



What is an iWAM Standard Group?

by

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The iWAM Has Two Kinds of Scores

iWAM reports have two kinds of scores.

Absolute Scores are based on the individual's ranking of the items that make up a given scale. If an individual ranks all the items in a given scale as "5" (the least like me), he or she will score at the bottom or left end of the scale, the lowest possible score. If, on the other hand, the individual ranks all items "1" (the most like me), the absolute score will be at the top of the range or at the right. This represents the highest possible absolute score. Rating items "2", "3", or "4" will cause the absolute score to fall somewhere between the extremes.

The *absolute score* provides an indication of the strength or weakness of a given motivational and attitudinal pattern for that individual.

Relative Percent Scores are based on the relationship between an individual's absolute score and the standard group used in the report. Note that this score is a *percent*, not a percentile. Later in the document, we explain how the *relative percent score* is calculated.

For now, it is sufficient to say that the standard group is a reference group and, as such, provides a basis for understanding both how an individual compares to the group and how the group might view the individual's motivational and attitudinal patterns compared to theirs.

The primary reference group in iWAM reports is based on the country in which the individual is working. At present jobEQ has approximately 19 standard groups based on work countries. Note that it is also possible to create a custom standard group for an organization. If there are a sufficient number of iWAM assessment completed, jobEQ can create a standard group for a function (e.g., sales people), for an organization, or for a country.

What is a Standard Group?

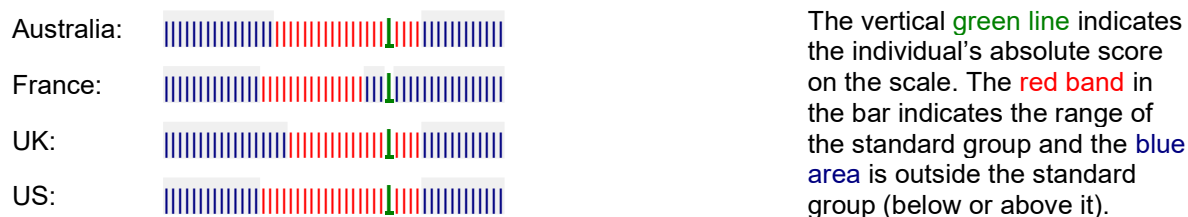
A standard group provides a statistical indication of how defined group of people will typically score on a scale in the *Inventory for Work Attitude and Motivation* (iWAM). The indication is a range of typical scores. The iWAM uses -1 to +1 standard deviations (σ) to define the standard group range. jobEQ then uses this range in its reports to provide a relative indication of where a person scores in comparison the people in the reference (standard) group. The standard group can be any group, such as a team of sales people, all employees of a certain organization or, as a default, the population of a country.

How are jobEQ's Standard Groups Developed?

jobEQ's standard groups are calculated by taking the means (average scores) of a sample of a group (e.g., a country such as the United States), adding one standard deviation to the mean (average) to set the upper limit of the standard group, and subtracting the standard deviation from the mean to establish the lower limit. If we presuppose that the standard group is approximately normally distributed, we know by definition that approximately two-thirds of the individuals will fall within that standard group, while 1-out-of-6 will score higher than the standard group and 1-out-of-6 will score lower.

Many psychological assessments establish their norm group by testing student populations. This method, however, may result in results that are not a reasonable comparison group, so jobEQ uses *working-age participants* (at least 18 years old). The test participants used for the jobEQ standard groups have all been tested since 2000. Most completed high school and most are white-collar professionals. The populations are typically proportionately distributed between men and women. jobEQ continues to create standard groups for more countries as the client base expands around the globe. Existing standard groups get updated as well. For example, the U.S. Standard Group was updated in 2007 and again in 2016.

The following table is an example of the iWAM standard groups for four countries on a given scale:



Understanding the Comparison by Analyzing a Standard Group

In psychological testing, a “norm group” purports that the sample of test takers represent the population for whom the test is ultimately intended.

While the standard group for the iWAM may represent a population (e.g., the working population in the United States), we do not make that assumption that, in fact, it does represent it.

Instead, we do an analysis of the group of people who have taken the iWAM in a given country and compare that group to the demographics of the country's workforce. This analysis tells us if the group may, in fact, represent the population of the country and, if not, how it differs. If we create a custom standard group (e.g., all the management tested in an organization), jobEQ provides the demographics of that group as well as an analysis of how the group compares to the country's standard group.

For example, the analysis of the 2016 US Standard Group indicated that the US-based iWAM test-takers differed from the US workforce in two ways:

- They were more likely to be in managerial or professional work roles
- They were more likely to have more formal education.

The analysis of a custom standard group made up of the management and executive leadership of a company, we determined that some of the ways this group differed from the country's standard group in the following areas:

- Higher in needing *Power*
- Higher in wanting to *Follow Procedures*
- Lower in *Tolerance* (being motivated to work with people who had different rules that they did)
- Lower in *Affiliation* (wanting to be part of a group and paying attention to the group's feelings or emotions)

These results do not make the iWAM an invalid instrument. In fact, just the opposite.

By being clear about the reference group's demographics, the individual being tested has a clear sense of the group to whom he or she is being compared. This information plus what is required in the individual's specific role will provide valuable information in the selection or promotion process as well as some perspective on the leadership culture in which the individual will be working.

Using the Standard Group to Calculate a Relative Percent Score

jobEQ analyzes the scores in a group (e.g., the people in a given country or organization who have taken the iWAM) and calculates the mean (average) and standard deviation for each scale. We then use the calculations to insert a red bar in each scale of the iWAM report. The red bar represents -1 to +1 standard deviations for the standard or reference group used in that report.

The comparison of the individual's score and the standard group is based on the relationship between the individual's absolute score and where that score falls relative to the standard group. To quantify the relationship between the standard group and the individual's score, jobEQ created the following reference points:

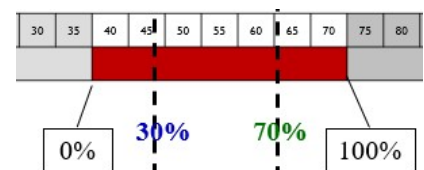


-1 Standard Deviation = 0% (left end of the red bar)

+1 Standard Deviation = 100% (right end of the red bar)

The average score for the standard group is always 50% (relative).

The Relative Percent tells you where the individual's score falls on or is relative to the standard group. If it falls within the red bar, the relative percent will be between 1% and 99%. If it is above the bar (more than +1 standard deviation), the score will be $\geq 101\%$. If it is below the red bar, the relative percent will be $\leq -1\%$. So, it is possible to have a negative relative percent (e.g., -35%) as well as a relative percent above 100 (e.g., 140%).

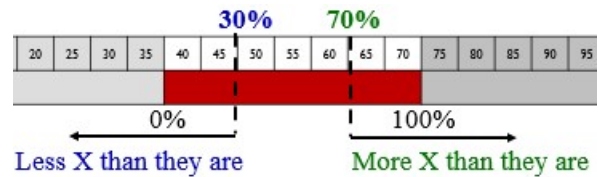


How to Interpret the Relative Percent

Interpretation of the relative percent (R%) is based on research that gives an indication of when a group will see you as different than they are. Here are the guidelines for interpreting the relative percent score in an iWAM. If your score is:

Less than 30%, the people in the standard group would see you as “less than” the pattern than they are (e.g., less goal oriented or less proactive)

More than 70%, the people in the standard group would see you as “more of” the pattern than they are (e.g., more goal oriented or more proactive).



There is no evaluation attached to the relative percent score since the desirability of a strong, moderate, or weak pattern is a result of the context, the requirements of a role, the people involved, etc.

How Helpful Are Standard Groups for Adding Validity to the Test Results?

The purpose of standard groups is not to establish statistical validity; rather standard groups help individuals understand their test results by indicating how they compare to the reference group. We use the standard group to generate visual charts and/or text explanations of a person's scores. When jobEQ questionnaires are used for making decisions such as hiring, standard groups may not matter because the best hiring decisions are based on comparing a person to the top performers in a certain position in an organization. (See jobEQ's *Model of Excellence* technology).

Are Standard Groups Statistically Valid?

For those inquiring minds who want to know the statistics behind jobEQ's standard groups: the error margin for our standard groups is always less than 5%. For Australia, it's 3.15%, for the U.K., it's 1.16%, and for the U.S. it's only 1.06% error. Once again, it is important to note that we use standard groups as a guide to help understand test results. So, the key is not in determining the exact numbers; instead, it is more important to get a close estimate that will illustrate how participants compare to the reference group.

With standard groups, we get a good approximation of the motivation in a culture. See the example below to help clarify this point. (Note: we picked these samples for educational purposes: these are NOT the specific standard groups used in our system.) The statistics below compare the scores on *Initiation* (a scale in the iWAM questionnaire that measures the extent to which someone wants to be proactive or to take action to make something happen) between a French sample (FR) in our public profiling database and a British sample (UK) from the same database. Both samples are employed (ages 18 to 65) and are mainly white-collar workers from different sectors (both public and private sector, from education to consulting or from administrative assistant to top executive).

We tested 238 persons from France and 329 persons from the U.K. We found that these cultures are so different that an eventual statistical error for the groups is much smaller than the cultural difference found. Statistically speaking, *the difference between the two cultures on this iWAM pattern is very significant* ($p < 0.001$). In other words, there is less than one chance in thousand that the French would be as motivated to be as proactive as the British.

Group Statistics for the iWAM Initiation Scale					
	COUNTRY	N	Mean	Std. Deviation	Std. Error Mean
OF1P	UK	329	.5651596	.20978483	.01156581
	FR	238	.4280462	.15986352	.01036241

Independent Samples Test										
iWAM Initiation Scale		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
OF1P	Equal variances assumed	19.967	.000	8.461	565	.000	.1371134	.01620591	.10528217	.16894454
	Equal variances not assumed			8.830	563.458	.000	.1371134	.01552893	.10661170	.16761501

If we repeat the exercise comparing U.S. and Australia, again using data from jobEQ's public database, we would see that the differences for proactivity (Initiation scale) are not significantly different. Yet, the statistics show that the possible statistical error on these groups is quite small even if, due to sample size, the statistical error margin on the Australian group is much larger (3.15%) than the error on the larger U.S. group (1.06%). So, we can safely assume that a bigger sample would allow us to come to the same conclusions; that is, that the Americans do not differ very much from the Australians in proactivity (nor, as it turns out, from the British). jobEQ has information available on other comparisons.

Group Statistics for the iWAM Initiation Scale					
	COUNTRY	N	Mean	Std. Deviation	Std. Error Mean
OF1P	AUS	53	.5683962	.22939882	.03151035
	USA	482	.5344917	.23380502	.01064953

Independent Samples Test										
iWAM Initiation Scale		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
OF1P	Equal variances assumed	.374	.541	1.004	533	.316	.0339045	.03377356	-.03244109	.10025014
	Equal variances not assumed			1.019	64.467	.312	.0339045	.03326131	-.03253332	.10034237

NOTES:

- Statistics generated using SPSS for Windows v.11 on an extraction of jobEQ's Public Profiling database as of May 28, 2002.
- The argument that the standard group for Australia wouldn't change much with sample size is confirmed by this second sample from July 11, 2002, after we started a call for Australian questionnaires. You'll notice that the change in mean is well within the predicted standard error of the first sample, and given this sample is a larger (n=83), the predicted error margin is smaller.

Conclusion

The iWAM Standard Group is a powerful addition to the jobEQ test system. It provides a crucial point of reference for the individual being tested. Systematic updates to the standard groups for countries and the ability to create a documented custom standard group for an organization or specified group of people makes the tool even more powerful and useful.