

Indicator White Paper



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The Motivation Factor® Indicator

In order to identify personal needs and talents, Motivation Factor® has developed the Motivation Factor® Indicator. The Motivation Factor® Indicator is an internet-based assessment that reveals your fundamental motivation factors and provides actionable insight into your personal level of motivation in any situation.

Calculated from your responses to 150 statements, the Motivation Factor® Indicator allows you to articulate precisely those personal factors which motivate you in terms of your top 5 personal talents and your 5 most dominating personal needs.

Rather than labeling participants as a style or type, the Indicator suggests a name for the respondent's needs and talents which they themselves then go on to define. In this way, the participant is ultimately responsible for articulating his or her own needs and talents and assumes personal accountability as to how they play out in their life and work.

The Motivation Factor® Indicator is neither a personality test nor is it a kind of typology. Through the exercises participants define and assign their own meaning to each of the suggested words. Greater value is assigned to the outcome of the exercises by participants, as they are actively constructing the definitions for themselves as opposed to being told what pre-determined type or category they belong to. The end result is a greater sense of ownership of and individual accountability for one's own needs and talents.

Here is an example of Motivation Factor® Indicator results:



Priority:	Talents:	Needs:
1	Discover	Freedom
2	Create	Personal power
3	Mastery	Be heard
4	Connectedness	Balance
5	Empathy	To succeed

Send result as E-mail Print result

The results are interpreted as follows: The Talent to “Discover” is the highest ranking and, therefore, the most important to the respondent at this time. Similarly the need for “Freedom” is the most dominating need at this time. Talents and Needs may shift over time, and though the lists of 5 Needs and 5 Talents are placed side by side on the results page, there is no direct correlation drawn or implied between them.

Creating the Motivation Factor® Indicator

The Motivation Factor® Indicator has been developed from empirical studies conducted in each of the countries listed below in combination with current literature on needs and talents.

The research identified a total of some 200 Needs and some 170 Talents. Those results were then grouped into 17 Need and 13 Talent “umbrella” categories to provide the flexibility necessary for self-definition of these results in the exercises. Further research was conducted across each of the above countries to achieve culture-neutral names for each of those umbrella categories.

As an example, the Need “Order” might, depending on the individual, mean any of following:

- structure, process and guidelines or
- physical alignment of objects or
- chronological steps taken

Likewise, the Talent “Mastery” might, depending on the individual, mean any of following:

- to be the expert in a given area
- to know every detail
- to set new standard within a field of interest

As noted earlier, each word (umbrella category) provided by the Indicator, when used in conjunction with the Motivation Factor® Method, is validated personally by the participant, as he or she articulates the aspects of the word that have personal meaning.

Questionnaire

The 150 questions in the Indicator have been developed using a holistic and positive approach to result in answers which are internally consistent and apply regardless of personal or professional context.

The mathematical model behind the prioritization of the Needs and Talents has been developed in collaboration with Peytz & Co. Peytz & Co also hosts the Motivation Factor® Indicator.

Respondent Demographics

The following is an analysis of a sub-section of the respondents to the Motivation Factor® Indicator across the world. The purpose of the analysis is to illustrate the type of information that can be garnered about groups or teams in addition to? enlightening individual Needs and Talents. The insights into the more global Needs and Talents of a group or team can be of great value to a manager or company. For instance, the sex and age of a worker can greatly affect their motivation and work performance. Having a general understanding of a team member and his/her relationship to other team members as well as to age matched indicator respondents outside of the company, would be beneficial and valuable.

A total of 1448 respondents completed the Indicator fully and were included in this analysis. The respondents were divided by sex and then into 4 age groups, namely 18-29 yrs, 30-39 yrs, 40-49 yrs, and 50-59 yrs. This is illustrated in Figure 1. There were more female respondents than male (902 vs. 546) and a similar proportion of both were married (73% of females and 74% of males). For the analysis, married and single individuals within a sex were pooled together.

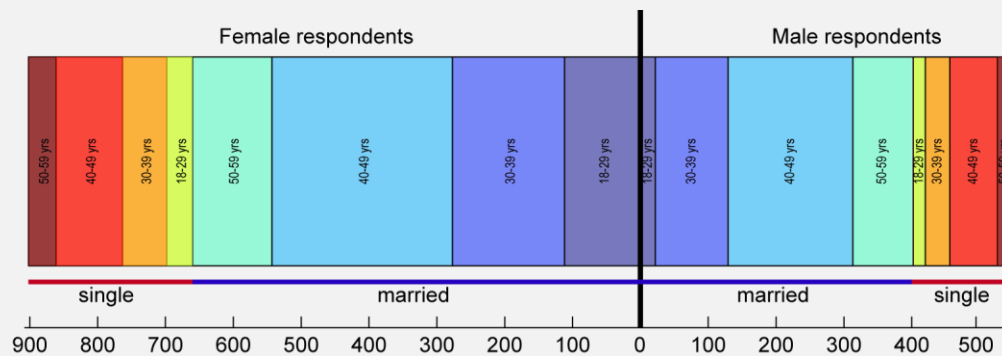


Figure 1: The breakdown of the respondents by sex, marital status, and age. The cumulative total of females (towards the left) and males (towards the right). The color bars represent the four target age groups. The marital status was not used as classification criterion.

The age group with the largest number of respondents was the 40-49 yrs group, however there were sufficient number of respondents in the other age groups to warrant analysis and comparison. The aims of the analysis were to determine if the Needs and Talents changed based on the sex and age of the respondents.

NEEDS

After a respondent answers the complete 150 questions of the Indicator, their top five of the 17 umbrella Needs are revealed. Needs of an individual can change over time, and they provide a snapshot into the current status of the individual's well-being. While this information is incredibly useful for that individual and with proper facilitation for the small working group, it would also be beneficial for a manager to be able to assess a much larger group (i.e. company wide).

Frequency of Needs

As a first approach, determining the number of times a Need was in the top 3 Needs of respondents gives an insight into what is important at the different age groups for the two sexes. Illustrated in Figure 2 are the results of this analysis for females with the larger font sizes denoting a greater number of times that Need was in the top 3. The Needs of 'honesty', 'to succeed', 'dutifulness', and 'balance' are the most common across all ages. What is interesting is that for the youngest (Fig. 2A) age group, personal recognition Needs such as 'be appreciated', 'recognition', and 'respect' were more important than for the older age groups. For the 30-39 yrs (Fig. 2B) and 40-49 yrs (Fig. 2C) groups, 'personal power' and 'be heard' also showed importance, suggesting a shifting of work attitudes. The Need for 'balance' was the strongest in the 40-49 yrs group. The oldest group, the 50-59 yrs (Fig. 2D), 'to succeed' and 'personal power' increased in importance.



Figure 2: Visualization of the top needs for females separated by age group. The size of the letter represents the frequency at which the Need was one of the top three for individual respondents. The results were normalized to account for the different group sizes.

For the males the most common Needs across all ages was 'to succeed'. The youngest age group (Fig. 3A) had 'dutifulness', 'freedom', balance', and 'be heard' as having similar importance. The 30-39 yrs group (Fig. 3B) has 'dutifulness', 'honesty', 'balance', and 'personal power' as also being important. It is in this age group that 'honesty' first appeared to be an important Need and it remained very important in the later age groups. The next age bracket (40-49 yrs) differs in that 'be heard', freedom', and 'recognition' (Fig. 3C) show increased importance. The oldest age group (Fig. 3D) had the driving Need of 'balance' that was larger than for the other age groups. Again this suggests a shift in priorities as we age from "nose to the grindstone" to a desire to feel like contributions are being made.



Figure 3: Visualization of the top needs for males separated by age group. The size of the letter represents the frequency at which the Need was one of the top three for individual respondents. The results were normalized to account for the different group sizes.

Given the differences in Needs across age groups and sexes, a manager or HR department could institute workshops or training to address the predominate Needs of a particular group. This would enhance the efficacy of training and company satisfaction.

Hierarchical cluster analysis of Needs

While a frequency (i.e. popularity) analysis provides information about the Needs of a group, it would be better if correlations or predictions could be made at a population

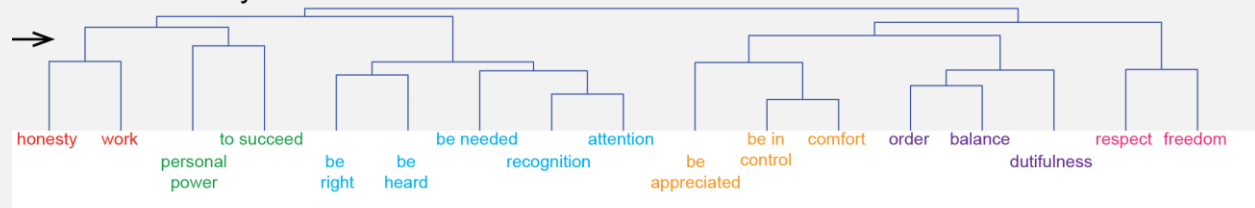
level using all of the participant responses. It would be insightful for a manager to be able to determine if certain Needs tend to appear. Grouping by age is a step in the right direction of looking for finer differences in the Needs, however, it still assumes all members of that age group are the same.

