group based on indicator scores, identify group trends across the metrics and the underpinning Wave dimensions, as well as drilling down into individual behavioral scores. For more practical information about the Wave-i dashboard, please refer to the Wave-i User Guide.

Wave-i dashboarding can be generated based on completions of the Saville Assessment Wave Professional Styles questionnaire. The dashboard is available for project administrators within an organization to access through the Oasys platform. Anonymized links can also be created and shared. The dashboard is designed to be intuitive and rich in information. No training is required, however a trained user should be available in the organization to support its interpretation. If there is no trained user within the organization, Saville Assessment can provide consultancy support on how to get the most out of the information contained in the Wave-i dashboard.

The dashboard is not intended to be shared with candidates and individual Wave-i score reports are not available as this does not align with the purpose, which is for organizations to identify high-potential individuals. However, Development Reports are available to support individual career development.

3.0 Reliability

This section provides two different forms of reliability evidence for Wave-i. Alternate form reliability is where two equivalent (parallel) versions of a questionnaire are completed by the same sample of individuals. Test-retest reliability is where the same sample of individuals complete the same questionnaire twice, with a time delay between the two completions. In both types of analysis, the two sets of scores are correlated and this provides a useful indication as to the consistency of the measure. A development aim of the Wave-i indicators was that these forms of reliability should be as high as possible.

3.1 Alternate Form Reliability

Table 1 shows alternate form reliability figures for the four Wave-i indicators. This is based on a sample of 1,153 participants who completed both the invited access and the supervised access versions of Wave Professional Styles. Wave-i indicator scores were calculated from the ipsative only data for these participants based on the Wave-i equations. The Wave-i indicators demonstrate high alternate form reliabilities with coefficients ranging from .92 (Professional career indicator) to .94 (Pioneering career indicator).

Table 1. Alternate Form Reliability – Invited Access (IA) vs. Supervised Access (SA) – Wave-i Indicators *(N=1,153)*

Wave-i Indicator	(IA) Mean	(IA) SD	(SA) Mean	(SA) SD	SEm (Sten)	r_t	Other Highest Correlation	Other Indicator
i-Potential	28131.84	2404.30	28072.56	2345.41	.53	**.93**	.74	Pioneering
Professional	22101.47	1725.46	22427.81	1728.92	.57	**.92**	.12	Pioneering
People	21605.28	2178.17	21543.66	2119.37	.57	**.92**	.41	i-Potential
Pioneering	20491.81	2258.27	20387.09	2318.87	.49	**.94**	.74	i-Potential
Mean Average	23082.60	2141.55	23107.78	2128.14	.54	**.93**	.50	
Median Average	21853.37	2218.22	21985.73	2219.12	.55	**.93**	.58	
Min	20491.81	1725.46	20387.09	1728.92	.49	**.92**	.12	
Max	28131.84	2404.30	28072.56	2345.41	.57	**.94**	.74	

3.2 Test-Retest Reliability

Test-retest reliability figures for the four Wave-i indicators are based on a sample of 100 participants who completed Wave Professional Styles twice with an average period of 18 months between the two completions. Wave-i indicator scores were derived from this Competency Potential nipsative data based on the Wave-i equations. The Wave-i indicators demonstrate high test-retest reliabilities with coefficients ranging from .83 (People career indicator) to .86 (i-Potential and Pioneering career indicator) and a median reliability of .85.

Overall, the alternate form and test-retest reliabilities provide clear evidence for the reliability of the consistency and stability of the Wave-i indicators and the construct separation of the career indicators.

Further information about reliability can be found in the Wave Professional Styles Handbook (Second Edition).

4.0 Validity

This section provides two different forms of validity evidence for Wave-i: criterion-related and construct validity.

Criterion-related validity is often regarded as the single most important property of an assessment. It involves correlating assessment scores with independently-evaluated criterion outcomes of job performance. The type of criterion-related validity evidence presented here is concurrent, where no time lag exists between when the assessment was completed and when the job performance criterion was measured.

Construct validity is the extent to which an assessment measures a hypothetical construct or area of human performance. The scores from an assessment with good construct validity would be expected to behave as if the underlying construct were directly being measured.

4.1 Criterion-Related Validity

Tables 2 and 3 display the correlations of the Wave-i indicators with external ratings of Demonstrating Potential and matched Professional/People/Pioneering respectively, as measured by the Wave Performance 360 questionnaire. Raw validities (r) are displayed along with corrected validities (r_c) which were corrected for attenuation based on the reliability of the criteria (for the research samples based on 263 pairs of criterion ratings, for the operational boss sample based on 472 pairs of criterion ratings and for the operational peer sample based on 1885 pairs of criterion ratings). No further corrections were applied (e.g. restriction of range, predictor unreliability).

Table 2. Concurrent Criterion-Related Validity of the Wave-i indicators from self-report data matched against external ratings of Demonstrating Potential, unadjusted and adjusted for criterion unreliability

Wave-i Indicator	Study 1: Epsom Research Sample		Study 2: Operational Sample				Study 3: Standardization Research Sample	
	(N=369)		Boss (N=1887)		Peer (N=1976)		(N=473-622)	
	r	r_c	r	r_c	r	r_c	r	r_c
i-Potential	.33	**.53**	.16	**.24**	.13	**.28**	.31	**.50**
Professional	.17	**.27**	.06	**.10**	.03	**.05**	.07	**.11**
People	.01	**.01**	.02	**.02**	.04	**.08**	.09	**.15**
Pioneering	.25	**.41**	.09	**.14**	.06	**.13**	.27	**.44**
Mean Average	.19	**.35**	.08	**.13**	.07	**.14**	.19	**.30**
Median Average	.21	**.43**	.08	**.12**	.05	**.11**	.18	**.29**
Min	.01	**.02**	.02	**.02**	.03	**.05**	.07	**.11**
Max	.33	**.53**	.16	**.24**	.13	**.28**	.31	**.50**

i-Potential was significantly related to ratings of Demonstrating Potential in all four samples. This is a critical underpinning of the Wave-i algorithm's prediction of i-Potential. This provides good evidence for the use of i-Potential to identify future potential. The replication of these relationships in different samples demonstrates cross-validation evidence that these relationships can be generalized.

While clear evidence of validity is demonstrated in all four samples, the validity was higher in the Epsom and Standardization research samples than the Operational sample groups. The primary difference in the methodology of the Epsom and Standardization research samples is that the raters were aware that the potential ratings they gave were kept anonymous and would not be shared with the individual they were rating. In the Operational sample, the raters were aware that their ratings would be shared with the individual being rated as part of the process. In particular, Boss ratings generally have no anonymity because each individual would typically only have and be rated by one boss. This means that there are likely to be other factors influencing raters within the Operational sample beyond simply the performance and potential of the individual they are rating (e.g. not wanting to upset them, their personal relationship, etc.). Therefore, the Operational sample demonstrates that the Wave-i indicators validate, but is less likely to give an accurate picture of the level of prediction of potential than the Epsom and Standardization research samples.

We have also provided information on how the different career indicators relate to potential. The Pioneering career indicator was significantly related to ratings of Demonstrating Potential in all four samples. The Professional career indicator was significantly related to ratings of Demonstrating Potential in three of the samples but was not significantly related in the Peer ratings. The People career indicator was significantly related to ratings of Demonstrating Potential in the Peer ratings and the Standardization sample but was not significantly related in the other two samples. This raises is an interesting point of difference for the Peer sample; perhaps they value People over Professional behaviors when considering which of their peers show potential for progression? Or maybe peers have less visibility on the Professional behaviors of their peers so base their evaluation more on the People behaviors?

While the primary development aim of the career indicators was to ensure they forecast potential in their respective career area (Professional, People or Pioneering), it is important that these career indicators are also related to increased overall potential. This provides good evidence that the career indicators are positively, and in some cases significantly, related to potential.

Table 4 displays the correlations between the Wave-i career indicators and external ratings of Professional, People and Pioneering, respectively, as measured by the Wave Performance 360 questionnaire. Validities (r_c) were corrected for attenuation based on the reliability of the criteria (for the research samples based on 263 pairs of criterion ratings, for the operational boss sample based on 472 pairs of criterion ratings and for the operational peer sample based on 1885 pairs of criterion ratings). No further corrections were applied (e.g. restriction of range, predictor unreliability).

Across the samples, the three career indicators were significantly related to matched external ratings. This provides good evidence for the use of the career indicators to highlight the most relevant career path.

Table 3. Concurrent Criterion-Related Validity of the Wave-i Career Indicators from self-report data matched against external ratings on composite matched behaviors, unadjusted and adjusted for criterion unreliability

Career Indicator with Matched Ratings	Study 1: Epsom Research Sample		Study 2: Operational Sample				Study 3: Standardization Research Sample	
	(N=369)		Boss (N=1887)		Peer (N=1976)		(N=473-622)	
	r	r_c	r	r_c	r	r_c	r	r_c
Professional	.27	**.55**	.20	**.28**	.12	**.23**	.21	**.43**
People	.21	**.36**	.20	**.30**	.16	**.30**	.38	**.64**
Pioneering	.26	**.52**	.18	**.24**	.12	**.22**	.38	**.77**
Mean Average	.25	**.48**	.19	**.27**	.14	**.25**	.32	**.61**
Median Average	.26	**.52**	.20	**.28**	.12	**.23**	.38	**.64**
Min	.21	**.36**	.18	**.24**	.12	**.22**	.21	**.43**
Max	.27	**.55**	.20	**.30**	.16	**.30**	.38	**.77**

4.2 Construct Validity

To further explore the construct validity of Wave-i, the indicators were calculated based on self-report ratings against the Wave dimensions from an operational sample of 13,042 individuals. There were over 30,000 external ratings available for these individuals, from their managers, colleagues and reports. The i-Potential indicator was significantly correlated with external ratings of Demonstrating Potential. The three career indicators were significantly correlated with matched composite external ratings of Professional, People and Pioneering Impact, respectively. They were also significantly correlated with Demonstrating Potential.

While this was not based on the Professional Styles questionnaire, it provides good further evidence for the validity of the constructs of Wave-i, as related to external ratings of Demonstrating Potential and the 3P constructs of the career indicators.

Further information about validity can be found in the Wave Professional Styles Handbook (Second Edition).

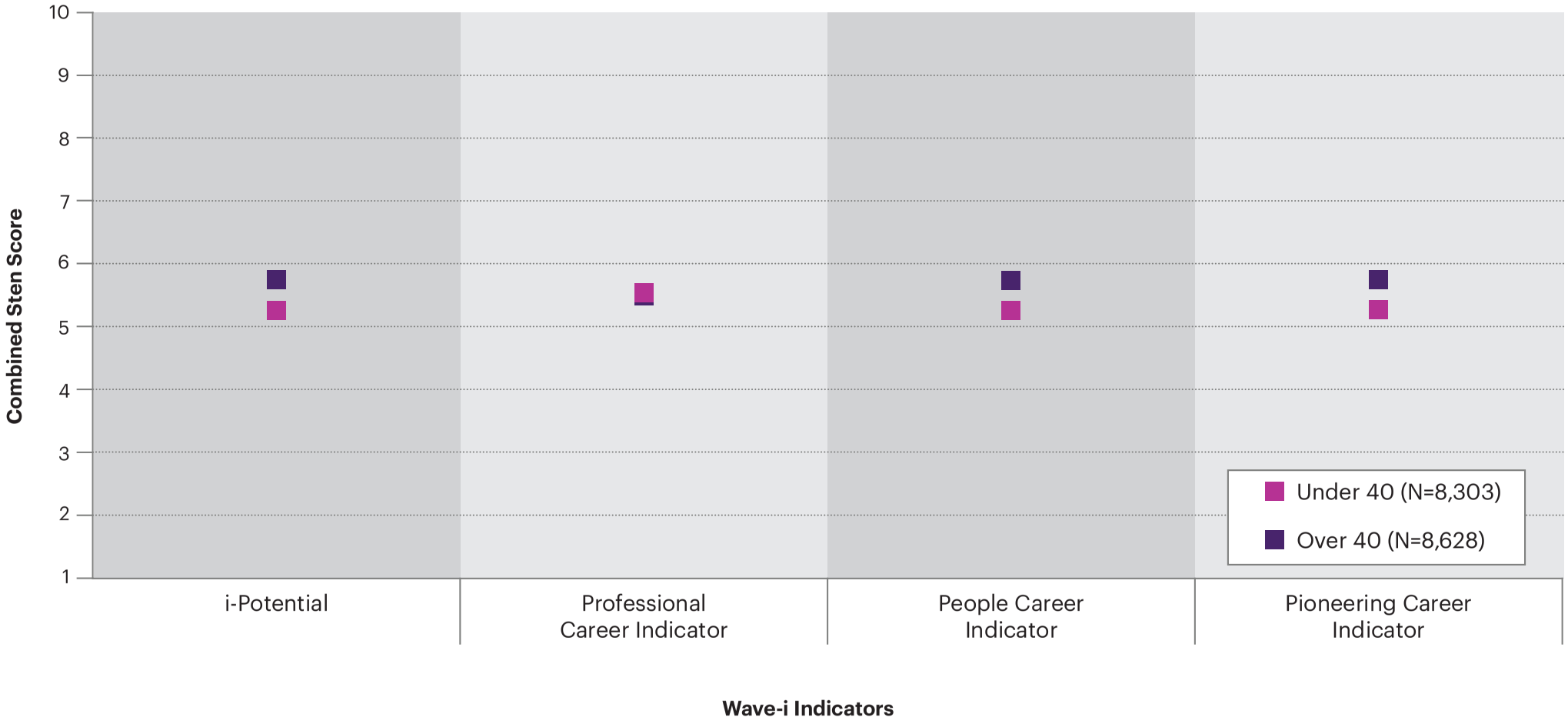
5.0 Fairness

This section introduces information about group differences in scores achieved on i-Potential and the career indicators. It includes a comparison of the indicators in different groups created according to the following criteria:

- Age
- Gender
- Cultural Background

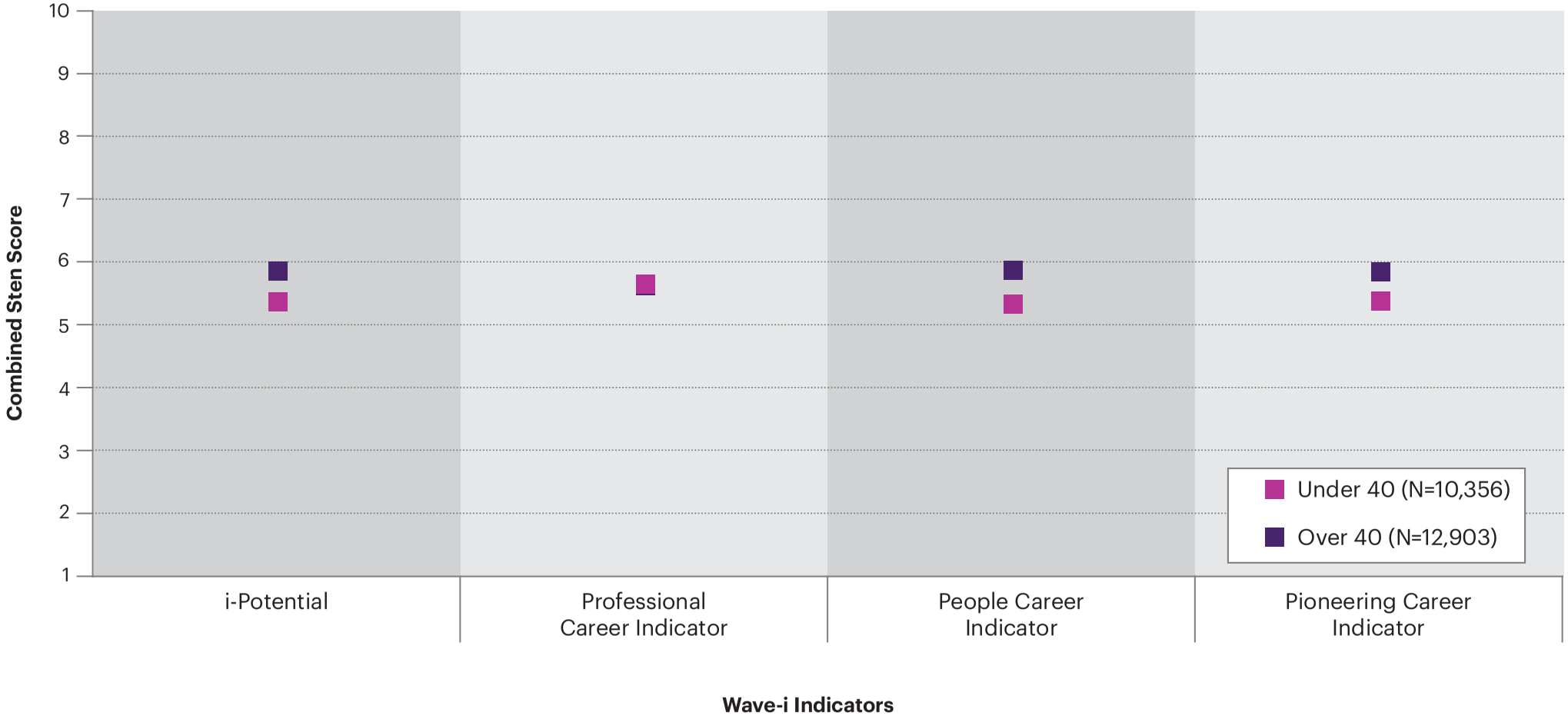
For each criteria, two graphs are displayed. The first graphs displayed for each are based on the international dataset of professionals and managers (2017) which was used for fairness testing as part of the algorithm development process. The analysis was run on a second group of international professionals and managers (2021) to ensure that the fairness was cross-replicated in a separate sample.

Age Trends International 2017 – Sten Profile



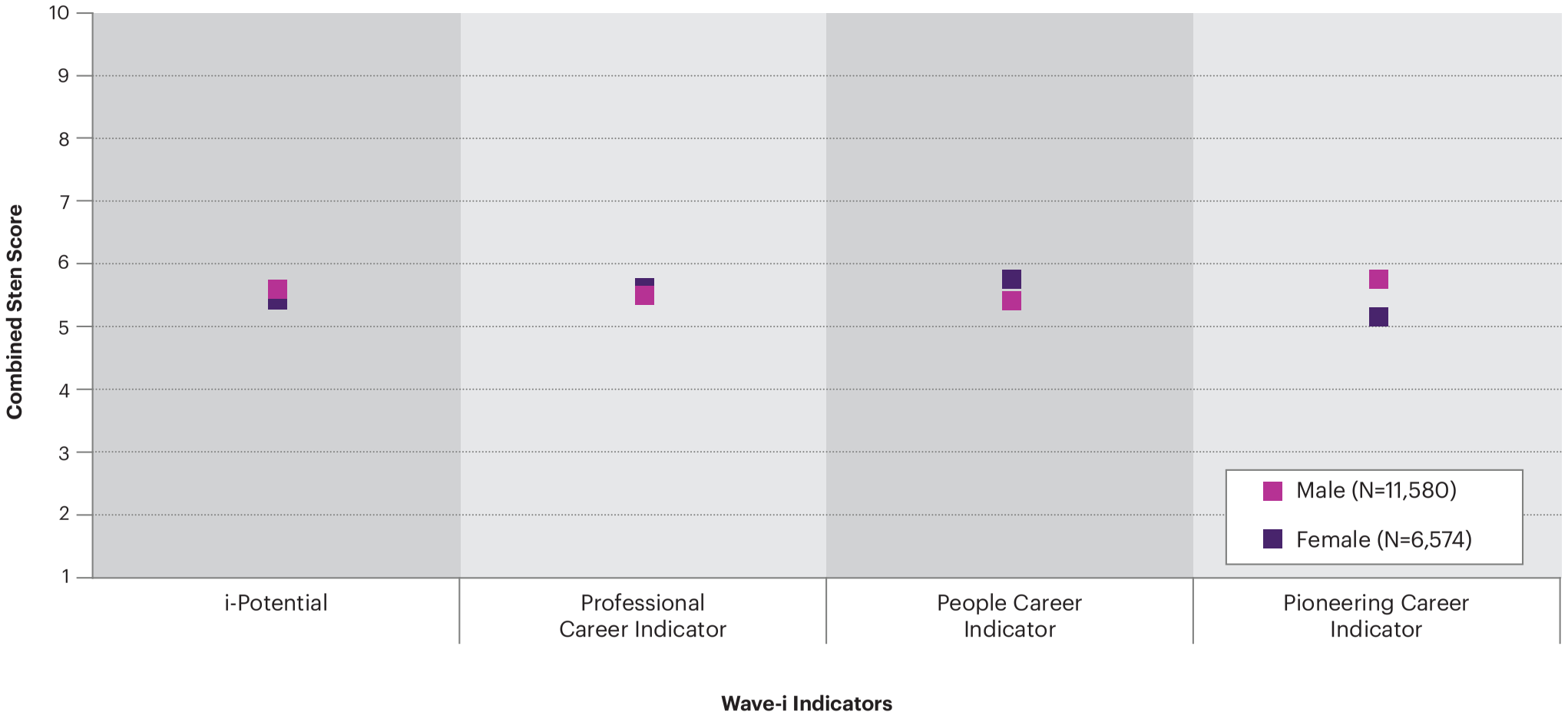
People under the age of 40 (N=8,303) were compared to people over 40 (N=8,628). Differences ranged from non-existent to small; no moderate or large differences were found.

Age Trends International 2021 – Sten Profile



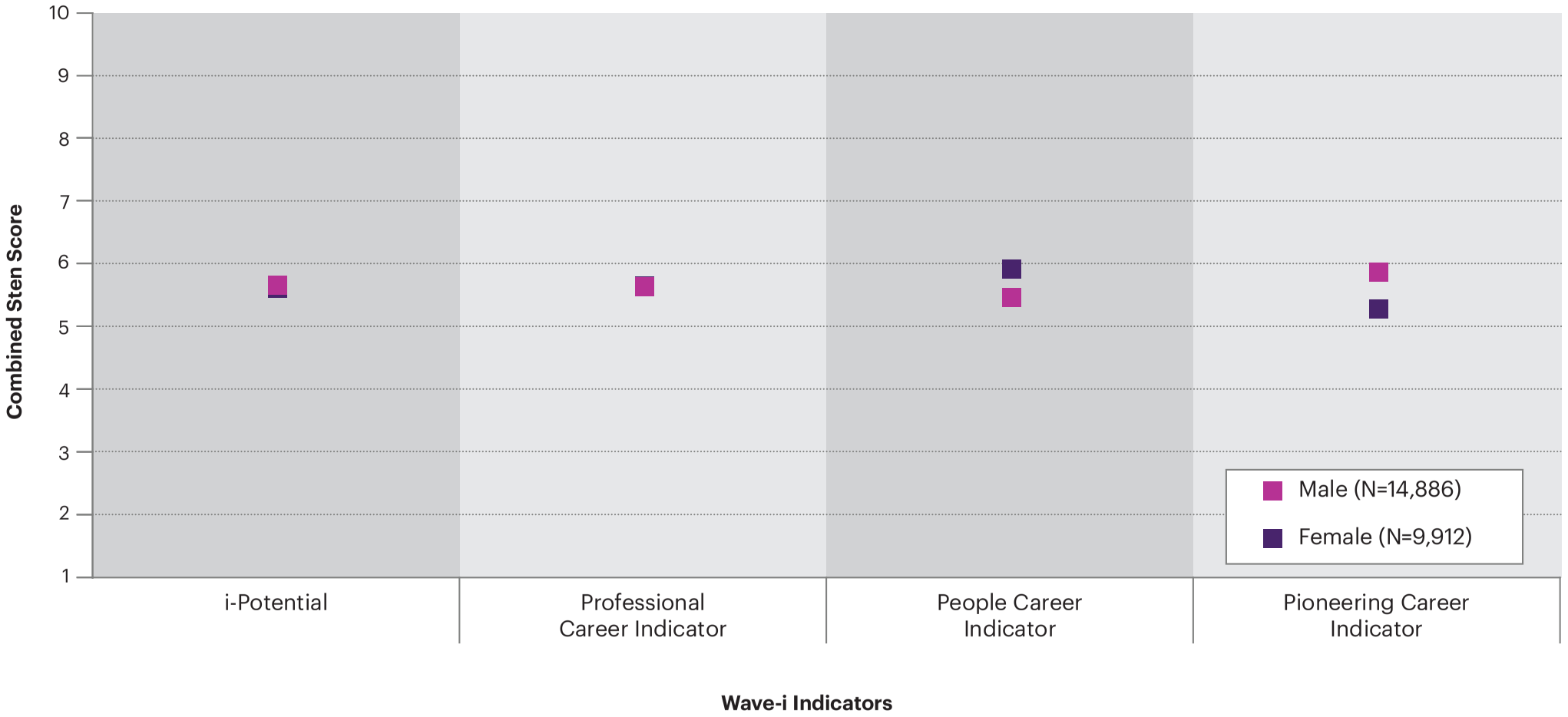
People under the age of 40 (N=10,356) were compared to people over 40 (N=12,903). Differences ranged from non-existent to small; no moderate or large differences were found.

Gender Trends International 2017 – Sten Profile



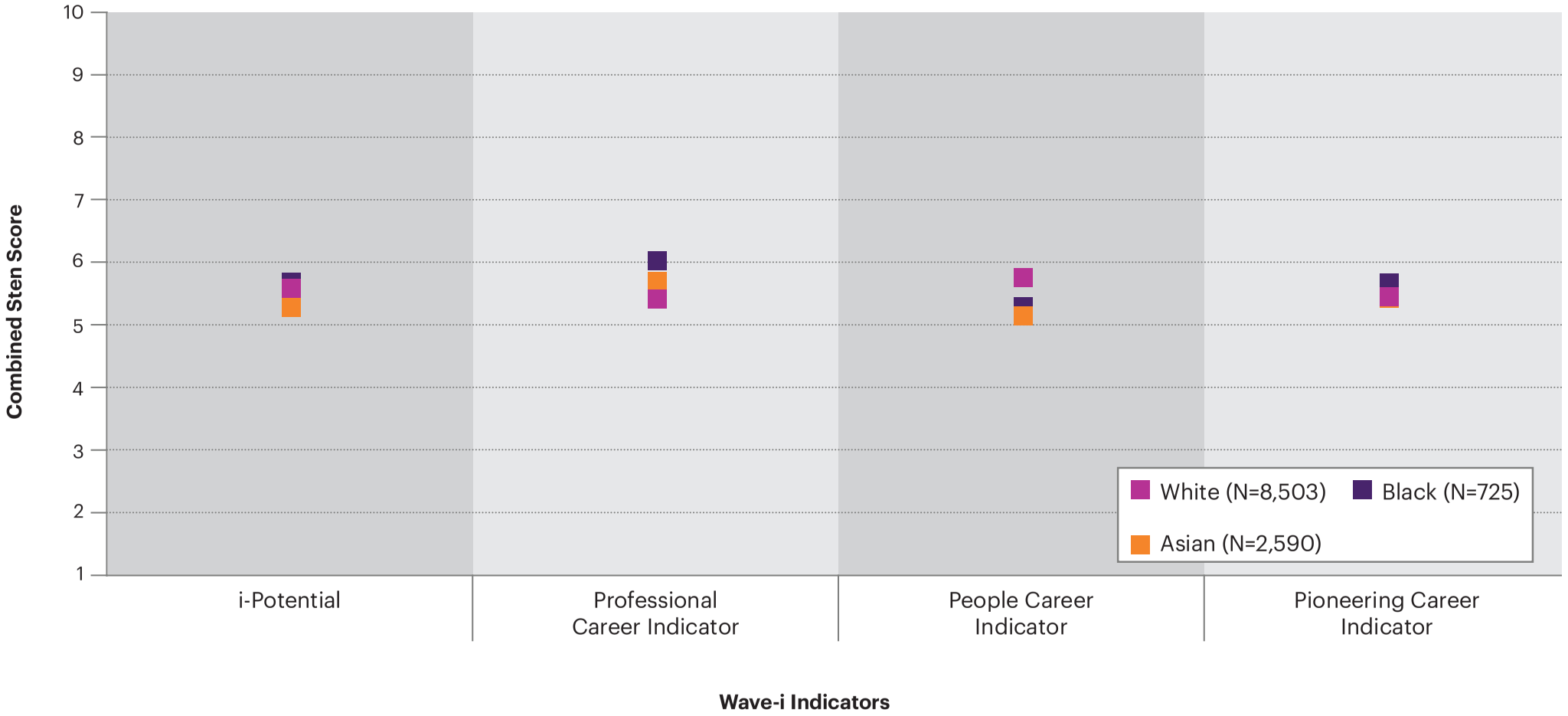
Mean scores for male individuals (N=11,580) were compared to mean scores for female individuals (N=6,574). Differences ranged from non-existent to small; no moderate or large differences were found.

Gender Trends International 2021 – Sten Profile



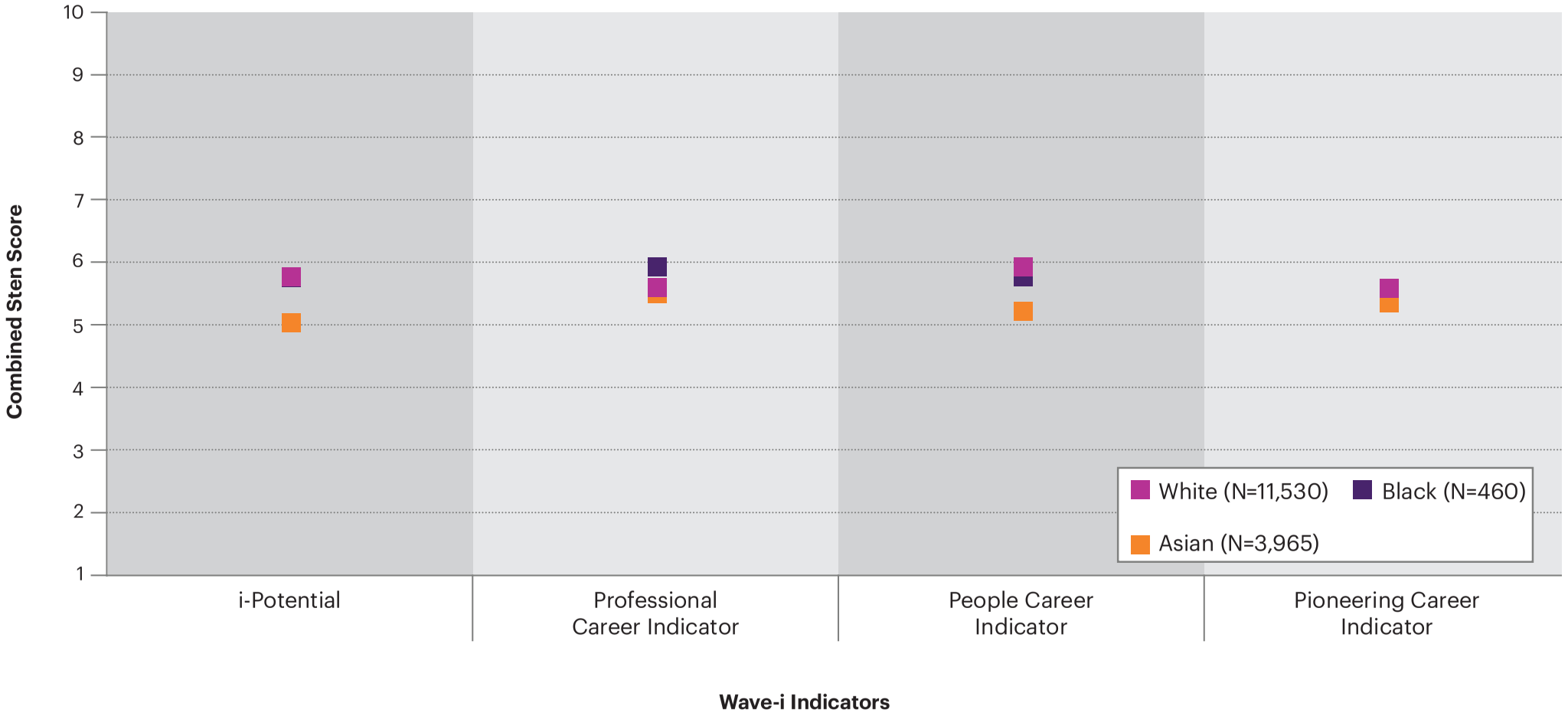
Mean scores for male individuals (N=14,886) were compared to mean scores for female individuals (N=9,912). Differences ranged from non-existent to small; no moderate or large differences were found.

Ethnicity Trends International 2017 – Sten Profile



The White group (N=8,503) was compared to the Black (N=725) and Asian (N=2,590) groups in terms of their mean scores. Differences ranged from non-existent to small; no moderate or large differences were found.

Ethnicity Trends International 2021 – Sten Profile



The White group (N=11,530) was compared to the Black (N=430) and Asian (N=3,965) groups in terms of their mean scores. Differences ranged from non-existent to small. The largest differences were on i-Potential where the White and Black groups were, on average, .76 of a Sten higher than the Asian group. No moderate or large differences were found.

6.0 References

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