Erasmus+

Erasmus+ Programme, KA2 - Strategic Partnership
Project title: ”Effective Methods for Scientific Personnel Selection”
Contract No. : 2016-1-RO01-KA202-024579

Research study for scientific selection of personnel

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Chapter 1

Research Study

1.1. Introduction - Personnel Selection

The goal of this document is to describe recent scientific research on personnel selection. Often, when experts talks about personnel selection, main focus is on one activity: per job interview. However, the process of personnel selection is broader: it is a process regarding all phases of the worker life: job analysis, task analysis, recruitment, selection of selection tools, implementation of personnel selection process, analysis of work socialization processes, coaching, mentoring and monitoring are just some examples of the entire process.

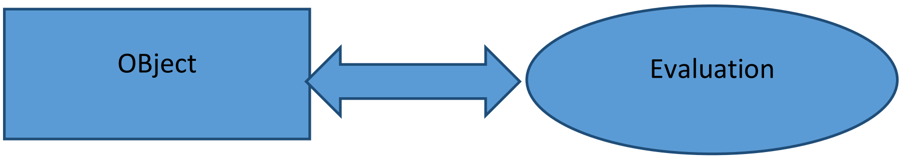
Low economic, time and expertise resources, often lead to do selection approximately, without a specific scientific methods. However, costs sustained for doing a correct evaluation are much lower than costs related to selection errors. It has been demonstrated mathematically that correct personnel selection lead to a significant reduction of counterproductive work behavior and lead to a reduction of costs related to these behaviors (thefts, turnover, absenteeism, low performance etc, Fine, 2012). In this document we want to communicate main problems related to bad evaluation in order to reduce selection errors.

1.2. Human nature is evaluative

Social Psychology has demonstrated many times that humans does evaluation constantly. It is a basic function of psychology that happens constantly. Man has always had to do evaluations rapidly and with the maximum level of accuracy possible. This process has been a way for surviving and increasing probability of success. An unknown persone is for everybody a challenge of evaluation, in fact he can be positive or negative.

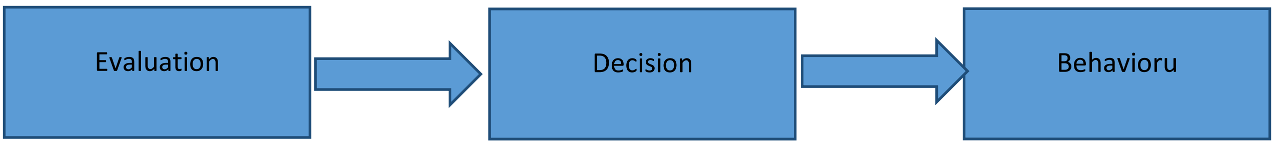
Social cognition – a theory of social psychology – says more with the words of Fazio (1986) who says that an object and its evaluation cannot be separated. If there is an object (physical or a social actor), there is an evaluation. The psychological structure that connect a social object to its evaluation is called *attitude*.

Image 1. Attitude representation



We all live the experience of a constant process of self and other evaluation. Basically, we do evaluation in every instant, also unconsciously. We all do evaluation and people selection. A minimal cue of verbal and non verbal behavior lead as to go toward or avoid the person in front of us. Automatic processes and thoughts leads us to say “yes” or “no” and this continuous decisional process affect our life significantly, because it define our relational and social context.

Have you ever experienced instant connection with a person without knowing exactly why? Our mind instantly and constantly others and this guide our decisions and behaviors influencing our life day by day.



1.3. Scientific People evaluation

Two systems of evaluation exists

- The first, rapid and instinctive: it is based on mind shortcuts that allow us to reach a satisfactory problem resolution briefly
- The second, slow and accurate that consider all available information and consent to find the best possible solution in a longer period of time

Both decisional models has a fundamental role in our life. First system is determinant: if we select an attentive method for all our decision (also little ones) we should spent a significant amount of time on decisional processes, lowering in this way the quantity of our action and doing a bad time management. Obviously, the error level of the first system is bigger and this is the reason why we use the slow and accurate method with our decision is very important.

In the process of **people evaluation during the personnel selection** is important to use the slow and accurate process. In fact, the costs of bad evaluation is too high for not considering this method. And this is true also for the selection of trainee and students, because however, also if we are not taking decision about economic resources, we are doing decision on people time and resources.

Fast decisional processes

- Evaluations based on stereotypes
- Evaluations based on prejudice
- Evaluations based on physical attractivenes
- Semplifications and mind shortcuts

Slow decisional processes

- Evaluations based on structured interviews
- Evaluations based on psychometric tests
- Evaluations based on behavioral analysis

1.4. Personnel selection methods

The processes of personnel selection change with the evolution of society: psychometric tests, interviews, practical trials, assessment center are just a little portion of all selection methods. Today, the development of technology has suggested new and more rapid way of selection like the skype interview, the video interview, the social media profile analysis,

Sometimes, these methods are applied befor the actual selection and this may lead to an increased level of statistic error. At the sam time, it is difficult to make evaluation on continuously changing processes (for example, Facebook rules, algorithms and communication changes very rapidly). A second factor, often underestimated is the analysis of cultural differences that plays a role in selection processes and can lead to an increased level of error.

The most common methods used today for the personnel selection are:

- Structured interview
- Situational interview
- Psychometric tests
- Projective tests

- Group interview
- Assessment center
- Group interview
- In-basket

Measurment?

When we talk about measuerment in psychological sciences is important to give a specific definition. We find in the vocabulary that measurement is – the operation of measurement based on comparing a physical quantitity with a measure unit, the goal is to determine the value (or the measure of a physical quantity) […] Specifically, the direct measurement (or fundamental, or relative), allow to determin directly the measure of a quantity (without the use of measurement of other quantities), comparing the information with a sample; the indirect measurement (or derivate), depends on a specific relational function, it depends on other direct measurement. Sometimes, measurement is also used improperly in other cases like the classification or serial ordering (basing on arbitrary parameters) of qualitative characteristics: for example, the measurement of the hardness of a solid substance in the Mohs Scale, or the measurement of the intelligence quotient with psychometric tests. If we consider the Italian definition, there are many incongruences between the definition of measurement and the psychometric definition of measurement.

1. According to the definition, the magnitude is to be compared with a stable unit of measurement which in psychology is only taken into account in rare cases
2. Psychology is often referred to as "classification, serial sorting procedures" (www.treccani.it)

According to the definition, therefore, the term measurement is inconsistent with the activity that is actually done in psychology for the evaluation of psychological phenomena. The use of the term measurement in psychology is very confusing, and is also used for very different processes ranging from counting to classification to assigning a number to behavior samples without however having the above mentioned comparison with a unit of measure.

Caprara and Barbaranelli write (2000, p.131): "Open answer questions provide qualitative data at the lower measurement level of the nominal scale [...]" In this case, for example, the term measurement is used to refer to a count. With the nominal scales, you can only count units belonging to the different categories, so you cannot measure them.

But above all, sometime the term measure is used when talking about qualitative data, which, paradoxically, are measured. In a Zammuner'stextbook, the use of the term measurement is not only improper but also redundant. Zammuner (1998) writes: "For measurements we mean here the tools used to gather the desired information about one or more variables or arguments based on the purposes of the research" (1998 p.62), speaking of "unique and repeated measures over time" (1998 pp. 56-57) uses the term "measures" to refer to the data and means of data collection. Finally, although measures mean the tools, data, and detection procedures, and although it sees the questionnaires as "measuring instruments".

The term "improper nominal scale" is considered to be, as it does not presume that there is a range between categories, it can not be thought of as a scale (which, at least, must assume a "higher step" and a "lower step" Nominal "the ways that the variable can assume are only in a relationship of equality or diversity" (Rocchi 2007). The term categorical scale (Zammuner 1998) is also considered improper, the term categorical, in Italian means " Which excludes doubt ", and is not a qualifying adjective that links to categories. It is appropriate, however, to talk about property and categorical variables (Marradi 2007)

Concluding with Marradi (2007): "Many researchers (typically behavioral inspirers, and especially Americans) freely use the terms 'measure / measure / measure' for each state registration procedure (sorting, counting, scaling, and even for classification).

This true terminological abuse has no other reason than the anxiety of scientific legitimation through the imitation of physical sciences; By not being able to measure in the proper sense, it is remedied by using all the words that share the ‘measure’ root. At this point, two alternatives are imposed on this psychometric question: - the meaning of measurement in psychology is something different, which is distinct from the Italian and scientific meaning of the term. - the measurement term is badly adapted to the psychological data collection activities and should be modified. Consequently, the terms psychometrics and sociometry become questionable. It is inappropriate to use these terms, as measure, is a foundation of the word psychometrics.

1.5. Validation criteria for personnel selection

Whatever the selection process is, it is validated through a series of psychometric procedures. Validation is a long process but necessary to improve the quality of your choice.

Validation criteria for a measurement method (Boncori, 2006) are

- Content Validity
- Face Validity
- Criterion Validity
- Convergent validity
- Diverging validity
- Concurrent validity
- Predictive validity
- Post-validity
- Validity of construct
- Reliability as replicability
- Reliability as homogeneity
- Reliability as objectivity

Content validity is defined by Haynes and colleagues (1995, p. 238) as "the degree to which the elements of an evaluation tool are relevant and representative of the construct in question for a specific evaluation purpose"

It may seem commonplace, but it is actually complex to evaluate the validity of content. Obviously, whoever builds the test will put within it only the stimuli inherent to the constructs examined, but that does not mean that the test actually measures and just the construct that is being considered.

Whatever our measuring instrument is, what we observe and evaluate is called an indicator, what we want to measure is the construct and *only* the construct. Each indicator evaluates a facet of the construct, has a connection with it, but it is not the construct.

It is very important to define qualitatively if the indicators reflect the construct. There are techniques that quantify this relationship, as for example in factor analysis. Content validity instead considers the content of the indicator (so the verbalization of the question whether it is an interview, the content of the graphic or textual being - if it is a psychological test).

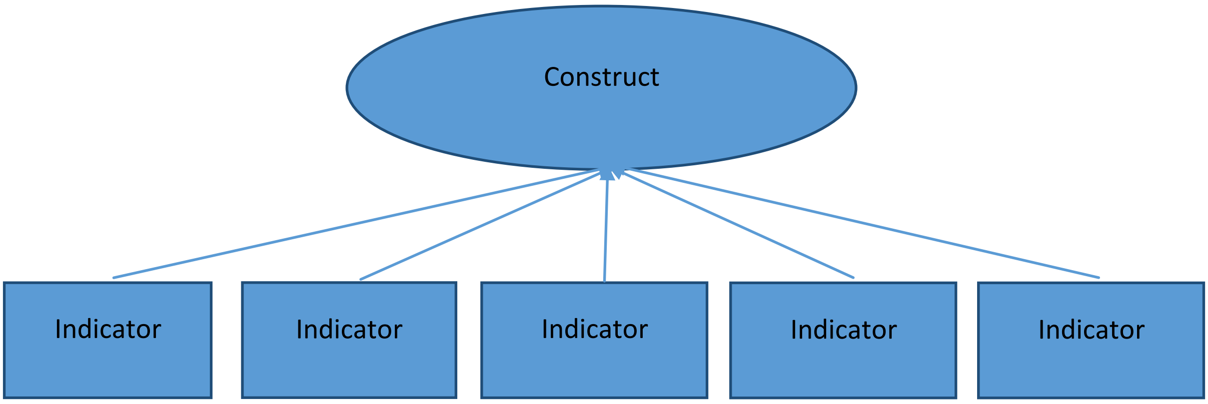


Table. Construct and indicator

There are multiple errors that can jeopardize the content validity

- Items do not indicate a single construct, but they point to two concepts simultaneously, that is, the rule of unidimensionality is not respected
- The items do not have enough explanatory clarity
- The stimuli must therefore be clear and unique. How much is clear an item? There are some guidelines for clarity of an item.

Consider this item:

"My Director of Complex Structure is representative of my department's vision and mission." How much do you think this phrase is correct from 1 to 7?

Now if we want to define whether this item has exhibit clarity or not, we should ask this question, which I find very useful as a preliminary tool for exhibit clarity. What does the subject need to know to answer this question? +

In order to answer to this item, you must know at least six things:

- What a Complex Structure Director
- What is the vision
- What is the mission
- The description of vision and mission of your department
- What are the vision and mission of your Director
- How much they collimate among themselves

The cognitive load is remarkable, probably an employee cannot interpret all these stimuli together and having to answer, and for this reason they follow a simplification process called heuristic. Knowing that this should be interpret as a positive point for the Complex Structure Director (ie, the Primary of the Department) will give a good rating if they feel sympathy with the Director, or worse, if they are in doubt about the interpretation, will give a neutral answer.

The question is objectively too complex for the employee, which usually does not formulate the question, or the formula using different phrases.

Additionally, this question contains a considerable formal error: it try to measure two concepts at the same time. And this is deduced from a very small word, the word "and". In fact, the item contains "vision and mission" and this is asked for opinion with respect to two arguments giving a single chance of responding to the subject, i.e. from 1 to 7. What can the respondent do if he has different opinions in comparing the adherence of vision and mission of the Director?

The item is formally wrong. That is why we do not recommend using the "and" particle, as it may suggest measuring two different concepts in the same item. Imagine having a tool that measures height and weight, but only returns a number (the average of the two measures), the result would certainly be poorly interpretable.

Another tip to improve the clarity of items is to avoid the word "or". Imagine this question: "Do you feel like a fan or a supporter of your business?". The possible answers: True, Falso, I do not know. The ambiguity is dictated by the fact that it is not understood when the requirement is met. The candidate who feels only a fan but not a supporter can be considered a subject that has to answer "true"? The level of confusion increases, and with it the statistical error.

Any error in clarity makes the test invalid from the point of view of the content. As it would start to measure more things together: the construct and the level of general culture.

The same item can be formulated in different modes, giving you greater or lesser complexity in understanding. Let's imagine these different items that measure the same concept:

- 2 + 2 =?
- Two plus two is?
- Return the sum of the two value additions of two.

The question undoubtedly refers to the same problem, but the formulation impacts significantly on its perception. The third item undoubtedly measures both computing skills and language skills.

We do not recommend using **double or triple negatives**. Often such questions are included as a control item. A test may require the same concept in positive and negative terms. For example, "I'm happy most of the time" and - at another stage of the test “I'm not happy most of the time”. It is obviously the same concept, placing two items of this kind in the test can be useful in understanding the subject's level of consistency, or to see if there is a tendency for the subject to manipulate the results. The coherent subject tends not to contradict himself.

Instead, it becomes complex to admit questions with **doubles or triple negations**; these are stimuli that obviously confuse the subject, leading to a greater chance of error. You think, "I've never avoided not bringing my mistakes back to my Director." After the first negation, it becomes a logic exercise, not a measuring instrument.

Before constructing the items, however, it is necessary to define the construct and its facets. This task is sometimes simple, sometimes complex. Many classifications of personality disorders (DSM-5, ICD-10) already have a clear definition of the construct. Each disorder has a clear definition and a set of criteria that, if present in a certain way, indicate the presence of a construct. To the constructor of the evaluation tool should just extract these definitions and put them into the test interpretation manual. However, if the construct is classified in different texts, it is not said that such a clear classification appears within a book. Suppose you want to build a test on Freud's defense mechanisms. What definitions do you refer to? To Freud's first or the latest conceptualizations? As defense mechanisms are conceptualized within multiple narratives, it will be the task of the evaluator to extract the most appropriate definitions and facets to measure the construct. Obviously, even reading the same book or series of books on the subject, it is not said that every test builder comes to exactly the same conclusion. For this reason, it is not enough to state in a test that "the objective of the test is to measure the defense mechanisms according to Freud", but we must mention a definition or a clear definition of the construct and its facets.

The next step is to build the items and make them evaluate bu

- Experts of the subject (researchers and university professors with experience in the field of evaluation)
- Test target subjects (persons to whom the test is performed)

It is possible to carry them on:

- Quantitative analysis. Asking the subject directly (for each item) how much the personperceive that the item measures the construct
- Qualitative analysis. Asking open questions about the proposed items and then conducting a content analysis.

1.5.1. Face Validity

The face validity indicates the degree to which the assessed subject perceives the content of the test as inherent, consistent with the objectives of the evaluation. To understand the face we must ask ourselves and ask the subject how he/she perceive the test.

In this case, we must ask how much stimuli are perceived as consistent with a job selection objectives. The face validity has an important task in the selection process, it is not a good experience for being evaluated to be subjected to stimuli that it perceives as extraneous to the role it aspires. Therefore, tests that measure unclear indicators for the subject are useful, as they will hardly be able to manipulate them, but at the same time they may seldom have faults. Think of the example of submitting a graphic test to a candidate for a selection of management. Delivery "I ask you to draw a tree on this A4 sheet" can be certainly useful, as the subject will hardly manipulate the test, not knowing what and how to measure personality features, however, it may seldom slip of face validity, as the subject might wonder what the connection between a tree design and work-related tasks is.

1.5.2. Criteria Validity

Validation of content validity and face validity is just the beginning of the validation process of a selection tool. In this process, it is very important to evaluate the validity of the criterion.

The criterion is an external test factor that is believed to be correlated positively or negatively with the selection tool that we are validating.

The criterion validity is often based on Pearson's linear correlation index. This index has the function of detecting the relationship between two variables: in our case the test score or one of its sub-scales and the criterion examined.

$$r = \frac{\sum (x-\bar{x})(y-\bar{y})}{\sqrt{\sum (x-\bar{x})^2 \sum (y-\bar{y})^2}}$$

The linear correlation index of Pearson has a value between -1 and +1. The score obtained may result in three types of result:

- **Positive correlation (r = 1)**. When the value of the first variable increases (x, the test or subtest), the value of the second variable increases (y or criterion); When decreasing x, decreases y. The analyzed constructs are similar, go hand in hand, they probably affect each other. Performance and intelligence often correlate positively, the greater the intelligence, the greater the performance

- **Negative correlation (r = -1)**. When the value of x increases, decreases the value of y and vice versa. The constructs analyzed are dissimilar, opposed. The concepts analyzed are different. For example, stress and performance are negatively correlated with each other. When stress increases, performance decreases.
- **No correlation (r = 0).** The two concepts are unconnected. By way of example, anxiety and creativity have no correlation between them.

The more the r value approaches with |1| , The more the relationship is strong. A diagram that helps us define correlations is as follows:

How to interpret |r| Pearson-value

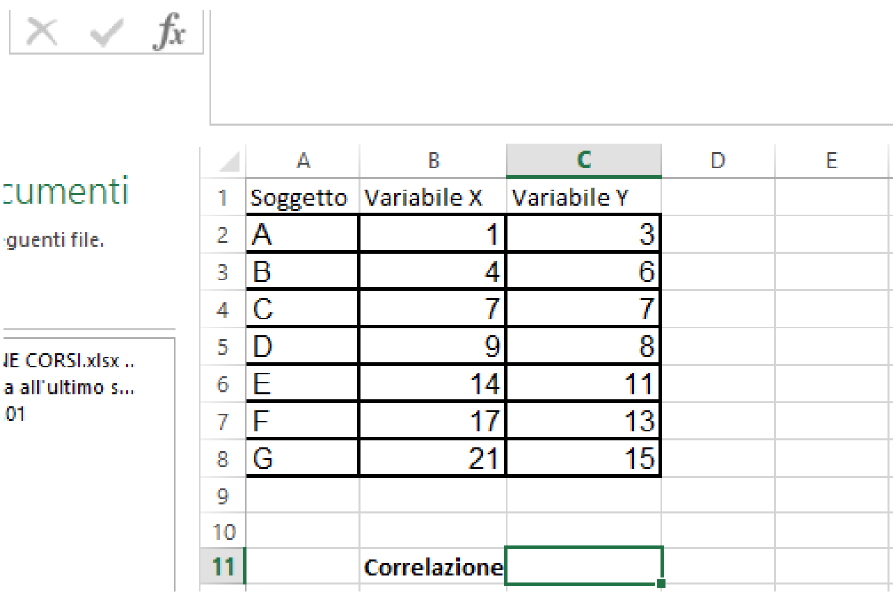
< 0.2	= very weak correlation
0.2 – 0.4	= weak correlation
0.4 – 0.6	= moderate correlation
0.6 – 0.8	= strong correlation
> 0.8	= very strong correlation

To be able to calculate simple linear correlation is sufficient Excel. In this case you need to have the data in this way

Subject	Variable X	Variable Y
A	1	3
B	4	6
C	7	7
D	9	8
E	14	11
F	17	13
G	21	15

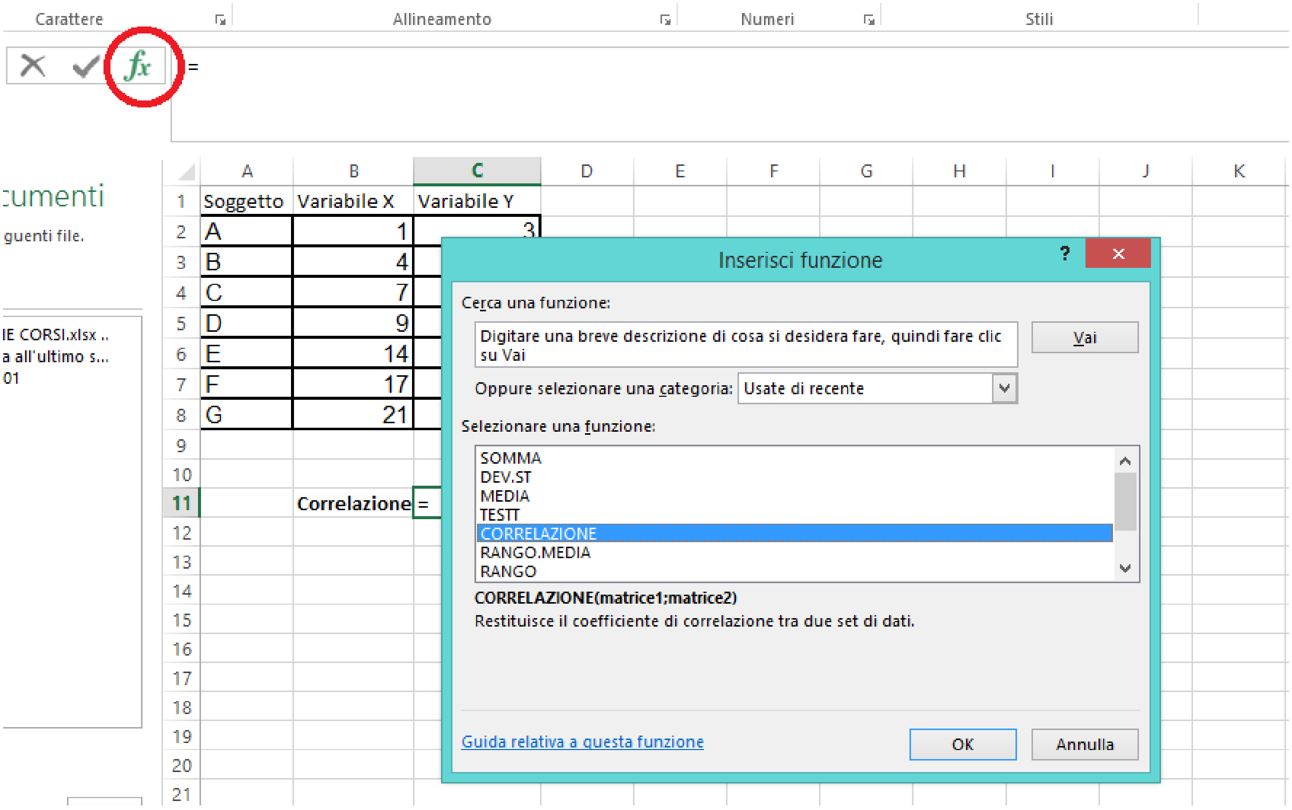
The first column indicates the participant in the study, the second column indicates the first variable and the third indicates the second variable, so the numeric values in the same line refer to the same subject.

You then enter the values into an Excel data matrix. It also defines in which box the "correlation" value is returned. As can be seen in the following table, the table has been copied, and in B11 "Correlation" was written and C11 was selected, so the correlation result will be returned to that box.

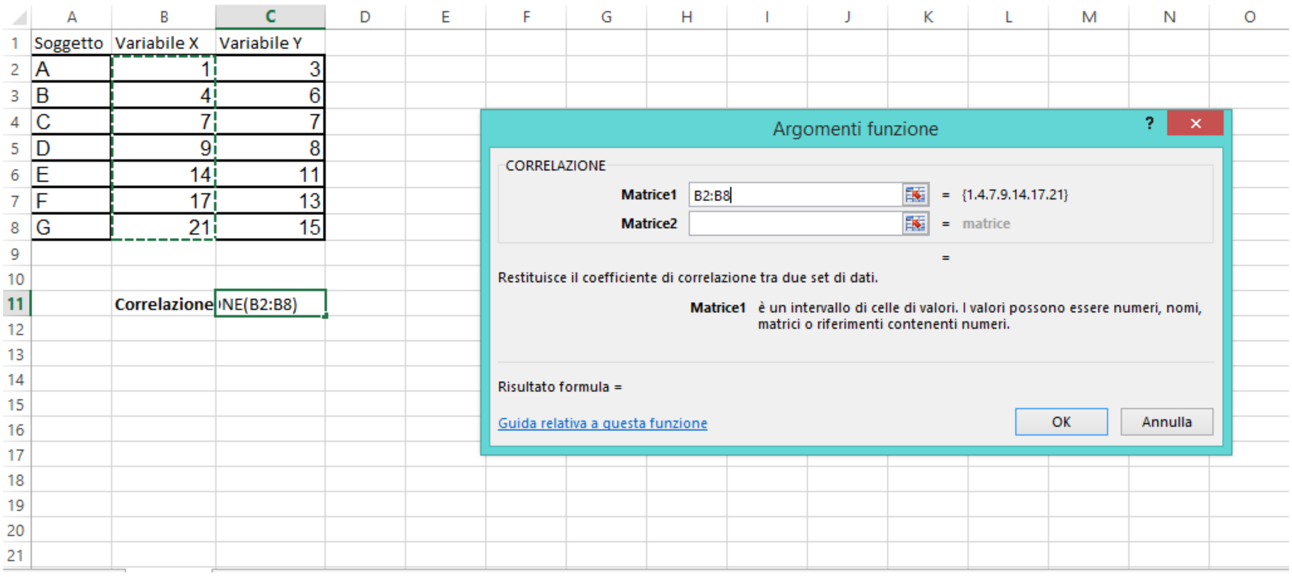


	A	B	C	D	E
1	Soggetto	Variabile X	Variabile Y		
2	A	1	3		
3	B	4	6		
4	C	7	7		
5	D	9	8		
6	E	14	11		
7	F	17	13		
8	G	21	15		
9					
10					
11		Correlazione			

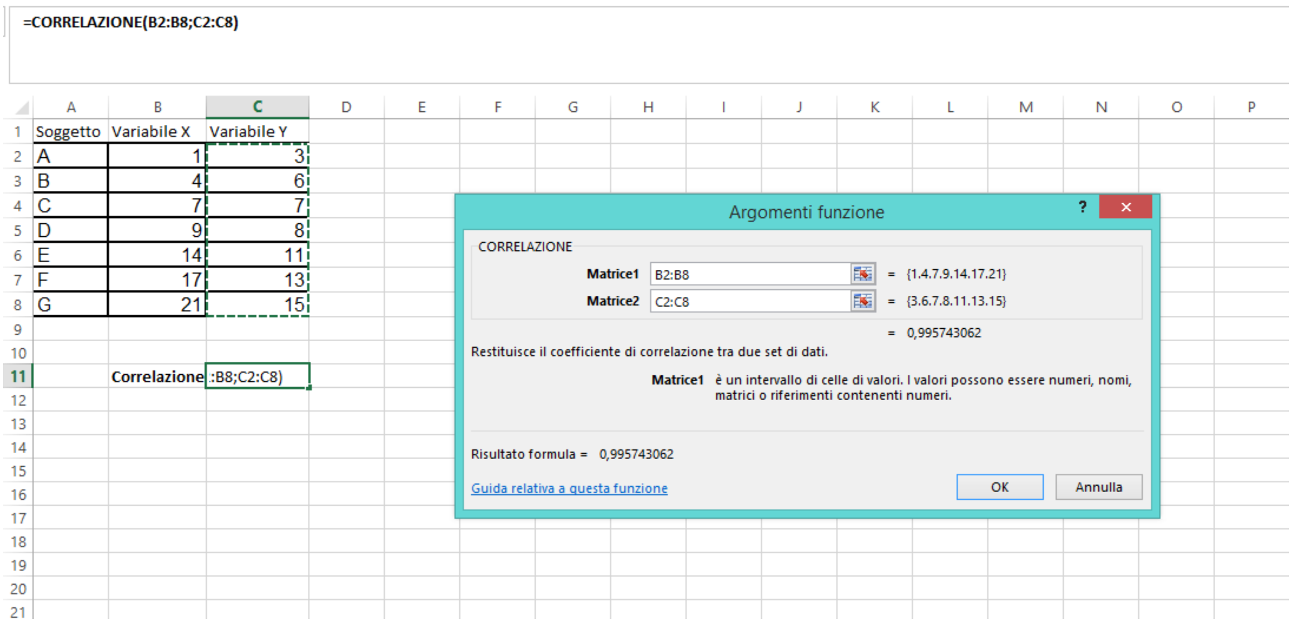
To proceed, click on the function icon, “fx”. You will open a window with the functions Excel can do, select the "Correlation" function and then click ok.



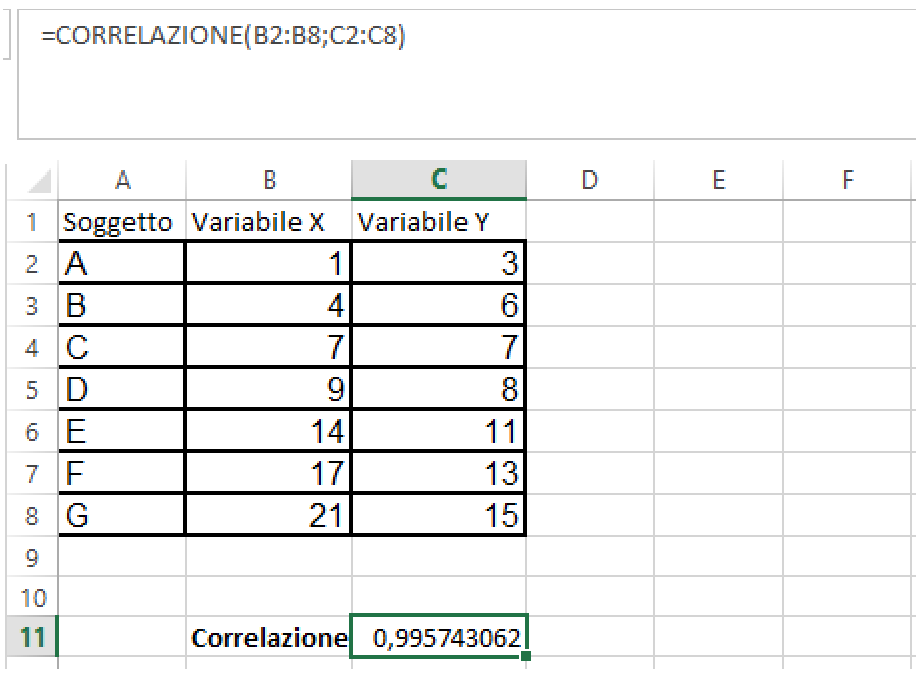
At this point, Excel asks to select the first variable data in matrix 1, so first click on the text box to the right of array 1 and then select the data affected by the first variable.



You repeat the procedure for Matrix2 by clicking on the relevant text box and then selecting the data for the second variable. Then click ok.



The calculation is complete, if all the steps have been completed correctly, in box C11 we should have the correlation value. In this case this is a very high and positive correlation value, (r = .9957) the two variables indicate very closely related or very similar constructs.



A second calculation often used in these cases is **linear regression**. The role of this formula is to evaluate the level of predictability of one phenomenon on another. The objective is to investigate the causal relationship between variables. In the correlation two phenomena co-exist, in the regression instead we want to investigate the relationship of cause and effect. The objective of regression is to construct a regression line, that is, a mathematical equation that can estimate the value of Y (predetermined variable or criterion), starting from the value of X (predictor). Technically, the X is a variable assumed to be the cause, the predictor, the determining variable, while Y is a variable that is supposed to be the effect, what is expected. The straight linear regression line has this mathematical formula.$Y' = a + bX + e$

Y '= the predicted variable, we use the apostrophe in the formula to indicate that it is an estimated value.

A = the intercept value, that is, the point where the regression line meets the Y axis

B = angular coefficient, indicates how many units Y increases when X increases in a unit

E = statistical error, this is a value not always quantifiable but still present, all psychological measurements are somehow inaccurate

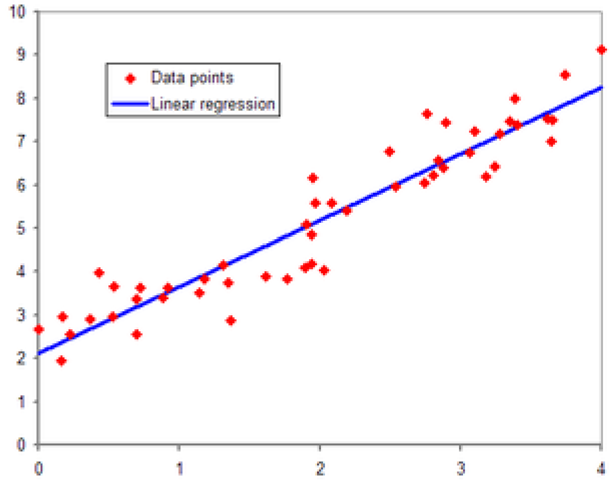


Figure 2. An example of linear regression

Note. The line indicates the regression line and the data trend, but the points are the individual data. As you can see the data is pretty close to the straight line, this indicates that the regression line provides a good estimate.

The **linear regression equation**help to better define this regression line, obtaining the value of a and b. The error is not used in the formula, but always recognized. Obtaining these two values is very simple to estimate Y when X is a given value. The angular coefficient is a value that depends on the unit of measurement of a concept and this can sometimes cause some degree of confusion, since the unit of measurement is a vague concept in psychology. There are no physical aspects that are measured but constructs that are deduced from the analysis of a person's behavior.

Let me give you an example, in many cases, the scores of psychological variables are detected by summing up all the values of a subject with respect to individual questions. Suppose you want to measure anxiety with 10 questions on which the subject can express himself by an evaluation from 0 to 10. The minimum score obtained by the subject will be 0, the maximum will be 100 (10 x 10). Let us imagine now that we have also measured a second variable, extroversion, and that for psychometric reasons (which we understand, more complex, more valid for a larger number of questions) we have 20 valid items at the end of the validation process, and also these Are measured on a scale ranging from 0 to 10. The minimum score is 0 and maximum 200. How can I compare the two scores? Of course, getting 100 at the first test or the second test will have very different meanings, furthermore, the first test will tend to have a variability other than the second, if my range of values is smaller, usually the scores are closer than the case where. My range of values will be wider.

For this reason, in many cases it is more appropriate to use the **standardized beta value** (□), which it's not affected by the differences between units of measurement. The paragraph on standardization will explore this useful practice in detail.

There are several types of validity criteria and will be described in greater detail in the following paragraphs:

- Diverging validity
- Convergent validity
- Concurrent validity
- Predictive validity
- Post-date validity

Consider this: The criterion validity process intend to collect a large amount of clues that together represent a validity test. None of these is a ultimate proof that the test is valid, but all together contribute to the validation of the test.

If the test is valid, we need to collect a whole range of data in the outer world that confirm it and these external data can be:

- physiological measures
- Other psychological tests
- Concrete and tangible events

Let's look together in the next chapters of what it is

1.5.3. Diverging validity

If I'm studying two constructs and these are opposite, dissimilar, assuming that when there is a construct there should be not the other, what kind of correlation should we get?

A negative correlation

Obviously, two opposing concepts are "avoiding" each other, they do not coexist. Easy to say, but you should demonstrate it with numbers.

Imagine having to validate a test that measures psychological well-being, we have built our items, conducted trustworthy measurements, studied item quality, and everything was positive. In order to evaluate the divergent validity, we must consider variables opposed to the concept of psychological well-being. I mention some examples:

- Anxiety
- Depression
- Physical symptoms
- Cortisol salivate
- Stress

We expect correlation to be negative and significant. To do this, of course, you have to collect a sample of participants, submit them:

- The test that we want to validate (test on psychological well-being)
- One ore more criteria (in our case anxiety, stress, depression)

Diverging validity exists if we actually get a negative correlation between these variables. I put some data in the following table to show how a divergent validation study could be set up.

Psychological wellbeing	Anxiety	Stress	Depression
1	11	7	3
5	7	6	2
7	3	1	1

9	1	2	1
11	1	2	1
16	1	1	1
2	16	6	1
4	12	4	2
5	6	5	3

Linear correlation indicates the relationship between two variables. Therefore, it is necessary to repeat the procedure by analyzing the link between variables several times:

- Correlation between well-being and anxiety
- Correlation between well-being and stress
- Correlation between well-being and depression

1.5.4. Converging validity

Convergent validity is based on the assumption that similar variables should correlate positively among themselves: the more X increases, the more the Y increases.

If I want to measure validation of a burnout test, I can ask to myslef, "What are other similar forms to burnout?" Or "Which variables do I expect from a positive correlation?". Some examples:

- Compassion fatigue
- Stress
- Cortisol salivate
- Physical symptoms

In this case I can apply some procedures, that is

- Take a sample of subjects
- Submit them to the test I want to validate (burnout) and test criteria
- Calculate Pearson's linear correlation
- Verify that - as expected - correlations are positive and significant.

The data entry procedure in the table is similar to the previous one, obviously in this case I expect positive correlations.

1.5.5. Concurring validity

Competitive validity is measured by the correlation between the test you want to validate and a valid test that exactly matches the same construct. If I want to validate a burnout test, I'll have to look for a valid test on the same topic, such as Maslach Burnout Inventory. Obviously, I expect the correlations to be positive and significant, otherwise there is something wrong. Burnout can only relate to burnout. In this case, correlation is only between the two variables involved, there is no need to repeat the procedure.

1.5.6. Predictive Validity

Predictive validity is - in my opinion - one of the most important and complex factors to be analyzed. This type of validity is intended to evaluate how much a test can predict an event. In the end, all validation of a personnel selection process should be based on this. The bottom line is this:

"How much the tools we have selected are able to assess whether the chosen person is the most suitable?"

This is a complex problem obviously. For many reasons. But what indicators do you need to calculate predictive validity?

- A test or subtest
- A concrete and specific event or behavior
- A time range

What makes predictive validity more complex is precisely the time range. As you can imagine, for other types of validity there is no need for a great time span. We sample a group of employees, test them, build a matrix of data, we do the correlation analysis to have our result. On a business day we could calculate divergent, concurrent, and converging validity.

For predictive validity, however, it is necessary to wait time before calculating the results. And it can also be a matter of years. For this reason, many companies are discouraged from conducting predictive validity tests even though they are absolutely useful tools.

Let's try with a concrete example to understand how predictive validity can be used. Let's imagine having to validate a sales skill test. How do I know if this sales test is effective in selecting skillful sellers? I have to look for a criterion indicating the seller's effectiveness. Some positive examples are

- The turnover
- The number of customers
- The number of pieces sold
- The number of customers who buy a second time etc.
- The level of customer satisfaction

Other negative indicators may be

- The number of complaints
- The percentage of customers who rescind the contract
- The number of refunds requested by the customer (obviously excluding those due to a technical problem in the product)

If I conduct a personnel selection using a validation test, I may decide to take 20 new business in the team. Each of these has been selected for different specific characteristics, one of many is just the test result. How do I measure if the test was "good" in predicting sales capability? I can certainly not measure the sales, turnover, and other indicators exposed a month later. In fact, we have not yet given the time for the business to set itself in the context, to know the products well, we are still in the first phase of socialization work. I will then have to choose a longer time interval. One year can be an appropriate measure in this case, but certainly not the only one, the researcher will decide the time based on:

- The peculiarities of research
- The time availability
- The nature of the product
- Customer requests

In principle, we should choose long times, but it is not always so. People, they know about the long run, is true, but do not select a really long time because:

The greater the time distance between predictor and criterion, the more likely it is that other events will be between the test and the expected event.

If I conduct a personality test of candidates for a military position, I can only select clinically healthy subjects that do not have personality disorders or other absolutely unpopular features. Let's imagine we have 20 subjects and have set more prediction analysis at 5, 10 and 20 years. During the year 16, one of the 20 subjects kills his wife, analyzing the case later, it turns out that the subject was not completely healthy from a psychological point of view.

Did the selection test not be predictive, or other events happening the meantime that led to a difficulty, a disorder in the person?

Difficult to know, the only truth is that in such a long time there are many events that could have impacted the person, such as: related work stress and traumatic events.

That is why in a well-constructed selection process, it is not enough to conduct only the input test, but also other monitoring tools (control tests, employee listening teams, etc.). In predictive analysis, it is advisable to use simple linear regression, although some use correlation. We talk about predictability in the strict sense here, because we have a past event and a future event that is supposed to be in a causal connection. Not always, however, a long analysis time is available, in these cases, postdiction analysis is used

1.5.7. Postdiction Validity

Postdiction analysis is the correlation between an event that has already occurred and a test that you want to validate. This type of analysis does not require a time interval between the test and the connection to the criterion. Reconnect to the previous example. Imagine having a company that already has 80 sellers, it certainly wants to strengthen its staff and apply a new test measuring sales capability: it wants to validate it. Of course, he could make a predictive analysis, spend a year and actually ... wagering on the potential of that test, hoping to be reliable. He will therefore have to submit the test to the candidates and will select the best on the basis of that test, hoping to be a good predictor. It will then have to wait a year to see if the test has been valid.

Something quicker and more suggestive in this case is post-seasonal analysis. You may consider submitting the test to the 80 sellers already available and correlating the result to the test with the actual sales results. This type of analysis is very useful for various reasons.

1. It takes much less time
2. It allows to analyze the test results on very different ranges. If I had to give the test in the selection state, I would only have the opportunity to measure the results of those who only get high scores on the test, as I obviously would not logically select candidates who obtained a low test score. In fact, however, nothing excludes that candidates with low test scores have a good performance. Not having them selected, we do not know
3. Does not have decision-making risks. In fact, no decision is made about staff after that test, while in selection we take the risk of selecting inappropriate or inappropriate people.

1.5.8. Reliability

Reliability is "the psychometric property of the accuracy with which a test or scale measures a certain psychological variable. Note that reliability does not tell us whether the test measures what we would like to measure - this is validity - but it is an index of the precision of the measure that the set of items allows us to obtain. The measurement must be accurate so that it must obtain the smallest possible measurement error measurement "(Chiorri, 2011).

Reliability can be defined in its specific dimensions (Kline, 1993):

- Replicability
- Homogeneity

- Objectivity

1.5.9. Replicability

When we are faced with a measuring instrument, we expect this, in later measurements of the same object, to return the same result. If, for example, weighing the computer with which I am writing this text and getting 2.3 kg, weighing it the next day I expect to get exactly the same result: 2.3 kg. Certainly, depending on the sensitivity of the balance we could discuss grams or milligrams, but certainly any balance on the market should not weigh 4 or 5 kg, as it would not be reliable.

We expect the same on psychometric tests. Replication is the ability of the test to return the same result when applied to the same subject. If I administer a test of intelligence to a person today and in a month, it should give me exactly the same result. There is no explanation for an increase in sensitive intelligence in an adult subject in such a short time.

However, there are some elements that can undermine the measurement of the replicability of an instrument:

- **Memory and learning effect**: any re-administration of the test will never be the same. If I am subjected to an intelligence test and then I repeat it after 15 days, the first administration will allow me to learn something about the nature of the stimuli and their solution. In the second administration I will be more prepared and therefore most likely I will get a little better result.
- **Consistency effect**. People tend to assert concepts in line with what has already been stated above. During a personality test several concepts are defined on their own, in the second administration the subject may tend to repeat themselves, not so much because he feels certain certain statements but consistent with the previous responses.
- **Instability of the variable.** If we expect that personality and intelligence are stable factors, we cannot say the same about variables like mood. If a repeatability measure on "unstable" variables is expected, it is normal to expect a variation, but it becomes difficult to see where the instrument's reliability is at its end and the variable's instability begins.

To test whether the instrument we are using is replicable, we must apply a procedure called test-retest. You administer the psychometric tool, expect a time interval and then re-administer it. The test-retest correlation is the mathematical reference calculation. This is a simple linear correlation between the results at first and second administration. Obviously, we expect the two results to correlate. Psychological measurements are more inaccurate than physical ones, so we do not expect the results to be exactly the same (a person with QI = 103 at first administration, could in fact have a second QI = 106 or 102, for example, would be It is strange to have a 140 or a 83). For this reason, test-retest correlation is rarely equal to 1 (perfect positive correlation). Usually, trust values are considered acceptable to or above .80 (Boncori, 2006).

The data matrix can be set this way

Subject	First test	Second Test
A	1	3
B	4	6
C	7	7
D	9	8
E	14	11
F	17	13
G	21	15

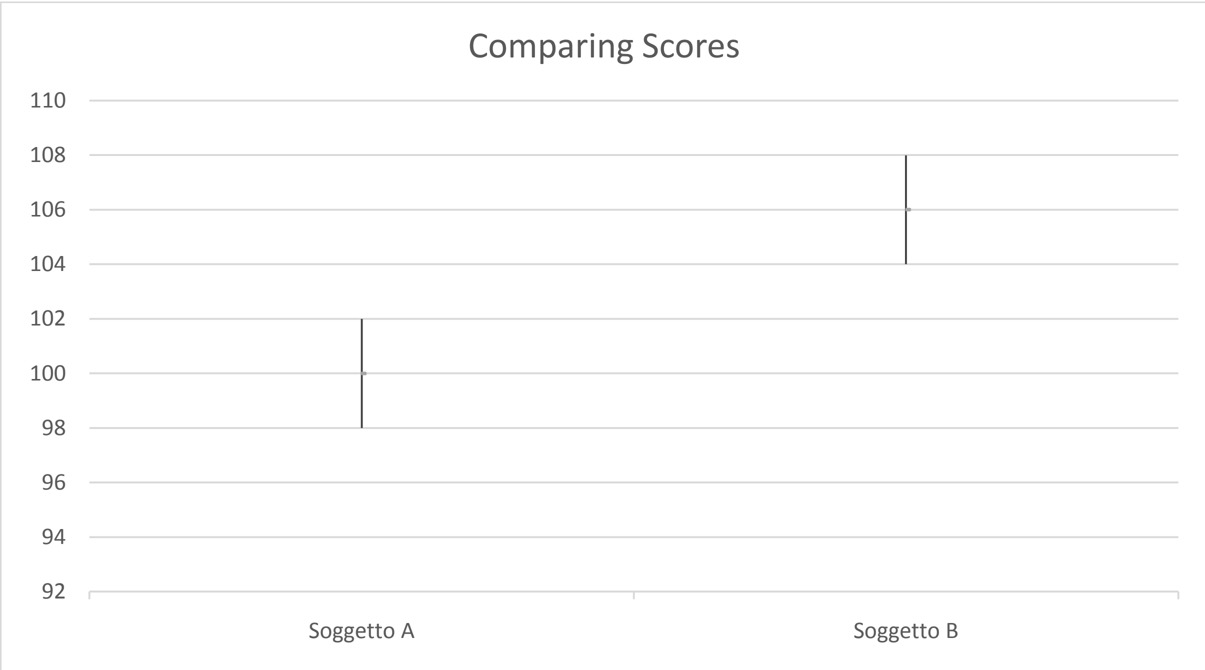
1.5.10. Standard Error

The standard error formula is based on the confidence range and indicates the degree of error we are expecting. If the standard error index is equal to 4 and a subject scores 100, we have to expect the true value to be between 100 ± 4.

This, in the selection process, also allows us to assess whether two subjects are actually different in terms of score. Apparently, two subjects who score scores 100 and 106, respectively, may appear to be people with different levels of presence of the feature, yet this cannot be defined without the help of the standard error. For example, if we had a standard error of 2, we could define subjects as different:

- The first would have a true score of 100 ± 2 (ie between 98 and 102)
- The second would have a real score of 106 ± 2 (ie between 104 and 108)

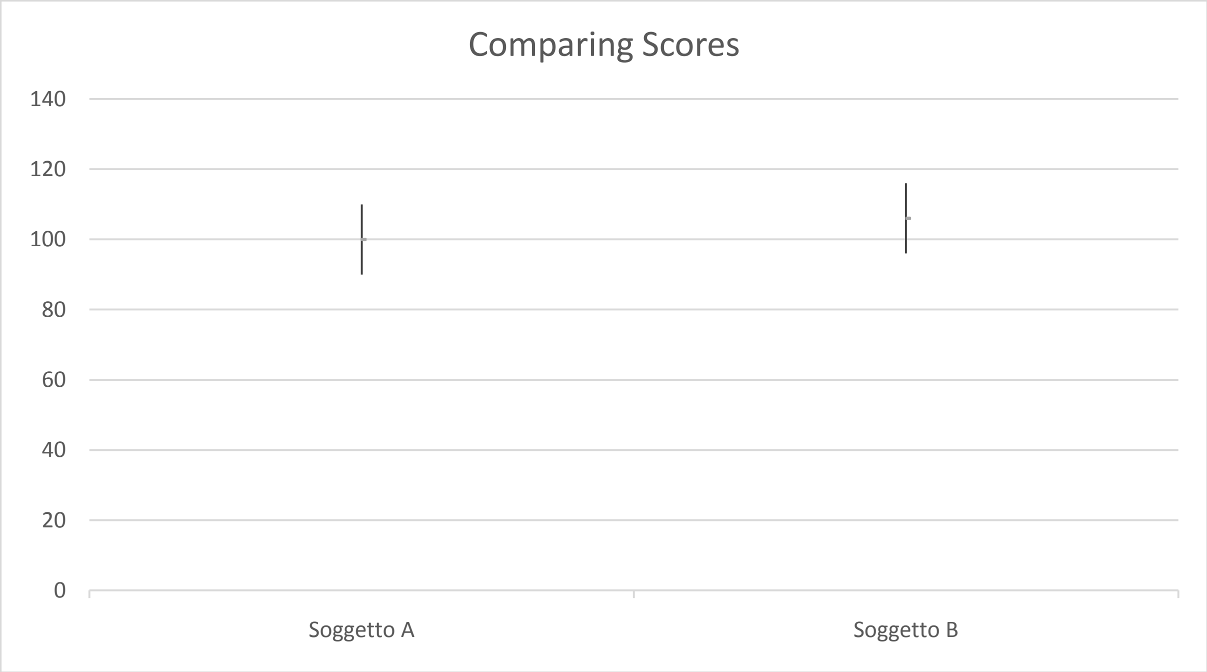
The ranges do not intersect, the subjects are different. Obviously, scores and related standard errors are estimates, everything is possible (delivery errors, occasional events that may have affected performance or else), but in principle the scores are different.



Let's imagine now having the same test but a standard error of 10. Everything changes, the discriminatory power of the test is absolutely different:

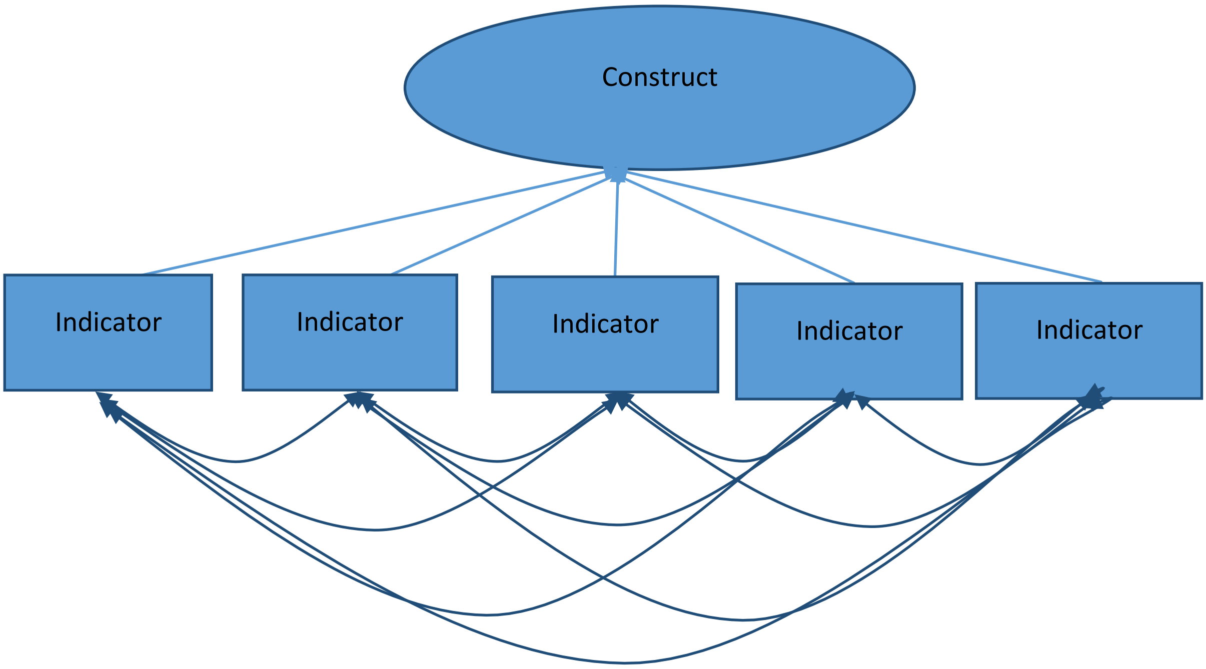
- The first would have a true score of 100 ± 10 (ie between 90 and 110)
- The second would have a true score of 106 ± 10 (that is between 96 and 116)

It is not possible in this case to discriminate subjects. Reliability, therefore, is not only useful for defining the stability of the test, but also for assessing its discriminative potential. If the scores of a test vary from administration to administration, when comparing subjects one has to consider that part of the result is actually due to the subject's characteristics, the other to the (more or less considerable) portion of the error.



1.5.11. Homogeneity

A second way for expressing reliability is homogeneity. This characteristic expresses the degree to which each sub-sample of the test equals the measured characteristic. It is expected that if different questions are to measure the same construct, they should be positively correlated with each other. This data can be measured in different ways. The logic is the following



If the relationship between the indicators and the construct is true, that is, the indicators represent the construct, it is also important that the indicators are linked to one another (that is, the positive relationship is represented by the curved lines in the proposed scheme).

You can consider items of the same sub-scale as mini-tests, each one to give an estimate of the presence of a particular feature. Obviously, if they are measuring for the same thing, they should have similar results. If I do a table with 10 different instruments, there will certainly be a difference among them, a small error due to the sensitivity of the instrument, but everyone should have similar scores.

Likewise, if I have 10 questions to measure the anxiety of a certain subject, and that subject on a scale from 0 to 10 is set to 7, it is expected that similar items will have similar scores (eg, 6 , 7 or 8), it is unexpected that the subject answers 2 or 3 on similar items. We might get to ask if it's actually "mini-test" that measures the same feature.

How can you have an estimate of how consistent items are to be homogeneous? The two most commonly used reference formulas are the Alpha of Cronbach and Kuder Richardson. The Cronbach Alpha formula is the following and is used on items that have more than two response options (eg, 5-point Likert scale):

$$\alpha = \left(\frac{k}{k-1}\right)\left(1 - \frac{\sum_{i=1}^{k} S_i^2}{S_{sum}^2}\right)$$

Instead, the Kuder Richardson formula is used for cases of dichotomous items (that is, they have only two possible responses, eg items yes / no and true / false items).

$$\rho_{KR20} = \frac{k}{k-1}\left(1 - \frac{\Sigma pq}{\sigma^2}\right)$$

These two formulas calculate the level of internal consistency. The minimum level of acceptable internal consistency is variable, some authors say that it is sufficient to value .70 (Nunnally, Bernstein, 1994), others claim that sufficient level for good internal coherence is .80 (Boncori, 2006). Indices therefore give us a global value of trust. In validating a test we can find ourselves in two situations

- Reliability has an acceptable level
- Reliability does not have an acceptable level

When we have an acceptable level of internal consistency, no specific scale changes are needed, but when the internal consistency level is poor, we need to understand the reasons, especially if we are near the limit values (eg, alpha = .50) How much the scale could be saved. Certainly if the alpha was equal to .20, there are few possibilities to keep the set of items intact, probably rebuilt from the beginning. But if the level is not high, you should understand what the reason is, and often this lies in some of the questions that obviously are not consistent with the rest of the scale, in other words they measure something else.

Identifying items that negatively impact on internal consistency helps us because it allows us to eliminate them or allocate them to other scales in order to have a consistent scale.

There are two ways to deepen the item's quality.

- Calculation of Cronbach alpha excluding one item at a time. Many statistical software let you calculate the alpha level of a certain set of items, without considering them one at a time. This way you can study what the problem items are.
- The calculation of the item-total correlation. This is the correlation between a single item and the whole scale. This value indicates how much a question is representative of

the set. Excessively low values indicate a low consistency of the item within a single scale.

This type of procedure allows for better scale optimization, as it delivers or allocates items differently. The alternative to a detail item study is the full scale rebuilding.

1.5.12. Objectivity

Objectivity is the degree to which different evaluators come to the same test interpretation, that is, the same attribution of the scores. The psychometric test, the selection test is such if it has little interpretative margin. That is precisely why the scoring system should be as clear as possible to prevent scores from being interpretable. The use of interpretation in the psychometric evaluation causes a problem in the measurement: the score of the subject depends on the evaluator and the subject. There are many cases in Italy where psychological testing on the offender was a source of debate. The same offender, who faces exactly the same responses to the same Rorschach Test, should have exactly the same interpretation, even though there are two different evaluators. Yet this sometimes does not happen for the most varied reasons:

- There are different interpretive schools of projective tests and graphic tests
- When the test is based on a qualitative interpretation, the weight of the evaluator comes into play. It is not possible to clearly define the absence or presence of certain criteria
- Evaluators may have different experiences and then apply the method with greater or lesser effectiveness

Whatever the reason for different interpretations of the same subject by different evaluators, we are faced with a case of poor objectivity.

Objectivity is measured when there is no unambiguously clear method for attributing scores to subjects. All cases where qualitative factors emerge require an objectivity calculation. Some classic examples of instruments in which objectivity is calculated are:

- Graphic methods
- Projective techniques
- Observational Techniques

Usually, only the questionnaires have a high level of objectivity, because the scoring modes are mechanical, they can be operated by a computer, there is an automatic scoring system. In graphic methods, projective and observational techniques, this is not completely possible. When you score a questionnaire, if you have ten questions that measure anxiety with a score of 1 to 7, and the general level of anxiety is calculated by summing the scores of each question. There is nothing that can be interpreted or changed in the interpretation, there is no chance of error or misunderstanding among different evaluators. The manual will provide the range within which it will be appropriate to define the score as high, medium or low. If, however, my interpretation method is related to the handwriting, some features of a drawing, the interpretation of ink stains, or simply open answers ("tell me a story based on this image"), the system needs a more complex coding manual. This is because we face very simple thing sometimes: if in the questionnaire the subject can respond in the predetermined mode by the test builder, when we have projective test protocols or simply open response questions, the answer possibilities are infinite. The indeterminacy of possible responses, on the one hand, leaves the person the freedom to express themselves, on the other hand, requires a clear and undisputed system of evaluation of responses, resulting in a certain amount of statistical error.

As an example I write one of the most rigorous authors in Rorschach's interpretation of the FC score: "Unfortunately, we do not have any absolute and easy-to-use rule to highlight the CF response"

(Exner, 2003, p.58). This simple statement can allow us to understand how projection techniques are something different from the classic psychometric test.

How to measure obejctivity

There are several methods to measure the objectivity of a measure, the most common being:

- Cohen Index k
- Cochran Index Q
- Multiple Correlation Index

Cohen's index k serves to evaluate the degree of average concordance between two evaluators.

Therefore, a sample of subjects is considered, the two evaluators, independently and blind, attribute scores, and then examine the proportions of responses common to the two evaluators

$$k = \frac{P_{obs} - P_{exp}}{1 - P_{exp}}$$

The main advantage of Cohen's formula is its easy calculation. The limit is that in this way we can only study the concordance between two evaluators and not by a larger number of subjects.

An example of research based on the calculation of K's of Cohen was conducted by Dazzi and Pedrabissi (2009) wanted to study the metric qualities of a graphological method. She then submitted 100 signatures to two evaluators who would have to interpret the subject's personality using Big Five personality descriptors. If we assume the objectivity of the graphological method, there must be a link between the graphological evaluators' interpretations and the Big Five test score, and we should also expect the two evaluators to give similar interpretations if not exactly the same (high inter-rater reliability). However, in this study, no high-objectivity or coherence between the graphology and the Big Five approaches emerged.

A second formula used to assess the level of objectivity is the Cochran Q test. This test:

- Enables more than two odd number evaluators
- Allows evaluators to express themselves through dichotomies (eg, suitable or not suitable)

The Cochran Q formula is:

$$Q = \frac{(k-1)(k\sum_{j=1}^{k} G_j^{\,2} - (\sum_{j=1}^{k} G_j)^2)}{k\sum_{i=1}^{N} L_i - \sum_{i=1}^{N} L_i^{\,2}}$$

If multiple evaluators (even odd numbers) that are not expressed through dichotomies are required, use the multiple correlation index.

1.6. Standardization, sampling and context effect

Often, you may simplify the validation process by simply selecting tools already validated on standardized samples. These are already commercially available measuring instruments that have been subjected to targeted people and are presumed to have all the right features for a particular selection process. This is often enough to conduct a good selection, but it is not the most accurate process possible. It is always advisable to remember that each selection process has its own specifics. How do we think that collecting data on selections for different sectors and companies is valid for all contexts?

How do we think that selections for different roles can be flattened on the same statistical indicator? How can we think that performance assessment indicators are the same for all companies?

Each company has its own specificity, its goals and its measurements to be conducted. For this reason, it is important - ultimately - to conduct a whole series of verification operations on your personal selections, and not just refer to the official validation. As general statistics state a concept, it is not said that the same is true in exactly the same way in the specific context in which we are operating.

As Watzlawick and colleagues write (1964, p. 14), "a phenomenon remains inexplicable until the field of observation is broad enough to include the context in which the phenomenon occurs."

In addition, as Campbell and Stanley (1966) report, "a warning is needed that introduces some of the thorny problems in the science of induction, resulting from a persistent reluctance to accept Hume's truism that induction or generalization it is never fully justified on a logical level. In fact, while problems related to internal validity can be solved within the limits of the logic of probabilistic statistics, questions about external validity cannot be logically overcome in a clear and definitive manner. Any attempt to generalize implies, in fact, an extrapolation in a domain not represented in the chosen sample. [...] Logically, there is no generalization beyond these limits, ie no generalization tout court is possible. Nevertheless, we also try to reach valid generalizations by striving to formulate hypotheses in the form of general laws to control such generalizations under different conditions, although they are also characterized by the same degree of specificity.

These general context laws clearly affect how data can be interpreted, and this concerns any type of test. Mutual evaluation between candidate and company begins long before they meet. The candidate formulates an assessment of the company, making impressions using information on the web, on the announcement, about her general knowledge about the company in the application area of a specific company. When the candidate is submitted to the selection process, there are many aspects that are sometimes difficult to control such as the context, interaction with other candidates, impact with the selector, etc. The candidate, if submitted to a selection that takes place at the premises, can infer from the aspects of culture and organizational climate entering the company, thus formulating the deductions on how to live in a given work environment. What we want to express at this stage is that it is not possible to be completely neutral. Communication is inevitable and influences the candidate in some direction. Of all the aspects that deserve an in-depth study (beyond the validation of the test on the general sample), the most noteworthy aspect is the evaluation of external validity, each company has different roles and tasks, so necessarily the indicators Of performance (criteria) should be re-evaluated on the sample under review.

For example, if my general sample evaluated the statistical correlation between the result obtained at a sales test and the sales revenue of the seller in the following year, based on the sale of tangible assets (eg shoes), it is not said that the same test has external validity for the sale of services, for example, or it is not said that the same test functions in a different socio-economic context.

The impossibility of overlapping contexts and situations makes validation a contextual and cultural process as well. It fits in a specific context: social, economic, cultural, corporate that cannot be forgotten or not considered. Collecting data in a particular context is necessary.

A research that I conducted a few years ago (Vitale, 2010) has shown that the context influences the production of the responses of the subjects. The aim of the research was to evaluate how the context of selection influences the responses of the subjects. The study compared the responses of 120 subjects in a selection of staff with 120 subjects (comparable by age, gender, and degree of education) tested during an exercise. What changes in the two situations is the play, present, and high value in the selection state, absent in the exercise condition. A measuring instrument, to be defined as such, should be independent of the context, should simply put in place an objective measurement. Yet this is not, the very context of selection influences significantly the way people face stimuli.

The test on which the analyzes were conducted is called Zulliger Test and is a projective test consisting of three ink stains that was used by the State Police in Italy for staff selection (Ungaro, Borrelli, 2006).

Projection type tests are clearly distinguished by the questionnaires, as the objective is to understand how the subject plays a deconstructed stimulus (the ink stain). In this way one can understand how the subject structure the reality, starting from a ambiguous stimulus.

What distinguishes these destructured stimuli is also the poor understanding of the subject of the meaning of the answers that, when the subject states in a structured questionnaire that "I like to talk and interact with people" knows or imagines that it is something linked to relationships, sociality, or extraversion. It will be harder to deduce the meaning of the interpretation of ink stains, for example, by interpreting what it may mean to have seen an insect in a particular little detail of a certain ink spot.

This lack of knowledge of stain interpretation induces less conscious filtered responses, and therefore hypothetically more "real" responses. This is generally a mistake as shown by research (Vitale, 2010). Certainly, the subject knows less about the meaning of certain responses but does not filter it. Scores obtained from subjects in the two experimental conditions (selection vs. neutral context) were in fact quite different.

Here are the results obtained from the research.

Table. Comparison of scores between context and neutral context

Index	**Chi-squared**	**Degrees of freedom**	**Significance**
R	2,84	1	N.S.
G	0,61	1	N.S.
D	0,04	1	N.S.
Dd	0	1	N.S.
Dim	30,16	1	*** (p<0.001)
F	12,14	1	*** (p<0.001)
F+	11,99	1	*** (p<0.001)
F+-	7,15	1	** (p<0.01)
F-	34,52	1	*** (p<0.001)
M	7,25	1	** (p<0.01)
FC	15,64	1	*** (p<0.001)
CF	8,09	1	** (p<0.01)
C	0	1	N.S.
FC'n	11,51	1	*** (p<0.001)

C'nF	8,33	1	** (p<0.01)
F(c)+	11,43	1	*** (p<0.001)
F(c)-	33,7	1	*** (p<0.001)
MA	3,06	1	N.S.
mi	5,12	1	* (p<0.05)
A	0,08	1	N.S.
H	4,08	1	* (p<0.05)
Ad	0,93	1	N.S.
Hd	8,81	1	** (p<0.01)
V	15,2	1	*** (p<0.001)

As you can see from the table, there are different and remarkable differences between subjects in the two experimental conditions, it is possible to study the significant differences between groups affecting many areas of the test on the last column.

The study has shown that even in tests where the response is pushed by unconscious factors, these are mainly dependent on having to perform a test that has a stake in the workplace.

The results can be summarized as follows:

- **Increased stereotyped thinking**. The selection context had a higher frequency of vulgar responses (V). Vulgar answers are common, stereotyped responses, interpretations commonly given by subjects. Why are these being given more frequently by subjects in selection? This is easily explained by theories of impression management and self-presentation. When there is a risk, the subject experiences a sense of anxiety. Giving an extremely creative or unusual answer is perceived as a risk. Seeing a leaf in the first spot of the Zulliger Test is a common answer, many people see a leaf in that stain, common even without risk (few people can confute that there you can see a figure that looks like a leaf), look instead Something completely different as "a cow with the earrings" in the third spot is certainly a creative and unusual answer. The selection candidate, more or less consciously, does not want to risk it. For this reason, it will statistically rely more on vulgar answers.
- **Greater attention to formal adherence (F** +). Formal adherence is the degree to which interpretation approaches to the true shape of the stained or elaborate detail. Less the interpretation resembles the stain, the more dense the alert in the evaluated subject, which therefore avoids in the selection contexts of giving imaginative answers.
- **Less attention to human interactions (H**). The subject in selection lives human interaction with stress, as human interaction is associated with evaluation
- **FC'n**: Most present in neutral conditions, they represent a psycho-diagnostic level for a valid control of anxiety and depression (Ungaro, Borrelli 2006) - Cenesthetic Interpretations: Most present in neutral context protocols are (if very high) Bring them to think of themselves, introverted, linked to their ideas, artists and intelligent people. " - Inhibitor details: Mostly present in neutral context protocols, tend to be unusual responses,

Giambelluca writes, Parisi, Pes (1995): "There are answers where the subject interprets only a part of what is most commonly seen as a whole." They are people of inhibition.

1.7. How to Reduce Recruiters Evaluation Errors

Personnel selection is a complex task. And as it happens in the face of all complex tasks, man does not use precise problem analysis strategies but heuristic called shortcuts (Anolli, Legrenzi, 2006; Bonini, Del Missier, Rumiati, 2009). The heuristics, as stated above, are quick modes of thinking that simplify thought and speed up the solution. They are not based on a careful analysis of the problem in all of their data and therefore can increase the probability of statistical error. The most common errors in the personnel selection process are:

- **Errors of judgment**: subjectivism of the evaluator, intuitive elements; The tendency to describe in objective terms what is the expression of one's personal subjective interpretation
- **Systematic error**: tendency to overestimate in relation to its mental attitude, mood and character. For example, the optimist will tend to give more positive evaluations, while the pessimist will tend to be more severe.
- **Halo Effect**: a tendency to judge a feature based on judgments that have on other features, for example polite subject judged even intelligent or vice versa. The only effect is the tendency to express a general rating based on a single variable (positive or negative). YES has a single effect even if the selector expresses a positive or negative opinion on individual elements of the selected, based on a general view. It can be said to have a single effect even between a candidate and the other (sequence effect), if you interview a normal candidate following a poor candidate, the first will seem better than it is because the mind tends to assess reality in comparative mode.
- **Contrast Failure**: Trend to Judge Others Contrary to Your Way of Being Cheerful / Sad, Safe / Insecure.
- **Projection error**: the unconscious tendency of transferring their own way of thinking and feeling in others, more generally projecting their own and personal elements in the interpretation and structuring of external reality. This process, for example, leads us to better evaluate features and values found in others and that we belong or attribute them (resemblance effect).
- **Introjection errors:** this is the opposite of the projection for which they attribute themselves to the traits, elements, attitudes of others that are experienced as theirs because they are pleasant and desirable. Introjection is also to safeguard the image of self and increase self-esteem.
- **Rationalization errors:** this refers to that attitude that involves the assignment of rational features or logical interpretations to phenomena represented only by vague insights that little have rational
- **Mistakes in structuring the interview:** in poorly formulated questions, capable of suggesting answers (for example, in the judicial field). Errors that may arise from personal viewpoints, points of view that the interviewer may have and which may interfere with the judgment of a candidate, for example, extracting the candidate's source, commonplace.

1.8. The role of physical appearance in personnel selection

One of the most common bias in the selection is the physical appearance. The aesthetically beautiful people, in fact, tend to be overvalued by expert breeders. A good physical appearance, which can certainly be required in certain job positions, should not become a variable that also affects other variables under evaluation (halo effect). Many evaluators, moreover, are unaware of having this bias. There are remarkable meta-analysis to demonstrate the relationship between physical beauty and social perceptions (Feingold, 1992), although some studies show opposite results (Caki, Solmaz, 2013).

1.8.1. Prejudice against obese

A study by O'Brien and colleagues (2013) has shown that the physical aspect counts significantly on the perception that the breeder makes of a curriculum. An expert evaluator should consider the curriculum data, the results obtained by the person, who obviously remain the most predictive aspects of a person's performance. In this study, 102 staff recruits were recruited, and their task in this research was to evaluate different curricula and attribute to them the following points:

- Starting salary
- Probability of selection
- Perceived leadership potential

The participants also responded to questionnaires related to

- Prejudice against fat people
- Authoritarianism
- Social domination
- Evaluation of physical appearance

But the participants did not know anything about the experiment. The same identical curriculum appeared in the study, which was the same experience, the only variant of curriculum pairs was the photo. In one case you had a woman's picture before performing a bariatric surgery (BMI = 38-41), in the other copy of the curriculum there was the picture of the same woman after undergoing bariatric surgery, So much slimmer (BMI = 22-24).

The aim of the researchers was to assess whether the experts would be impartial (assigning similar scores regardless of the photo, or, if they had been influenced by the aesthetic appearance, giving scores more favorable to the post-surgical photo version. That the evaluators - even the experts - are greatly influenced by the aesthetic aspect.In addition, such discrimination is more present in the assessed that they have a higher level of implicit injury

Having a cautious look is a factor that is certainly useful to the candidate, showing attention and respect for the time of selection, and is certainly an aspect to consider in all professions where human contact is central but should not significantly affect Other domains. It should only cover the “physical appearance” rating box. What’s more often happens is that this effect alone has effects on other factors, such as leadership potential, middle salary, management skills, which are certainly unconnected to the physical aspect.

1.8.2. Research about First Facial Impression

There is a flourishing scientific research about the impact of faces on social perception. Two centuries ago, Cesare Lombroso had suggested that physiognomy could tell us something about the subject's personality, this hypothesis has never been confirmed, leading at first to little attention to this subject. The disconfirmation of this hypothesis has led the search to connect hypotheses to the face as unambiguously lombrosian hypotheses. We know though that

$$\text{Physiognomy} \neq \text{Personality}$$

This does not mean that it does not affect other psychological variables. And the first facial impression is remarkable. It has been widely demonstrated that

$$\text{Physiognomy} \rightarrow \text{Social perception}$$

We can not say much about a person by looking at the facets of the face, but we formulate many of the social nature of a person simply by observing it, and the formulation of an impression has a lot of implications on the subsequent interaction.

Research by Sutherland and colleagues (Sutherland et al., 2015a, Sutherland et al., 2015b, Vernon, Sutherland et al., 2015, Sutherland et al., 2016) have shown that the face has a first significant impact on the interlocutor which values it - in terms of social perception - on many characteristics:

- Competence
- Sociability
- Leadership
- Intelligence
- Sexual orientation
- Reliability

These are perceptions of significant psychological areas of a person with significant impact on a person's assessment process. Indeed, it has been shown that such assessments, in most cases inaccurate, then lead to important decisions such as: preference for a candidate in a staff selection process, electoral choices, innocence / guilty assessments, probability. To give a loan to a person.

Tabella. Accuracy of the Facial First Impression

Facial First Impression	Accuracy
Male IQ (Kleisner, Chvatalova, Flegr, 2014) Female IQ	Moderate Zero
Big Five Traits (Borkenau & liebler, 1992; Little & Perrett, 2007; Pentonvoak et al., 2010)	E,C - Moderate N, O, A - Zero
Trust (Bonnefon, Hopfensitz & De Neys, 2013; Efferson & Vogt, 2013; Rule et al., 2013).	Zero
Political Orientation (Rule & Ambady, 2010).	Moderate
Sex Orientation (Rule, Ambady & Hallett, 2009; Rule et al., 2011)	Moderate
Criminal Behavior (Bonnefon et al., 2013; Efferson & Vogt, 2013; Rule et al., 2013).	Zero

Table. Examples of decisions taken based on Facial First Impression (FFI)

Predictor	Criterion
Trust (Lawson et al., 2010, Antonakis & Dalgas, 2009, Mattes & Milazzo, 2014),	Election Vote preferences
Similarity between voter and politician	Election vote preferences
Physical attractiveness (Gilmore, Beehr & Love, 1986; Hochschild & Borch, 2011; Lutz, 2010, Marlowe, Schneride, Nelson, 1996, Hosoda, Stone-Romero, Coats, 2003; Watkins, Johnston, 2000).	Hiring and firing decisions. Performance evaluation on the workplace.
Baby-face (Zebrowitz & McDonald, 1991)	Innocennce/guilt decision in court
Face attractiveness (Duarte, Siegel & Young, 2012; Yang, 2014)	Chance to receive a loan

Decisive choices are therefore based on inaccurate evaluations. In the selection process, the physiognomy of the face plays a decisive role in at least the following areas:

- Selection of the photo in the curriculum vitae
- Photo Selection in Social Profiles (Linkedin, Facebook)
- Face in the selection interview

There are many researches that have tried to demonstrate how certain variables can affect the evaluation process.

Some studies have shown what are the characteristics that impact most on social perception in terms of sociality, attractiveness and dominance, classifying them in the following scheme:

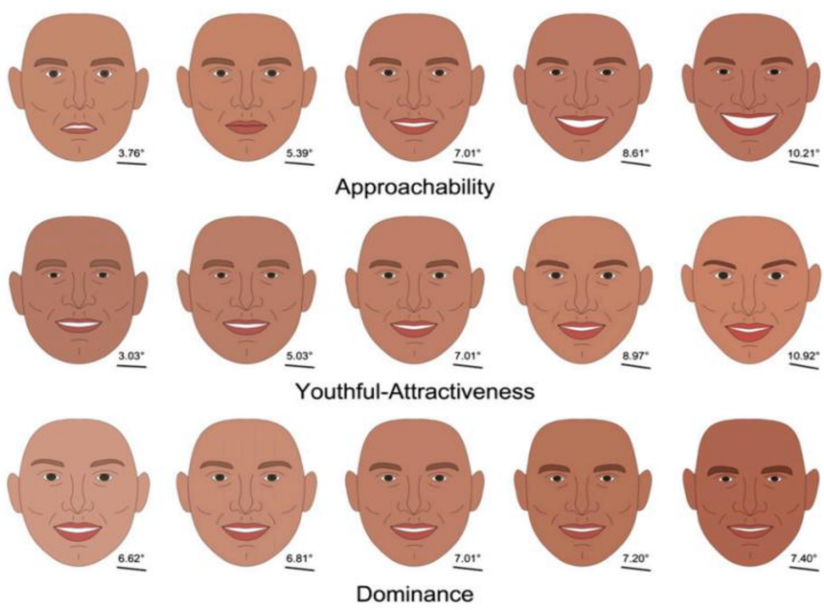


Table. Factors affecting on First Facial Impression

Table 1. Significant associations between objective attributes and social trait impressions in 1,000 ambient face photographs

Attribute type		Attribute	App	Yo-At	Dom
Head size and posture	01.	Head area		0.14	
	03.	Head width	**0.14**	**0.18**	**−0.20**
	04.	Orientation (front-profile)		0.12	
	05.	Orientation (up-down)	**0.17**	**0.28**	
	06.	Head tilt	**0.19**	**0.20**	
Eyebrows	07.	Eyebrow area	**−0.16**	**−0.21**	**0.23**
	08.	Eyebrow height	**−0.15**	**−0.33**	**0.27**
	09.	Eyebrow width		**0.22**	−0.12
	10.	Eyebrow gradient		**0.31**	**−0.15**
Eyes	11.	Eye area	**−0.26**	**0.40**	**−0.22**
	12.	Iris area	**−0.20**	**0.41**	**−0.31**
	13.	Eye height	**−0.30**	**0.39**	**−0.23**
	14.	Eye width	−0.13	**0.34**	**−0.19**
	15.	% Iris	**−0.31**	**0.24**	
Nose	16.	Nose area	**0.26**	0.14	
	17.	Nose height		**0.24**	
	18.	Nose width	**0.45**		**0.16**
	19.	Nose curve	**0.37**		
	20.	Nose flare	**−0.37**		
Jawline	21.	Jaw height	**0.17**	**0.35**	
	22.	Jaw gradient	**0.18**	**0.33**	
	23.	Jaw deviation		**0.25**	0.14
	24.	Chin curve	**0.18**	**0.31**	
Mouth	25.	Mouth area	**0.69**	0.14	**−0.15**
	26.	Mouth height	**0.51**	**0.15**	**−0.22**
	27.	Top Lip height	**−0.24**	**0.24**	**−0.25**
	28.	Bottom lip height	**−0.35**	**0.34**	**−0.15**
	29.	Mouth width	**0.73**		
	30.	Mouth gap	**0.71**		
	31.	Top lip curve	**0.36**	0.12	
	32.	Bottom lip curve	**0.75**		
Other structural features	33.	Noseline separation	**0.22**		
	34.	Cheekbone position	**0.16**		
	35.	Cheek gradient		**−0.17**	**0.37**
	36.	Eye gradient	**−0.23**	**−0.21**	**0.32**
Feature positions	38.	Eyebrows position			**−0.27**
	39.	Mouth position	**0.38**	**−0.28**	
	40.	Nose position		**−0.22**	
Feature spacing	41.	Eye separation		**0.23**	**−0.21**
	42.	Eyes-to-mouth distance	**−0.39**	**0.19**	
	43.	Eyes-to-eyebrows distance			**−0.44**
	46.	Mouth-to-chin distance		**−0.38**	0.13
	47.	Mouth-to-nose distance	**−0.60**	−0.12	
Color and texture	49.	Skin saturation			**0.28**
	50.	Skin value (brightness)	−0.13		**−0.23**
	51.	Eyebrow hue			
	52.	Eyebrow saturation	0.13		**0.15**
	53.	Eyebrow value (brightness)		−0.13	**−0.22**
	55.	Lip saturation	0.12	**0.19**	
	59.	Iris value (brightness)	**−0.24**		
	60.	Skin hue variation		**−0.21**	
	61.	Skin saturation variation		**−0.22**	**0.21**
	62.	Skin value variation		**−0.24**	**0.25**
Other features	63.	Glasses		**−0.26**	
	64.	Beard or moustache		**−0.20**	**0.24**
	65.	Stubble	**−0.15**		**0.24**

How to read this chart: App stands for Approachability, Yo-Att stands for Youthful-ttractiveness, and Dom stands for Dominance. A positive number means a positive orrelation, and a negative number means a negative correlation.)

Summing up the factors affecting traceability are to be analyzed in a person's mouth:

- Mouth area
- Height of the mouth
- Mouth width
- Opening the mouth
- Lips corner curve

Factors affecting the attractiveness of the eye are:

- Eye area
- Iris area
- Eye height
- Width of eyes

The factors that affect dominance are:

- Height of eyebrows
- Gradient of cheekbones
- Eye gradient
- Skin saturation
- Change in skin value

These data are consistent with the previous search that sees the masculine traits as dominant aspects.

Factors Affecting Facial First Impression and Body Language of Photos

Characteristic	Impact
Self-touching movements	Dominance(-)
High forehead	Competency (+)
Eyeglassess	Competency(+)
Not clear defined face-background contrast	Competency(-) Likability (-) Dominance(-)
No smile	Likability(-)
Eyes not visible	Likability(-)
Little dimension of the photo	Competency(-) Likability(-) Dominance(-)
No eye contact	Likability(-)
Zoom on a detail of the face	Likability(-)
Higher saturation	Competency(-) Dominance(-)
Higher contrast jaw-background	Competency(+) Likability(+) Dominance(+)
Full-body photo	Competency(-) Dominance(-)
Lower level of enlightment	Piacevolezza (-)

Methods to improve the perceived level of dominance

- Taking Power Pose (busting, erect and stable posture, not unbalanced on one side, showing hand back, head up, maintaining visual contact)
- Apply elegant clothing
- Place the camera under eye level
- Choose a professional and quality photo
- Use a photo in a business context

How to improve the perceived competence level

- Use visual contact
- Use a vertical posture

1.9. Impression Management

The candidate aims to show the best possible way, applying a whole set of impression management strategies (Vitale, Bafera, 2014), the company instead has the goal of selecting the person that most of all is fit to the chosen role. It can be assumed that the candidate can better manage impression management when it has precise indications of the meaning of the responses to a test. Here are some examples of impression management and how to neutralize them

1. The candidate may have instructions on how to handle non-verbal behavior (eg erect posture, maintain visual contact, avoid art closure, etc.).
2. The candidate can infer the meaning of a item and answer on the basis of social desirability or what it expects is desired by the company (eg, if a job seeker is looking for a flexible person, the subject will tend to To declare to be flexible when the personality test requires it. An item such as "fit me to different contexts and situations" makes explicit mention of flexibility,
3. The candidate can use ad elements or common places in self-presentation (in the selection interview and in group trials) eg, declaring "I consider myself a communicative, dynamic person willing to work in group and flexible."

Making the items and the tests too transparent leads to less efficiency in the selection process. One of the ways to improve this assessment is the study of implicit indicators, indicators that are less mediated by conscious consciousness of the subject. Eg:

1. A candidate can set - by impression management - the position of the back erect or moved forward to demonstrate assertiveness or interest in the work position, but can hardly control all the micromovements of the shoulders (forward or backward, to communicate interest Or avoidance), which necessarily occurs during a selection interview.
2. You can prioritize the use of implied items. Implicit items also refer to the construct but not so explicitly and comprehensively. "I like to talk to people" is obviously an item related to extroversion, is a clear example of explicit item. There are, however, less clear and clear formulas in building a test. Very often, implicit measurement tools are more effective in measuring a construct because they act at a subconscious, indirect level. Implied measurement techniques are used in all cases where it is assumed that social desirability can play a decisive role (eg in the selection of staff). A classic example is the measurement of the constructions of racism (Maass, Castelli, Arcuri, 2005). Formulate openly discriminating items, activate the defenses of the evaluated person, who - to avoid being openly discriminatory - will avoid, giving us a false answer. Instead, construct implicit items such as "if I should interact with a homosexual person, I would try to make

her understand that they are close to him, even if I have to pretend" she lowers the defenses of the evaluated because she acts at a hypothetical level, because she uses the word "if" Poses positive elements in the foreground "I would try to make her understand that I am close to her"

3. The free presentations of candidates should always be evaluated together with some questions of in-depth study. Common lice should be avoided in selection ads. If a candidate declares "flexible", the topic can be dealt with, for example, with questions such as "what do you mean by flexibility?", "Can you tell me a situation in your previous job where you have shown great flexibility?"

The most used impression management strategies at the verbal level are:

- Adulation (conjuring interpersonal attraction)
- Conformity of opinions (claim to have similar values and points of view to the interviewer)
- Verbal Tactics (Excuses)
- Self-promotion (positive affirmations on self)

Impression management strategies detect aspects that are not related to work, but only the extent to which people interact with the interviewer in order to convince him to be a good candidate. It does not matter to say only positive things on its own, it matters to do positive things. It is not important to determine whether an interviewer and an interviewee have common hobbies, this is completely irrelevant to the candidate's work quality. Yet, these strategies, when used, tend to determine better scores for the candidate and this results in a mistake.

Various research has shown that the structured interview - compared to the unstructured one - results in a reduction in the weight of impression management.

		Unstructured interview	Structured Interview
IM impact on evaluator	Barrick, Shaffer & DeGrassi 2009	.27	.17
Non verbal IM impact on interviewer	Barrick, Shaffer & DeGrassi 2009	.40	.30

A collection of studies conducted by Levashina et al. (2014) showed that there are IM strategies that weigh more on the final result

Type of Impression Management	k	N	r	SDr
Self-promotion	13	2202	.26	.12
IM focused on others	12	2024	.13	.11
Defensive IM	12	2075	.12	.09
Non Verbal IM	7	1562	.18	.08

IM = impression management; K = number of studies, N = total sample size, R = weighted average observed correlation on the sample, SDr = average standard deviation on the sample

Tipo di impression management	N	Mpbq	SDpbq	Msq	SDsq	*d*	95% CI
Self-promotion	467	2.93	1.90	1.99	1.46	.48	.01 a .95
IM focused on others	467	1.80	1.06	2.18	1.42	-.27	-.91 a .38
Defensive IM	467	1.63	1.16	1.30	0.68	.46	-.08 a 1.00
Non Verbal (Peeters, Lievens, 2006)	Not significant						

N = total number of subjects, Mpbq = mean of the strategy on questions related to past behaviors; SDpbq = standard deviation in using the strategy with reference to past behavior questions; Msq = Strategy Medium on Situational Questions, SDsq = Strategy Standard Deviation on Domino Domains, d = Size of Effect with Cohen Index, CI = 95% confidence interval

As you can see, using different questions leads to different impression management strategies. Questions about past behavior lead to a greater amount of self-promotion impression management strategies. This is due to the nature of questions that focus on the past behavior of the subject. Situational questions, however, lead to an increase in impression management strategies focused on other people. There are no significant differences in non-verbal strategies. This is because in most cases the candidate is referring to a list of general suggestions in the use of non-verbal communication, without adapting it as the interview develops.

Often, a person's personality is evaluated in the selection interviews. Some studies have tried to determine the correlations between the interviewer's ratings and those of the interviewee on their personality. In some cases the results were disappointing (correlations between .01 and .12 in Roth et al., 2005). In other cases, moderate and significant correlations were found (correlations between .30 and .42, in Barrick et al. 2000, correlations between .20 and .43 in the research of Van Iddekinge et al 2005)

1.10. New technologies

The use of social networking and other information on the web (Davison, Maraist, Hamilton, and others) has become more and more common with the development of technology. The video interviews used by the candidates are analyzed by evaluators (Brenner, Ortner, Fay, 2016) Bing, 2012).

The main studies on this subject have focused on these topics:

- Reliability of measures
- Quality of information obtained on web sources (eg social networks, video interviews, etc.)
- Legal aspects (eg privacy, usability of information)

According to Parvulescu and Vitale (2016), one of the main approaches to studying a subject's personality through web sources is the psycho-psychic approach that is born with Galton and is developed to date with modern computerized tools for automatic text analysis. There are several analytical tools that can draw users information, so it is plausible that they are used. The main areas of analysis of a facebook profile are:

- Analysis of the writer's personality
- Reduction of counter-productive behavior (CWB)

1.10.1. Studies about Verbal Communication Online

	Scientific Research
The extroverts have more images of themselves than the public encounters, the greater number of friends on social networks	Marcus et al. (2006)
People with experience openings have a greater amount of images related to trips to different nations, greater number of restaurant reviews	Gosling et al. (2002)
People who are self-evaluated as amicable, conscientious and emotionally stable publish fewer photos about sex themes, using alcohol and illegal drugs.	Karl et al. (2010)
People who are self-evaluated as amicable, conscientious and emotionally stable publish fewer photos about sex themes, using	Kluemper, Rosen (2009)

alcohol and illegal drugs.	
The theme of Impression Management is also present in computer-mediated communication. The issue of data collection in this case is to define who the subject is trying to create a positive impression. A student who wants to impress friends can use more negative behaviors than those who actually do (eg, do not go to school, report risk behaviors, participate in party Tsenova, 2016), a person who wants to impress companies can Exhibit more competency-related behaviors (show academic and educational achievements). The first one will be underestimated, the second will be overestimated. But in both cases impression management is being studied and less candidate itself.	Kuncel e Tellegen, 2009 Joinson, Kayany, 1998 Dominick, 1999

Davison, et al. (2012) give the following suggestions in using candidate screening over the Internet:

1. Develop regulations regarding the proper and inappropriate use of internet screening
2. Select the communication channel used for screening (social media, blog, e-mail communication) based on job analysis
3. Conducting a risk-benefit analysis to determine the legal risks of using internet screening to evaluate the candidate are superior to the potential benefits
4. Standardize screening ratings across the Internet and use multiple evaluations
5. Verify the accuracy of information obtained through screening over the Internet
6. Communicate the potential use of internet screening to valued subjects

1.11. Dark Personality

Dark personality is a construct designed by Paulhus and Williams (1970), consisting of narcissism, Machiavellianism and psychopathy, variables correlated with many negative outcomes. This section will summarize the results of the research in the field of work and selection.

Dark personality and interview techniques

Research	Source
People with a high level of Machiavellianism tend to be less honest in interviews	Fletcher (1990)
Narcissists tend to use more impression management strategies such as self-promotion and loquacity	Paulhus, Westlake, Calvez, & Harms,
Narcissists are better off to create good first impressions	Back, Schmulke & Egloff, 2010
The good first impression tends to decrease in a short time, usually these people are beginning to be perceived as hostile and arrogant	Paulhus, 1998

Dark Personality and Leadership

Research	Source
Narcissism is a key variable for understanding both successes and failures in leadership	Kets de Vries & Miller, 1985; Rosenthal & Pittinsky, 2006; Kernberg, 1999
The trend towards risk behaviors is a variable considered positively in times of crisis	Johnson, Wrangham & Rosen, 2002

The context determines the success or failure of leaders with dark personalities	Padilla, Hogan & Kaiser, 2007
Pathological leaderships can facilitate organizational paranoia	Kernberg, 1999
Machiavellianism is positively correlated to charisma and political performance	Deluga, 2001
Narcissists tend to take extreme action that captures attention, which is why they tend to have a fluctuating performance characterized by great positive moments and great negative moments	Chatterjee, Hambrick, 2007; Resick, Whitman, Weingarden & Hiller, 2009
There are correlations between dark personality traits and interpersonal relationship problems such as insensitivity, manipulation, demands, authoritarianism, social isolation, criticism, arrogance, melodrama, elusiveness, extreme caution, mistrust, eccentricity, passive resistance, perfectionism	Van Velsor & Leslie, 1995; Kernberg, 1999; Lombardo & McCauley, 1994; Dotlitch & Cairo, 2003
Machiavellian managers have a greater level of supervisory abusive behavior against their subordinates	Kiazid et al., 2010
The perceived lack of warmth, competence and morality of the leader are associated with counterproductive behavior of the staff	Vitale, Falvo, Capozza (2014)

Dark personality, affect and attitudes

Research	Source
Narcissistic sellers have a higher level of satisfaction than non-narcissistic sellers	Soyer, Rovenpor, Kopelman, 1999
Machiavellianism, Narcissism and anger are all correlated negatively to satisfaction	Bruk-Lee, Khoury, Nixon, Goh, & Spector, 2009

Dark Personality and Negotiation

Research	Source
Machiavellians tend to be stronger in negotiation	Christie, Geis, 1970
Narcissists tend to exacerbate the situation by abusing the relationship and creating antagonistic negotiations	Greenhalgh, Gilkey, 1997
The dark personality generally correlates with the will to use illicit strategies	Wu, 2010
Machiavellians tend to use more manipulation than others, Narcissists tend to use more charism and charisma while psychopaths use threats	Jonason, Slomski, & Partyka, 2012

1.12. Cultural Aspects

In the debate on culture and selection, Krause (2012) argues the need to strike a balance between the need for specific methods and techniques for a particular culture and selection methods and the need for standardization of any valid and useful processes For all cultures. In 2012 he conducted an exploratory study to analyze similar issues and differences in assessment center practices in South Africa, Western Europe and North America.

Esercizi e simulazione	Sud Africa (N=43)	Europa Occidentale (N = 45)	Nord America (N = 52)
In-basket	54	35	55
Background interview	51	92	58

Situational Interview	16	48	40
Role-playing	23	48	48
Case study	49	88	78
Fact Finding	26	78	38
Planning Exercises	16	20	33
Sociometric instruments	16	40	48
Group discussions	37	90	45

1.13. The lie in the personnel selection

Lying is a transversal theme in human communication. All of us, in fact, have a mental filter between what we think and what we are verbalizziamo that leads us to:

- Communicate what we think
- To omit a significant part of thought (omission)
- To distort it (transformation)
- To say the false (lie)

Lying sometimes also has a social function: it is put in place to not hurt our interlocutor.

In all situations where people have different goals, lies can come into play with a strategic function:

- get an advantage
- avoid punishment

Organizational contexts are rich in conditions where people can have different goals:

- Negotiations: Every negotiator wants - at least on the go - to get the most out of it, even at the expense of the counterpart
- Conflict management: this is the negotiation of resources that are perceived as scarce, with divergent opinions
- Staff selection: the selector wants to have a great deal of information about the candidate in order to determine whether he is the right person, the candidate wants to appear as best as possible in order to maximize his chances of being chosen

This implies that the selection of staff is one of the conditions in which it is certainly possible to lie for strategic reasons (Castello & Vitale, 2012).

In order to talk about lies we need to talk about communication systems, which we summarize in this way:

- Verbal communication: the words spoken by the person
- Paraverbal communication: tone, timbre, rhythm, pauses, volume and all voice qualities
- Nonverbal communication: gestures, head orientation, body orientation, facial expressions, physical appearance, etc.

The presence of inconsistency between each of these systems can give a certain degree of dissimulation:

$$CV \neq CV$$

$$CV \neq CPV$$

$$CV \neq CNV$$

$$CNV \neq CNV$$

$$CPV \neq CNV$$

Each of the communication systems can thus be an indicative trace of lies. There are numerous lying recognition systems (Baratto, 2015). Lying recognition methods can be classified into:

- Physiological methods: methods that claim that lying is associated with significant physiological variations (Electrogastrogram, Polygraph, Functional Magnetic Resonance etc)
- Verbal Methods: Methods that say that during the lie and the dissimulation are more present some verbal indicators
- Nonverbal Methods: Methods that claim that lie is accompanied by significant variations in non-verbal behavior

Since physiological methods are rather invasive, they are not used in most European countries, although in others, such as Bulgaria, they are frequently used in many organizational contexts. Currently, in Bulgaria, the polygraph (physiological method) is used in these contexts:

- Evaluation of the candidate during a pre-employment interview
- An employee's loyalty rating
- Settlement of disputes
- Cases of civil and criminal relevance in an organizational context

Some physiological methods in stress assessment and management such as biofeedback and neurofeedback are rarely used in Italy for certain selections on high-level candidates (managers and athletes relevant)

For the vast majority of cases, selection conditions allow you to use both verbal and non-verbal methods during the interview. It should be noted, however, that for a careful and scientific analysis, the method of video analysis and standardized behavioral analysis methods (eg FACS, Ekman, Friesen, Hager, 2002; Dael, Mortillaro, Scherer, 2012) Although this implies higher time and economic costs. It is also advisable to apply the method only after a high level of inter-rater reliability has occurred. With regard to the FACS method, a FACS Final Test (FFT; www.paulekman.com) evaluation model is available,

1.14. Selection Interview

Of the interview methods, the structured interview is certainly the one that guarantees a higher level of reliability and validity. In fact, any level of destruction leads to different interviews on different subjects, and thus to produce unparalleled data between them. However, a minimum level of de-structuring may be necessary to ensure a minimum of flexibility in difficult cases to handle.

The structured interview can be defined as: "a personal and interactive process of one or more people who orally ask another person and evaluate their responses in order to determine the qualities of the person and to make a decision of employment in his / her Comparisons "(Levashina et al., 2014).

Among the proposed interviews, as can be seen from the scheme, the structured interview has an average level of validity and reliability higher than de-structured tools. However, there are several specific aspects to be analyzed in this tool: the reduction of evaluator bias, impression management, personality measurement, situational questions, and development of score scales.

Let's imagine that you have the following evaluation board to use during a structured interview. What I ask you is to evaluate what errors are within this selection card and then what could be greatly improved.

Variable	5	6	7	8	9	10
Physical aspect						
Flexibility						
Communication						
Cooperation						
Attention						

The first major mistake is the absence of a clear definition of measured features. If I do not have a coding manual in which I define exactly what I mean by physical presence, each evaluator will try to replace "physical appearance" with its physical appearance. We agree that this could mean very different things: clothing, personal hygiene, physical beauty. This variable can be greatly influenced by personal tastes, which have nothing to do with the purpose of the interview. The same reasoning can be said of terms of flexibility, communication, collaboration, attention. These are terms that are so important as to be extensive and interpretable.

When producing a scoring card, it is always advisable to carefully define what is to be understood when it comes to a certain construct.

Some, in the face of this scheme, claim that scale 5 to 10 may be a mistake. In fact, this is not a formal error, the real mistake is to have no policy to define what is 5, 6, or 7 etc. If I do not have a criterion, the evaluation will be absolutely dependent on the subject.

To improve the effectiveness of this scheme, it is therefore necessary to:

- Define the constructs more carefully (for this see the appropriate paragraph)
- Define interpretive guidelines (scoring)
- Define scoring attribution models in the most unique and clear way possible

Guidelines

An example of guidelines for staff selection is reported by Zucchi (2007)

Cognitive abilities	Observation elements for the conductor of the interview
Analysis	- Do you need many questions to gather the data and information you need? - Is he able to read quite complex and articulate situations? - Is it able to grasp the most important aspects of problems? - Do you have the taste and interest to go beyond the surface of this book by orienting yourself to understand the motivations and causes of problems? - Is he able to deepen the issues he deals with and return the complexity to the interviewee? - Is it accurate in the data it contains? - Are the interventions timely and centered? - Is there depth of reasoning or is it on the surface? - Do you use examples and specifications?
Syntesis/Overview analysis	- Can he/she focus on the most important aspects of problems or lose some particulars? - Can he/she connect variables and different aspects of problems? - How much does he/she go into detail at the expense of the whole? - Can he read a wide range of situations? - Is the communication register incisive and effective? - There is problem in dealing with the background and contextualization of the problem?

	- Is je able to self-operate "macro-micro" steps and vice versa with dealing with a problem? - Can the connections necessary to contextualize a problem maneuver in a paradigmatic and critical manner, and not just sequential?
Learning abilities	- Is he/she able to align with the communicative pace and the demands of the conductor? - What is your position on a precise feedback about its strengths, but especially its weaknesses? - - During the feedback, how much do you want to deepen by asking the evaluator specific about what he has been exposed to? - - How does he react to the stimuli of the interlocutor? What is the degree of reactivity? - - What is the real and active listening attitude towards the external environment and the interlocutor? - - What kind of critical processing does it make on successful experiences and failures occurring there? - - How much is he able to learn from mistakes rather than deny them?

1.14.1. First competence: think analytically

Definition: Identifies the information to be analyzed and through applying logical reasoning skills comes to well-informed decisions

Features:

- Breaks the problems in their elementary aspects
- Identifies the information needed for the analysis
- Recognized in trend and property data
- Use quantitative and qualitative elements for analysis
- Demonstrate reasonably logical ability
- Makes decisions and proposes solutions even in the presence of somewhat ambiguous data

The behavioral interview

As we have seen, precise models are needed:

- Formulation of applications
- Standardization of the interview process
- Scoring (Scoring)

The behavioral interview is certainly one of the models that approaches a standardized process. It is a model that involves the use of concrete questions related to skills and behavior.

The behavioral interview assumes that one of the main predictors of future behavior is past behavior. Of course, people change and evolve, while many people's process of growth (work socialization, training, coaching, mentoring) can occur in the workplace and it will be responsible for doing this to the best and as personalized as possible for the new resource. But at the time of the interview, these data are available in part, what has happened is a more concrete one, taken into account by the behavioral interview model.

The behavioral interview can be seen as a toolbox that is composed from time to time based on the selected resource: there is no one behavioral interview, but there are many pieces of puzzle that can be composed.

The behavioral interview model is certainly the STARS method, derived from the English acronym:

- Situation
- Task
- Actions
- Results
- Summary

The study of a single subject's competence is put into practice through careful scrutiny of standardized questions focusing on the aspects listed: situation, task, actions, results, summaries.

Each role, based on job analysis and task analysis, suggests a certain model of skills. Features that the evaluator hopes to find in every good profile. Therefore, prior to the construction of the applications, it is necessary to define the reference skills. There are some basic rules for writing the definition of the competency correctly

- Competence must only refer to observable behaviors. A competency will not be able to distinguish valid and invalid candidates unless it includes behaviors that successful people practice;
- The behaviors envisaged must be those your colleagues agree to associate with effective performance, in this task it is important to confront with your work colleagues to design this list and not to do an individual job in this regard
- Every behavior must include a verbal phrase. In other words, you must describe an action that you may hear about during the interview, thus increasing the level of inter-rater trust.
- Good competence must cover at least four behaviors
- The expected behaviors of a junior team member will be different from those of the senior. As it is assumed that experience increases the level of competence.

CoDin me preparare il modello di competenza

- Establish the preparation that a candidate must have in different roles. In particular, for candidates at basic level positions there will be lower levels of competence
- If time allows you to discuss with your colleagues. Do not rely solely on your evaluations, it is always preferable to know the opinions of colleagues well involved in the subject so that the features are not trivial but not too difficult to reach for the candidate (in both cases you would have too similar answers between subjects and therefore Unable to discriminate between the various levels of presence of the feature).
- List the behaviors that, according to the technical preparation requirements established, must be found in the candidate. This definition must be as clear as possible.
- Insist that interviewers only ask questions about those behaviors, so that they are no longer indulgent with some candidates and sterner than others. Any significant change from the interview model causes a problem of inequality in the procedures.

By way of example, there are some interview models for various features (Yeung, 2008)

Competence 1 - Think analytically

Definition: Identifies the information to be analyzed and through applying logical reasoning skills comes to good informed decision

Behaviors

- Breaks the problems in their elementary aspects

- Identifies the information needed for the analysis
- Recognizes trends and properties data
- Use quantitative and qualitative elements for analysis
- Demonstrate logical reasoning skills
- Makes decisions and proposes solutions even in the presence of somewhat ambiguous data

Table 1 - Analytical Thinking - Funnel Question: Example 1

1.	Situation	Describe a case in which you analyzed a problem When did it happen? How was that situation originated?
2.	Tasks	Which task was assigned to you?
3.	Actions	What data did you collect? In what way did you set the analysis of those data? What did you initially think of those data? What trends or properties did you recognize in that data?
4.	Results	What were your recommendations?
5.	Summary (if necessary)	So if I understand, you have ...

Table 2 - Analytical Thinking - Funnel Question: Example 2

1.	Situation	Talk to me about the last time you analyzed the data When did it happen?
2.	Tasks	Why did you try to analyze those data?
3.	Actions	In what way has the analysis of those data been set? It makes me part of your mental process, in that circumstance What problems did you encounter in that analysis? How did you deal with them? Did you talk to any of those problems? Did you ask someone for advice? If so, who? What else did you do in analyzing those data?
4.	Results	What were his final remarks?
5.	Summary (if necessary)	In other words, to summarize what you did in that circumstance ...

Competence 2 - Planning and Organizing

Definition: Defines the sequence of actions and resources required to achieve a given goal

Features:

- It manages its time
- Breaks complex goals into simpler tasks
- Decide when individual tasks need to be performed to achieve the ultimate goal
- Examine the resource needs
- It develops safeguard plans, to be ready to react in the event that problems arise

Table 3 - Planning and Organizing - Funnel Question: Example 1

1.	Situation	You are talking about a project (or a complex assignment) that she has planned from the beginning When did it happen?
2.	Tasks	How did you manage to manage that project?

3.	Actions	In what way has the planning and organization set? What resources did you need to accomplish the project? Did you need to involve someone in planning? If so, who? What else did she do to develop the plan of the project?
4.	Results	What was the response to the success of that project?
5.	Summary (if necessary)	Let's briefly summarize what happened: she has ...

Table 4 - Planning and Organizing - Funnel Question: Example 2

1.	Situation	Describe to me a party or an event she has been in charge of planning and organizing How long have you organized it?
2.	Tasks	Tell me a little bit about how yuo was assigned to arrange that event
3.	Actions	What were your first steps? What problems did you encounter in that assignment? How did you deal with them? Which eventuality did you take into account in your plan?
4.	Results	In the end, what was the success of that event?
5.	Summary (if necessary)	I try to summarize what you did in that circumstance: you have ...

Competence 3 - to demonstrate consistency and determination

Definition: persists in the face of obstacles and failures, motivating you to achieve results and to get facts

Behaviors

- Adjust your actions according to precise priorities, when time is short (eg decide what you can and what can not be done
- Find ways to solve problems and overcome or overcome obstacles
- Takes initiative on purpose
- Persist in work, dedicating more time and effort to completing it properly
- Complete the tasks and assignments assigned to him by meeting the deadlines by keeping within the budget

Table 5 - Demonstrate Constancy and Determination - Funnel Question: Example 1

1.	Situation	I'm talking about a project or work that was not done according to plans When did it happen?
2.	Tasks	What was your role in that affair?
3.	Actions	How did you deal with those difficulties? What else did not go in the right direction? And how did you handle that problem? Did you have to turn to someone to get help in that project? If so, who has it turned? What else did you do to straighten the situation?
4.	Results	What was the final outcome of the project?
5.	Summary (if necessary)	Let's see if I understood its description well: you have ...

Table 6 - Demonstrate Constancy and Determination - Funnel Question: Example 2

1.	Situation	Please speak to me about a difficult project that you have been in charge of leading up to its completion When did it happen?
2.	Tasks	How was she hired you? What was the difficulty of that project?
3.	Actions	What problems have you encountered during the work? How did you deal with the first problem? How did he deal with the second problem? How did you deal with the next issue?
4.	Results	What feedback then got to the project completed?
5.	Summary (if necessary)	Let's recap: you have ...

Fourth competence: to serve the customer

Definition: Striving to understand the needs of the customer strives to satisfy it extensively.

Behaviors:

- Ask questions to understand the customer's needs;
- Interprets body language to guess its unexpressed needs
- Shows enthusiasm in interactions with the customer
- Anticipates the client's needs to the other tasks of his / her work
- Looks for ways to satisfy the customer even beyond his expectations

Table 7 - Serving the Customer - Funnel Question: Example 1

1.	Situation	Describe to me a case where you have satisfied a customer beyond her expectations When did it happen
2.	Tasks	What did its contribution consist of?
3.	Actions	How did you determine the needs of that customer? How did it meet those needs? What has exceeded the expectations of that customer? What customer did he react to his actions?
4.	Results	How did you know you were able not only to match your customer's expectations, but even overcome them?
5.	Summary (if necessary)	Based on what I just heard, it seems to me that she ...

Table 8 - Serving the Customer - Funnel Question: Example 2

1.	Situation	Please tell me about a difficult client who you have to handle it When did that deal with that customer? How was this situation originated?
2.	Tasks	What was that difficult for that customer?
3.	Actions	What questions did you ask that customer to determine what his problem was? What alternatives did you consider to handle that customer? What steps does it take to manage the situation? How did that customer respond to his actions?
4.	Results	In the end how the situation resolved?
5.	Summary (if necessary)	Good. Now I try to summarize: you have ...

Competence 5 - working in teams

Definition: It takes active part alt team by providing its contribution to what is needed to achieve the common goals

Behaviors:

- Takes the initiative to see if other team members need assistance
- Provides psychological support and / or practical assistance to team members as needed
- Shares information and ideas with other team members
- In cases of conflict or poor communication in the team, he addresses the causes
- Adapt your role within the theme, as needed
- Extend to other team members the awards they receive for their performance and praise them whenever they are

Table 9 - Working in Teams - Funnel Question: Example 1

1.	Situation	Talk to me once when you have made a significant contribution to the achievement of a team's goal How long ago did it happen?
2.	Tasks	What was he trying to achieve at that time on the team? What was its contribution?
3.	Actions	Tell me by thread and sign, what did you say or what she did to help the team's efforts? What effect did you have on the team?
4.	Results	What did the theme do in trying to achieve its goal?
5.	Summary (if necessary)	To recap what she just told me, she has ...

Table 10 - Teamwork - Funnel Question: Example 2

1.	Situation	You talked to me once when you helped a colleague How long ago did it happen?
2.	Tasks	Why did that person need help?
3.	Actions	What you did or said to help your fellow? How did this colleague react to his efforts? What else did you try to do [if necessary, repeat this question]
4.	Results	With what result has the story ended
5.	Summary (if necessary)	So you have ...

Competence 6 - Learn and improve

Definition: actively solicits feedback from others and seeks opportunities to improve "

Behaviors:

- Urges feedback and constructive criticism from others;
- Identify and pursue learning opportunities
- Learn in many ways, for example with reading, imitation of others, discussion, and so on
- Analyze errors to teach
- Modify its behavior based on what it has learned

Table 11 - Learn and Improve - Funnel Question: Example 1

1.	Situation	You talk about the latest initiative you have put in place for your professional growth When did it happen?
2.	Tasks	What was you proposing to get?
3.	Actions	What initiatives did you take exactly? Did anyone else engage in his professional growth initiative? If so, who has involved? Can you describe the problems and difficulties you encountered in your professional development initiative? How did you overcome those difficulties?
4.	Results	What did he learn?
5.	Summary (if necessary)	Good. Summing up, she has ..

Table 12 - Learning and Improving - Funnel Question: Example 2

1.	Situation	You talk to me about the last time you've been criticized When did it happen?
2.	Tasks	Please repeat exactly what that person said to you
3.	Actions	Do you like answers to those words? What did he do after that criticism? What else did he do?
4.	Results	Tell me how that episode has changed its behavior
5.	Summary (if necessary)	In short, we can say that she has ...

Seventh competence: to influence others

Definition: convince others to adopt a new point of view by resorting to logical arguments or other persuasion tactics

Behaviors:

- Identify the people who count on who to influence
- Ask questions to understand the needs and needs of the people they affect
- He remembers his intentions
- It fits its ways to conform to what the different situations require
- He can make his interlocutors happy
- Make the decisions and the resulting results consistent with the goals of the organization

Table 13 - Influencing Others - Funnel Question: Example 1

1.	Situation	Can you describe in detail the occasion in which you had to make change idea to someone When it happened
2.	Tasks	Why was you trying to make that person change her mind? What was the initial conviction of that person?
3.	Actions	What did you try to do? What did you say, or what did you do, exactly? What do the other respond to? You describe in detail what else you was trying to do, and how did the other react?
4.	Results	What did she get in the end?
5.	Summary (if necessary)	So if I understand you well ...

Table 13 - Influencing Others - Funnel Question: Example 2

1.	Situation	Can you please describe a situation in which you faced someone with whom she did not agree at first Is it up to how long ago? What was the opinion of the other?
2.	Tasks	What alternatives did you consider to address that situation?
3.	Actions	Can you tell me with what method, on that occasion he tried to bring that person on his side How did that person react? What else youdid to convince others?
4.	Results	In the end, what happened?
5.	Summary (if necessary)	To recap, you have ...

Eighth competence: Think about running costs and revenues carefully

Definition: "Understands how important it is to manage budgets and costs, in pursuing greater efficiency and / or profitability

Behaviors:

- It proves to be cost-conscious and wasteful
- Finding opportunities to reduce costs and / or increase revenues
- Use financial analysis when they need it
- Make the cuts and adjustments needed to reach the balance in the budget forecast
- He is aware of the advantages and disadvantages of the various possible choices

Table 15 - Think and act carefully on costs and revenues - funnel question: example 1

1.	Situation	Can you talk about a difficult commercial project, to which you participated? When did it happen?
2.	Tasks	What were the financial or commercial objectives of the project? Why was the situation difficult? What was your role in that project?
3.	Actions	How did you try to intervene on the business or financial aspects of that project? What alternatives did you consider on that occasion? What did she do to deal with those difficulties? What else did he do?
4.	Results	What happened in the end?
5.	Summary (if necessary)	I try to summarize: she has ...

Table 16 - Think and act carefully on costs and revenues - Funnel question: Example 2

1.	Situation	Can you talk to me about a financial decision you had to take? It's up to how long ago
2.	Tasks	To what extent did you participate in that decision? Why was it a tough decision?
3.	Actions	What analysis did he do to make that decision better Which alternatives you considered on that occasion

		What were the pros and cons of each alternative? Which alternative did you choose then?
4.	Results	What was the effect of your decision?
5.	Summary (if necessary)	To sum up what I seem to hear from her words, she has ...

Ninth competence: to communicate with others

Definition: Produces clear and effective communications, in written form and in oral form, in formal situations and in informal situations

Behavior

- It compiles documents that clearly and concisely summarize the essential points of the subject matter
- Make yourself heard, and express your views for example in team meetings or in customer meetings
- Adapting the communication method to the hearing requirements (for example, knowing when talking to someone in private and talking to others in the presence of others)
- Perform formal formative presentations that it processes itself
- Finding feedback to verify the effectiveness of your communication

Table 17 - Communicating with Others - Funnel Question: Example 1

1.	Situation	Can you describe a case in which she had to give a difficult communication to an individual or a group? When did it happen?
2.	Tasks	What was the message you was supposed to communicate? Because that message was difficult to communicate
3.	Actions	What options did you consider to present your message? Which option then chose to convey your message Why did you just pick that option? How did the audience respond to your message? What else did she do on that occasion
4.	Results	What feedback then received on the good outcome of his communication?
5.	Summary (if necessary)	So to summarize she did

Table 18 - Communicating with Others - Funnel Question: Example 2

1.	Situation	Can you describe a case in which you had to express a complex concept in a very short time How long ago did it happen?
2.	Tasks	What did you try to express? Why was that concept so difficult to express?
3.	Actions	How did you deal with the situation? Which tactic did you choose to convey your message? What else he did on that occasion
4.	Results	How did you, then, understand that he was able to express that concept effectively?
5.	Summary (if necessary)	So if I understand, she has ...

Tenth competence: build relationships

Definition: Establishes the human relationship, seeks to understand the desires and needs of others and treats others with respect.

Behaviors:

- He met others enthusiastically (instead of waiting for the others to come to him)
- Ask others to determine what their desires and needs are
- Recognize diversity (cultural, national, organizational and so on)
- Seek to establish a common ground of understanding
- Treat others with respect

Table 19 - Build relationships - Funnel question: Example 1

1.	Situation	Describe a case in which you have made a relationship with someone When did it happen?
2.	Tasks	For what reason was you interacting with that person?
3.	Actions	How did you start building that relationship? Can you describe in detail all the steps she has made to build that relationship? What difficulties encountered on that occasion How did you manage to overcome those difficulties?
4.	Results	In the end, what happened?
5.	Summary (if necessary)	Now I recap: you have ...

Table 20 - Building relationships - Funnel question: Example 2

1.	Situation	Talk to me about the harder colleague with whom he had to deal When was that?
2.	Tasks	Why did you have to build a relationship with that colleague?
3.	Actions	How did you set up that relationship? Tell me what else you did to build that relationship How did that colleague say that he was trying to build a relationship between you? What were the biggest difficulties you encountered on that occasion How could he overcome them?
4.	Results	In the end, what kind of relationship did you build with that colleague?
5.	Summary (if necessary)	So if I understand correctly...

Eleventh competence: manage change

Definition: It is available to deal with change and not only looks for ways to favor it, but also strives to encourage and support others in promoting it

Behaviors:

- You did not want to change the circumstances (without recriminating or complaining)
- It raises questions that question traditional situations and concepts;

- Actively explore opportunities to change systems, processes, or work methods for the benefit of the organization
- Is to change with enthusiasm, instead of resisting; Encourages and supports others in promoting change

Table 21 - Managing Change - Funnel Question: Example 1

1.	Situation	Can you describe a recent opportunity in which you have changed a working method in your team or organization? When did it happen?
2.	Tasks	Why did you think it would be appropriate to introduce that change? Who else needed to get that change?
3.	Actions	What did he do to get that change? What problems or obstacles did you encountered in promoting that change? How did they overcome those obstacles? What other steps did you take to ensure the success of that change?
4.	Results	What result did he get on that occasion?
5.	Summary (if necessary)	Recapitulating you have

Table 22 - Managing Change - Funnel Question: Example 2

1.	Situation	You mentioned, for example, a situation in which you saw the opportunity to improve an inefficient work method When did it happen?
2.	Tasks	How did you notice that opportunity?
3.	Actions	How did you move to seize that opportunity? Going back to the beginning please describe the individual steps you have made to get the expected improvement What were the hardest times for her to try and make that improvement? What else did he do?
4.	Results	What were the results of his efforts
5.	Summary (if necessary)	Recapitulating you have

Twelfth competence: to sell

Definition: Builds relationships with new customers and looks for ways to deepen them with old customers to sell products or services

Behaviors:

- Find and find opportunities to meet new customers (for example, using your personal relationships network, making cold calls, taking marketing initiatives, and taking other appropriate actions
- Customizes its ways to those of the customer
- It is a participant in the needs of the customer
- Negotiate new business on favorable terms

- Make the customer happy with their purchases and look for ways to procure new business (grow existing relationships, make new contacts, and so on)

Table 23 - Sell - Funnel Question: Example 1

1.	Situation	Can you describe a case where she has persuaded a customer to buy from you? When did it happen?
2.	Tasks	How did you know that customer?
3.	Actions	How did you find out the wishes and needs of that customer? What were the concerns and needs of that client? She did what you did to match those concerns and those needs How did that person respond to the efforts you was doing? What tactics did you apply in order to negotiate a good deal for your organization?
4.	Results	In the end, how much you was able to sell on that occasion
5.	Summary (if necessary)	So recapitulating, you have ...

Table 24 - Sell - Funnel Question: Example 2

1.	Situation	Can you Describe an opportunity in which you has been busy with a client without having to finish the sale When did it happen?
2.	Tasks	How did you know that customer? Why did not the customer finish the purchase at the end?
3.	Actions	Can you describe the tactics she has applied to convince that customer How did the customer respond to the efforts she was doing? What else did he attempt in that circumstance?
4.	Results	What did he learn from that customer?
5.	Summary (se necessario)	So recapitulating, she has ...

Competence 13 - to guide and inspire others

Definition: Provides clear instructions to team members and encourages them, inspires them and promotes their professional growth

Behaviors:

- Look at team members when drafting plans
- Provides address and guidance to team members
- Deliver with efficiency
- It transmits a sense of trust in others
- With coaching, encouragement and praise makes others more confident of themselves
- It counteracts poor performance by providing accurate and timely feedback

Table 25 - Guiding and Inspiring others - funnel question: example 1

1.	Situation	Can youtalk about an opportunity in which she has made coaches to one of your team members When did it happen?
2.	Tasks	Why did you decide to be a coach for that person?
3.	Actions	How did you deal with the subject for the first time? Starting with your initial discussion, tell me in detail or later steps How did the respondent respond to his efforts? In what other ways did you make coaches to that person and more generally how he promoted professional growth?
4.	Results	What was that person then about?
5.	Summary (se necessario)	To summarize, she has ...

Table 26 - Driving and Inspiring Others - Question Funnel Question 2

1.	Situation	Can you talke to me about a situation in which you had to motivate her team When did it happen? Tell me about your team shortly, to let me know the background
2.	Tasks	Why did the members of his team be motivated?
3.	Actions	In what way did I address the task of motivating them? What steps did he do to motivate them? How did the team respond to their initial efforts? What did you do to motivate them?
4.	Results	Based on what factual elements does it conclude that it has been able to motivate them?
5.	Summary (se necessario)	If I understand what she has just told me, her ...

1.14.2. Factors to be eliminated / restricted

- Negative Expressions: I do not know if you do not need it, do not think so;
- Expressions that contradict: this is not so, she is wrong, she is wrong, is not exact, impossible
- Predicative expressions: now I explain;
- Doubtful Expressions: I do not know if she can be interested in it, I would be, maybe she would like it;
- Faithful Expressions: You will see that you will find it good, if you do so will see that, it will definitely be interesting for you
- Appeal of trust: believe me, trust me, trust me, be quiet, I recommend it
- Cerimonial expressions: a person like her, as you know, do not want to disturb her, as she teaches me.

1.14.3. Use

- I understand perfectly his point of view
- It is preferable to consider the problem in a different way
- It's good to draw my attention on this point
- I agree with her and I add ...

1.14.4. Possible mistakes

- Questions yes / no (tend to be avoided). Rather, "talk to me ..."
- Because? Useful / useless (to be considered in relation to explored content). When the answer to any one because it is exploited by a deeper rationalization rationale, not even to the subject being examined, the question and answer expire in terms of usefulness (in this context, the question may have some usefulness in addressing what considerations, Reflections involves the candidate, but independently of a self-assessment capacity)

1.14.5. Mistakes

- What does he do in his spare time? You end up in a black hole, you go to touch topics that do not concern the job. They are also questions that address the use of heuristics that leave the time they find (eg if sport means it is flexible). Even worse is the binary question asking whether the candidate has preference for individual or group sports. Much better to do competency-based or behavioral questions like "Talk to me once that she has made a significant contribution to a team"
- Ask what the husband / wife thinks of his choices. They concern the candidate's private sphere.
- Ask about her husband's career? Private question, not inherent, and which presupposes greater importance of her husband's work

1.14.6. Provocative questions

Mistakes

- Ridiculous behavior
- To support too much visual contact
- Criticize the answers
- Stop abruptly

Error examples:

- With his lack of specific experience because he thinks we should assume it for this position?
- What would I answer if I told you she was the worst candidate I ever saw?
- Do you know how to handle stress? How much does 37 for 11?
- Does our work require great readiness? Do you see this pen? She mentions five good reasons for me to replace her with another

Transform into behavioral questions

- Please tell me about an opportunity in which you had to decide to give priority to certain activities, under the burden of events
- "You talked to me once and faced a loud situation
- Tell me about the most rude colleague or customer he was supposed to live with in the past year.

Pseudo psychological questions

- They are apparently introspective or psychological questions
- What does he do when he feels alone?
- Among the comic book characters, who would like to be, and why?
- What is the time of day you prefer and why?

- If you could have dinner with six historical characters, who would invite and why?

Hypothetical questions

- How could she feel if she missed her annual sales target?
- How would it be if two customers asked her for an appointment for the same time on the same day?
- How would the task of organizing a complex task be addressed?
- They are too open, the candidate guesses what needs to be answered.
- Transform into behavioral questions
- You talk to me about the last time you missed a target
- Describes a situation in which she had to juggle between two clients, with incompatible demands
- Talk to us when it came to organizing a particularly complex project

Tendering questions

Questions that suggest answers ...

- Time management is very important in this organizational position. Do you like it hollow in this?
- Are you sorry to work beyond regular time?
- Do you think it is important to work in time to achieve good results?
- Transform into behavioral questions
- Give me an example where you had to handle your time with method?
- When was the last time he had to work late or extraordinary? Talk to us
- He tells me when he was able to work in a team, working closely with his colleagues to achieve a certain result

Multiple Questions

She talked to me once that she exceeded her manager's expectations. Then tell me when it happened under what circumstances, what were the expectations of the manager how she was able to match her and what she learned from that experience.

Why did you choose that specialization at the university? To what extent do you think that studies have prepared for the work world? And what do you think you still need to learn? What are your intentions about enrolling in further graduate courses in the future?

Self-assessment questions

- What are your strengths?
- What are your weaknesses?
- On a scale of one to ten as it is considered capable of dealing with a crisis?
- How much are you able to manage staff?

Often, the most brilliant and positive answers come from candidates who delude their own skills. They measure how much the candidate is good at talking and not working.

Too general questions

- Tell me a little about yourself
- What's more proud of
- What regrets do you have?

It is difficult that such open questions actually lead to factual data and evaluation.

- Tell me about your current job (and only use this question to introduce additional questions specifically geared to the skills you are interested in)
- Which projects is most proud of, what she did in the last year? Then go to ask when it was, what the candidate did and so on, always with reference to a specific competence
- You're talking to me about a mistake she did in her job and how she handled it. (This will provide you with factual evidence about how the candidate addresses his or her mistakes, if this is a major competence for the organization's position in question.

How to do questions on sensitive topics

Topic	Not permitted	Permitted
General	What is her maiden name? Which social or political organizations are you enrolled in?	What's your complete name? Now tell me how he has exploited his network of personal relationships for the sake of his employer.
Family and relatives	Do you engage with someone? Does he live alone? What is your civil status? How is your partner called? What does your partner think of his job? Are you married, divorced, separated, cohabiting or single? Will you get married soon? How many people live with her? What does his father do (his mother? How many brothers or sisters did they have?	How do you call your relatives who already work in this society?
Maternity and young children	Do you have small children? Do you think you have other children? What are his long-term, family-friendly? How does contraception work? How are your children called? What age do they have their children? How is it organized to look after its younger children? Who laughs at your little children while you are at work? Who could care for her little children if they suddenly get ill?	Do you think you will be absent for long periods in the future? If necessary, can it work beyond normal time? Can you work on Saturday or Sunday? Is it available to work in turn? Is there any reason to prevent you from starting to work on the morning in some days of the week?
Ethnicity, race, nationality	What is your mother tongue? Where's born? From which country is it?	Do you have a job permit? Which languages do you speak, read or write fluently?

	Where do your parents come from? Would you have trouble working with people of another race? Which language do you speak to your home?	
Age	How old is he? When was it born? How many years have completed the studies? What is the age of your children? Would it be hard to work for a younger person than you did?	Are you adult?
Religion	Do you believe in God? What religious festivals celebrate? What does Sunday do? What is your religious confession? Which groups is a member outside of the work environment?	Does this job sometimes require work on either Saturday or Sunday? Does this create a problem for you?
Sexual orientation	What is your sexual orientation? Which social organizations does it belong to? Are you normal? Are you gay?	No question is admissible on this subject
Health and Disability	What are your health problems? How much does it weight? Do you have any disabilities? Do you have any handicap? What is the prognosis of your handicap? Have you ever been denied health insurance? When is the last time he has been with the doctor?	Are you able to fulfill the responsibilities that this task necessarily entails? Which special arrangements would it take to cover the job she was nominated for?

Predictive Validity	Diffusion
Perfect Predictions →1.0	Interview (100%) →1.0
	References →(96%)
	Curriculum →(93%)
0.9	0.9
0.8	0.8
0.7	Attitudinal test (70%) →0.7
Assessment centres (0.68) →	
Structured interview (0.62) →	Personality test (64%) →
0.6	0.6
Practical test (0.55) →	Assessment center (59%) →
Attitudinal test(0.54) →	
0.5	0.5
Biodata (0.40) → 0.4	0.4
Personality tests(0.38) →	
Unstructured interview(0.31) →	
0.3	0.3
0.2	0.2
	Biodata (19%) →
References (0.13) →	
0.1	0.1
Astrology (0.00) →	Graphology (2,6%) →
Graphology (0.00) →0.0	Astrology (0%) → 0.0

Validity	Reliability
Perfect Validity→1.0	Perfect reliability →1.0
0.9	0.9
	Panel interview (0.85) →
	Structured interview (0.82) →
0.8	0.8
	1-to-1 Interview (0.78) →
0.7	0.7
Structured Interview (0.62) →	Unstructured interview (62%) →
0.6	0.6
0.5	0.5
1-to-1 interview (0.44) →	
Panel interview (0.44)	
0.4	0.4
Unstructured interview(0.31) →	
0.3	0.3
0.2	0.2
All interviews (0.19) →	
0.1	0.1
0.0	0.0

Tables of reliability and validity of Smith, 1986; Shackleton e Newell, 199; Anderson e Shackleton, 1993

CHAPTER 2

Analysis of recent scientific research about personnel selection

2.1. Introduction

According to a large number of Human Resource specialists (Belous and Appelbaum, 1998; Hartmann, 1998; Forteza and Prieto, 1994; Raymond et.al., 2013; Dessler, 2014; Mathis and Jackson, 2014; Cohen et.al. 2015) in both academic and professional fields, the Personnel Selection considers the placement of people into job positions following a methodical pathway. Organizations can only be aware of the impact of this methodical way after employees spend years or even decades of service to the organisation.

The selection process is based on several crucial elements such as the information collection, by both, the organisation about the potential employee and vice versus. This constitutes an important aspect as both parties gain adequate knowledge about the other party, they know what to expect, and hence, a positive environment can be established in advance in order to have a fruitful and long-lasting cooperation. This is a prerequisite for the healthy development of Productivity.

The selection process must not violate the rules and regulations of each individual country and must also comply with the European Union Acquis and the relevant Directives such as the 2003/88/EC which orders that: "The improvement of workers' safety, hygiene and health at work is an objective which should not be subordinated to purely economic considerations." (Article 4).

Additionally, the Directive 2002/58/EC which concerns the Protection of Personal Data of workers in regards of Information Technology (IT) and Communications orders that: "Confidentiality of communications is guaranteed in accordance with the international instruments relating to human rights, in particular the European Convention for the Protection of Human Rights and Fundamental Freedoms, and the constitutions of the Member States." (Article 3).

All the above information provides an important theoretical, legal, professional, and most importantly, real business background, in order to identify the importance of HR recruitment.

2.2. Theoritical / literature background

Guion and Gibson (1988) have conducted an extensive research in personnel selection and proposed four major sets steps that should be followed in order to ensure that the entire process shall be crowned with success. More specifically they proposed:

i. Evaluation of Selection procedures

ii. Performance

iii. Predictors

iv. Postscript

Each Set is composed by further actions that must be followed in order for HR recruiters and Psychologists to have the best possible results. Additionally, Guion and Gibson (1988, p. 349) importantly argued that: "Personnel selection is a process culminating in a decision to hire one or more applicants for employment and not to hire others. The decision to hire is one of a family of personnel decisions, including promotions and terminations that should not be made without foundation."

Chan (1998, 2000, and 2005), Chan and Schmitt (1997, 2004) constitute some of the leading scholars that provided valuable basis on which the development of scientific research about personnel selection has been structured on. Based on the work of Chan, and Chan and Schmitt other contemporary scholars have based their academic as well as the professional work (Huffcut, 2010; Podsakoff et.al. 2011; Muchinsky, 2012) and provided further valuable background for the development of contemporary personnel selection methods.

Rothsteina and Goffin (2006, p.4) add to the theoretical background by focusing on the value of team spirit within contemporary organisations and they raise they important role of both HR recruiters and the Psychologists that have an active role towards this goal More importantly they strongly suggest that: "Main trends in contemporary research on the extent to which applicant "faking" of personality tests poses a serious threat are explicated, as are promising approaches for contending with applicant faking such as the "faking warning" and the forced-choice method of personality assessment."

The above identification is facing the real issues that are confronted during the test period. Hence, HR recruiters and Psychologists must be ready to identify those fake tests in order to protect their organisation.

2.3. Scientific research about personnel selection

An important test which has during the past decade developed massively in order for organisations to recruit the best possible employees is the Cognitive Ability test.

2.3.1. Cognitive Ability Test:

The Cognitive Ability Test (or) Aptitude Tests (or) Intelligence Tests is widely used in a Psychometric Assessment Context (PAC) and it considers all numerical reasoning, verbal reasoning, abstract reasoning, and mechanical reasoning tests. HR specialist use as many as five (5) different tests within the set of Cognitive Ability Tests in order to identify and recruit the best possible employees that will be able to offer to the organisation and on the other hand, the organisation will be able to invest on these people as part of their overall HR Strategy which of course should be included in a comprehensive Business Plan.

The following Table (1) outlines these tests:

Table 1: Cognitive Ability Tests:

	COGNITIVE ABILITY TESTS
Test 1	Employee Aptitude Survey
Test 2	Progressive Matrices, Advanced Sets I and II
Test 3	Kaufman Brief Intelligence Test
Test 4	Short-term Memory Tests
Test 5	Information Processing Tests Selection

It must be noted that within Test 1 (Employee Aptitude Survey) there are another ten (10) different tests that provide further ability for HR recruitments in order to identify specific practical requirements that are essential for the recruitment of the adequate office personnel.

The office personnelare vital for the (co)operation of any contemporary organisation, especially when this organisation operates on a global scale as it handles a large number of critical issues such as the agenda of business owners, managers at all levels and at all departments, handles the operations with external associates. Finally, the office personnel can in many occasions be the first and the last person that will come into the office and its role can be extremely crucial. It is hence, vital, that the methods that will be applied when recruiting the right personnel office, must meet the highest possible standards within a transparent procedure. The Cognitive Ability Tests and more specifically, the Employee Aptitude Survey, ensure that this procedure shall lead organisation to the appropriate personnel office selection.

The Office of Personnel Management of the United States of America pay exceptional attention to the value of Cognitive Ability Tests and explains that: "Traditional cognitive tests are well-standardized, contain items reliably scored, and can be administered to large groups of people at one time. Examples of item formats include multiple choice, sentence completion, short answer, or true-false. Many professionally developed cognitive tests are available commercially and may be considered when there is no significant need to develop a test that refers specifically to the particular job or organization."

2.3.2. Physical Ability Tests:

Michael et.al. (2008) have paid exceptional attention towards the development of contemporary methods based upon the concept of Physical Ability Tests. This took place in an extremely crucial sector, that of the Firefighters. Taking into consideration that this research occurred in Canada which is the second largest country in the world with a total area of 9,984,670 km² and a total forestry of 4,916,438 km², this specific recruitment method takes an importantly massive dimension as it considers the security of the country, the protection of lives and properties, as well as the protection of the environment.

The Physical Abilities Tests focus on testing applicants on specific physical requirement and capabilities such as lifting strength, rope climbing, or obstacle course completion.

According to the HR recruitment specialists 'HR Guide', there are several advantages and disadvantages in this contemporary recruitment method.

Table 2 outlines these factors:

Table 2: Advantages and Disadvantages of Physical Abilities Tests:

Advantages	Disadvantages
Can identify individuals who are physically unable to perform the essential functions of a job without risking injury to themselves or others	Costly to administer
Can result in decreased costs related to disability/medical claims, insurance, and workers' compensation	Requirements must be shown to be job related through a thorough job analysis
Decreased absenteeism	May have age based disparate impact against older applicants

Clouston et.al. (2013, p.1) added to all the above and not only enhance this approach but they also suggest that: “Examining physical and cognitive functioning can help clinicians and researchers to better identify individuals and groups that are aging differently and at different rates.” This identification importantly provides room for further academic research and consequently, provides a powerful motive for professional in order to implement these actions in their own working place and adjusting them in their own unique working environment. Adjustability constitutes a massive issue and it is strongly suggested that professionals should be aware of the academic development and take full advantage of the research worldwide.

Chamorro-Premuzic and Furnham (2010) have developed their own model towards the HR recruitment in contemporary businesses and have suggested the following:

Table 3: Chamorro-Premuzic and Furnham Model

Methods of Personnel Selection	Constructs for Personnel selection
Early, unscientific methods	General Mental Ability
The Interview	Personality Traits
Letters of Recommendation	Creativity
Biodata	Leadership
Situational judgement tests and GPA	Talent

The work of Chamorro-Premuzic and Furnham (2010) has contributed massively as not only provides the guidelines for effective HR by specialists as well as Psychologists, but most importantly they outline a large number of other elements such as:

i. The identification of critical talent

ii. Performance and promotability matrix

iii. Factors contributing to high-flyer performance

All these elements combine a sound framework that enables the development of a comprehensive HR personnel selection approach that can under specific circumstances become an ideal and powerful tool for organisations of both products and/or services.

2.4. Professional Psychologists And HR Recruitment

The work of Psychologists in the field of Validation and the Reliability of the content of the Tests is a vital step for participants in the HR recruitment procedure. This procedure includes both HR recruiters and the candidates. Additionally, professional Psychologists have an extremely important role to play in the specific process, hence, the examination of this role must be taken into serious consideration.

Some national adverts consider the field psychology as one of the most appropriate for HR recruitment positions. Aragon (2016, p.1) connects the Psychology with the concept of HR recruitment and the fact that people move very easily from one country to another. This occurs to a large degree within the European Union in which the 28 member countries have eliminated both physical and fiscal barriers. More specifically Aragon clarifies that: “As the study of the human mind, the field of psychology must give special consideration to culture and how different societies affect behavior.”

Gilberth (2005) as a leading researcher in the field of Psychology and Management defined that Psychology Management considers the impact of the mind which is in direct link with the work of subordinates. The emphasis in successful management lies on the man, not on the work. Hence Motivation plays a key role that under no circumstances may be underestimated by both HR specialists, especially if these specialists have a Psychology academic background.

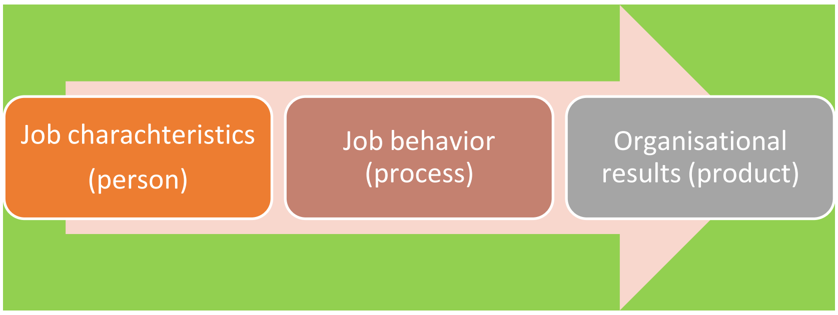
Talibova (2008, p.1) added to the work of Gilberth (2005) and has focused on Researching 'The Role of Psychology in Human Resources Management' and has importantly proposed that: "The integration between the management of human resources and psychology is arguably the prime factor delineating HRM theory and practice from its more traditional personnel management origins. Selection of the personnel has long been recognized as a key activity within HR and this article seeks to explore the extent to which its practice provides evidence of such strategic alignment."

2.4.1. Psychologists and Leadership:

Leadership is directly connected with HR and Motivation. Leading scholars such as Daft (2008) have identified the value of Leadership in the development of contemporary organisations that operate within a challenging, turbulent, and complex environment. Daft as a Management guru has importantly identified the connection between HR and Psychology and raised their strong connection with the overall concept of Leadership.

Campbell et.al. (1970) have conducted an extensive research that deals with the personnel selection and Leadership and have identified three important models that must be evaluated during this process. This work has been extensively adopted by others such as Kuhnert and Russell (1990). More specifically they proposed.

Graph 1: Campbell et.al Model



2.5. Conclusion

The final upshot following the examination of several aspects of personnel selection methods and its connection with other issues such as Psychology, Performance, Behavior, Leadership etc., leads to the safe conclusion that the selection processes must be carefully implemented in order to ensure the integrity of both the organization and the job applicants/candidates. The validity and the credibility of the process must be protected as it can lead to reputation issues for the organization. It is hence, the job of HR recruiters and Psychologists to introduce and implement a set of actions that have been outlined within this chapter in order to ensure the overall behavior, performance, and effectiveness of their organization. However, as each organization is unique, so as the processes should be. Each organization must implement procedures that suit better to its culture, however, this implementation cannot be introduced outside the core framework of integrity and transparency. These constitute values that HR recruiters and Psychologist must carefully protect. This will only beneficial for their organization and the overall performance.

Organizations need to invest towards the establishment of all means, Human, Fiscal, and Technological, in order to ensure their healthy growth. This growth shall enable them to remain competitive (Daft, 2008) in an extremely complex and globalised environment. The theoretical background that has been outlined within this Chapter enhances this approach and ensures the credibility and the validity of all action. Contemporary organizations must face HR as an investment and not as an expense that they have to 'suffer'.

CHAPTER 3

Analysis of recent scientific research about the cultural factors in personnel selection

3.1. Introduction

Definition of Cultural Factors

The Encyclopedia of Public Health has defined that: "Culture encompasses the set of beliefs, moral values, traditions, language, and laws (or rules of behavior) held in common by a nation, a community, or other defined group of people. Culturally determined characteristics include: the language spoken at home; religious observances; customs (including marriage customs that often accompany religious and other beliefs); acceptable gender roles and occupations; dietary practices; intellectual, artistic, and leisure-time pursuits; and other aspects of behavior."

The development of the Cultural Factors plays a key role in the development of organisations and these factors should become a subject of scientific Research (Bryman and Bell, 2003, 2007, 2011; Daft, 2008), hence the influence of Cultural Factors in the wider field of employment at all levels should be examined in both academic and professional levels (de Mello and Mariano, 2004)

3.2. The Role Of Culture In Organisational And Individual Personnel Selection Decisions

Contemporary global organisations come across to several HR recruitment obstacles as the need to comply with both the local rules and regulations of the countries that they operate within and the need to attract people with skills in a wide range of departments, create the need to identify the problems and prospects in the crucial sector of HR.

Cruise (2009, p.2) not only agrees with the specific approach but importantly adds that: "…the role of culture in individual and organisational personnel selection decisions indicate that 'scientific' personnel selection is more fit-based and culturally determined than previously suggested." Additionally, Cruise (2009) has proposed two specific cultural roles:

i. Evaluation Approaches to Personnel Selection: The Role of Culture in Modern Selection Decisions

ii. The Role of Culture in Applicant Selection Decisions: Fit Versus Criterion-Based Applicant Attraction

The two roles aim in ensuring that the HR recruitment process shall take into consideration all aspects that are correlated and constitute core elements in order for organisations to attract, recruit, develop, and finally, maintain the best possible individuals that meet the criteria that have been set by the organisations and will comply with the need to remain competitive on a global scale. Riyono (1998, p.1) has importantly suggested that: "Issues on selection become more complex, when an organisation is put into a global environment. A global organisation is challenged with diversities of cultures in various parts of the world. Within a multicultural context, its complexity may result from a question on the possibility to find a proper match between the selected personnel and the different cultures of the organisations where they may be located."

Hofstede (1984) as a true leading scholar and professional of the cultural development has identified four cultural dimensions that are directly related to the concept of work values and consequently influence the work behaviour and performance.

A. Individualism – Collectivism:

Individualistic cultures include those people who "are concerned with themselves and close family members only" (Darwish and Huber, 2003). Additionally, Collectivism is a situation where people feel they belong to larger collectives that care for them in exchange for their loyalty, and in return those same people remain loyal to the group (Hofstede & Bond, 1984). This approach by Hofstede has triggered a large scale of further academic research which has enhanced his findings and contributed massively to the existing literature (Jain and Triandis, 1990; Hudson, 1990; Bhawuk and Triandis, 1996; Tim-Toomey and Kurogi, 1998; Thatcher, 1999; Ting-Toomey and Chung, 2005) It is vital for organisations to distinguish the individual candidates who are mainly focused on their own 'well-being' within the organisation and seek to gain promotion at the expense of other employees. Such an attitude cannot be accepted by HR recruiters as well as Psychologists that deal with the recruitment process. It is strongly suggested that such an attitude has no room in contemporary organisations, and hence, the HR departments must develop processes that shall not enable to such individuals from entering the organisation. On the other hand, Collectivism offers an adequate framework that must be adopted in order to attract, recruit, develop, and maintain employees who are bounded by team spirit (Daft, 2008, 2010; Thompson, 2016) Mattson adds to the debate and strongly suggest that this specific approach not only is vital for the development of organisations, but also provides six (6) valuable benefits at the workplace:

i. Fosters Creativity and Learning

ii. Blends Complementary Strengths

iii. Builds Trust

iv. Teaches Conflict Resolution Skills

v. Promotes a Wider Sense of Ownership

vi. Encourages Healthy Risk-Taking

All the above constitute a sound basis for the adoption of measures that they will promote a culture of collectivism within the organisation in order to ensure that the best interests of the organisation shall be served at all times by all people. That is the duty of the HR recruiters and the Psychologists that are involved in the process.

B. Masculinity Versus Femininity:

This cultural factor constitutes a massive issue and, hence, the development of its parameters within organisations considers a large number of issues, such as organisational, ethical, legal, psychological, and fiscal. The gap between the two genders has been declined in the developed world, however, the disadvantages remain to a large degree in countries in Asia and in Africa where "… in the literacy status of adult women and men around the world. However, reflecting the persistent disadvantages they face, women account for two thirds of the world's 774 million adult illiterates – a proportion that is unchanged over the past two decades. Gender disparities in adult literacy rates remain wide in most regions of the world." (UN STATISTICS) It is therefore inevitable that this level of disadvantages shall be transferred in sectors such as education and the workplace." (UN Statistics, 2010). Global organisations cannot and should not accept such a cultural difference between the two genders. Equal pay is not only about being ethical but it is also concerned with the overall productivity of each employee. This must be ensured in the HR recruitment process. Additionally, equality of genders at the workplace is ensured through the European Legislation and more specifically through the:

i. 'Directive 2010/41 of 7 July 2010 on the application of the principle of equal treatment between men and women engaged in an activity in a self-employed capacity and repealing Council Directive of 11 December 1986'

ii. 'Directive 2006/54 of 5 July 2006 on the implementation of the principle of equal opportunities and equal treatment of men and women in matters of employment and occupation'

iii. 'Directive 2004/113 f 13 December 2004 implementing the principle of equal treatment between men and women in the access to and supply of goods and services'

Despite that the legal aspect is indeed important, the most vital component towards this matter, is the establishment of a strong culture in the organisations in order to ensure that the equality shall take place at all times and at all levels without having in mind that inequality is illegal, but that inequality is unethical and against the best interests of the organisation.

C. <u>Power Distance Index (PDI):</u>

This refers to the development of a culture that focuses on the degree of inequality that exists – and is accepted – between people with and without power. According to Hofstede (1984), a high level of PDI indicates that an organisation, a group, or the society is tolerant towards an unequal distribution of power, and sadly, that people should 'accept' that hierarchy. In contrast, a low level of PDI ensures that power is dispersed equally. Daft (2008, 2010) argues that a PDI can be better distributed in 'Flatter organizations' and in organisations where supervisors and employees are considered almost as equals.

D. <u>Uncertainty Avoidance Index (UAI)</u>

The UAI is another important parameter that needs to be considered as 'culturally fundamental.' According to HR specialized agents 'Mind Tool', "In societies that score highly for Uncertainty Avoidance, people attempt to make life as predictable and controllable as possible. If they find that they can't control their own lives, they may be tempted to stop trying. These people may refer to "mañana," or put their fate "in the hands of God." This can occur in organisations a major cultural parameter and affect the work recruitment and development.

Mind Tool outline a large number of specific examples and how these affect the development of people within organisations. Finally, they Mind Tool supports that a low level of UAI leads to:

i. Openness to change or innovation, and generally inclusive.

ii. More inclined to open-ended learning or decision making.

iii. Less sense of urgency.

All these constitute serious cultural factors that they have a great deal of impact on organisations and employees. It is the duty of HR recruiters to develop this cultural in order to avoid red tape and unwanted controversy within the organisations. The other two dimensions developed by Hofstede (Pragmatic Versus Normative (PRA) and Indulgence Versus Restraint (IVR)) are relatively new, and hence, not enough academic and professional evidence has been developed in order to ensure their validity, credibility, and durability.

a. National Cultures: The concept of National Culture is widely accepted as a key factor in the development of diversity in global organisations. The Business Dictionary (2017) defines that: “National Culture is the set of norms, behaviors, beliefs and customs that exist within the population of a sovereign nation. International companies develop management and other practices in accordance with the national culture they are operating in.” National cultures are important as well as essential for organisations as they provide the ability for diversity and develop new ideas and tolerance. Katz (2005, p. 1) explains that: “The resulting shared values, preferences, and behaviors of population groups differ widely between countries.” It is therefore crucial for organisations to attract people from different national and cultural backgrounds in order to ensure that the organisation will not ‘shut the door’ to possible opportunities that may arise in the global business arena.

b. Organisational Cultures: According to McLaughlin (2012) “Organizational culture is a system of shared assumptions, values, and beliefs, which governs how people behave in organizations. These shared values have a strong influence on the people in the organization and dictate how they dress, act, and perform their jobs.” Organisational Culture massively depends on the level of ethical values of the organisation. As the development of HR recruitment process is vital for the operation of the entire organisation, the overall Organisational culture can contribute towards the establishment of procedures that will ensure these ‘assumptions, values, and beliefs.’ Additionally, McLaughlin (2012) has identified seven characteristics of organizational culture that must be applied by managers at all levels:

    i. Innovation
    ii. Attention to Detail
    iii. Emphasis on Outcome
    iv. Emphasis on People
    v. Teamwork
    vi. Aggressiveness
    vii. Stability

All seven characteristics carry a certain level of importance and it is strongly suggested that no one should be underestimated. Organisational culture is something that is developed through the years and is the result of the accumulated experience of the organisation.

3.3. Conclusion

The examination of all the cultures in the personnel selection focuses not only on personal characteristics that an applicant must possess, but also on characteristics that an organisation shall have in order to be able to attract, develop, and maintain the best possible staff. The development of the Hofstede model as well as the National and Organisational cultures aim to raise the importance that the recruitment of personnel based on cultural background constitutes a mutual action by both parties (organisation and applicants). They both have a crucial role to play within the specific procedure, and it is therefore the duty of all parties to be able to understand all the possible prospects as well as implications. The legal and ethical issues are only some of that must be examined in order to avoid unwanted and unpleasant conditions. As it has been repeatedly pointed-out, contemporary organisations cannot afford to have cultural restrictions on serious issues such as the employee recruitment. Only open minded organisations that can attract people from different cultures can survive within the global village.

CHAPTER 4

Analysis of recent scientific research about work socialization, mentoring, coaching and tutoring

4.1. Introduction

There is no doubt that the intense globalised environment that contemporary business are called to operate within require a deep sense of openness (Khanna, Palepu, and Sinha, 2005; Tan, 2002; Daft, 2008, 2010). Srivatsav (2016) adds to the debate and connects the global environment and the HR personnel recruitment with the development of new products. More specifically Srivatsav (2016) suggests that: “People and organizations have a lot of innovative ideas, but turning those ideas into reality, a product that we can use, is easier said than done. And as many of us have seen, only a few innovative ideas actually make it into the market. So, how can we go from “thinking out of the box” to making what we once thought impossible, possible?” The latter approach/question raises the importance of ‘work socialization, mentoring, coaching and tutoring’ as organisations are indeed forced to operate within an environment which promotes openness in HR recruitment. It is within this context that ‘work socialization, mentoring, coaching and tutoring’ should be examined as ignoring, or even sidelining such an important issue could lead organisation to inappropriate, unethical, and unprofessional actions that may under specific conditions have legal implications as organisations have to operate within increasingly legal boundaries such as those of the European Union.

Additionally, it is important to identify the fact that the ‘work socialization, mentoring, coaching and tutoring’ for global businesses occurs in different countries that have their own unique cultures in which companies must adjust their policies.

It is within this important framework that Srivatsav (2016) has connected work socialization with innovation and has wisely suggested that: “…innovation is about bridging that indefinable “awesomeness” that exists in labs, people, and technology, and in order to do it “right,” innovation requires an appetite for risk and the willingness to take on an adventure.” Additionally, Bryman and Bell (2007) have paid exceptional attention towards the specific issue and suggested that this should be at the epicenter of work and research activities of global organisations.

4.2. Work Socialisation

According to Business Dictionary (2016) “Socialisation is the process by which individuals acquire the knowledge, language, social skills, and value to conform to the norms and roles required for integration into a group or community. It is a combination of both self-imposed (because the individual wants to conform) and externally-imposed rules, and the expectations of the others.”

Additionally, the Oxford University Reference Dictionary (2015) goes a step further by identifying the concept of ‘Work Socialisation’ and identifies that: “The process of learning to labour in paid employment and conforming to the associated ideological structures: internalizing the norms, values and culture of the workplace, employing organization, profession, or occupational group; accommodating to power and authority relations at the workplace; acquiring the skills of secondary relationships; complying with the particular role and functions allocated to the individual worker; and adopting the behaviours preferred by employers (such as punctuality, team spirit, and loyalty).”

These two identification provide a powerful academic background in order to further examine the work socialisation in contemporary organisations. The academic background is essential in order for organisation to be able to apply the theory into practice, especially when this derives from a world respected source such as that of the Oxford University Dictionary.

Sandor (2004, pp. 5-6) has paid exceptional attention to the importance of socialization of young people at the workplace and suggests that: “Becoming an active member in an organization means that an individual is participating in the organizational culture by taking on roles, norms, and values associated with the organization and the work position.”

Work Socialisation intends to engage employees, at all organisational levels, into specific aspects that are considered crucial for their entire operational structure. This can include aspects such as the Corporate Social Responsibility policy (Porter and Kramer, 2006; Martin and Kemper, 2015) the financial activities within the legal framework of the country that the company operates (Deakin, 2013) which are indeed important as businesses exist and operate in order to generate money for their owners, and hence, serve the best interests of their shareholders as well as all their stakeholders (HR, debtors, creditors, banks, investors, government services, local communities, etc.) Additionally, other aspects such as Marketing (McDonald, 2007) can be crucial for the development of Socialisation at the work place. Shobri et.al. (2012) add to the specific debate by arguing that: “Brand loyalty strategy is much important nowadays since it can reduce enterprise operational costs such as promotion, cross selling and up selling cost in the increasing trend of our society to purchase fast food rather than normal type of restaurant makes this research is more interesting to focus on. There are so many factors might influence brand loyalty, socialization factors are one of them.” In support of this opinion a large number of other scholars have added their opinions by suggesting that socialisation at the workplace has an increasingly role in the overall marketing decisions (Moore et.al. 2002; Aquilino 2006; Arnett and Jeffry, 2007; Makgosa, 2010; Kotler and Armstrong, 2011).

An important aspect that must be noted is that of the work socialisation by engaging in outdoor activities. Leading researchers and scholars such as Petry (2005) and Wolf-Watz (2014) raise the importance of outdoor activities as they provide the opportunity to people within an organisation to get closer and develop better interpersonal relationships that will eventually be beneficial for both parties involved in the procedure, the personnel and the organisation as a separate business and legal entity.

As a summary if the work socialisation concept is developed within a well-structured framework (Gaston, 2016) it can have a positive and long-lasting impact on the human relations in the all the aspects that have been previously outlined and are supported by the extensive literature. Work socialisation can empower employees at all levels with the necessary skills and motivation in order to enable them to feel necessary for the organisation. Work socialisation must be at the epicenter of all the activities of the organisation and should be promoted by the management of any organisation that seeks higher productivity from its employees. Furthermore, employees should ‘demand’ such a policy from their organisation as it would be beneficial for them.

4.3. Work Mentoring

Farren (2006) identifies that: “Mentorship is a relationship in which a more experienced or more knowledgeable person helps to guide a less experienced or less knowledgeable person. The mentor may be older or younger than the person being mentored, but she or he must have a certain area of expertise. It is a learning and development partnership between someone with vast experience and someone who wants to learn." Additionally, Farren has importantly developed a model that includes eight (8) models of work mentors.

i. Profession or Trade Mentor
ii. Industry Mentor
iii. Organization Mentor
iv. Customer Mentor
v. Work Process Mentor
vi. Technology Mentor
vii. Work/Life Integration Mentor
viii. Career Development Mentor

All the above models constitute a powerful contemporary model that has been developed by Farren, however, a number of other scientific researchers (Swarthout, 2015; Collins, 2017) have contributed to the overall value of mentoring at the workplace.

Mentoring at the workplace is important as it provides the opportunity to new (and possibly younger) employees to be trained by other, more experienced employees in an organisation, and hence, they will be able to adjust to the new environment. Abbajay (2013, p.1) adds to the value of mentoring and explains that: "Through mentoring, organizations are seeing dramatic improvements in efficiency, productivity and, of course, the passing of institutional knowledge and leadership skills from one generation to the next." It is hence, important for organisations to identify the need for mentoring as such action should be examined through a strategic point-of-view instead of an expense. Market experts CHRONUS (2017) suggest that: "Successful companies large and small use mentoring to tackle complex human resource challenges such as increasing employee retention, enabling company succession plans, and improving workforce productivity." Additionally, CHRONUS suggest a Model that encompasses five categories of Mentoring at the workplace:

i. Employee Career Development
ii. Leadership Development
iii. Diversity Mentoring
iv. Reverse Mentoring
v. Knowledge Transfer

The development of mentoring, for both new employees and mentors, can lead to the engagement of individuals in a more collaborative environment within the workplace and promotes a comprehensive culture that focuses on the concept of mutual understanding, social inclusion, tolerance, and consequently leads to the development of Leadership instead of typical, and possibly, bureaucratic management. Mentoring can establish a positive environment of trust and understanding in order for an organisation to create and maintain a diverse workforce. All these constitute major factors that must be taken into serious consideration by all contemporary organisations in order to strategically develop a comprehensive culture that will promote the overall concept of Mentoring at the workplace. As CHRONUS (2015) have wisely identified: "Mentoring not only helps organizations develop and retain diverse talent, but it also helps build a robust community of diverse talent for the future. The effects of diversity mentoring help corporations differentiate themselves from their competitors and gain new clients while providing long-term support for their employees." This identification encompasses the entire concept of the value of Mentoring at the workplace.

4.4. Work Coaching And Tutoring

According to Market experts Business Balls (2014) “Coaching is a form of training or teaching, normally involving one-to-one support aimed at helping a person improve, often in a very practical sense.” This identification can be fully applied at the workplace as it encompasses all the elements that employees, especially newly recruited, need in order to adjust to the new working environment, and also, what an organisation needs in order to attract and maintain talented employees.

Jarvis (2016) in a recent scientific research has outlined the results of a scientific research developed by the Chartered Institute of Professional Development and has identified some important, positive, developments of the role of Coaching at the workplace in United Kingdom. More specifically, Jarvis (2016, p.3) clarifies that:

i. Nine out of ten organisations use coaching by line managers.
ii. Two out of three organisations use external coaches.
iii. 84 per cent regard coaching by line managers as ‘effective’ or ‘very effective.’
iv. 92 per cent judge coaching by external practitioners to be effective.

The Institute of Leadership & Management of United Kingdom has conducted a research (2015) in regards of Coaching at the workplace and has identified the following:

i. Coaching is a particularly powerful tool in the modern workplace.
ii. Coaching is increasingly widespread in organisations.
iii. Organisations source more coaches internally, but use external coaches to coach senior executives.

All the above information that come from credible and trustworthy organisations reveal beyond any reasonable doubt that within contemporary organisations, a new and positive approach has prevailed in order to enable the organisations to adapt to the new global environment. The need for such development has been wisely identified by leading scholars such as Daft (2008, 2010), Kotler and Keller (2009), Beard (2015) and it is strongly suggested that such an approach constitutes a priority for businesses as it can provide them with a powerful tool in order to confront competition.

Scientific research for the role of Tutoring at the workplace moves within the boundaries of that of Coaching. In a 2009 research of the University of Illinois in USA, the results have shown that the development of Tutoring enables the bridging of gap between the level of knowledge and the skills of employees within several organisations, including the schools.

Gordon (2009) has proposed a pioneering tutoring strategy:

i. Training Tutors
ii. A diagnostic/developmental template
iii. Formal and informal assessment
iv. Tutors should track the progress of students
v. Tutors should closely collaborate with the students’ classroom teacher
vi. Tutoring programs should be structured around principles of learning

Coaching and Tutoring are part of the needs of contemporary businesses. Their adaptation has an increasingly important dimension, and thus, organisations need to take into account the recent scientific research that occurs in an academic level.

CHAPTER 5

Analysis of recent scientific research about psychometric tools used in personnel selection

5.1. Literature Review

Over the three decades Psychometric tests have taken an important position in selecting an employee. In recent years this is commonly used for assessing the candidate's interests, attitudes, behaviours, values and abilities. Employees are the asset of an organisation. Organisations success depends on the employees who work hard to achieve the organisations goals. Therefore, it is very important to select the right person to the right job for the betterment of both employees and the firm. Psychometric test gives an opportunity to filter the unsuitable candidates to the preferred position during the selection process. Recruiting, developing and retaining are the challenging role of Human Resource Managers in today's developing corporate society. This test not only helps in selecting right candidates but also helps in retaining them for longer time in the firm.

5.2. Psychometric Tests

According to British Psychological Society psychometric test ''is a procedure on the basis of which inferences are made concerning a person's capacity, propensity or liability to act, react, experience, or to structure or order thought or behaviour in particular ways''. It is a standardized measurement of sensitivity, memory, intelligence, aptitude and personality. It assesses and evaluates information that employees give to the examiner.

Smith and Robertson (1986) defines Psychological tests as ''A carefully chosen, systematic and standardized procedures for evolving a sample of responses from candidates which can be used to asses one or more of their psychological characteristics with those of a representative sample of an appropriate population''. This can also be used to measure the individual differences. Psychometric tests generally mean measurement of mental status. It provides an objective means of measuring abilities and characteristics of an individual and greater understanding of an individual to predict the extent of success in a particular job.

5.2.1. Types of Psychometric Tests

Psychometric tests may measure aptitude, personality and interests:

i. <u>Aptitude Tests</u> – Aptitude or Ability tests assesses the logical reasoning or thinking performance. These types of tests helps to rate the potential of a candidate to learn new tasks and skills used in various jobs. They measure how people differ in their ability to perform or carry out different tasks.
ii. <u>Interest Tests</u> – These measure how people vary in their motivation, in the direction and strength of their interests, and in their values and opinions (these are less likely to be used on new graduates but are sometimes).
iii. <u>Personality Tests</u> – Personality tests measure the personal attributes of a candidate who is suitable for a particular work, they measure different styles of people in interacting with other people. Personality tests assess behaviours, attitudes, opinions of an individual.

5.2.2. Why are Tests Used?

If psychometric tests are to be useful as indicators of shifts in the demand for skills, then it is important that organisations use of tests is linked to their wish to measure the skills of prospective employees. If tests are in use for other reasons, then this would undermine their usefulness as indicators of skill demands.

5.2.3. Who uses psychometric tests?

In recent years, it widely used in all number of firms. Not only the large, medium but also an increasing number of small firms have started using psychometric tests. Over 70% of larger companies are currently using psychometric tests to gather vital information from potential and current employees. More and more companies are using psychometric tests for:

- graduate recruitment
- filtering out candidates when there are large numbers of applicants

Over 70% of large companies use them in their recruitment process and small companies are using them increasingly.

They are also used to assess existing employees for:

- training and staff development needs
- promotion

5.2.4. Why use psychometrics in an employment setting?

The main advantages of using psychometric tests are:

- Objectivity – they dramatically reduce bias and personal perspective.
- Clarity – they provide a robust framework and structure.
- Equality and fairness for all individuals (tests are standardized so that all individuals receive the same treatment).
- Increase the likelihood of being able to predict future job performance (they have a high level of ‘predictive validity’).
- The identification of training needs.
- Encourage employers to do thorough job analysis in order to identify appropriate skills and abilities. This helps to ensure that candidates for a position are assessed on skills only relevant to the job.

5.2.5. What are psychometric tests used for?

Some uses of psychometric tests are:

- Selection of candidates to jobs
- Personal development/identification of training needs/staff development
- Careers guidance
- Building and developing teams

Psychometric tests have been used since the early part of the 20^{th} century and were originally developed for use in educational psychology. These days, outside of education, you are most likely to encounter psychometric testing as part of the recruitment or selection process. Tests of this sort are devised by occupational psychologists and their aim is to provide employers with a reliable method of selecting the most suitable job applicants or candidates for promotion.

Psychometric tests aim to measure attributes like intelligence, aptitude and personality. They provide a potential employer with an insight into how well you work with other people, how well you handle stress, and whether you will be able to cope with the intellectual demands of the job.

Most of the established psychometric tests used in recruitment and selection make no attempt to analyze your emotional or psychological stability and should not be confused with tests used in clinical psychology. However, in recent years there has been rapid growth (particularly in the US) of tests that claim to measure your integrity or honesty and your predisposition to anger. These tests have attracted a lot of controversy, because of questions about their validity, but their popularity with employers has continued to increase.

Psychometric testing is now used by over 80% of the Fortune 500 companies in the USA and by over 75% of the Times Top 100 companies in the UK. Information technology companies, financial institutions, management consultancies, local authorities, the civil service, police forces, fire services and the armed forces all make extensive use of use psychometric testing.

As an indicator of your personality, preferences and abilities, psychometric tests can help prospective employers to find the best match of individual to occupation and working environment. As a recruitment and selection tool, these tests can be applied in a straightforward way at the early stages of selection to screen-out candidates who are likely to be unsuitable for the job. They can also provide management with guidance on career progression for existing employees.

Because of their importance in making personnel decisions it is vital that the tests themselves are known to produce accurate results based on standardized methods and statistical principles.

5.2.6. A psychometric test must be:

i. Objective: The score must not affected by the testers' beliefs or values
ii. Standardized: It must be administered under controlled conditions
iii. Reliable: It must minimize and qualify any intrinsic errors
iv. Predictive: It must make an accurate prediction of performance
v. Non Discriminatory: It must not disadvantage any group on the basis of gender, culture, ethnicity, etc.

5.3. The History of Test Development

Attempts to measure differences between the psychological characteristics of individuals can be traced back to 400 BC when Hippocrates attempted to define four basic temperament types each of which could be accounted for by a predominant body fluid of humor; blood – sanguine (optimistic), black bile- melancholic (depressed), yellow bile – choleric (irritable) and phlegm – phlegmatic (listless and sluggish). Hippocrates' methods and the numerous other attempts that have been made since then were hardly scientific. The first attempt to scientifically measure the differences between individual mental abilities was made by Sir Francis Galton in the 19th Century who tried to show that the human mind could be systematically mapped into different dimensions. He studied, among other things, how people differed in terms of their ability to discriminate between stimuli and by collating the results he obtained he devised a system which would allow an individual's abilities to be compared to those of others – an idea on which we rely heavily today.

From the work of people like Galton and his French contemporary, Binet, a picture of the human mental domain emerged which saw general human ability as being composed of a number of specific abilities – a view which is still held today. The basic tenet of testing nowadays is based upon the principle of measuring human mental performance under different conditions and then making comparisons between people. Of course, the statistical rigour with which this is done today is much greater than was generally applied in Galton's day. There is a bewildering array of tests available to us measuring anything from hand-eye coordination to high level cognitive operations such as spatial reasoning.

5.4. How are Tests Constructed?

In its simplest form a test will have a set of questions or tasks for the subject to complete, these are known as test items. Unfortunately, the layman associates the everyday use of the word 'test' with an examination which you either pass or fail. In the context of psychological testing the tools used are not generally viewed in this way, usually they are more concerned with describing rather than judging a person's abilities or aptitudes. It is the case however that most lay-people will view the word 'test' with some trepidation and it is difficult to convince them that their abilities or aptitudes are not 'on trial'. For this reason it is important that you avoid the use of the word test wherever possible; use the term assessment instead and describe the tests themselves as instruments. This becomes especially important in the case of personality assessment which is purely descriptive and where any implication of a good or bad personality, or a pass/fail mark on a test can prove seriously damaging to the individual. When we use the word test in this training manual it is in the technical sense and not the everyday sense.

All tests should come with a test manual which will contain information on how to carry out a standardized administration of the instrument as well as its technical specifications. The manual should always be carefully and thoroughly scrutinized before a decision is made on whether or not to use a particular test. The manual should include information about the test's reliability i.e. how stable or consistent a measure the test is, and the strength of its validity i.e. how well it actually measures what it claims to measure. We shall see later that validity depends on reliability and that a test cannot be more valid than it is reliable. The manual should also say something about the nature of the group of people on whom the test was standardized which will allow us to see how a person's performance on a particular test compares with that of other people. Sometimes information is presented on the performance of more than one type of group – this is because while it would be unfair to compare the performance of a school leaver on a particular test with that of a group of graduates it would not be unfair to compare his performance with that of a group of similar school leavers. Information about the groups with whom the test has been standardized is known as normative information.

The reason we need all of this information is that the type of thing a psychological test measures, such as numerical ability, cannot be directly observed and therefore cannot be directly observed and therefore cannot be directly measured. Something like numerical ability can only be inferred from the behaviour of the individual and as such is a hypothetical construct. For the same reason, exactly how much ability we can infer an individual has in a particular ability domain on the basis of a test score is seldom clear. What is important is that you go beyond the simple appearance of the test items into the technical details of the test construction and rationale. It is unacceptable to simply make a superficial inspection of an instrument's surface characteristics – many of the questionnaires we see in newspapers and magazines with titles such as 'test your word power' or 'how attractive are you to women' seem plausible enough and if presented in an attractively packaged set complete with manual might seem to be highly sophisticated and well designed instruments when in fact they are not and only look as though they are.

There is growing evidence indicating that the use of psychometric tests for selection purposes has increased in recent years. All types of organizations are using tests and are using more of them. The results of a survey conducted in 2004 across a wide range of organizations are shown below.

	Main Reason	Additional Reason
To predict candidates performance	41%	73%
To assess whether candidate will fit-in	34%	67%
To obtain information prior to interview	25%	48%

There are several reasons for the increase in the number of organizations using tests:

5.5. Increased Regulation and Legislation

Increased test use can be seen as a defensive strategy, adopted in response to regulation and legislation. The single most frequently given reason for increases in testing was the need to have a selection process which would withstand legal challenges. Tests offer two advantages in this situation. They can be seen to be objective measures of how a candidate's skills align with the 'competency profile' for the job in question. These competency profiles are themselves seen as promoting access and equality of opportunity as well as reflecting the organizations skill requirements. Most if not all of the widely used tests have been proven not have adverse impact on minority groups, and are therefore fully compatible with equal opportunity policies.

5.6. Test Results Are More Useful Now Than Previously

It is important to understand that the tests themselves have not changed very much over the past few years. In fact, some widely used personality questionnaires have been in use for over 30 years. However, the political and cultural environment in which organizations operate has changed significantly. The difficulty of dismissing staff means that decisions to hire are seen as increasingly high risk, and the placing of low-paid staff in customer facing jobs, or with health and safety responsibilities, is treated with increasing seriousness. In addition, some organizations have expressed concerns that using qualifications as a criterion for selection may create barriers to access and be viewed as contravening equal opportunity policies.

5.7. Increased Costs of Training Staff

Changes in the economy have raised the cost of training and developing staff. It is a fact that organizations with larger training expenditures use psychometric testing more than those with smaller training expenditure. This may be because the cost of staff development increases the value of all relevant selection information, and in particular justifies the additional cost of testing.

5.8. Testing Costs Have Decreased

Increased test use is a response to the decreasing cost of testing relative to other methods of selection. In the past few years the cost of 'buying in' to psychometric testing has fallen. This is due to more providers entering the market and to the increased use of technology, particularly the internet, in administering tests and assessing the results. Computer-based tests provide more or less instantaneous scoring and feedback which reduces the need to have sufficient trained assessors available for results to be fed back into the selection process quickly enough to be useful.

5.9. The Result of More Formal HR Policies

The increase in employment related litigation has encouraged many organizations to recruit more highly qualified human resources personnel. Who, for reasons of professional conviction and departmental self-interest, tend to promote more formalized methods of selection. In addition, HR professionals are familiar with psychometric tests and tend to believe in their value which further encourages the use of testing. Psychometric testing also offers some 'scientific' credibility and objectivity to the recruitment process which otherwise can be seen as highly subjective. Tests also give the interviewer an indication of areas to discuss in detail at the interview. This can make for more interesting and productive discussions within interviews concentrating on areas which have been identified.

5.10. Loss of confidence in Academic Qualifications

There is strong evidence for of a loss of confidence in school-based formal qualifications and/or the standard of degrees. This is particularly true among senior managers in organizations and has been widely reported in the press over the past ten years or so. Many managers now accept tests as providing up-to-date information on skills such as quantitative reasoning which complement qualification-based evidence. Tests are also seen as providing data on a variety of skills which are not suited to formal certification.

5.11. Screening Large Numbers of Candidates

Psychometric tests are used so extensively by large organizations because they are a quick and relatively cheap way of eliminating large numbers of unsuitable candidates in very early in the recruitment process. Screening out these candidates as soon as possible, means that the organization can then concentrate more time and effort on the remainder. From the perspective of human resources, psychometric testing can reduce the workload considerably as it can replace initial screening interviews which were traditionally used to shortlist candidates for a more rigorous second interview.

5.12. The Future of Psychometric Testing

All of the above factors are likely to encourage further growth in psychometric testing in the immediate future. No further changes in the external environment are needed for this to happen: simply the continuing influence of HR departments in a highly regulated labor market coupled with an increasing number of managers who are comfortable with tests.

One point of interest is that there remains a significant difference in test usage between large and small organizations. This was shown clearly by the results of the Workplace Employee Relations Study (1998) but it is likely that the decreasing costs associated with administering psychometric tests will see this difference eroded.

10+ Employees A100+ Employees		
Personality Questionnaires	19.4%	47.9%
Aptitude/Ability Test	39.2%	63.2%

All of the surveys of psychometric testing produced over the past 5 years are consistent in indicating that use has been growing steadily and that test use for recruitment is now very common and supports a substantial commercial sector of test creation and processing. This has led directly to more and more specific tests being produced for use within particular organizations or for particular jobs. As more of these tests gain recognition and acceptance it is inevitable that psychometric testing will continue to increase.

CHAPTER 6

Review and Summary of the scientific researched analyzed

6.1. Chapter 1 Summary

In Chapter 1 ‘Analysis of the Scientific Research about the Personnel Selection’, the current Research has focused on the primary steps in job placement in the primary steps and how methods are used in order to effectively achieve this target (Belous and Appelbaum, 1998; Hartmann, 1998; Forteza and Prieto, 1994; Raymond et.al., 2013; Dessler, 2014; Mathis and Jackson, 2014; Cohen et.al. 2015) as it is important to introduce a pathway and eliminate the risk of mistakes.

The selection process is based on the selection of information and other related data from both the potential employers and the candidates in order to have an adequate idea of the other part.

The selection process must be in full alignment and compliance with the European Union legislation (Acquis) which in most cases overrides the national legislation of each member country of the European Union. The Directive 2003/88/EC which focuses on health and safety issues and the Directive 2002/58/EC which concerns the Protection of Data in regards of the emerging Information Technology. This Protection is also concerning the personnel selection process which is important for the job candidates.

The Theoretical / Literature Background identifies the problems and sets the framework in which the personnel selection takes place.

Guion and Gibson (1988) have identified four steps that must be followed in the personnel selection process in order for the process to be successful:

i. Evaluation of Selection procedures
ii. Performance
iii. Predictors
iv. Postscript

A large number of scholars (Chan, 1998, 2000, 2005; Chan and Schmitt, 1997, 2004; Huffcut, 2010; Podsakoff et.al., 2011; Muchinsky, 2012) have focused on the value of team work and spirit during the process in order for it to be transferred to the next level which is the working environment.

Special attention must be paid to the ‘The cognitive ability test (or) aptitude tests (or) intelligence tests’ which is widely used in a Psychometric Assessment Context (PAC) and it considers all numerical reasoning, verbal reasoning, abstract reasoning, and mechanical reasoning tests.

The Physical Abilities Tests focus on testing applicants on specific physical requirement and capabilities such as lifting strength, rope climbing, or obstacle course completion.

A number of Advantages and Disadvantages of the Physical Ability Tests have been outlined in order to enable the deeper understanding and their further professional application.

Chamorro-Premuzic and Furnham (2010) have developed a unique Model that focused on two pillars:

i. Methods of Personnel Selection;
ii. Constructs of Personnel Selection.

The specific work has contributed massively to the overall subject and triggered further academic research which was applied in the real business battlefield.

Psychologists have also played a crucial role towards the Validation and the Reliability of the content of the Tests, hence providing them with further scientific value from a different perspective.

Gilberth (2005) has focused on the Psychology Management and identified the impact of the mind which is in direct link with the work of subordinates.

Finally, Campbell et.al. (1970) developed a Model with three steps which deals with Personnel Selection and Leadership. These steps are:

i. Job characteristics (person)
ii. Job behaviour (process)
iii. Organisational results (product)

6.2. Chapter 2 Summary

In Chapter 2 'Analysis of recent scientific research about the cultural factors in personnel selection' special attention has been paid towards the impact of different cultures within a society in the overall Personnel Selection procedure. Religion, gender, age, cultural customs, and personal preferences are only some of the factors that may possibly influence, positive and/or negative, the Personnel Selection procedure and this has been a matter of extensive academic research (Bryman and Bell, 2003, 2007, 2011; de Mello and Mariano, 2004; Daft, 2008).

Contemporary organisations that have to operate within a complex, intense, and globalised business environment have to adjust to the new cultural factors that can affect their operations. Organisations have to attract, recruit, train, develop, and finally maintain Human Resource from a wide range of cultural backgrounds, and therefore, they must be ready to introduce policies that meet these cultural backgrounds.

Hofstede is considered as one of the pioneer academics in the field of Human Resource. In 1984 Hofstede suggested that four cultural dimensions that there are directly related to the concept of work values and consequently influence the work behaviour and performance.

i. Individualism – Collectivism: Individualistic cultures include those people who "are concerned with themselves and close family members only" (Darwish and Huber, 2003).
ii. Masculinity versus Femininity: This approach considers the gap between the two genders and despite the fact that in a large number of countries this gap has declined, the challenges remain in power for both employers and employees.
iii. Power Distance Index (PDI): This refers to the development of a culture that focuses on the degree of inequality that exists – and is accepted – between people with and without power.
iv. Uncertainty Avoidance Index (UAI): The UAI is another important parameter that needs to be considered as 'culturally fundamental.'

The National Culture factors are important as well as essential for organisations as they provide the ability for diversity and develop new ideas and tolerance. The adaptation of organisations to the cultures of each country that they operate within takes place at all stages of a company's operations. This includes the Personnel Selection procedure and organisations need to take these factors into serious consideration in order to comply with the needs and demands of each community.

“Organisational Cultures consider a system of shared assumptions, values, and beliefs, which governs how people behave in organizations. These shared values have a strong influence on the people in the organization and dictate how they dress, act, and perform their jobs.” McLaughlin (2012). Additionally McLaughlin proposed seven characteristics that managers need to apply in order to enable the Personnel Selection and therefore, the further development of their Human Resource.

i. Innovation
ii. Attention to Detail
iii. Emphasis on Outcome
iv. Emphasis on People
v. Teamwork
vi. Aggressiveness
vii. Stability

Chapter 2 provides useful information that adapt to the needs of the employers as well as the job candidates. Both parties must be aware of these factors, especially at the primary steps of their cooperation which includes the Personnel Selection procedure.

6.3. Chapter 3 Summary

In Chapter 3 ‘Analysis of recent scientific research about work socialization, mentoring, coaching and tutoring’ attention has been paid to the need of openness by the businesses (Khanna, Palepu, and Sinha, 2005; Tan, 2002; Daft, 2008, 2010). The above reference considers the selection of Human Resource based on innovative ideas and approaches that will meet the requirements of the new business era. Srivatsav (2016) argues that thinking out of the box constitutes an important aspect in order for companies to be able to take full advantage of the opportunities provided and also confront any possible threats and other related issues.

Work Socialisation is examined through a critical point-of-view in order to identify the prospects that arise through this specific framework. The Oxford University Reference Dictionary (2015) goes a step further by identifying the concept of ‘Work Socialisation’ and identifies that: “The process of learning to labour in paid employment and conforming to the associated ideological structures.” Hence, Learning procedure at work can and should start from its initial point which is the Personnel Selection procedure as both parties can learn from each other, especially when this procedure includes social-cultural aspects. The development of a Learning Culture can only become fruitful for all parties involved.

Sandor (2004, p. 5-6) has paid exceptional attention to the value of employing young people in the new business environment and suggested that: “Becoming an active member in an organization means that an individual is participating in the organizational culture by taking on roles, norms, and values associated with the organization and the work position.” The Socialisation of young people is vital in the development of their personalities, the businesses, and of course, of the entire society. This is even more important as a large number of countries all around the world, including the European Union countries, are facing high level of unemployment within young people.

Additionally, the Socialisation of young people includes the outdoor activities as these can bring them closer to the rest of the people of their organisation. Petry (2005) and Wolf-Watz (2014) raise the importance of outdoor activities as they provide the opportunity to people within an organisation to get closer and develop better interpersonal relationships that will eventually be beneficial for both parties involved in the procedure, the personnel and the organisation as a separate business and legal entity. Outdoor activities must be faced with a positive view by organisations and they should include such approach during the Personnel Selection procedure in order to attract the best possible staff.

Work Socialisation can become a powerful tool for all organisations, and therefore their staff. Organisations are urged to develop such actions in attempt to promote a creative culture. Motivation also fall within this important concept and Work Socialisation is able to enhance this approach.

Work Mentoring constitutes another approach that is important for employees, especially newly employed. Farren (2006) identifies that: "Mentorship is a relationship in which a more experienced or more knowledgeable person helps to guide a less experienced or less knowledgeable person.

6.4. Chapter 4 Summary

Chapter 4 has examined the extensive literature review in regards with the various types of Tests. Additionally, attention has been paid to the value of Psychometric tests and the definition provided by the British Psychological Society.

Three types of Psychometric Tests have been examined:

i. Aptitude tests;
ii. Interest tests;
iii. Personality tests.

The Chapter has examined the reasons that these Tests are used, who actually uses them, and the reasons that make them vital for the employment procedures in the contemporary business battlefield. Furthermore, has identified the five major criteria that are used in order to develop these Tests:

i. Objective;
ii. Standardized;
iii. Reliable;
iv. Predictive;
v. Non Discriminatory

Finally, a historical and legal approach was conducted in order to gain deeper understanding of both the historical development and how the Tests are affected by the current legislation. Chapter 4 has raised the importance of Psychometric Tests and calls for businesses to take them into serious consideration during the Personnel Selection process in order to identify and recruit the best possible Human Resource which gives contemporary organisations serious competitive advantages. The future value of the Tests has been raised; therefore, it is the duty of companies to introduce procedures that will ease the development of the specific tests.

CHAPTER 7

Analysis of commonly used methods and techniques

Most commonly used methods and techniques that are done by organizations are as follows: The methods of a personnel selection include:

i. Interviews
ii. Personality tests
iii. Biographical data
iv. Cognitive ability tests
v. Work sample tests
vi. Physical abilities tests
vii. Self assessments
viii. Assessment centers

Interviews: A selection procedure designed to predict future job performance on the basis of applicants' oral responses to oral inquiries.

Advantages	Disadvantages
• Useful for determining if the applicant has requisite communicative or social skills which may be necessary for the job • Interviewer can obtain supplementary information • Used to appraise candidates' verbal fluency • Can assess the applicant's job knowledge • Can be used for selection among equally qualified applicants • Enables the supervisor and/or co-workers to determine if there is compatibility between the applicant and the employees • Allows the applicant to ask questions that may reveal additional information useful for making a selection decision The interview may be modified as needed to gather important information	• Subjective evaluations are made • Decisions tend to be made within the first few minutes of the interview with the remainder of the interview used to validate or justify the original decision • Interviewers form stereotypes concerning the characteristics required for success on the job • Research has shown disproportionate rates of selection between minority and non-minority members using interviews • Negative information seems to be given more weight • Not much evidence of validity of the selection procedure • Not as reliable as tests

<u>Types of Interviews</u>

i. <u>Unstructured Interview</u> Involves a procedure where different questions may be asked for different applicants.
ii. <u>Situational Interview</u> Candidates are interviewed about what actions they would take in various job-related situations. The job-related situations are usually identified using the <u>critical incidents job analysis technique</u>. The interviews are then scored using a scoring guide constructed by job experts.

iii. Behavior Description Interviews Candidates are asked what actions they have taken in prior job situations that are similar to situations they may encounter on the job. The interviews are then scored using a scoring guide constructed by job experts.

iv. Comprehensive Structured Interviews Candidates are asked questions pertaining to how they would handle job-related situations, job knowledge, worker requirements, and how the candidate would perform various job simulations. Interviews tapping job knowledge offer a way to assess a candidate's current level of knowledge related to relevant implicit dimensions of job performance (i.e., ''tacit knowledge' or ''practical intelligence'' related to a specific job position).

v. Structured Behavioral Interview This technique involves asking all interviewees standardized questions about how they handled past situations that were similar to situations they may encounter on the job. The interviewer may also ask discretionary probing questions for details of the situations, the interviewee's behavior in the situation and the outcome. The interviewee's responses are then scored with behaviorally anchored rating scales.

vi. Oral Interview Boards This technique entails the job candidate giving oral responses to job-related questions asked by a panel of interviewers. Each member of the panel then rates each interviewee on such dimensions as work history, motivation, creative thinking, and presentation. The scoring procedure for oral interview boards has typically been subjective; thus, it would be subject to personal biases of those individuals sitting on the board. This technique may not be feasible for jobs in which there are a large number of applicants that must be interviewed.

Personality Tests: A selection procedure measures the personality characteristics of applicants that are related to future job performance. Personality tests typically measure one or more of five personality dimensions: extroversion, emotional stability, agreeableness, conscientiousness, and openness to experience.

Advantages	Disadvantages
• Can result in lower turnover due if applicants are selected for traits that are highly correlated with employees who have high longevity within the organization • Can reveal more information about applicant's abilities and interests • Can identify interpersonal traits that may be needed for certain jobs	• Difficult to measure personality traits that may not be well defined • Applicant's training and experience may have greater impact on job performance than applicant's personality • Responses by applicant may be altered by applicant's desire to respond in a way they feel would result in their selection • Lack of diversity if all selected applicants have same personality traits • Cost may be prohibitive for both the test and interpretation of results • Lack of evidence to support validity of use of personality tests

Summary of Personality Tests

1. Since there is not a correct answer to personality tests, the scoring of the procedure could be questioned.
2. Recent litigation has suggested that some items for these types of tests may be too intrusive (Soroka v. Dayton Hudson, 1991).
3. This technique lacks face validity. In other words, it would be difficult to show how individual questions on certain personality measures are job related even if the overall personality scale is a valid predictor of job performance.
4. Hooke and Krauss (1971) administered three (3) tests to sergeant candidates; the Minnesota Multiphasic Personality Inventory, the Allport-Vemon-Lindzey Study of Values, and the Gough Adjective Check List. These tests did not differentiate candidates rated as good sergeant material from those rates as poorer candidates. The researchers concluded that the groups may have been so similar that these tests were not sensitive enough to differentiate them.

Types of Personality Tests

1. Personal Attribute Inventory. An interpersonal assessment instrument which consists of 50 positive and 50 negative adjectives from Gough's Adjective Check List. The subject is to select 30 which are most descriptive of the target group or person in question. This instrument was specifically designed to tap affective reactions and may be used in either assessing attitudes toward others or as a self-concept scale.
2. Personality Adjective Checklist. A comprehensive, objective measure of eight personality styles (which are closely aligned with DSM-III-R Axis II constructs). These eight personality styles are: introversive, inhibited, cooperative, sociable, confident, forceful, respectful, and sensitive. This instrument is designed for use with nonpsychiatric patients and normal adults who read minimally at the eighth grade level. Test reports are computer-generated and are intended for use by qualified professionals only. Interpretive statements are based on empirical data and theoretical inference. They are considered probabilistic in nature and cannot be considered definitive. (2K)
3. Cross-Cultural Adaptability Inventory. Self-scoring six-point rating scale is a training instrument designed to provide feedback to individuals about their potential for cross-cultural effectiveness. It is most effective when used as part of a training program. It can also be used as a team-building tool for culturally diverse work groups and as a counselling tool for people in the process of cross-cultural adjustment. The inventory contains 50 items, distributed among 4 subscales: emotional resilience, flexibility/openness, perceptual acuity, personal autonomy. Materials:
4. California Psychological Inventory. Multipurpose questionnaire designed to assess normal personality characteristics important in everyday life that individuals make use of to understand, classify, and predict their own behaviors and that of others. In this revision, two new scales, empathy and independence, have been added; semantic changes were made in 29 items; and 18 items were eliminated. The inventory is applicable for use in a variety of settings, including business and industry, schools and colleges, clinics and counseling agencies, and for cross cultural and other research. May be used to advise employees/applicants about their vocational plans.

Biographical Data in Selection: Techniques for scoring application forms or biographical questionnaires to be used for selection of applicants.

Advantages	Disadvantages
• Useful for jobs where a large number of employees are performing the same or similar job • Useful for jobs where there are a large number of applicants relative to the number of openings	

Summary of Biographical Data Selection Procedures

Types of Biographical Data Selection Procedures

1. Background Information/Application Blanks. Paper-and-pencil questionnaires, interviews, and communications with past employers in order to assess an individual's behavioral reliability, integrity, and personal adjustment. In order to implement this technique a validation study would have to be conducted.
2. Empirically-keyed Biodata. Applicants are presented with a list of questions pertaining to such things as one's economic stability, work ethic orientation, and educational achievement. Applicant's scores are determined by weighting each item according to the item's empirically derived relationship to the criterion of interest. This technique requires a validation study to be carried out in order to obtain the empirically derived weights for the biodata.
3. Rationally-keyed Biodata. Applicants are presented with a list of questions pertaining to such things as one's economic stability, work ethic orientation and educational achievement. Applicants' scores are determined by weighting each item according to the item's rationally derived relationships to the criterion of interest. Research indicates the predictive validity of this technique may be lower that other available techniques with no evidence for reduced adverse impact against minorities.

Cognitive Abilities Tests: Paper and pencil or individualized assessment measures of an individual's general mental ability or intelligence.

These tests may be categorized as:

- General Intelligence Tests
- Aptitude Tests
    i. Mechanical Aptitude
    ii. Clerical Aptitude
    iii. Spatial Aptitude

Advantages	Disadvantages
• Highly reliable • Verbal reasoning and numerical tests have shown high validity for a wide range of jobs • The validity rises with increasing complexity of the job • Combinations of aptitude tests have higher validities than individual tests alone • May be administered in group settings where many applicants can be tested at the same time • Scoring of the tests may be completed by computer scanning equipment • Lower cost than personality tests	• Non-minorities typically score one standard deviation above minorities which may result in adverse impact depending on how the scores are used in the selection process • Differences between males and females in abilities (e.g. knowledge of mathematics) may negatively impact the scores of female applicants

<u>Work Sample Tests:</u> Designed to have high content validity through a close relationship with the job.

Work Sample tests are based on the premise that the best predictor of future behavior is observed behavior under similar situations. These tests require the examinee to perform tasks that are similar to those that are performed on the job.

Advantages	Disadvantages
• High reliability • High content validity since work samples are a sample of the actual work performed on the job • