savilleconsulting wave®

Saville Consulting Wave Professional Styles Handbook

PART 4: TECHNICAL

Chapter 21: Fairness

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21.0 Fairness

21.1 Overview

This chapter focuses on the issue of fairness in the use of Saville Consulting Wave and in particular presents data on group trends across different groups.

Key features and steps taken to increase fairness of Saville Consulting Wave Professional Styles and their application included:

Criterion Related Validity – If tests are forecasting what they are designed to forecast this allows the assessment to select on merit rather than using predictor measures that are unrelated to performance and potential at work. The validation-centric approach to development and the subsequent cross validations of the aligned model provide a basis for this (refer to Validity and Construction chapters). In particular, the aligned model is designed to make the validity in Wave Styles more transparent and allow for improved merit based decision making which will lead to improved effectiveness of individuals at work.

Work Related Content – The content of Wave Styles was specifically designed to be work relevant and to focus on attributes (motives and talents) which underpin behavioral and overall effectiveness at work.

Writing and Review - The items were specifically reviewed, for example to avoid content which was clinical, idiomatic, or requiring specific knowledge which would be available to one subgroup such as gender, age or ethnic subgroup and not to another (see Construction chapter for further information).

Job Analysis and Mapping Capability - Another aim of the Wave aligned model has been to increase the fairness and benefit attained in performance in application by creating mechanisms to increase the alignment between Wave Styles and what job analysis identifies as characteristics underpinning success (either for a particular job specification or for an organizational competency, capability or values framework). The Saville Consulting Wave Job Profiler and the Saville Consulting Performance Culture Framework which has the capacity to map to the 147 components of the underpinning Behavior, Ability, Global (BAG) model are designed to supplement job analysis and provide a precise and detailed mapping to organizational frameworks.

Local Validation Studies - The mechanism is also available using the Saville Consulting Wave Performance 360 to quickly conduct online validation studies for particular jobs. The 10 minute online questionnaire provides a fast and effective mechanism for collecting data on the effectiveness of employees in terms of behavioral, ability and global (overall effectiveness) by different raters.

Monitoring – Saville Consulting has an ongoing process of monitoring differences in data from different subgroups.

Training and Guidance for Users – Saville Consulting Wave has a program of training, accreditation and master classes to support users.

Fairness in Use

It is one thing for an assessment to be designed to be fair and valid and another for it to be used fairly. The more consistent the process created to align Wave to the job the better. Criteria for decision making based on job analysis and where possible validation data are more likely to result in the assessments being fairly applied using consistent and appropriate standards for candidates across different groups.

Group Trends

The rest of this chapter is devoted to presenting group trends on Saville Consulting Wave Professional Styles, including age, gender, ethnicity, geographical region and level of management responsibility.

Trends are presented for mean scores and internal consistency reliabilities.

Mean Scores

The information presented here is from actual usage data of Wave Professional Styles and as a result the differences may reflect differences in composition for the different groups on other variables. For example the age differences, as well as maturational effects could be related to longer tenure in organizations and generational differences as well as having a different composition in other variables including gender and job type. Similarly, gender and ethnic differences could reflect other biographical differences in the composition of these groups.

When looking at differences it is useful to remind ourselves of the scale of the differences and the impact, if any, there should be on profile interpretation.

In the following graphs and supporting text, Cohen's d is referred to, where .20 of an SD (.40 of a Sten) is a small effect, .50 of an SD (1 Sten) is a medium or moderate effect size and .80 of an SD (1.60 Stens) is a large effect size.

It should be remembered that differences whether small, moderate or large do not by themselves indicate bias in a test or a questionnaire that could lead to an individual from one protected or minority group being treated less favorably than others.

The first thing to consider is the direction and size of the difference. As can be seen for example in the UK ethnic data where there is small or even moderate differences with the Black and Asian groups tending to score slightly higher. Such differences in scores on the predictor assessments may or may not be reflected in the performance domain (how well an individual is performing in the job or a particular aspect of a job, such as a competency).

To establish whether differences are demonstrated in actual performance, ideally we would have matched criterion data to understand the relationship between test and questionnaires and external criterion data. In the absence of this data on large samples we have to rely on looking at differences between mean scores between groups and considering the size of these differences, the direction of these differences and whether

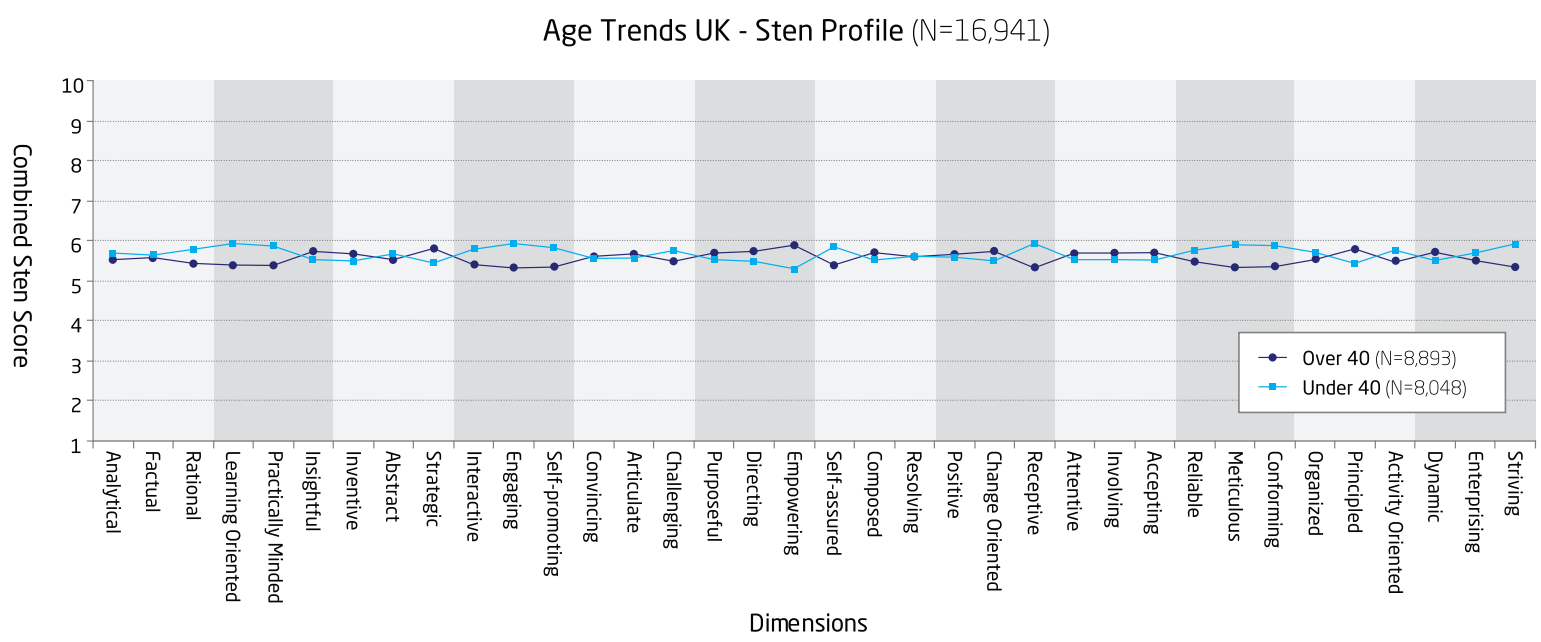
the differences are likely to provide an underestimate or overestimate of an individual's performance at work for that particular group, given what we know about known differences (if any) in effectiveness of these groups.

Internal Consistency

As indicated in the Reliability chapter, Alternate form, reliability estimates given the design of Wave Professional Styles in particular, provide a more appropriate and realistic estimate of the questionnaires' reliability than internal consistency. Unfortunately, in actual usage data, it is the exception rather than the rule that both forms are taken by the same group, so internal consistency is used as, though less than ideal in that it provides an underestimate of reliability for Wave Styles, it never the less allows for a comparsion of the reliability of the assessment in different groups.

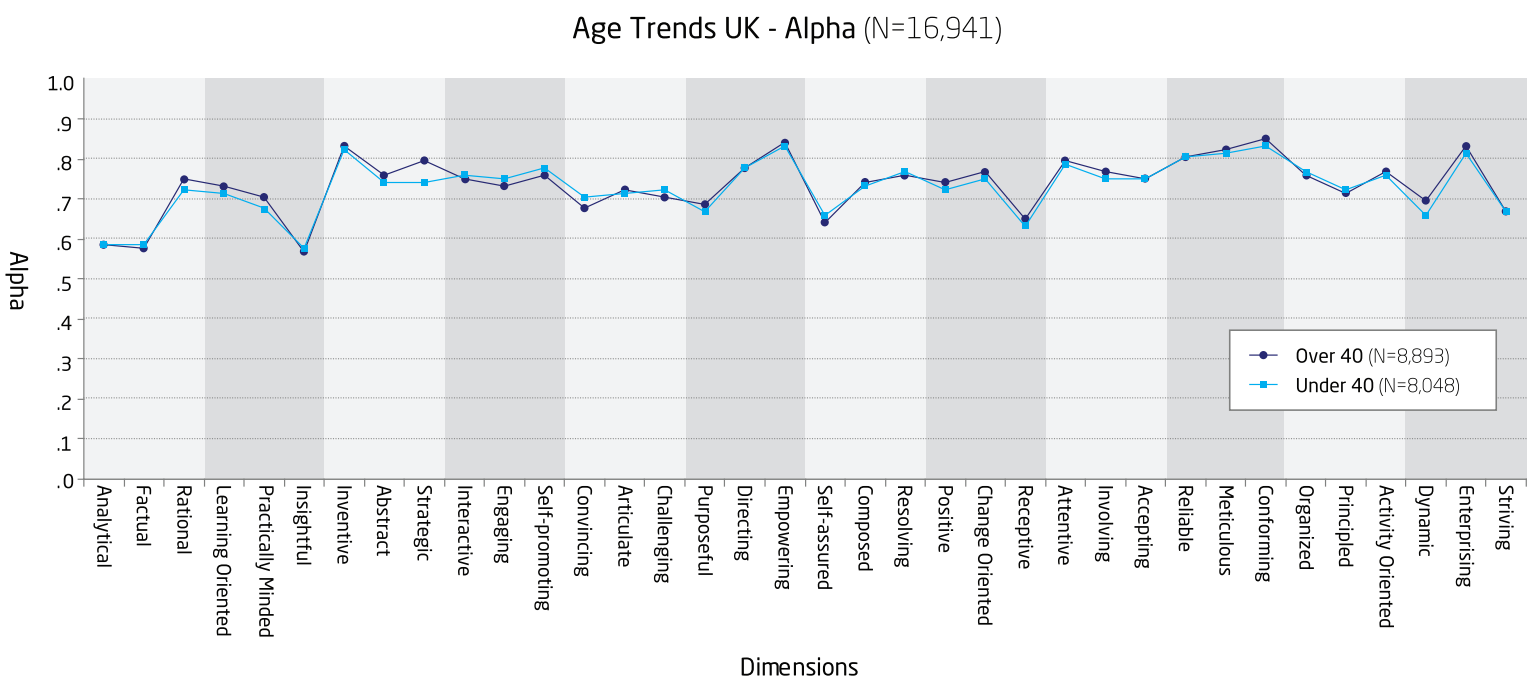
21.2 Age Trends UK

21.3 Age Trends UK - Sten Profile



People under the age of 40 (N=8,048) were compared to people over 40 (N=8,893). Differences ranged from non-existent to small; no moderate or large differences were found.

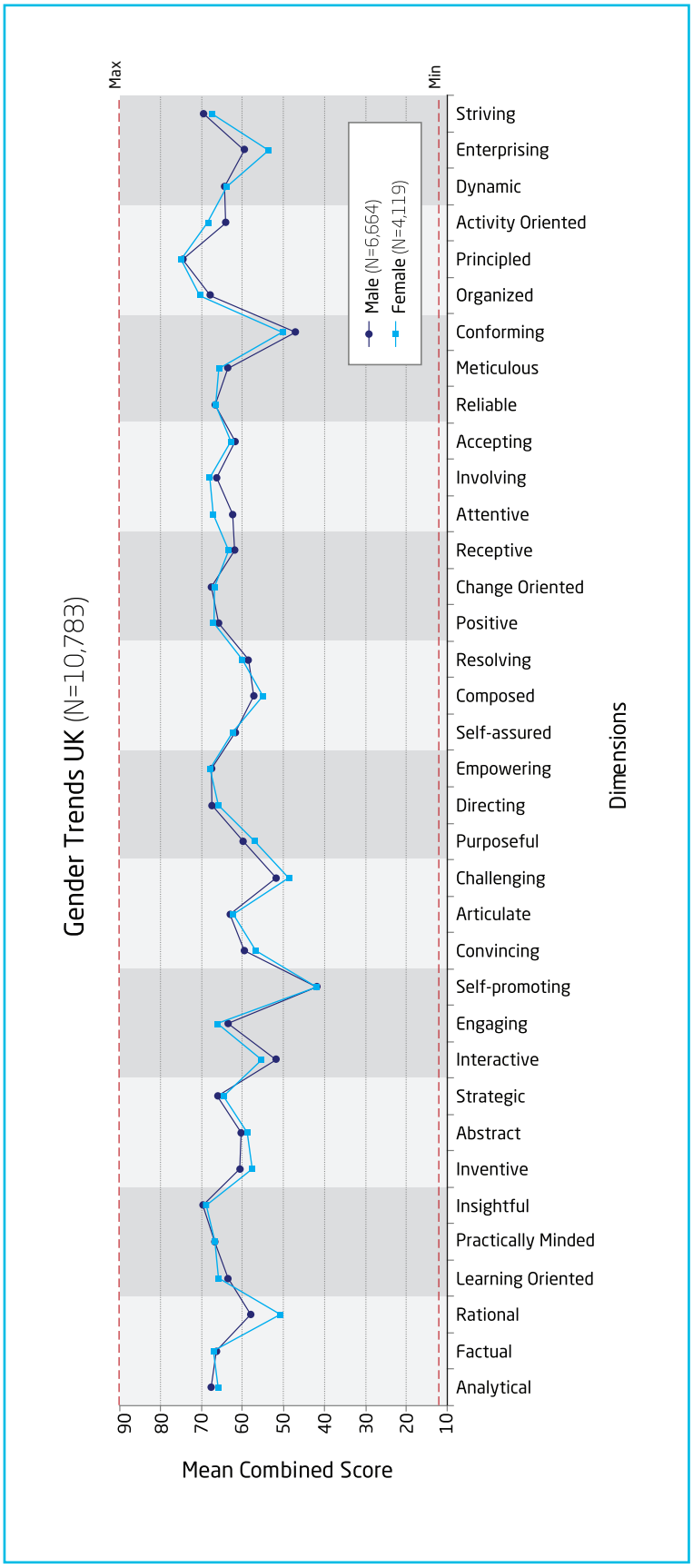
21.4 Age Trends UK - Alpha



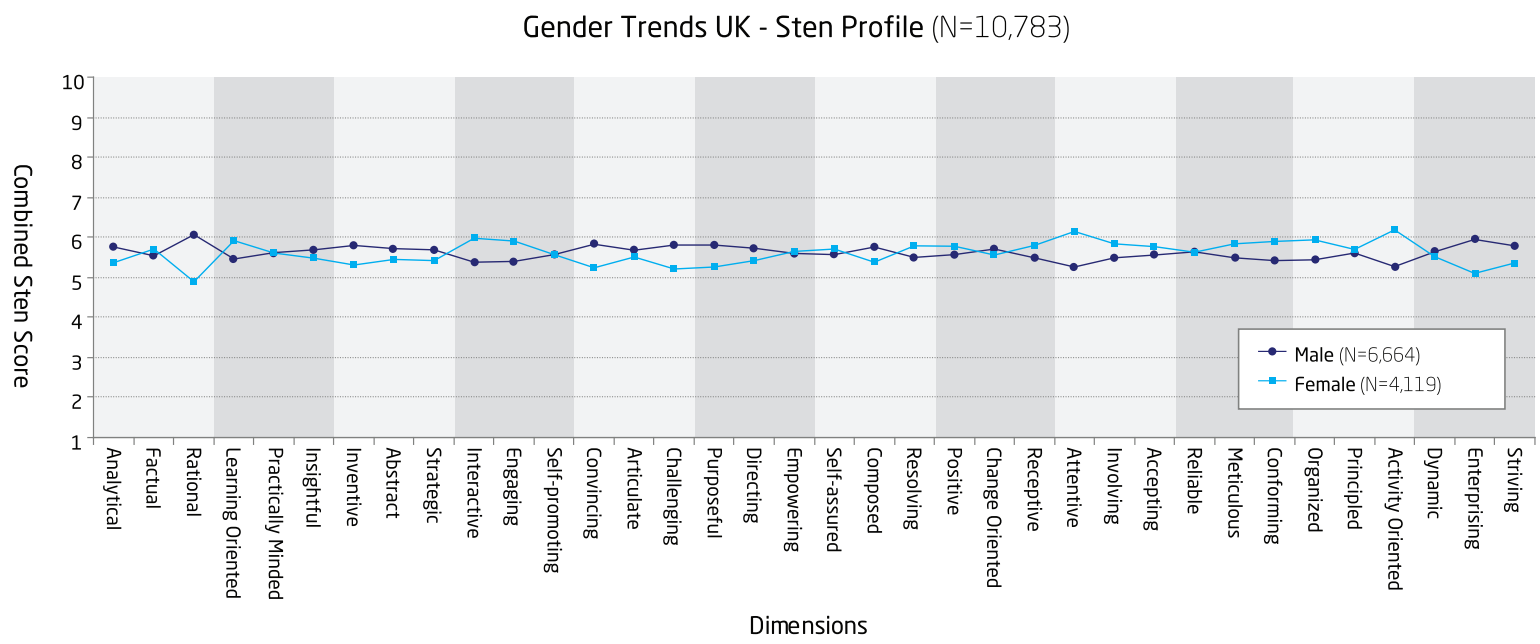
People under the age of 40 (N=8,048) were compared to people over 40 (N=8,893).