The main issue with looking for trends and patterns in the Needs of a group is the complexity of the data (i.e., the number of questions, the 5 possible answers, and the number of individuals in the group). Put another way, a large number of variables would be needed to describe the data thereby making its dimensionality very large. One approach is to use a process to reduce the number of variables required to describe the patterns in question. Luckily there are established dimensionality reduction techniques that have been developed. A common use is in reducing the size of images or photos by making jpeg files of differing sizes.

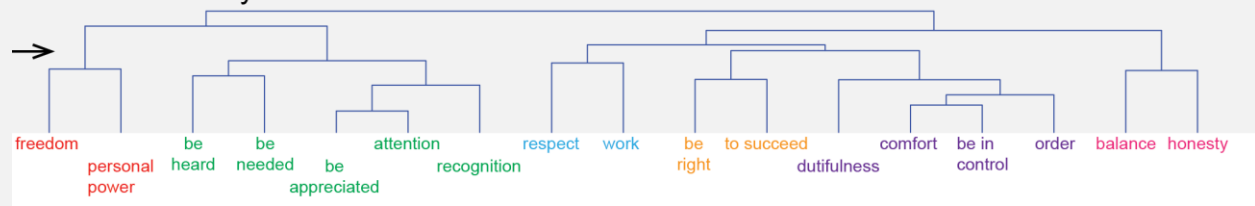
Here we used a technique called hierarchical cluster analysis which is a statistical method used to reduce the dimensions of data sets. Briefly, the hierarchical cluster analysis looks for commonalities that can explain portions of the data (in this case participant responses to the questionnaire), thereby reducing the number of variables. The end result of the clustering (called a dendrogram) gives a tree-like synopsis of hierarchy or groupings, with each successive branching representing a finer grain splitting of the groups or clusters. Briefly, the clustering algorithm builds the hierarchy by determining which Needs can be joined together in a cluster based on the similarity of the participant responses. Initially each Need is an individual cluster and over a series of iterations Needs that can be merged are done so by creating a new branch of the tree. This analysis is used to reveal general population trends in the data; just what a manager would like to know about their work groups.

As can be seen in Figure 4, hierarchical cluster analysis gives insight into the evolving Needs of female respondents across age groups. When the dendrograms or trees are cut at different heights, the coarseness of the clustering can be altered. For example in the 18-29 yrs age group (Fig. 4A) the highest branch divides the participants into two large groups with one group encompassing the red, green, and blue colored Needs and the other group the purple, brown, and pink Needs. For the purpose of this white paper, an arbitrary level was chosen and kept constant for all the age groups (indicated by the arrow). Needs that are clustered together in the branches below this cut-off are of the same color. At this level of branching, the analysis indicates that participants can be generally grouped into six distinct clusters or types. For instance, respondents who had a Need to 'be heard' in the 18-29 yrs age group (Fig. 4A, blue grouping) most likely had the Needs to 'be right', 'be needed', 'recognition', and 'attention'.

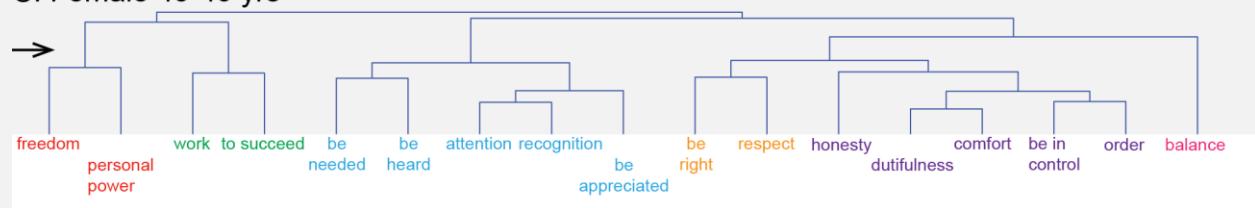
A. Female 18-29 yrs



B. Female 30-39 yrs



C. Female 40-49 yrs



D. Female 50-59 yrs

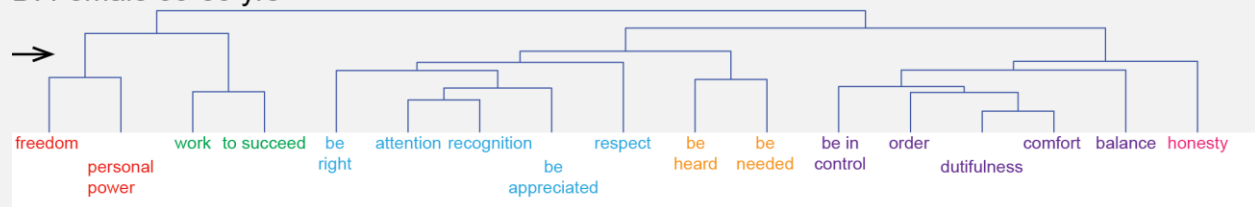


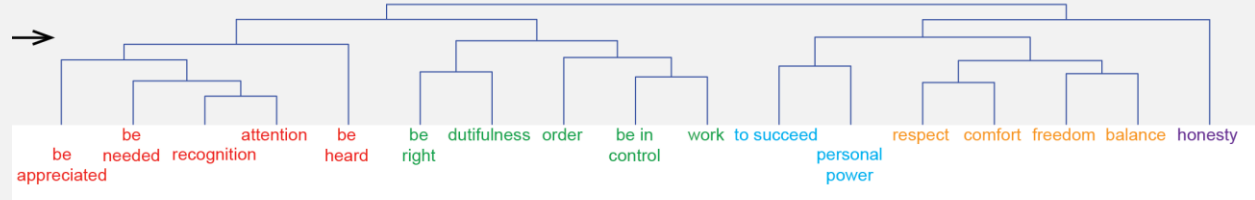
Figure 4: The hierarchical dendrograms of the Needs for female respondents stratified by age. Depending on where the branches of the tree are cut, the participants' groupings or clusters can encompass a varying number of Needs. When the branching level is picked at the level of the arrows, the Needs clusters are indicated by the colors.

The importance of the Needs is indicated by the length of the lines from the nearest branch point. For example in the 18-29 yrs age group (Fig. 4 A), 'be appreciated' is more important than its co-clustered Needs 'be in control' and 'comfort', but is less important than the cluster of 'personal power' and 'to succeed'. Similar comparisons can be made for the other age groups. It is also possible to track changes in which Needs are clustered together across the age groups. For instance, it is only in the oldest age group that 'be heard' and 'be needed' form a cluster together, suggesting that the importance of these needs has shifted.

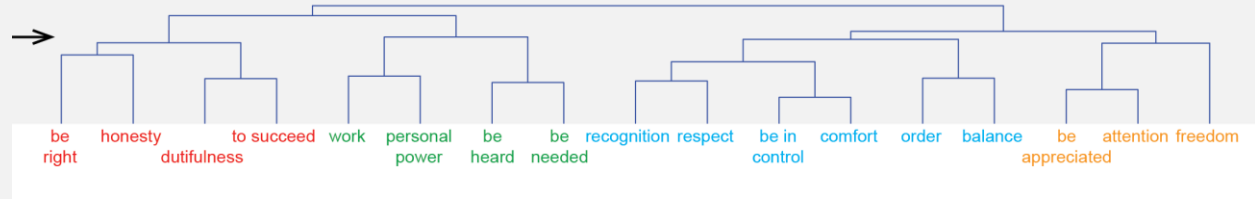
Similarly for male respondents (Fig. 5), hierarchical cluster analysis revealed clusters or groupings of Needs for all the age groups. Note that the same cut-off in the branch levels was used as with the female respondents. Again, the branching of the tree indicates groupings or clusters of Needs based on similar patterns of responses by the respondents. Viewing the dendrograms for the different age groups allows for

comparisons and contrasts to be made. For Instance, in the 18-29 yrs age group (Fig. 5A) 'be heard' and 'be appreciated' (red grouping) were of importance as were 'to succeed' and 'personal power' (blue group) and 'honesty' (purple group). These are all Needs of individuals just starting in a job. In the oldest age group (Fig. 5D), those at the peak of their careers, 'personal power' is now grouped with 'respect' and 'work' and 'balance' and 'freedom' (green group) are now more important than 'be heard' and 'be appreciated'.

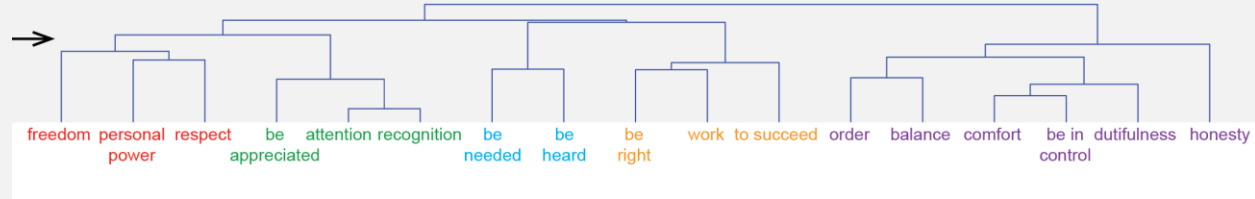
A. Male 18-29 yrs



B. Male 30-39 yrs



C. Male 40-49 yrs



D. Male 50-59 yrs

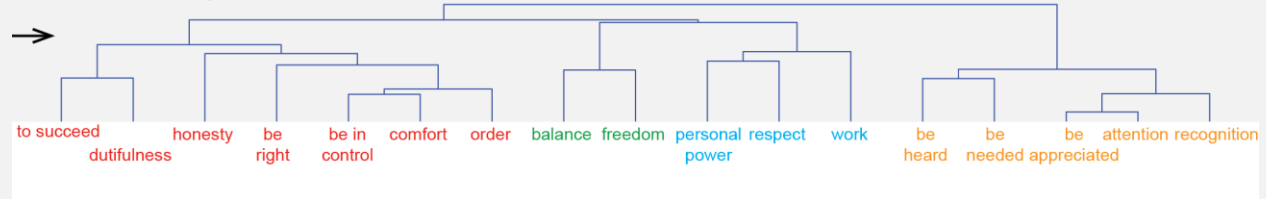


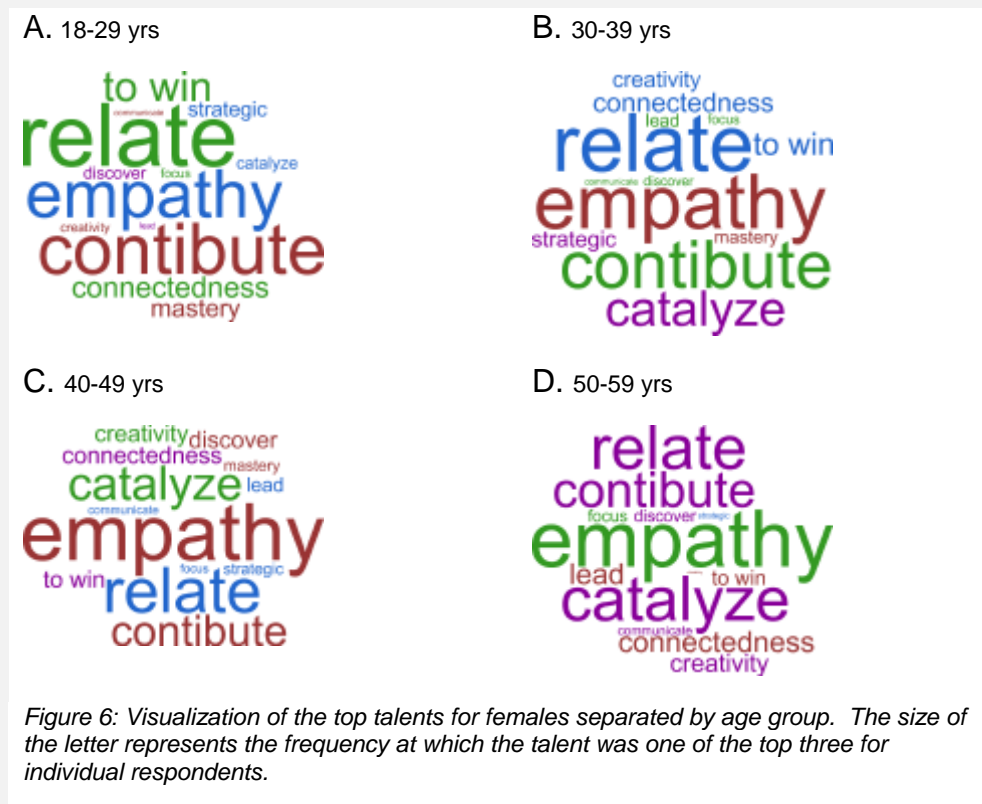
Figure 5: The hierarchical dendrograms of the Needs for male respondents stratified by age. Depending on where the branches of the tree are cut, the participants' groupings or clusters can encompass a varying number of Needs. When the branching level is picked at the level of the arrows, the Needs clusters are indicated by the colors. Note, the arrows are placed at the same level as is Figure 4 with the female respondents.

TALENTS

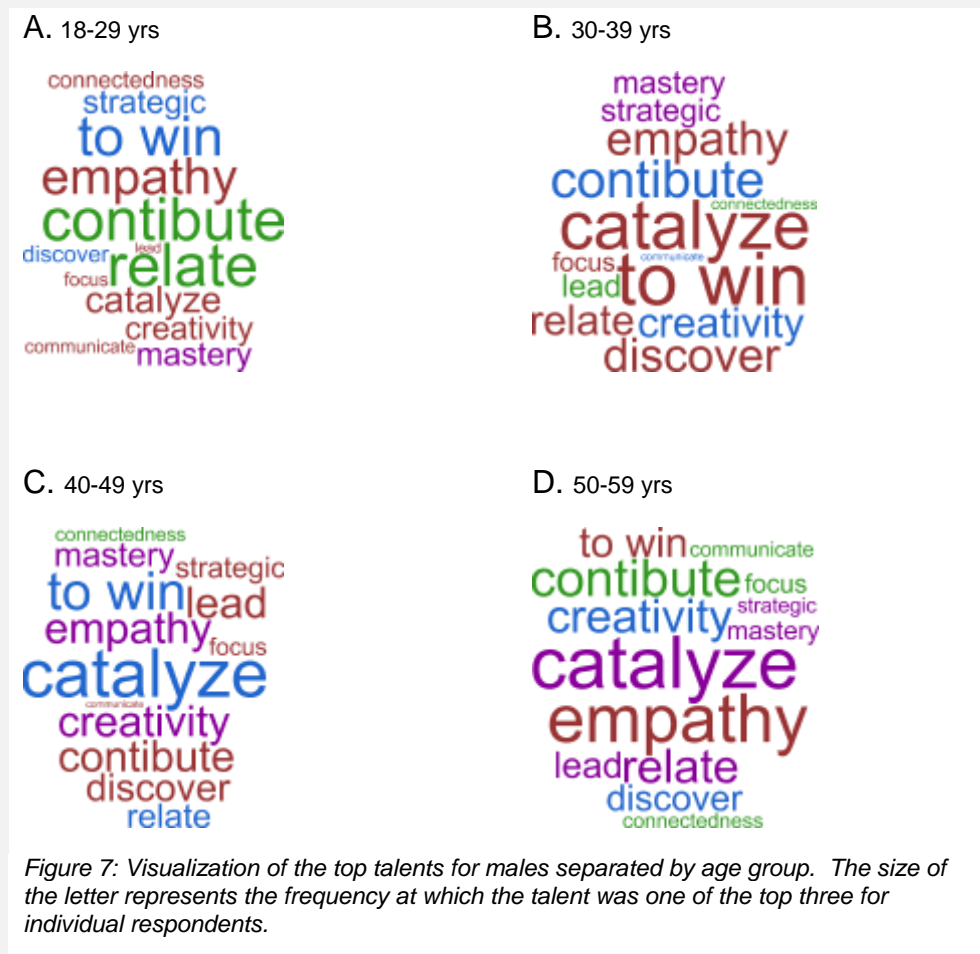
Upon completion of the Indicator, each individual also received their top five of the thirteen Talents. The Talents are an insight into the built-in skills and attributes that an individual has. As with Needs, an understanding of the Talents within a work group is of great benefit to a manager as they can leverage the skills of their employees.

Frequency of Talents

For each age group, the number of times a Talent was in the top 3 talents of the respondents was counted and is illustrated in Figure 6. The size of the font represents the frequency at which the Talent appeared. Talents 'relate', 'empathy', and 'contribute' were strongly represented across all age groups of women. In the youngest age group (Fig. 6A) 'to win' was observed as well. The Talent 'catalyze' emerged as important starting in the age group of 30-39 yrs (Fig. 6B) and continued to be important in older age groups, whereas 'too win' became less important. In the older two groups, 'empathy' switched with 'relate' as being the most common Talent and 'catalyze' became ever more important. The 40-49 yrs group (Fig. 6C) showed an increase in 'creativity' and 'discover'. These Talents were also common in the oldest age group. The 50-59 yrs group (Fig. 6D) showed a greater importance on the Talent 'lead'. Taken together, the talents appear to shift from learning and doing at the younger age to leading, nurturing, and teaching at older ages.



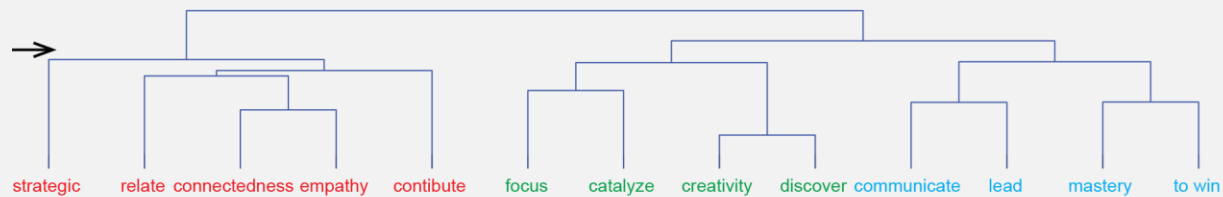
The Talents of the male respondents showed greater differences across age groups than females. All the age groups showed an importance for the Talent 'contribute'. Interestingly, the youngest age group (Fig. 7A) had the same distribution of Talents as the females of the same age with 'contribute', 'relate', and 'to win' being the most common. This suggests that all people have similar mindsets early in their careers. In the next age group, the 30-39 yrs (Fig. 7B), 'catalyze' becomes more common as well as 'creativity', 'discover', and 'lead'. A similar pattern of important Talents is seen in the 40-49 yrs age group (Fig. 7C). For the oldest age group (Fig. 7D), 'empathy' emerged as being more common than in the younger groups. Combined with the popularity of 'catalyze', 'contribute', 'creativity', and 'relate' this suggests, as seen with females of the same age group, that a leading or mentoring role is adopted.



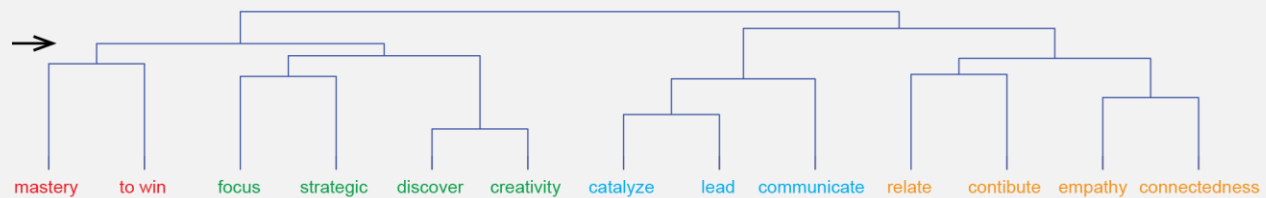
Hierarchical cluster analysis of Talents

Hierarchical cluster analysis of the Talents revealed interesting underlying trends in the different age groups for both sexes. Shown in Figure 8 are the resulting dendrograms for the female respondents stratified by age. As with the Needs, the Talents cluster differently across the age groups. With the 18-29 yrs old group, 'strategic' and 'contribute' stand out as being the most important Talents (Fig. 8A). At the other end of the age spectrum (Fig. 8D), 'relate', 'contribute', 'communicate', 'strategic', 'focus', 'mastery', and 'to win' have gained importance, suggesting a shift in Talents as experience builds and positions become more managerial.

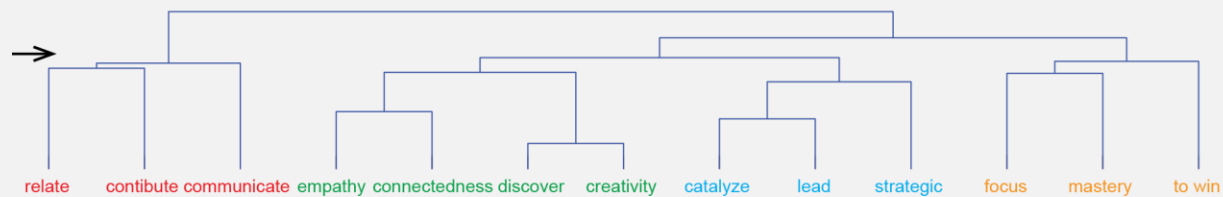
A. Female 18-29 yrs



B. Female 30-39 yrs



C. Female 40-49 yrs



D. Female 50-59 yrs

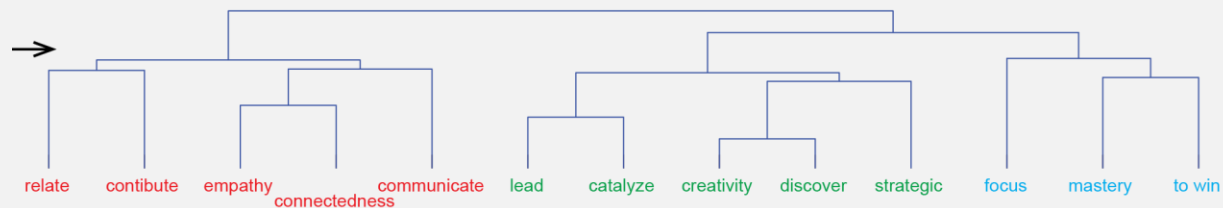
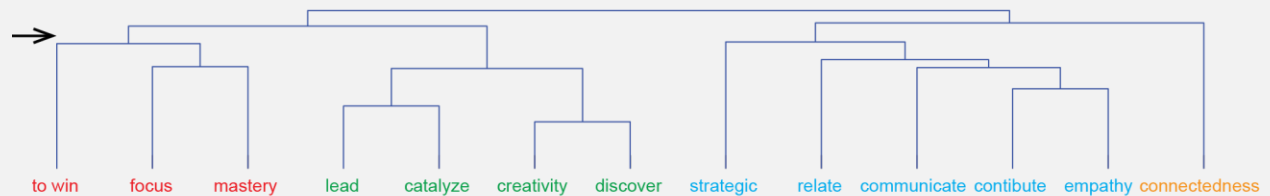


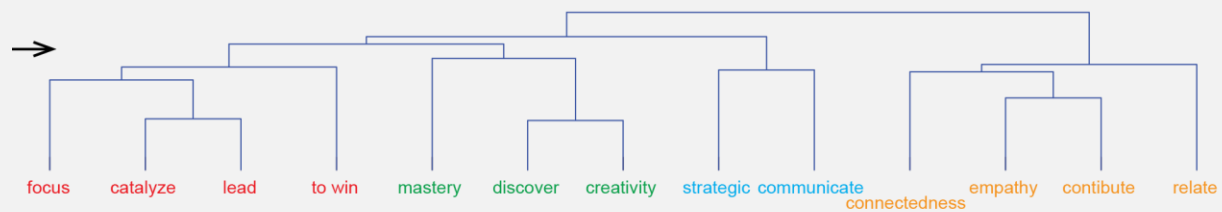
Figure 8: The hierarchical dendrograms of the Talents for female respondents stratified by age. Depending on where the branches of the tree are cut, the participants' groupings or clusters can encompass a varying number of Talents. When the branching level is picked at the level of the arrows, the Talents clusters are indicated by the colors.

The Talents of males also showed changes across age groups when analyzed using the hierarchical clustering. The youngest age group (Fig. 9A) had the following Talents standout as being most important: 'to win', 'focus', 'mastery', 'strategic', 'relate', and 'connectedness', all Talents that suggest someone just starting out in the work force. As the respondents age, the same Talents remain important, until the last age group where 'communicate' gains increased traction.

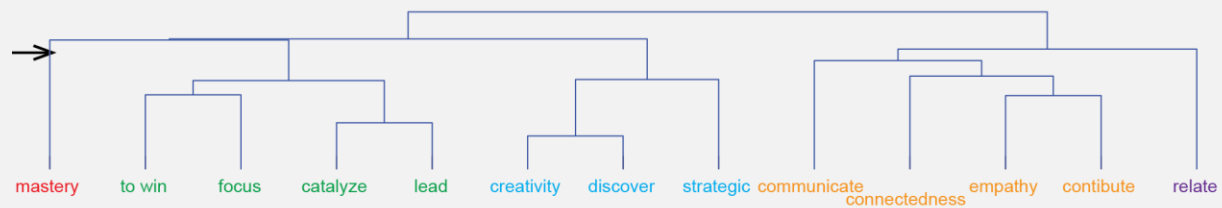
A. Male 18-29 yrs



B. Male 30-39 yrs



C. Male 40-49 yrs



D. Male 50-59 yrs

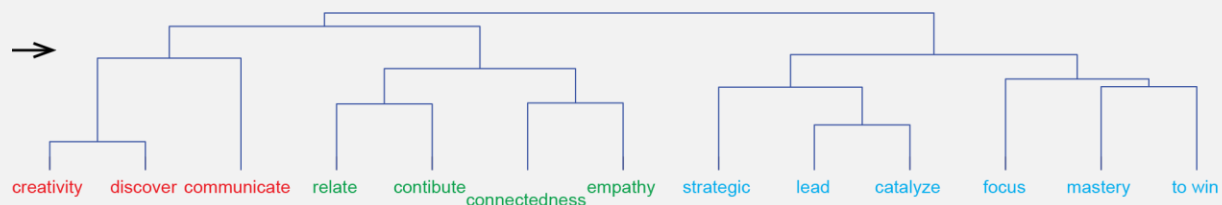


Figure 9: The hierarchical dendrograms of the Talents for male respondents stratified by age. Depending on where the branches of the tree are cut, the participants' groupings or clusters can encompass a varying number of Talents. When the branching level is picked at the level of the arrows, the Talents clusters are indicated by the colors.

Discussion

The purpose of this white paper is to demonstrate the various types of group or population information that can be garnered from the Motivation Indicator data. This is meant to complement the already incredibly informative individual results of the Indicator by allowing for a more global look at the Needs and Talents of a team or company.

Two different analysis techniques were employed here. The dataset we used was a compilation of respondents from across industries and countries. If all the respondents were from the same company or even the same country or cultural background, the results would have most likely varied. In both analyses, we chose to stratify the respondents by sex and age. There are many other ways the respondents could be separated that would produce meaningful information such as by position (e.g. sale force, customer service, management, or engineering) or by years of experience (e.g. for retention).

The first analysis was a frequency count of the number of times a Need or Talent was within the top 3 of each individual. This showed that indeed Needs and Talents differed depending on sex and age. Again this snapshot of the Needs and Talents could be tailored to the company or team. The second analysis used was the hierarchical clustering which took the responses and grouped the Needs or Talents that had similar importance together and imposed an importance on the groupings. The resulting graphic dendrogram is a tree-like chart with levels of branching that indicate the importance of the groupings. The dendrograms go from broad groupings down to the fine Need or Talent level. This analysis also gives a broad overview of the respondents and allows for comparison. Knowing which Needs or Talents are important as well as which ones are grouped together would allow for the generation of more targeted employee training and retention programs. And depending on how the respondents are stratified (i.e. age, position etc.) further targeting can be used.

As stated above, any global analysis of the Motivation Factor Indicator data would complement the individual responses and programs around those responses.