With a mean alpha of .71 for both groups, differences in internal consistency reliabilities on the 36 dimensions were mostly found to be negligible.

21.5 Gender Trends UK

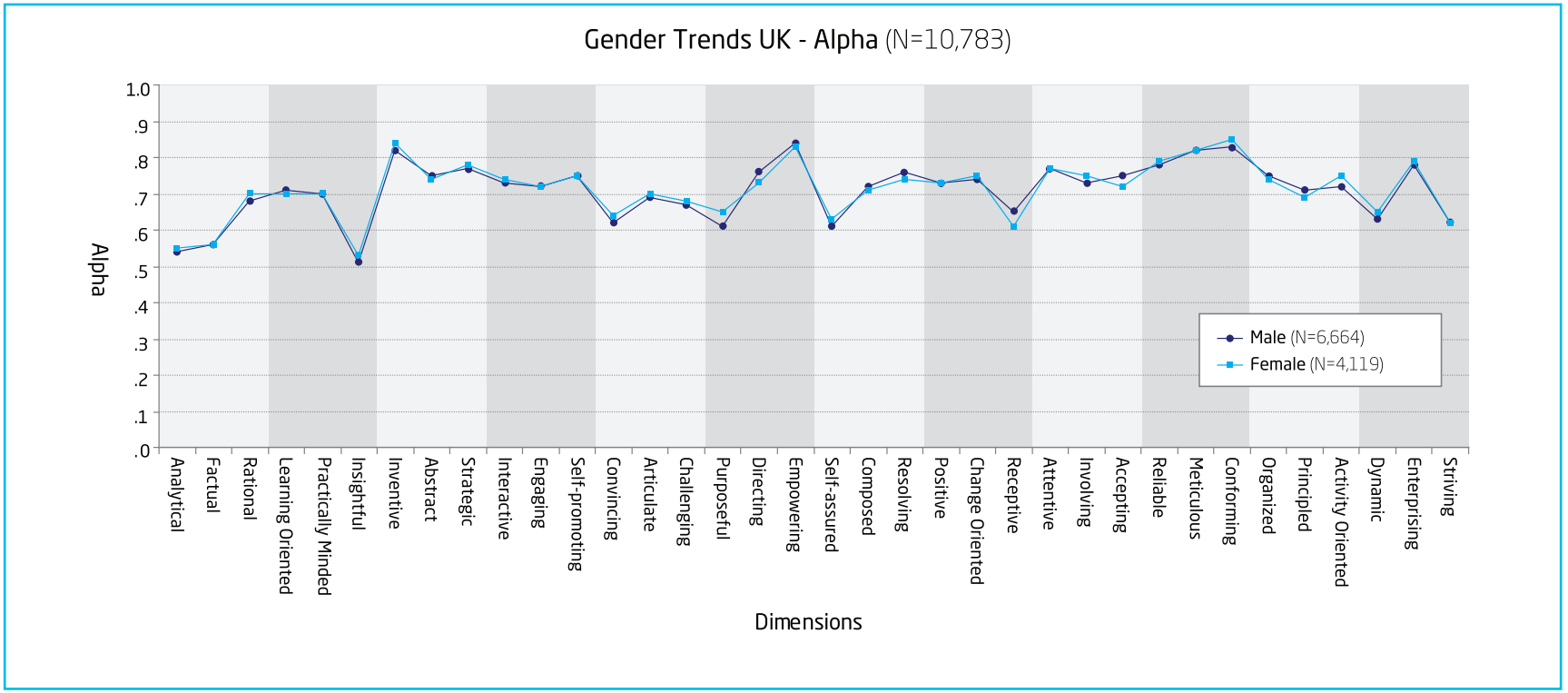


21.6 Gender Trends UK – Sten Profile



Mean scores for male individuals (N=6,664) were compared to mean scores for female individuals (N=4,119). 35 of the 36 dimensions showed no appreciable mean differences between men and women. The one dimension where a moderate difference was observed between men and women was *Rational,* with men rating themselves higher than women. No large differences were found.

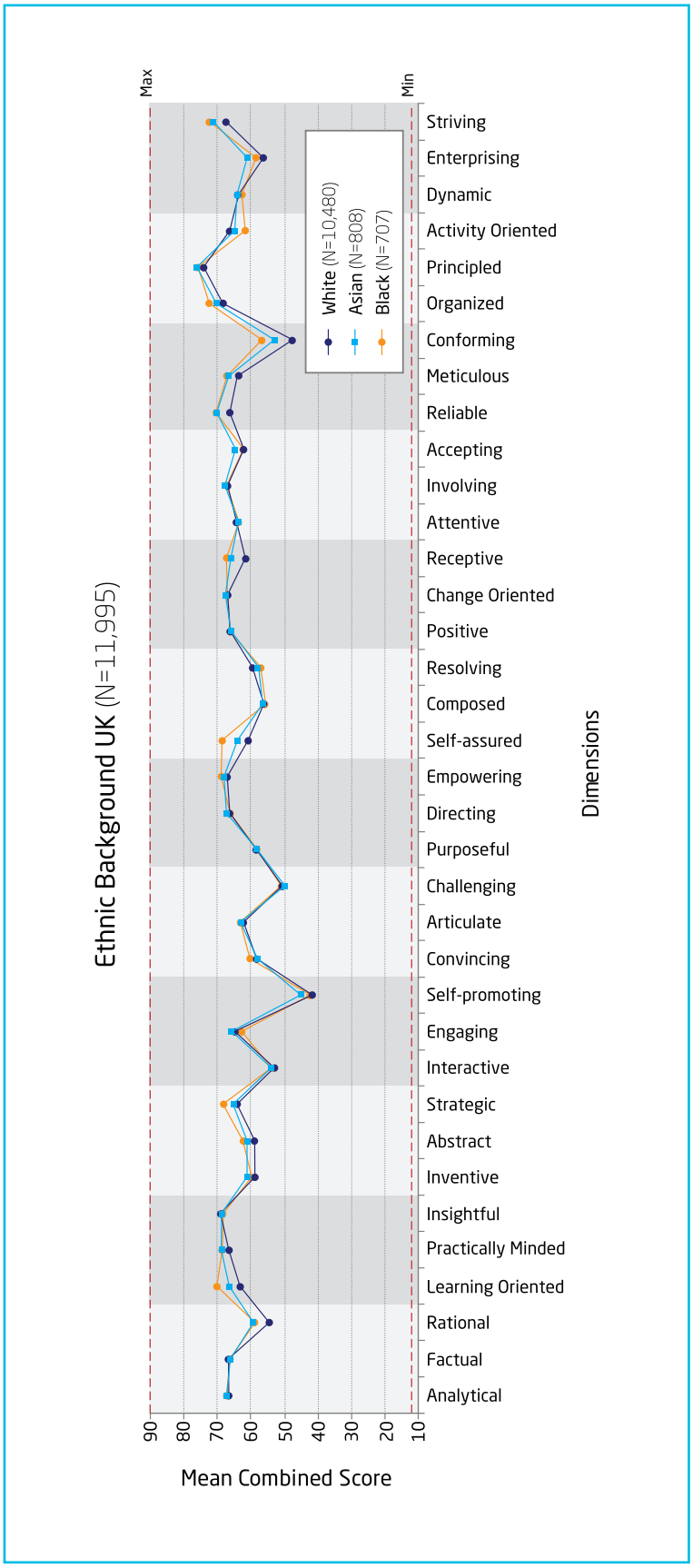
21.7 Gender Trends UK – Alpha



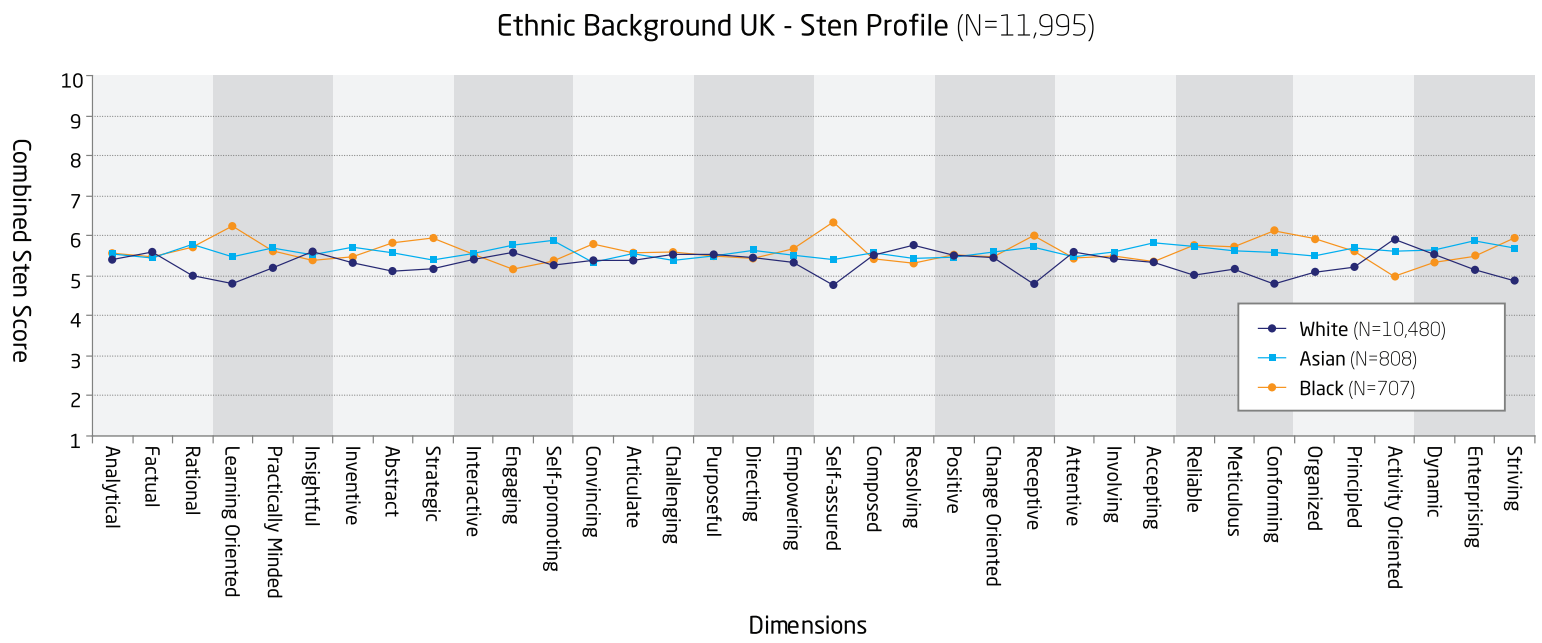
Internal consistency reliabilities on the 36 dimensions for male individuals (N=6,664) were compared to those for female individuals (N=4,119).

With a mean alpha of .71 for both groups, differences in internal consistency reliabilities on the 36 dimensions were mostly found to be negligible.

21.8 Ethnic Background Trends UK



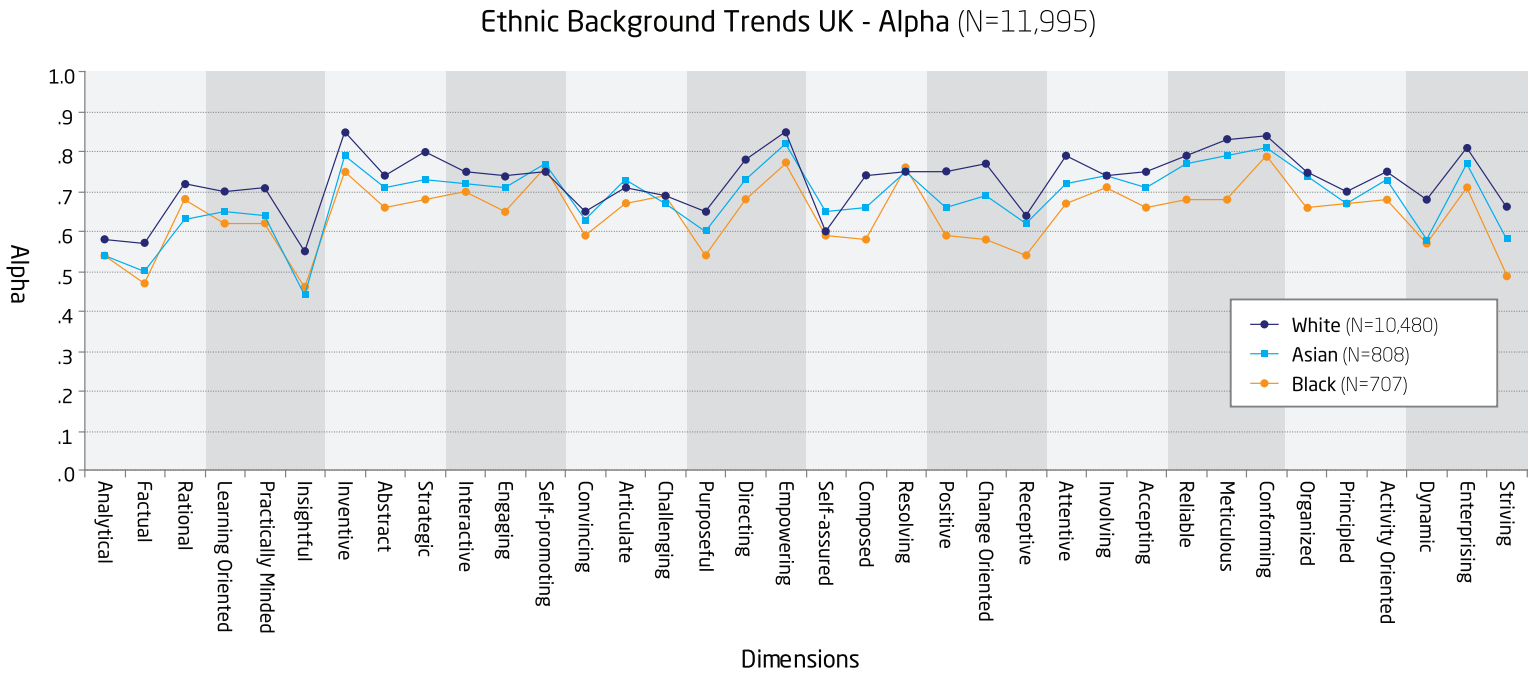
21.9 Ethnic Background Trends UK – Sten Profile



The White group (N=10,480) was compared to the Black (N=707) and Asian (N=808) groups in terms of their mean scores. On dimensions where there was a difference, it was more commonly found that the Black and Asian groups tended to rate themselves a little higher than the White group. Given that the evidence does not favor Black and Asian groups outperforming White groups in job performance, this provides support that Wave would not give a biased underestimate of Black and Asian individuals' likely performance and potential. In particular, it was found that 30 of the 36 dimensions displayed no notable mean differences between the three ethnic subgroups. Five dimensions *(Learning Oriented, Self-assured, Receptive, Conforming and Striving)* showed a difference of 1 Sten or more, with the Black group rating themselves higher than the White group. On *Activity Oriented*, the Black group achieved a lower mean Sten than the White and Asian groups (difference is just below 1 Sten).

Note: Due to the large differences of sample sizes for these groups, the groups were weighted to be of equal size.

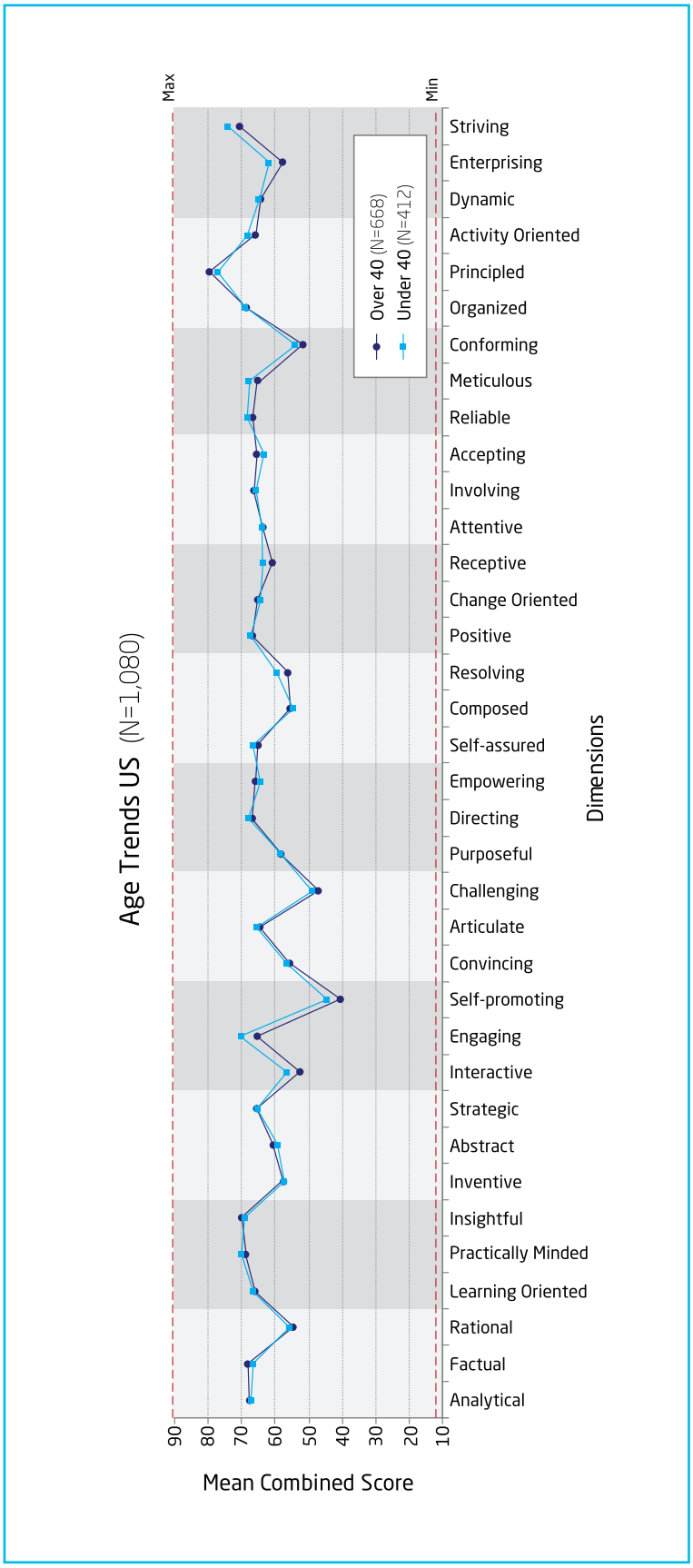
21.10 Ethnic Background Trends UK – Alpha



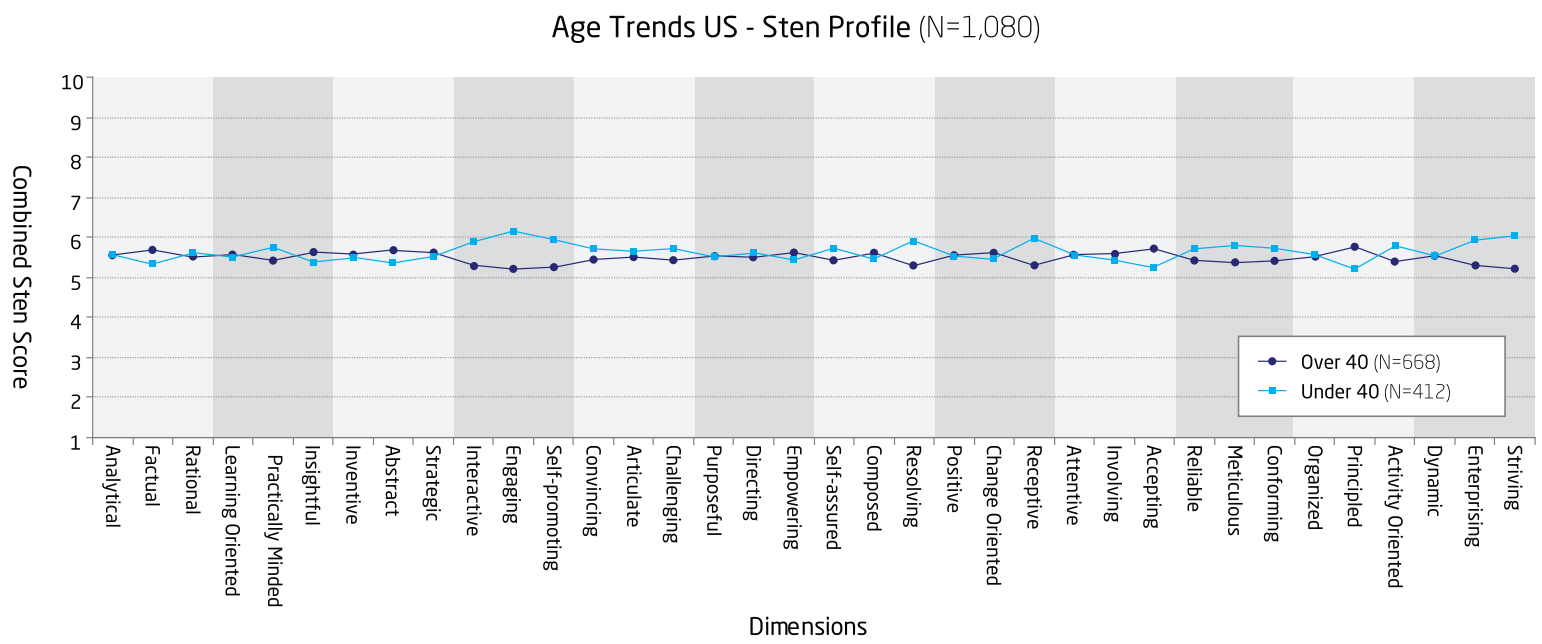
The White group (N=10,480) was compared to the Black (N=707) and Asian (N=808) groups in terms of the 36 dimensions' Cronbach's alphas.

Generally, internal consistency reliability was highest for the White group (mean of .73, highest on 32 of the 36 dimensions). The Asian group tended to have the next highest reliabilities on most dimensions and the Black group slightly lower overall as a general trend. On Three of the 36 dimensions *(Self-promoting, Articulate, Self-assured),* a higher internal consistency was found for the Asian group than for the White and Black groups; on the dimension *Resolving,* the Black group had a very similar alpha to the White and Asian groups (.01 higher).

21.11 Age Trends US



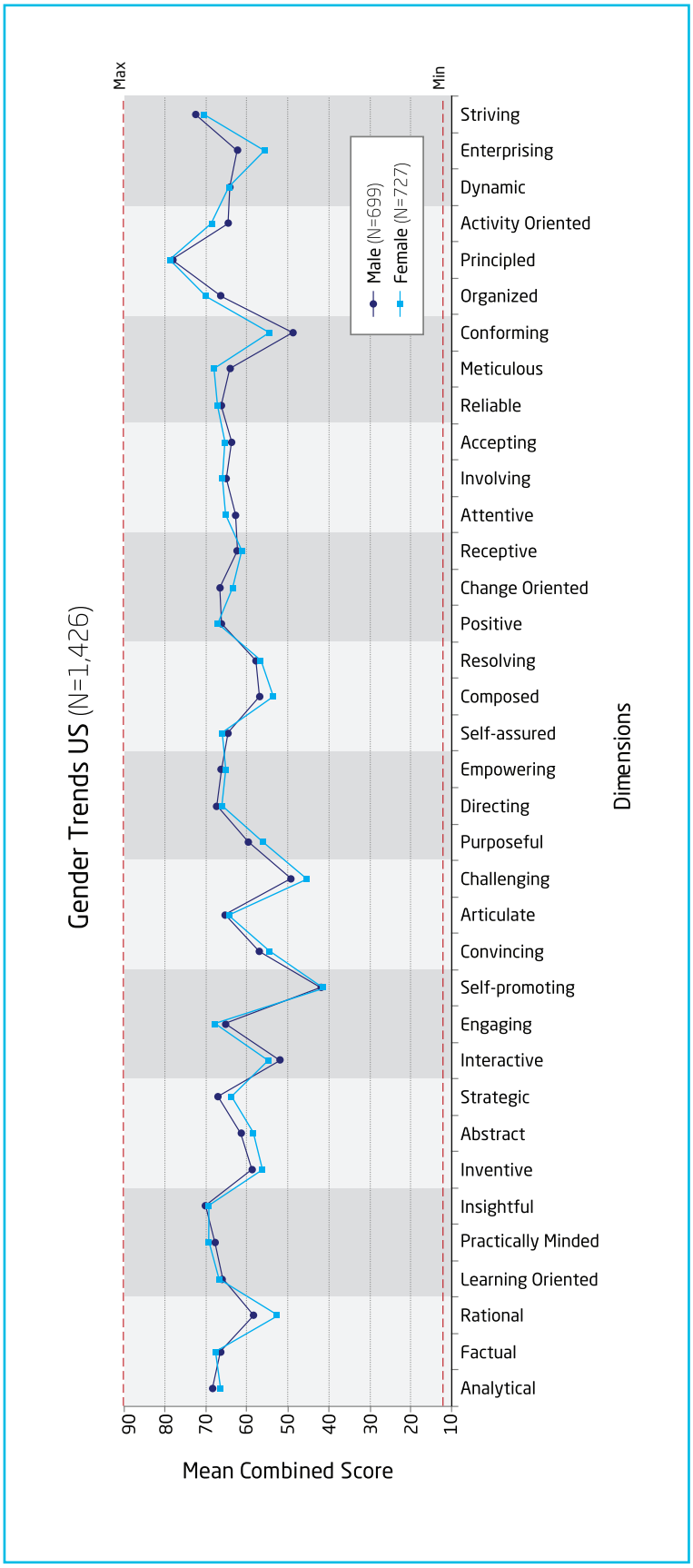
21.12 Age Trends US – Sten Profile



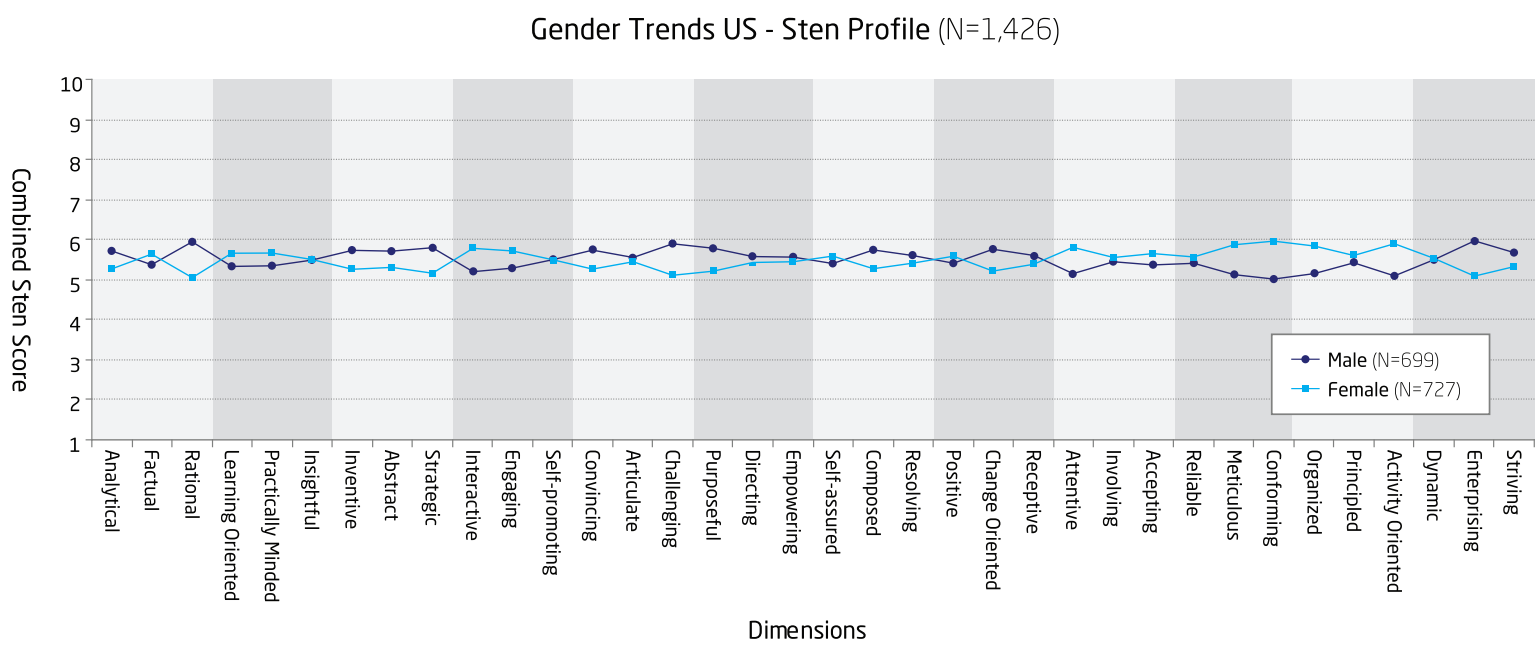
No group trends are greater than one Sten.

The most notable group difference for age group is on *Engaging*, with the 'Under 40' age group reporting, on average, scores of .92 of a Sten (.46 of an SD) higher than the 'Over 40' age group. The other dimensions which show smaller group trends for age group are *Self-promoting* (.66 of a Sten) and *Striving* (.76 of a Sten), both of which show higher mean scores on average for the 'Under 40' group. All other age group trends by dimension are well below .66 of a Sten.

21.13 Gender Trends US



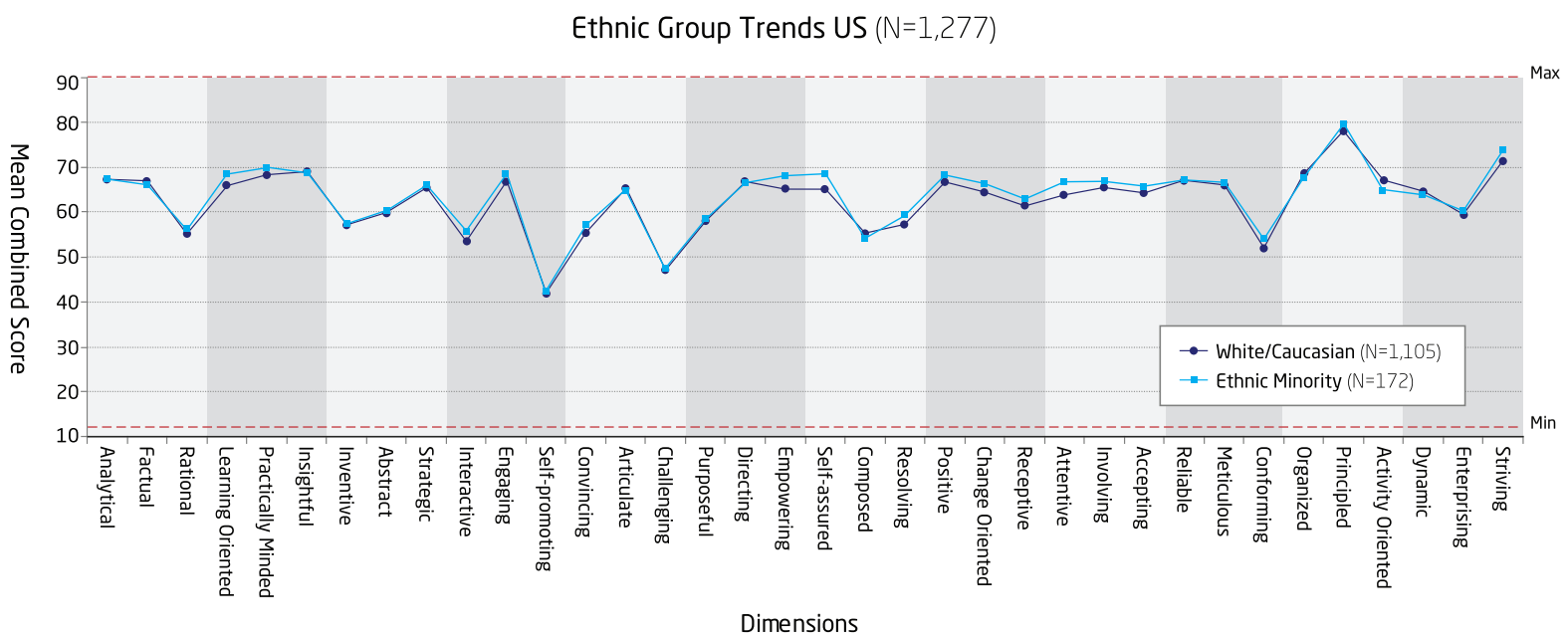
21.14 Gender Trends US – Sten Profile



No group trends are greater than one Sten.

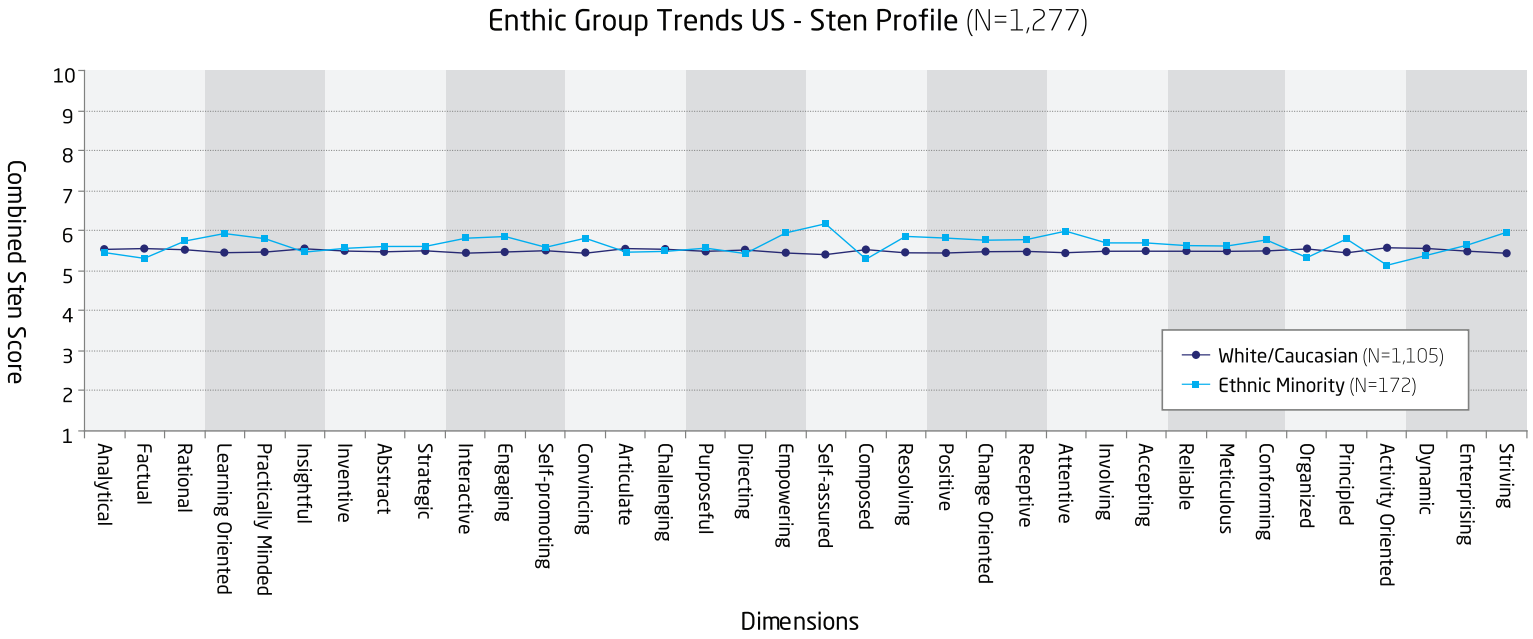
The greatest group trends are on the dimensions *Conforming, Rational* and *Enterprising*. On *Rational* and *Enterprising* males demonstrate, on average, .90 of a Sten (.45 of an SD) higher than females, whereas females give .92 of a Sten higher than males on *Conforming*. Females also report notably higher combined scores than males on *Activity Oriented* (.84 of a Sten), *Meticulous* (.74 of a Sten) and *Organized* (.68 of a Sten). Males report higher combined scores than females on the dimension *Challenging* (.70 of a Sten). All other gender trends by dimension are below .66 of a Sten.

21.15 Ethnicity Trends US



N.B. For the purposes of the analysis, because of small sample sizes, those from ethnic groups other than White/Caucasian were included as one group in the analysis. For a full breakdown of Ethnic Group in this sample, please refer to Table 17.1.

21.16 Ethnicity Trends US – Sten Profile



No group trends are greater than one Sten.

The largest difference is on *Self-assured* (.76 of a Sten/.38 SD difference), where the Ethnic Minority group scored, on average, .76 of a Sten higher than the White/Caucasian group. All other ethnic group trends by dimension are well below .66 of a Sten.

Table 21.1 Breakdown of Ethnic Group in US sample (N=1,277)

Ethnic Group Composition	N	%
Asian/Pacific Islander	37	3%
Black/African American	57	4%
Hispanic	71	6%
Native American/Alaskan Native	4	0%
Other	3	0%
White/Caucasian	1,105	87%
Total	**1,277**	**100%**

21.17 Group Trends - Occupational Levels of Management Responsibility

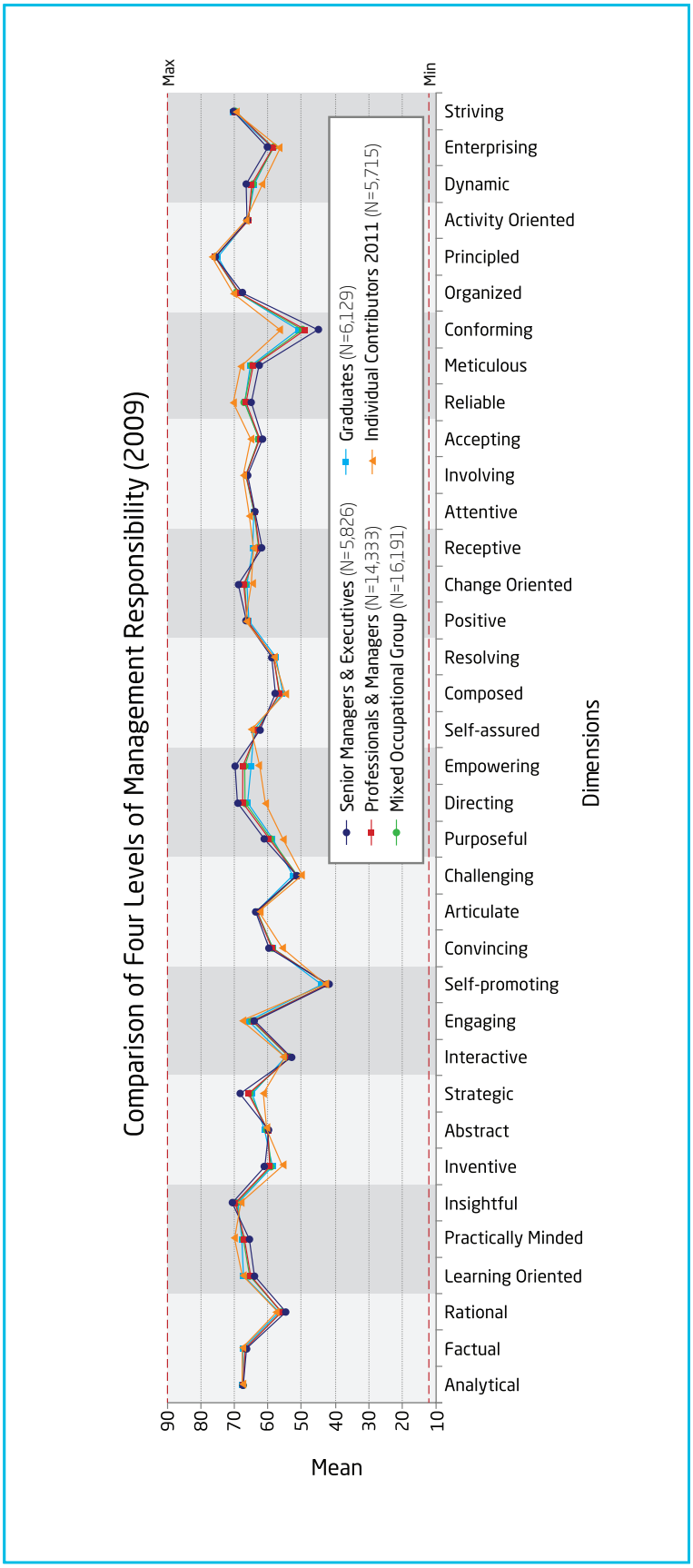
International Trends for Wave Professional Styles (IA)

Comparing Levels of Management Responsibility: Senior Managers & Executives (N=5,826) vs. Professionals & Managers (N=14,333) vs. Mixed Occupational Group (N=16,191) vs. Graduates (N=6,129) vs. Individual Contributors (N=5,715) vs. Individual Contributors (N=5,715)

Observations made here are based on data gathered internationally (including UK, US, Bulgaria, Germany, Australia, South Africa, Spain, Mexico, France, Brazil, Canada, Denmark, Netherlands, Italy and Sweden) and refer to the 36 Wave Professional Styles dimensions. The data is representative of actual usage data of Wave Professional Styles.

Mean scores of the 36 dimensions for four groups of varying levels of management responsibility (Senior Managers & Executives (N=5,826) vs. Professionals & Managers (N=14,333) vs. Mixed Occupational Group (N=16,191) vs. Graduates (N=6,129) vs. Individual Contributors (N=5,715)) were compared. Differences have been calculated in terms of standardized effect sizes of the means (Cohen's d), whereby a small difference equals an effect size of d=.20, a medium difference equals an effect size of d=.50 and a large difference equals an effect size of d=.80 (Cohen, 1988). The majority of the observed differences between the four groups' means ranged from non-existent to small. A few were classified as small to medium (d=.21-.50); general trends are listed as follows in the current chapter.

21.18 Group Trends



- The majority of small to medium effect sizes on mean scores were found when comparing the Senior Managers & Executives group to the Individual Contributors groups. In particular, Senior Managers & Executives and Individual Contributors differed on the 15 dimensions *Learning Oriented, Practically Minded, Inventive, Strategic, Convincing, Purposeful, Directing, Empowering, Change Oriented, Accepting, Reliable, Meticulous, Conforming, Dynamic* and *Enterprising*. Senior Managers & Executives had higher means on *Inventive, Strategic, Convincing, Purposeful, Directing, Empowering, Change Oriented, Dynamic* and *Enterprising*. Individual Contributors had higher means on *Learning Oriented, Practically Minded, Accepting, Reliable, Meticulous* and *Conforming*.

  These results are backed up by previous research by Saville Consulting that found higher ratings on the dimensions *Strategic, Purposeful, Directing* and *Empowering* to be associated with higher levels of management responsibility.

- Overall, it was found that for all dimensions, either the Senior Managers & Executives group or the group of Individual Contributors rated themselves higher than the other groups – but please be aware that effect sizes here were very small.

- The Mixed Occupational group was found to be very similar to the Professionals & Managers group as well as to the group of Graduates, with effect sizes mostly ranging around d=.00.

21.19 UK Management Responsibility Mean Scores

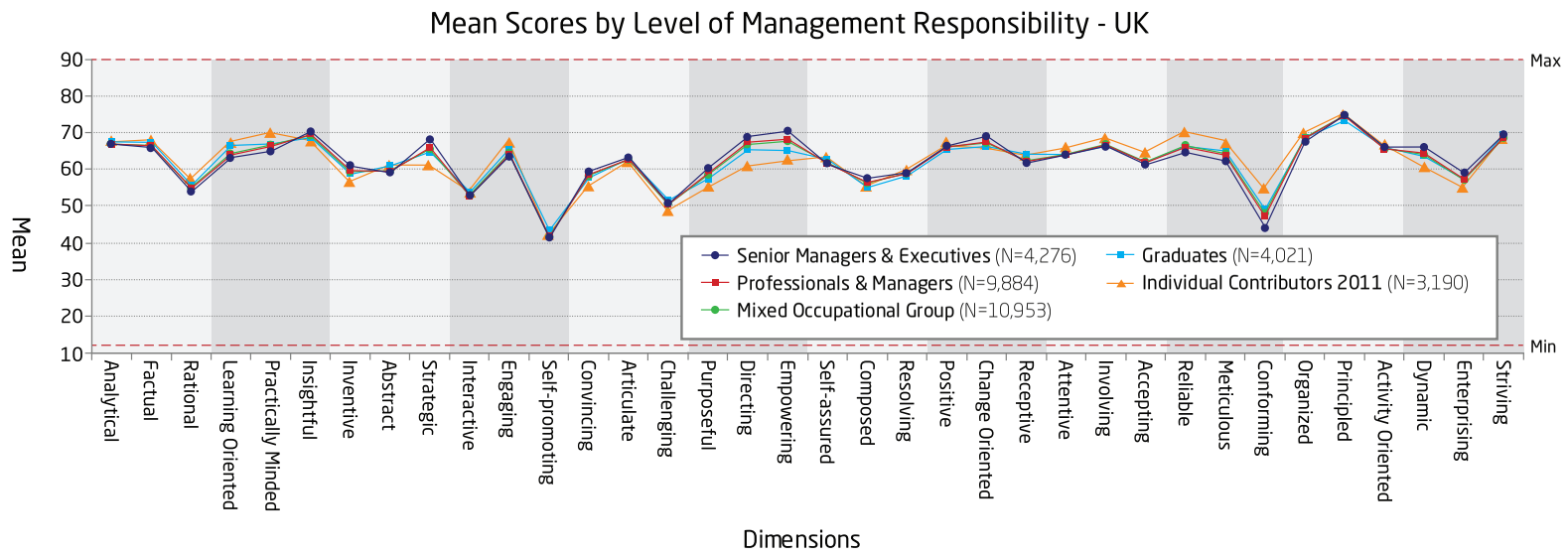
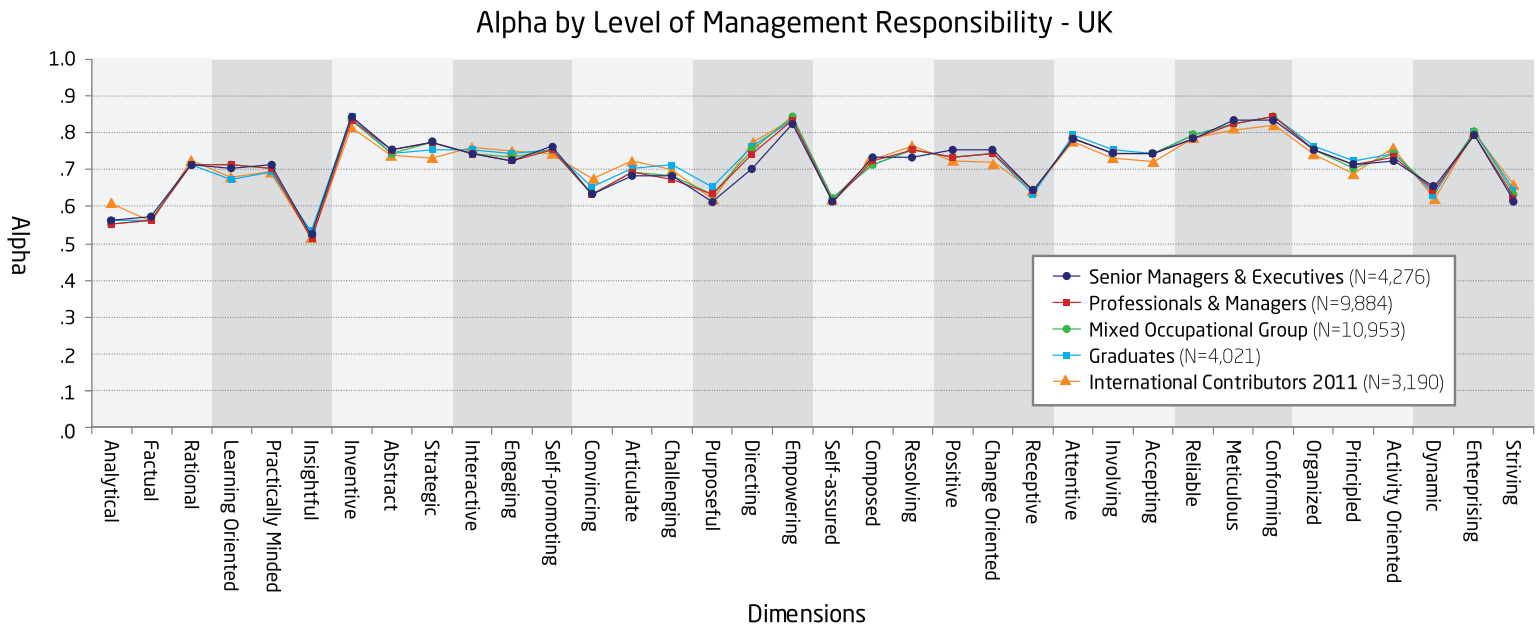


Table 21.2 Level of Management Responsibility Differences - UK Alpha

Dimensions	Senior Managers & Executives (N=4,276)	Professionals & Managers (N=9,884)	Mixed Occupational Group (N=10,953)	Graduates (N=4,021)	Individual Contributors **2011** (N=3,190)
Analytical	.56	.55	.55	.56	.61
Factual	.57	.56	.56	.56	.56
Rational	.71	.71	.71	.71	.72
Learning Oriented	.70	.71	.71	.67	.68
Practically Minded	.71	.70	.70	.69	.70
Insightful	.52	.51	.52	.53	.52
Inventive	.84	.83	.83	.84	.81
Abstract	.75	.75	.74	.74	.74
Strategic	.77	.77	.77	.75	.73
Interactive	.74	.74	.74	.75	.76
Engaging	.72	.72	.73	.74	.75
Self-promoting	.76	.75	.75	.75	.74
Convincing	.63	.63	.63	.65	.68
Articulate	.68	.69	.69	.70	.72
Challenging	.68	.67	.68	.71	.70
Purposeful	.61	.63	.63	.65	.62
Directing	.70	.74	.75	.76	.77
Empowering	.82	.83	.84	.83	.83
Self-assured	.61	.61	.62	.62	.62
Composed	.73	.72	.71	.71	.73
Resolving	.73	.75	.75	.75	.76
Positive	.75	.73	.73	.73	.72
Change Oriented	.75	.74	.74	.74	.72
Receptive	.64	.64	.64	.63	.64
Attentive	.78	.78	.78	.79	.77
Involving	.74	.74	.74	.75	.73
Accepting	.74	.74	.74	.74	.72
Reliable	.78	.78	.79	.79	.78
Meticulous	.83	.82	.82	.82	.81
Conforming	.83	.84	.84	.84	.82
Organized	.75	.75	.75	.76	.74
Principled	.71	.71	.70	.72	.69
Activity Oriented	.72	.73	.74	.74	.76
Dynamic	.65	.64	.64	.63	.62
Enterprising	.79	.79	.79	.79	.80
Striving	.61	.62	.63	.64	.66
Mean	.71	.71	.71	.72	.72
Median	.72	.73	.74	.74	.73
Min	.52	.51	.52	.53	.52
Max	.84	.84	.84	.84	.83

21.20 UK Management Responsibility - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual and Insightful all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.2 displays mean alphas of .71 for Senior Managers & Executives, Professionals & Managers and the Mixed Occupational group, and .72 for Graduates and Individual Contributors, demonstrating consistency across groups.

21.21 US Management Responsibility Mean Scores

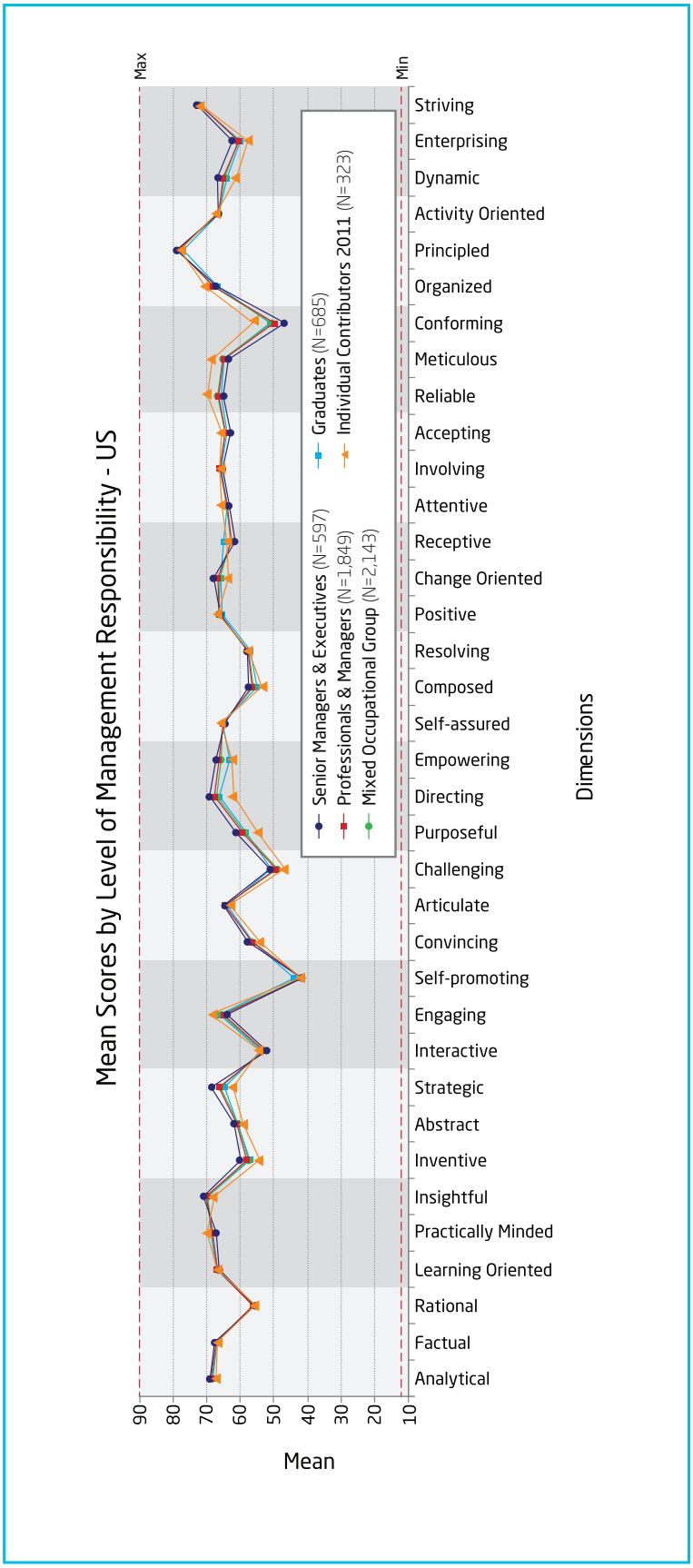
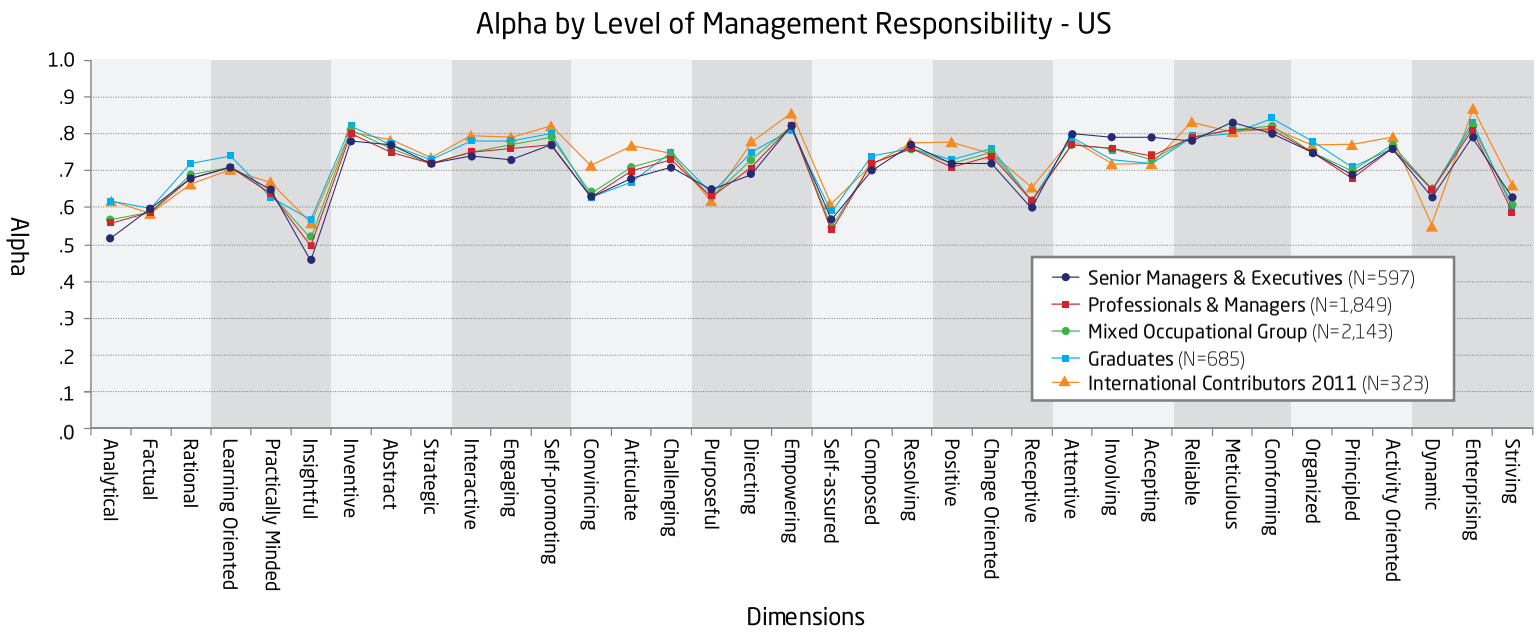


Table 21.3 Level of Management Responsibility Differences - US Alpha

Dimensions	Senior Managers & Executives (N=597)	Professionals & Managers (N=1,849)	Mixed Occupational Group (N=2,143)	Graduates (N=685)	International Contributors **2011** (N=323)
Analytical	.52	.56	.57	.62	.62
Factual	.60	.59	.59	.60	.59
Rational	.68	.68	.69	.72	.66
Learning Oriented	.71	.71	.71	.74	.70
Practically Minded	.65	.64	.64	.63	.67
Insightful	.46	.50	.52	.57	.56
Inventive	.78	.80	.81	.82	.80
Abstract	.77	.75	.76	.77	.78
Strategic	.72	.72	.72	.73	.73
Interactive	.74	.75	.75	.78	.79
Engaging	.73	.76	.76	.78	.79
Self-promoting	.77	.77	.79	.80	.82
Convincing	.63	.63	.64	.63	.71
Articulate	.68	.70	.71	.67	.77
Challenging	.71	.73	.74	.75	.75
Purposeful	.65	.63	.63	.64	.62
Directing	.69	.71	.73	.75	.78
Empowering	.82	.82	.82	.81	.85
Self-assured	.57	.54	.55	.59	.61
Composed	.70	.72	.72	.74	.72
Resolving	.77	.76	.76	.76	.78
Positive	.72	.71	.72	.73	.78
Change Oriented	.72	.74	.75	.76	.74
Receptive	.60	.62	.62	.62	.65
Attentive	.80	.77	.77	.79	.79
Involving	.79	.76	.76	.73	.72
Accepting	.79	.74	.73	.72	.72
Reliable	.78	.79	.79	.79	.83
Meticulous	.83	.81	.81	.80	.80
Conforming	.80	.81	.82	.84	.82
Organized	.75	.75	.75	.78	.77
Principled	.69	.68	.70	.71	.77
Activity Oriented	.76	.76	.77	.76	.79
Dynamic	.63	.65	.65	.65	.56
Enterprising	.79	.81	.82	.83	.87
Striving	.63	.59	.61	.60	.66
Mean	.71	.71	.71	.72	.73
Median	.72	.72	.73	.74	.76
Min	.46	.50	.52	.57	.56
Max	.83	.82	.82	.84	.87

21.22 US Management Responsibility - Alpha



While displaying alphas of below .60, the dimensions Analytical, Insightful, Self-assured, Receptive, Dynamic and Striving all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.3 displays mean alphas of .71 for Senior Managers & Executives, Professionals & Managers and the Mixed Occupational group, .72 for Graduates and .73 for Individual Contributors, demonstrating consistency across groups.

21.23 International Management Responsibility Mean Scores

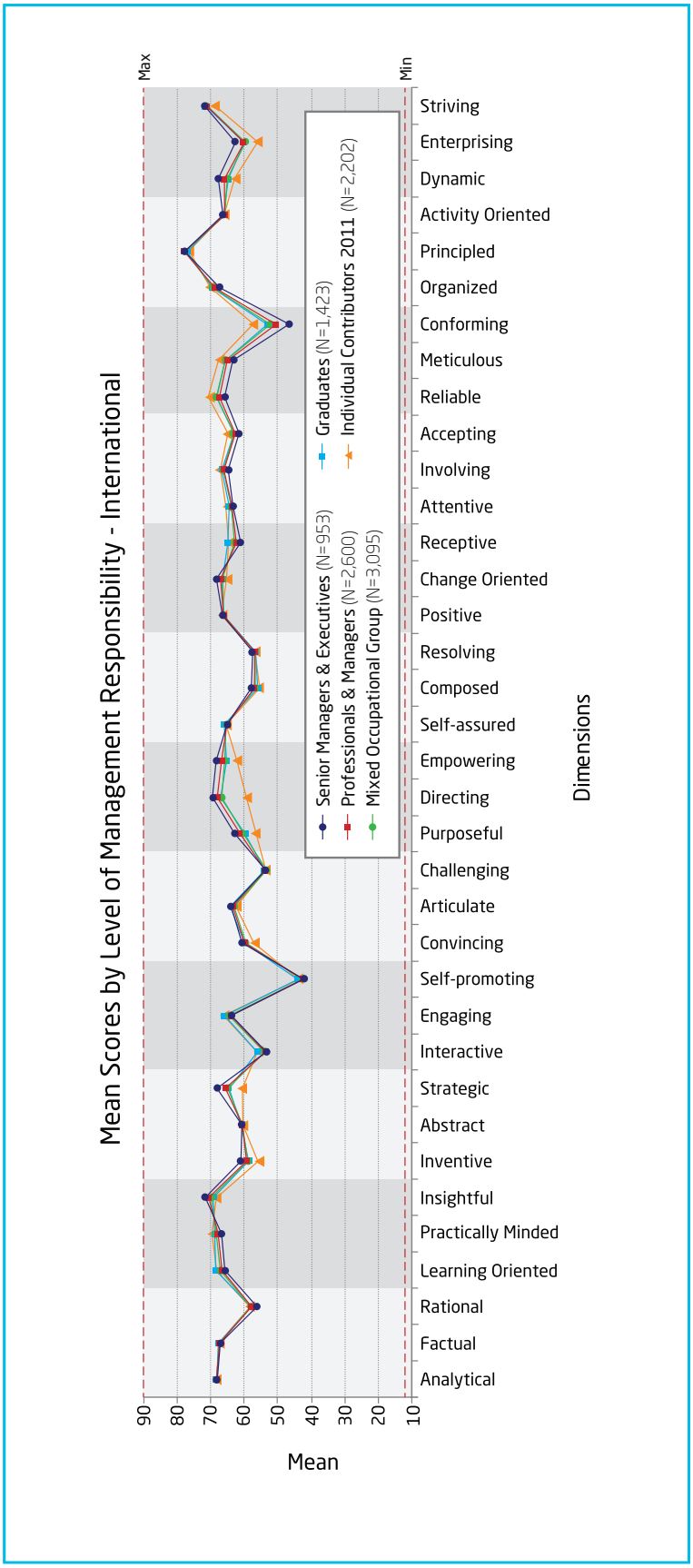
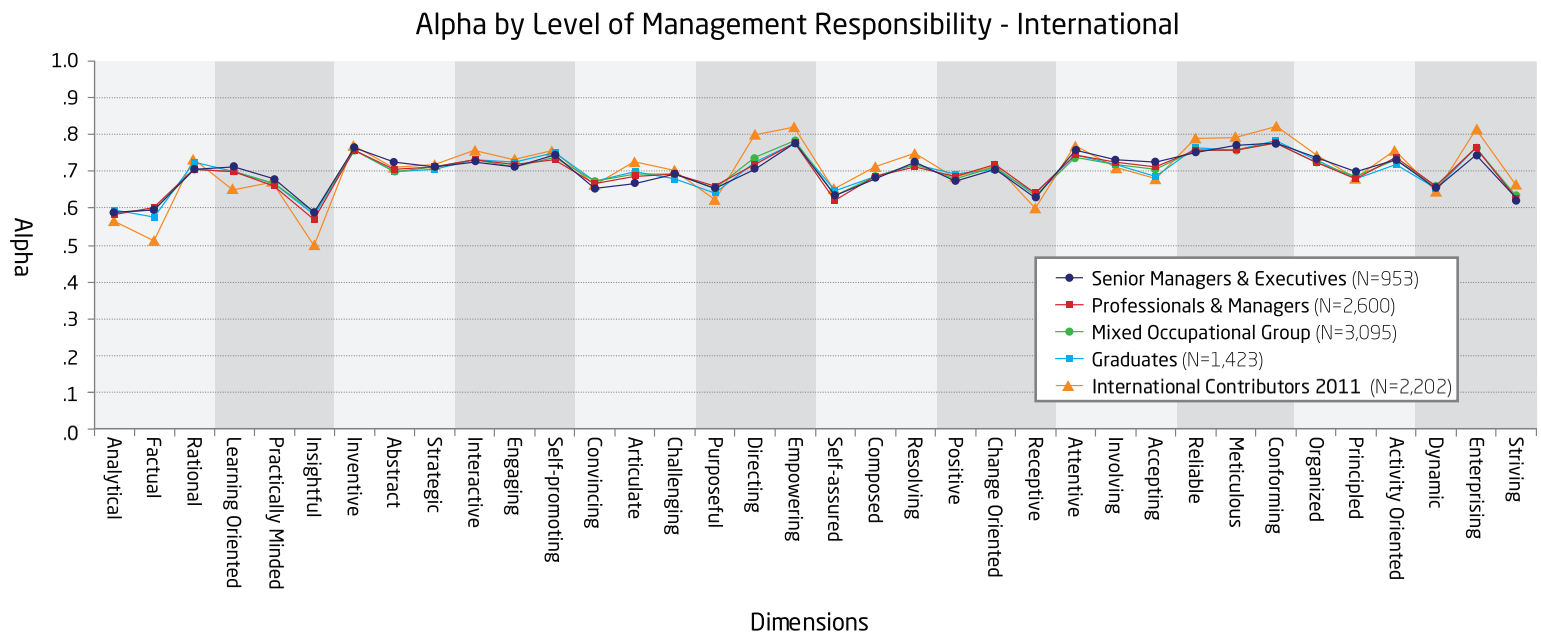


Table 21.4 Level of Management Responsibility Differences - International Alpha

Dimensions	Senior Managers & Executives (N=953)	Professionals & Managers (N=2,600)	Mixed Occupational Group (N=3,095)	Graduates (N=1,423)	International Contributors **2011** (N=2,202)
Analytical	.53	.52	.53	.54	.57
Factual	.54	.55	.54	.51	.51
Rational	.71	.71	.71	.74	.73
Learning Oriented	.72	.70	.70	.70	.65
Practically Minded	.67	.64	.65	.65	.67
Insightful	.53	.50	.53	.52	.50
Inventive	.80	.79	.79	.79	.77
Abstract	.74	.71	.70	.70	.71
Strategic	.72	.72	.72	.71	.72
Interactive	.74	.75	.75	.75	.76
Engaging	.72	.73	.72	.74	.73
Self-promoting	.77	.75	.76	.78	.76
Convincing	.63	.65	.66	.66	.66
Articulate	.65	.68	.69	.70	.72
Challenging	.69	.69	.69	.67	.70
Purposeful	.63	.64	.63	.61	.62
Directing	.71	.73	.76	.74	.80
Empowering	.82	.82	.83	.82	.82
Self-assured	.60	.58	.60	.62	.65
Composed	.67	.68	.68	.68	.71
Resolving	.74	.72	.73	.73	.75
Positive	.66	.68	.67	.69	.68
Change Oriented	.71	.73	.72	.71	.71
Receptive	.59	.61	.60	.61	.60
Attentive	.79	.77	.76	.77	.77
Involving	.75	.74	.73	.73	.71
Accepting	.74	.72	.71	.68	.68
Reliable	.78	.79	.79	.80	.79
Meticulous	.81	.79	.79	.79	.79
Conforming	.82	.82	.82	.83	.82
Organized	.76	.74	.74	.75	.74
Principled	.70	.67	.68	.67	.68
Activity Oriented	.75	.76	.75	.73	.76
Dynamic	.63	.64	.64	.63	.64
Enterprising	.77	.80	.80	.80	.81
Striving	.59	.59	.60	.59	.66
Mean	.70	.70	.70	.70	.70
Median	.71	.71	.71	.71	.71
Min	.53	.50	.53	.51	.50
Max	.82	.82	.83	.83	.82

21.24 International Management Responsibility - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual, Insightful and Receptive all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.4 displays mean alphas of .70 for all norms, demonstrating consistency across groups.

21.25 International Trends - Occupational Levels for Regions

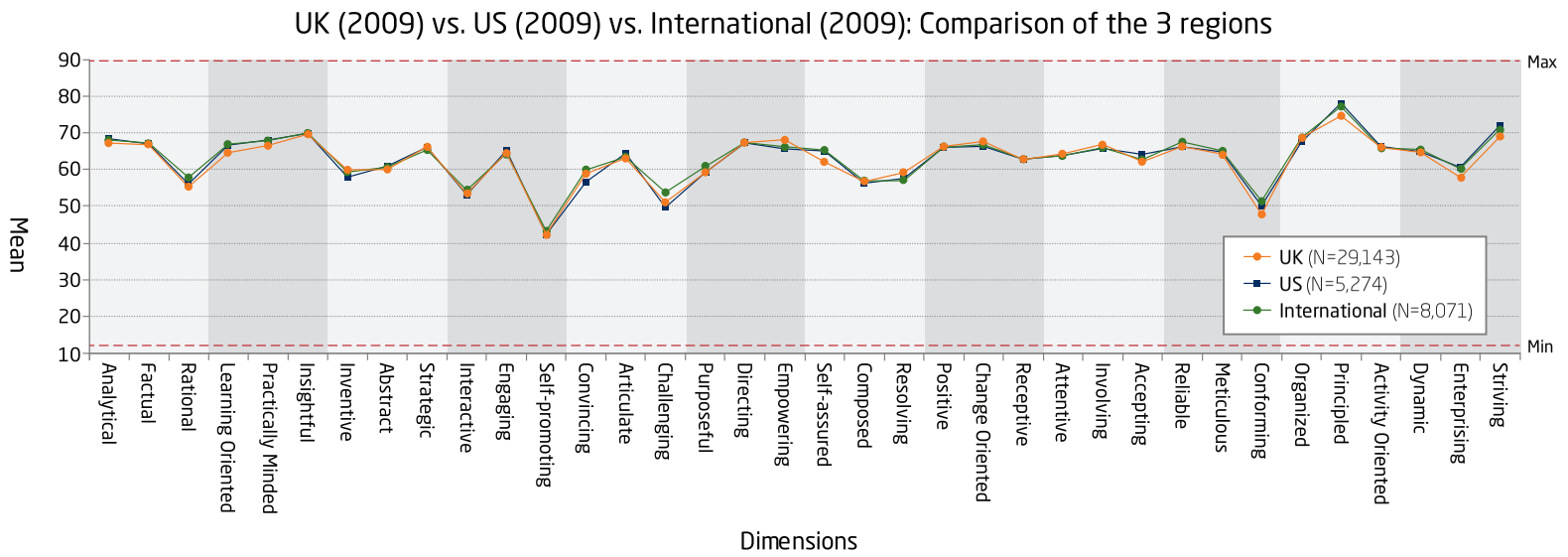
International Trends for Wave Professional Styles (IA)

Comparing Regions: UK (N=29,143) vs. US (N=5,274) vs. International (N=8,071) completions

Observations made here are based on data gathered internationally (including UK, US, Bulgaria, Germany, Australia, South Africa, Spain, Mexico, France, Brazil, Canada, Denmark, Netherlands, Italy and Sweden) and refer to the 36 Wave Professional Styles dimensions. The data is representative of actual usage data of Wave Professional Styles.

Mean scores of the 36 dimensions for three regional groups (UK (N=29,143) vs. US (N=5,274) vs. International (N=8,071)) were compared. Differences have been calculated in terms of standardized effect sizes of the means (Cohen's d), whereby a small difference equals an effect size of *d*=.20, a medium difference equals an effect size of *d*=.50 and a large difference equals an effect size of *d*=.80 (Cohen, 1988). The majority of the observed differences between the three groups' means ranged from non-existent to small. A few were classified as small to medium see over page.

21.26 International Trends



- UK vs. US: For 7 out of 36 dimensions, small to medium effect sizes of the means (d=.21-.50) were observed: *Learning Oriented, Convincing, Empowering, Self-assured, Principled, Enterprising* and *Striving*. The UK group had higher means on *Convincing* and *Empowering*. The US group was higher on *Learning Oriented, Self-assured, Principled, Enterprising* and *Striving*.
- UK vs. International: Small to medium effect sizes of the means were observed for 8 dimensions: *Rational, Learning Oriented, Challenging, Self-assured, Resolving, Conforming, Principled* and *Striving*. The UK group showed a higher mean on 1 dimension only, Resolving. The International group was higher on *Rational, Learning Oriented, Challenging, Self-assured, Conforming, Principled* and *Striving*.
- US vs. International: Small to medium effect sizes were observed merely for 2 dimensions, namely *Convincing* and *Challenging*, where the International group was higher than the US group.

In summary, it was observed that for the majority of dimensions where a difference in means was found, the UK group had rated themselves lower than the US and International groups. There was also a slight trend for the International group to have higher dimension means than the other two groups, although most of the differences found were very small. Please bear in mind that any regional subgroup variances observed here could also partly reflect the influence of factors such as age, gender, ethnicity, occupation and seniority (tenure).

21.27 Senior Managers & Executives by Region Mean Scores

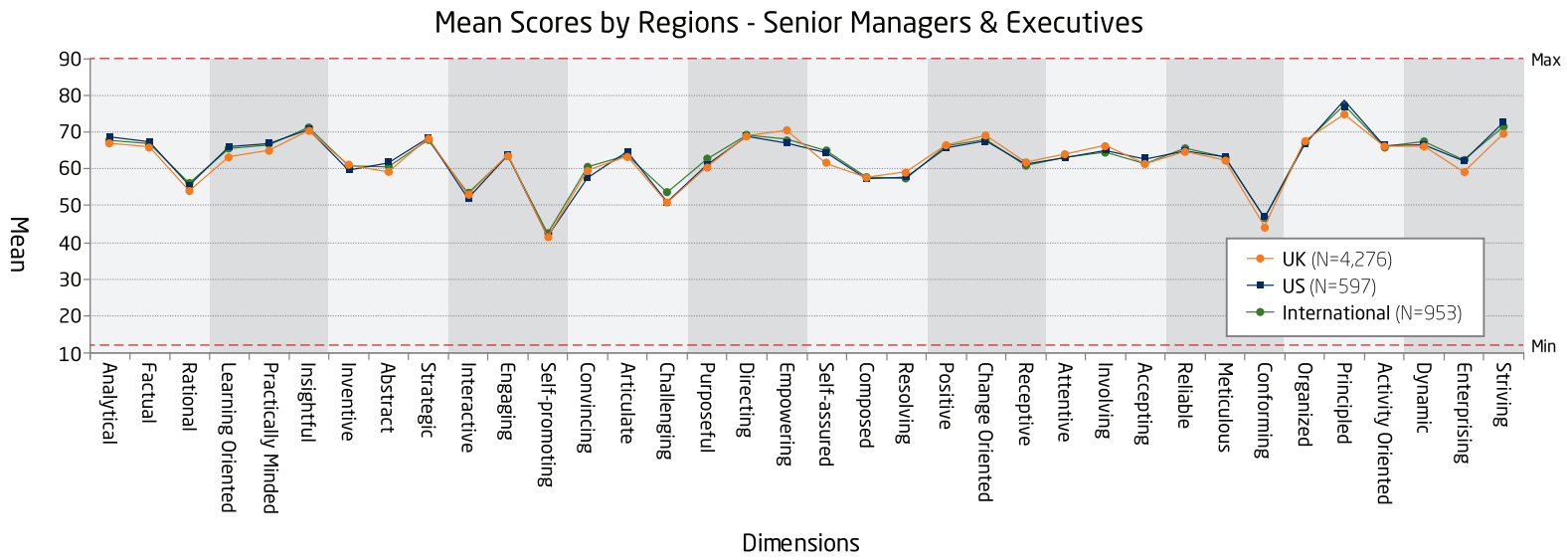
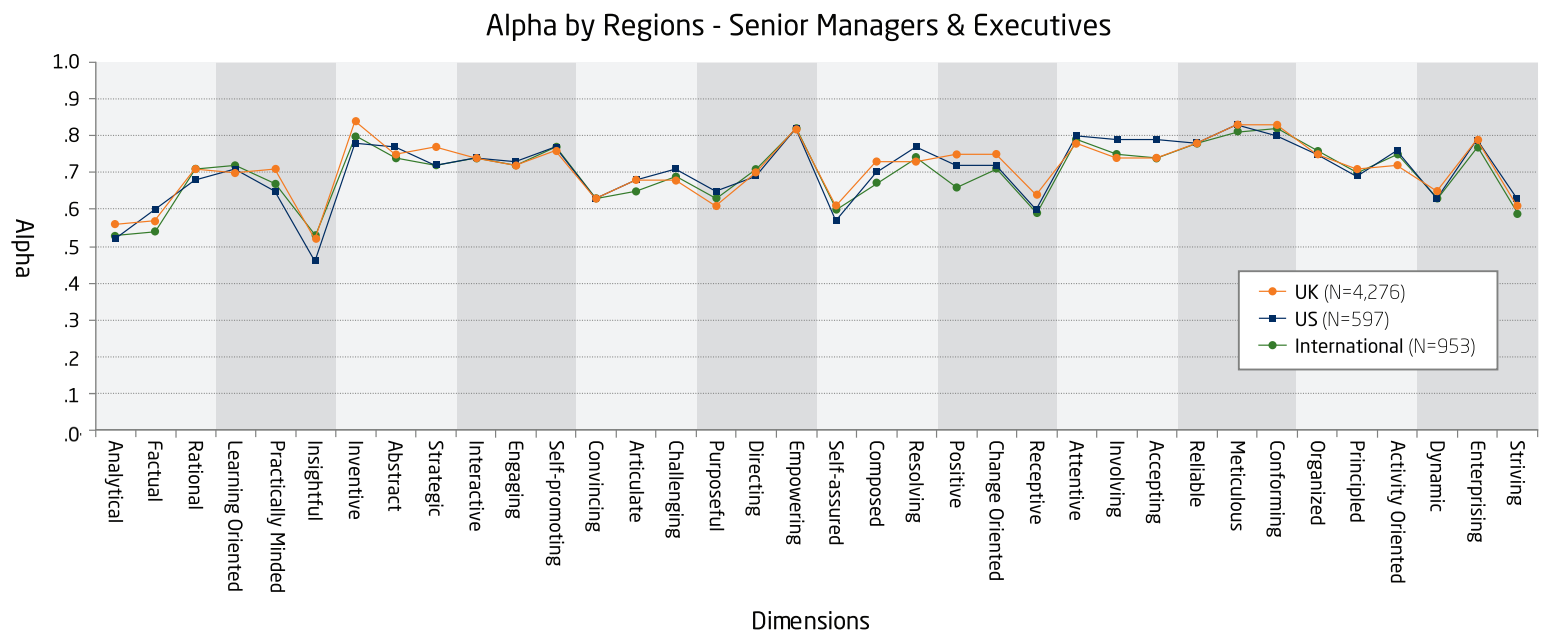


Table 21.5 Regional Differences - Senior Managers & Executives - Alpha

Dimensions	UK (N=4,276)	US (N=597)	International (N=953)
Analytical	.56	.52	.53
Factual	.57	.60	.54
Rational	.71	.68	.71
Learning Oriented	.70	.71	.72
Practically Minded	.71	.65	.67
Insightful	.52	.46	.53
Inventive	.84	.78	.80
Abstract	.75	.77	.74
Strategic	.77	.72	.72
Interactive	.74	.74	.74
Engaging	.72	.73	.72
Self-promoting	.76	.77	.77
Convincing	.63	.63	.63
Articulate	.68	.68	.65
Challenging	.68	.71	.69
Purposeful	.61	.65	.63
Directing	.70	.69	.71
Empowering	.82	.82	.82
Self-assured	.61	.57	.60
Composed	.73	.70	.67
Resolving	.73	.77	.74
Positive	.75	.72	.66
Change Oriented	.75	.72	.71
Receptive	.64	.60	.59
Attentive	.78	.80	.79
Involving	.74	.79	.75
Accepting	.74	.79	.74
Reliable	.78	.78	.78
Meticulous	.83	.83	.81
Conforming	.83	.80	.82
Organized	.75	.75	.76
Principled	.71	.69	.70
Activity Oriented	.72	.76	.75
Dynamic	.65	.63	.63
Enterprising	.79	.79	.77
Striving	.61	.63	.59
Mean	.71	.71	.70
Median	.72	.72	.71
Min	.52	.46	.53
Max	.84	.83	.82

21.28 Senior Managers & Executives by Region - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual, Insightful, Self-assured, Receptive and Striving all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.5 displays mean alphas of .71 for UK and US, and .70 for International, demonstrating consistency across groups.

21.29 Professionals & Managers by Region Mean Scores

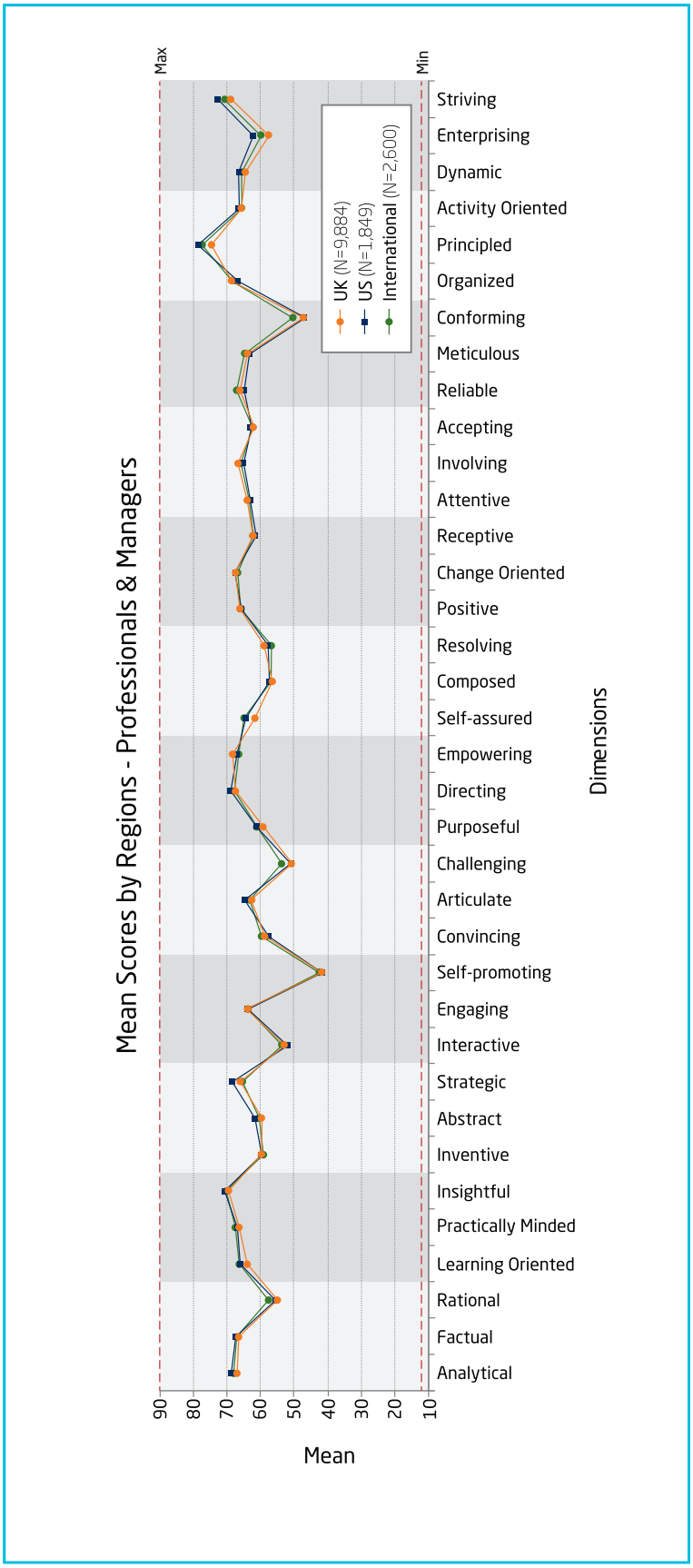
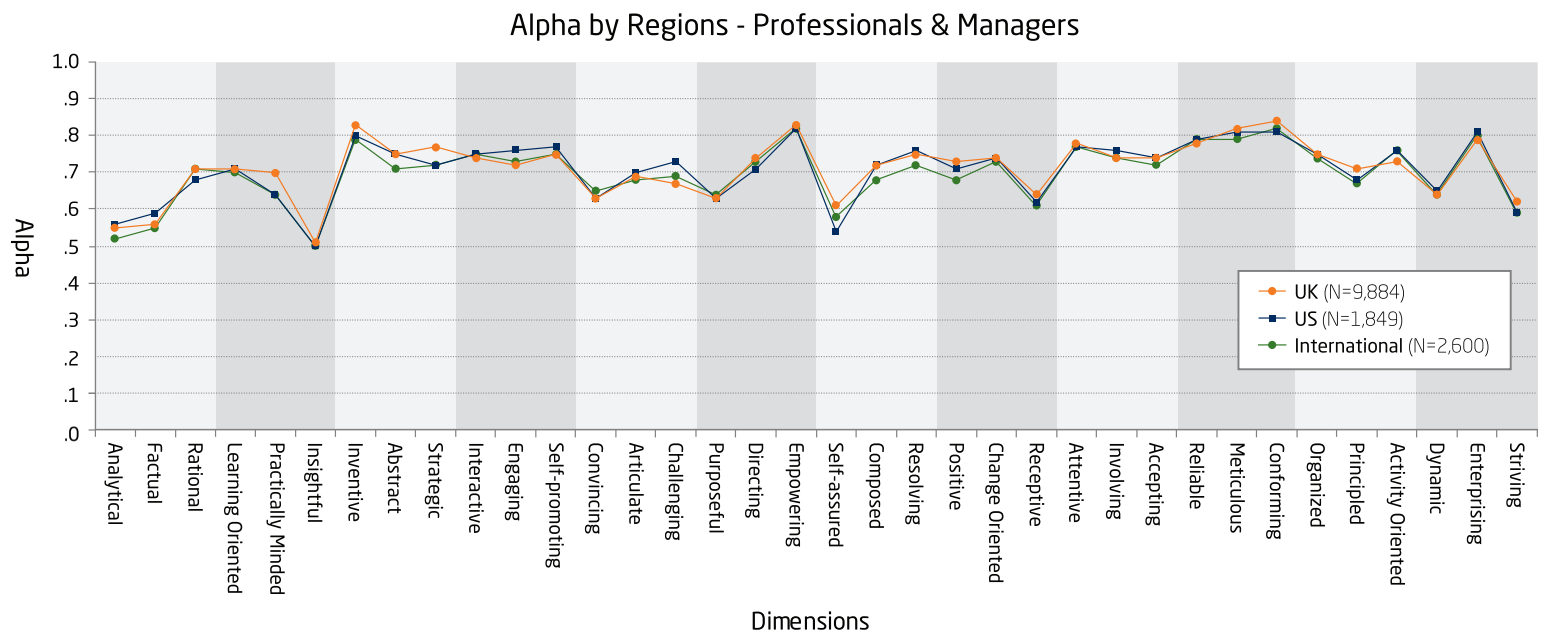


Table 21.6 Regional Differences - Professionals & Managers - Alpha

Dimensions	UK (N=9,884)	US (N=1,849)	International (N=2,600)
Analytical	.55	.56	.52
Factual	.56	.59	.55
Rational	.71	.68	.71
Learning Oriented	.71	.71	.70
Practically Minded	.70	.64	.64
Insightful	.51	.50	.50
Inventive	.83	.80	.79
Abstract	.75	.75	.71
Strategic	.77	.72	.72
Interactive	.74	.75	.75
Engaging	.72	.76	.73
Self-promoting	.75	.77	.75
Convincing	.63	.63	.65
Articulate	.69	.70	.68
Challenging	.67	.73	.69
Purposeful	.63	.63	.64
Directing	.74	.71	.73
Empowering	.83	.82	.82
Self-assured	.61	.54	.58
Composed	.72	.72	.68
Resolving	.75	.76	.72
Positive	.73	.71	.68
Change Oriented	.74	.74	.73
Receptive	.64	.62	.61
Attentive	.78	.77	.77
Involving	.74	.76	.74
Accepting	.74	.74	.72
Reliable	.78	.79	.79
Meticulous	.82	.81	.79
Conforming	.84	.81	.82
Organized	.75	.75	.74
Principled	.71	.68	.67
Activity Oriented	.73	.76	.76
Dynamic	.64	.65	.64
Enterprising	.79	.81	.80
Striving	.62	.59	.59
Mean	.71	.71	.70
Median	.73	.72	.71
Min	.51	.50	.50
Max	.84	.82	.82

21.30 Professionals & Managers by Region - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual, Insightful, Self-assured and Striving all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.6 displays mean alphas of .71 for UK and US, and .70 for International, demonstrating consistency across groups.

21.31 Mixed Occupational Group by Region Mean Scores

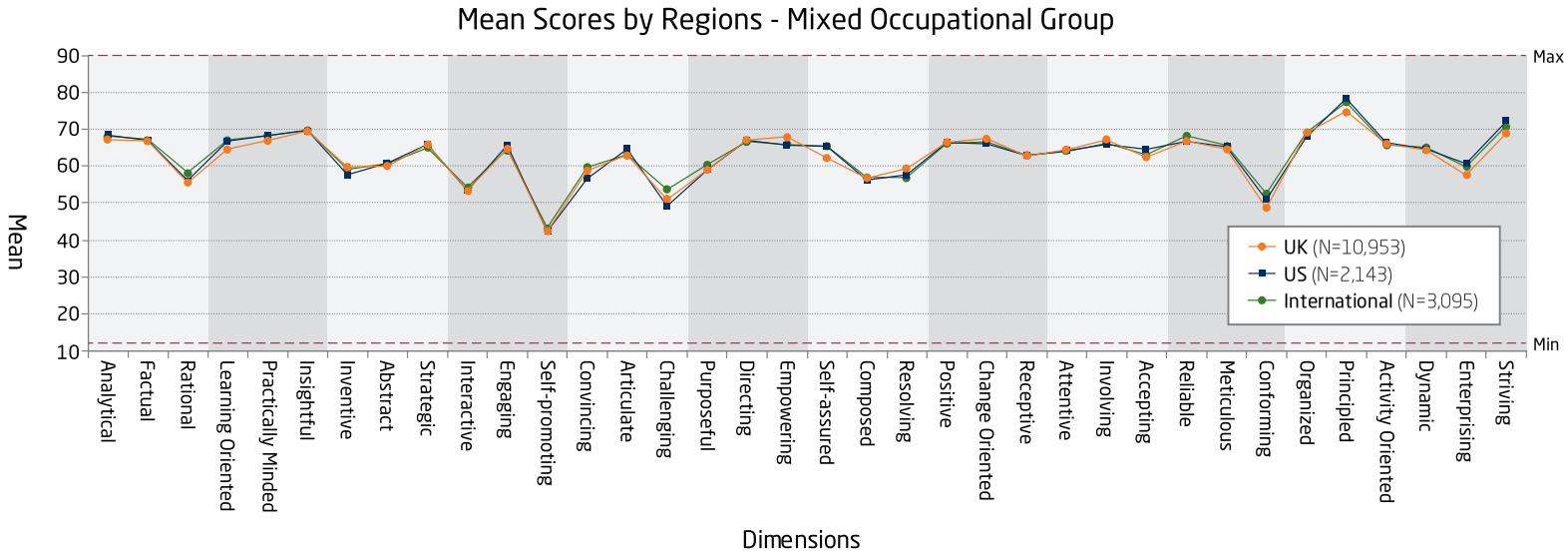
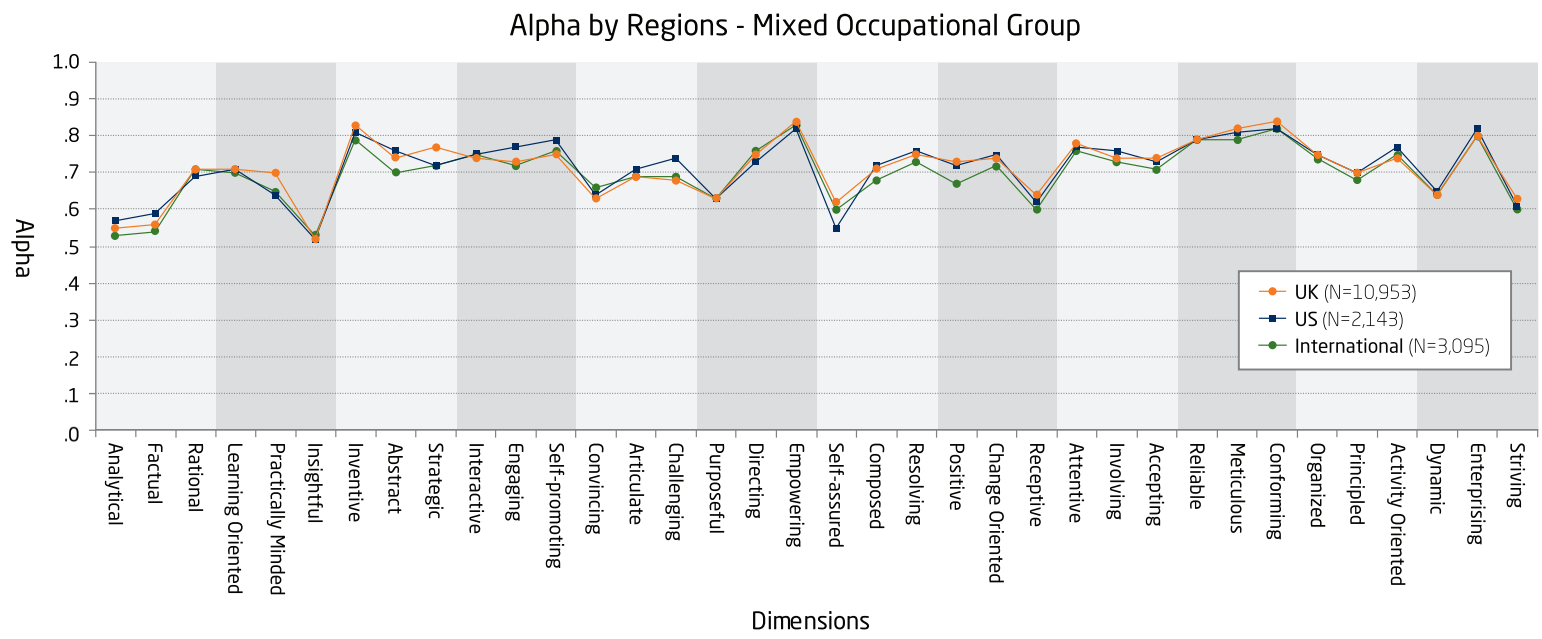


Table 21.7 Regional Differences - Mixed Occupational Group - Alpha

Dimensions	UK (N=10,953)	US (N=2,143)	International (N=3,095)
Analytical	.55	.57	.53
Factual	.56	.59	.54
Rational	.71	.69	.71
Learning Oriented	.71	.71	.70
Practically Minded	.70	.64	.65
Insightful	.52	.52	.53
Inventive	.83	.81	.79
Abstract	.74	.76	.70
Strategic	.77	.72	.72
Interactive	.74	.75	.75
Engaging	.73	.77	.72
Self-promoting	.75	.79	.76
Convincing	.63	.64	.66
Articulate	.69	.71	.69
Challenging	.68	.74	.69
Purposeful	.63	.63	.63
Directing	.75	.73	.76
Empowering	.84	.82	.83
Self-assured	.62	.55	.60
Composed	.71	.72	.68
Resolving	.75	.76	.73
Positive	.73	.72	.67
Change Oriented	.74	.75	.72
Receptive	.64	.62	.60
Attentive	.78	.77	.76
Involving	.74	.76	.73
Accepting	.74	.73	.71
Reliable	.79	.79	.79
Meticulous	.82	.81	.79
Conforming	.84	.82	.82
Organized	.75	.75	.74
Principled	.70	.70	.68
Activity Oriented	.74	.77	.75
Dynamic	.64	.65	.64
Enterprising	.80	.82	.80
Striving	.63	.61	.60
Mean	.71	.71	.70
Median	.74	.73	.71
Min	.52	.52	.53
Max	.84	.82	.83

21.32 Mixed Occupational Group by Region - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual, Insightful, Self-assured and Striving all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.7 displays mean alphas of .71 for UK and US, and .70 for International, demonstrating consistency across groups.

21.33 Graduates by Region Mean Scores

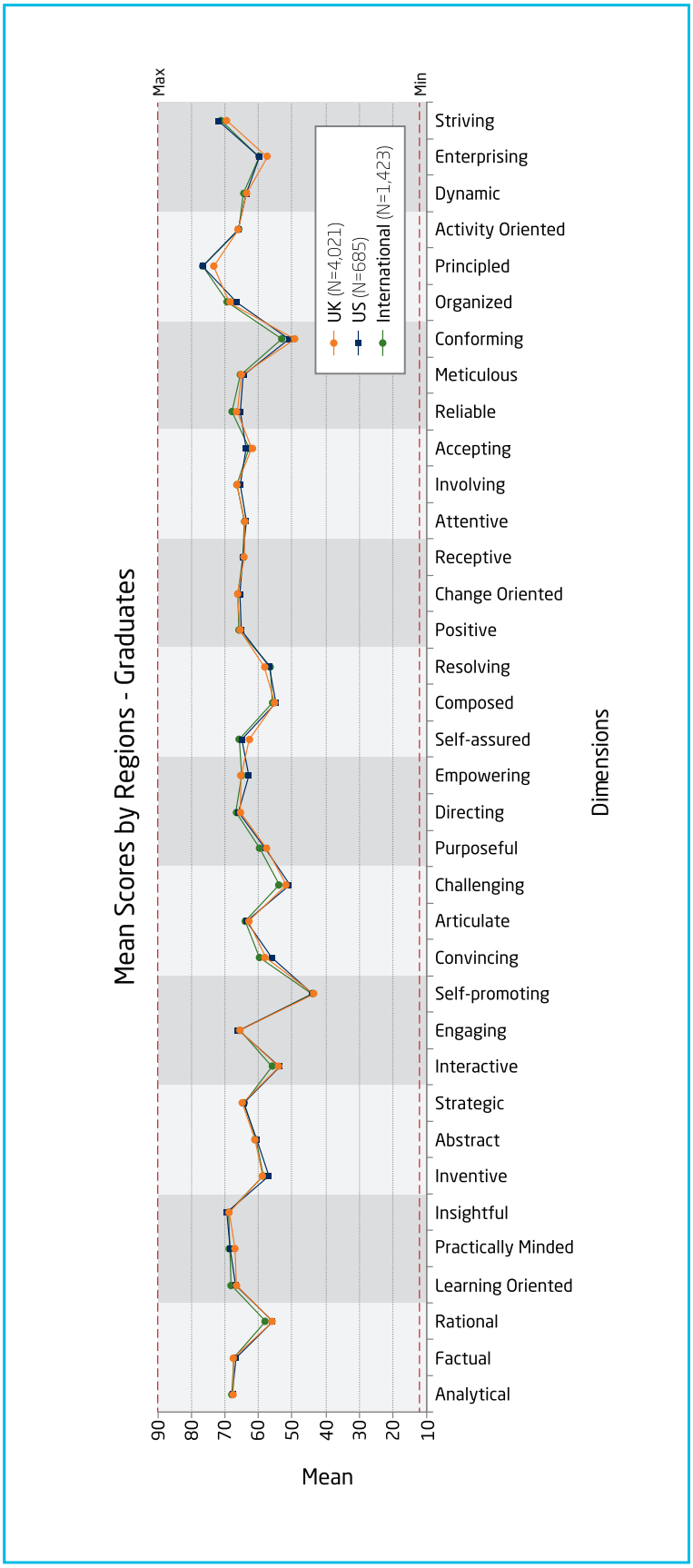
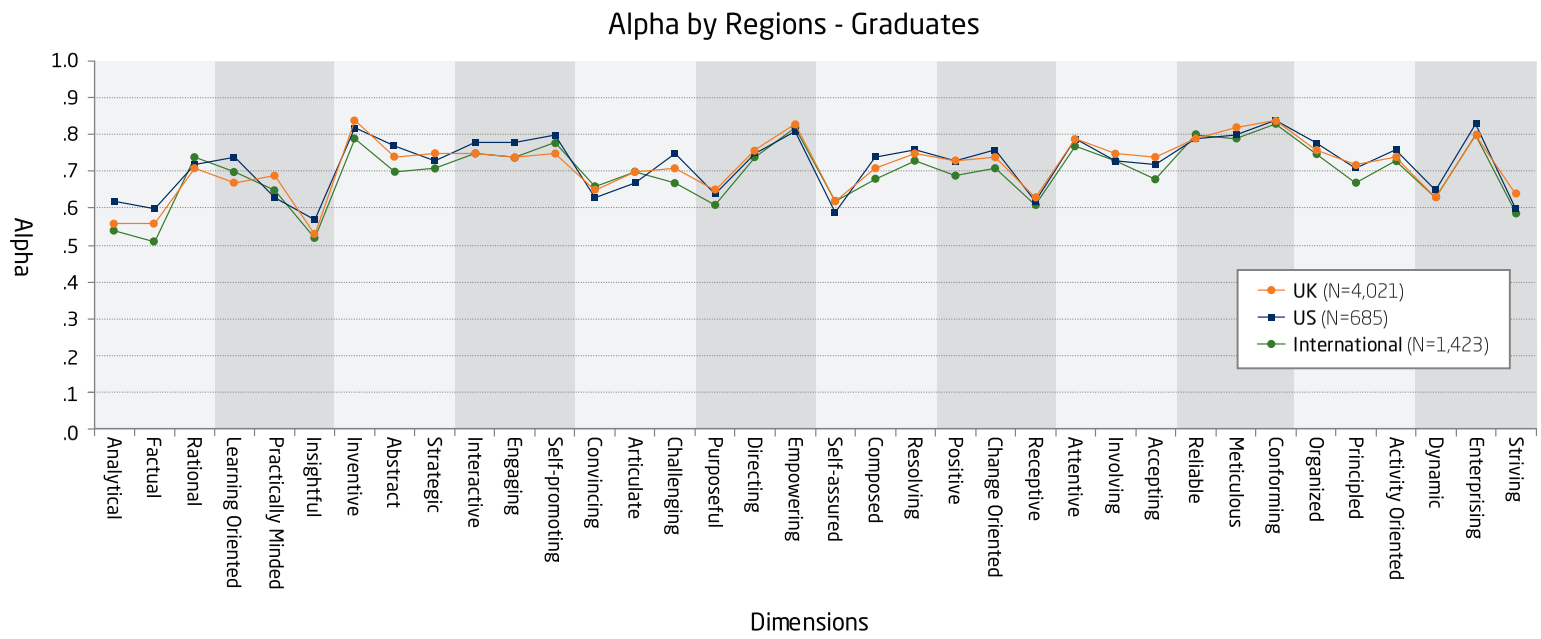


Table 21.8 Regional Differences - Graduates - Alpha

Dimensions	UK (N=4,021)	US (N=685)	International (N=1,423)
Analytical	.56	.62	.54
Factual	.56	.60	.51
Rational	.71	.72	.74
Learning Oriented	.67	.74	.70
Practically Minded	.69	.63	.65
Insightful	.53	.57	.52
Inventive	.84	.82	.79
Abstract	.74	.77	.70
Strategic	.75	.73	.71
Interactive	.75	.78	.75
Engaging	.74	.78	.74
Self-promoting	.75	.80	.78
Convincing	.65	.63	.66
Articulate	.70	.67	.70
Challenging	.71	.75	.67
Purposeful	.65	.64	.61
Directing	.76	.75	.74
Empowering	.83	.81	.82
Self-assured	.62	.59	.62
Composed	.71	.74	.68
Resolving	.75	.76	.73
Positive	.73	.73	.69
Change Oriented	.74	.76	.71
Receptive	.63	.62	.61
Attentive	.79	.79	.77
Involving	.75	.73	.73
Accepting	.74	.72	.68
Reliable	.79	.79	.80
Meticulous	.82	.80	.79
Conforming	.84	.84	.83
Organized	.76	.78	.75
Principled	.72	.71	.67
Activity Oriented	.74	.76	.73
Dynamic	.63	.65	.63
Enterprising	.80	.83	.80
Striving	.64	.60	.59
Mean	.72	.72	.70
Median	.74	.74	.71
Min	.53	.57	.51
Max	.84	.84	.83

21.34 Graduates by Region - Alpha



While displaying alphas of below .60, the dimensions Analytical, Factual, Insightful, Self-assured and Striving all display sound alternate form reliabilities in the standardization sample (see the Reliability chapter of this handbook). Furthermore, Table 21.8 displays mean alphas of .72 for UK and US, and .70 for International, demonstrating consistency across groups.

21.35 Fairness Summary

This chapter provides information on the fair application of Wave Professional Styles. To be applied fairly we give examples of appropriate and inappropriate uses of Wave in the Applications chapter. At the beginning of the chapter the key steps and features of Wave are highlighted that contribute to it being applied as a performance driven tool which can be used fairly for the selection and development of staff in the workplace.

The data presented on the differences between the means for different groups generally show no, small or moderate differences between groups. In each case, whether these differences are attributable to differences in the population means of these groups or are reflective of other variables is not readily discernable. However, some interesting observations can be drawn from the data.

The generally no appreciable or small differences of the size demonstrated here, do not justify treating age, gender or ethnic subgroups differently, and we do not as a result recommend using different separate norms for these age, gender or ethnic groups. On the contrary, they reinforce the case for using Wave Professional Styles fairly by using one group and consistent method for a particular job across age, gender and ethnicity. As a result no such norms are available on Oasys for these separate groups.

One notable difference in Ethnicity that has some consistency in appearing in US and UK minority groups is on Self-assured, where the minority groups are higher than the majority white group in both cases. This raises an interesting question as to whether, for example, the work and wider environment tends to make ethnic minorities become more Self-assured in the face of having to deal with more challenges.

The differences between age, gender and ethnicity are not such that we advise that they should impact on profile interpretation. On ethnicity in the UK, for example, the size and direction of the general trends make it unlikely that the scales of Wave Professional Styles will underestimate the performance and potential of the Black and Asian groups and therefore will avoid disadvantaging these groups in the selection or development at work. In fact the addition of Wave Professional Styles to a selection procedure is likely to increase the fairness of the selection procedure and reduce adverse impact against minority groups.

We advise that the choice of norm group should be appropriate to the level of management of the role being considered. To reitierate discussion in the Norms chapter of this handbook International Norms are available for occasions where it is less appropriate or not possible to apply a comparison group from an individual country. Saville Consulting do not suggest that international norms are generally used in preference to national norms. Where a group is international, users may want to reflect on the composition of these norms (information provided in the Appendices) to decide on whether they are appropriate. There is in fact a great deal of similarity between the scores based on International norms and UK and US norms, the biggest impact is on the face validity of the norm.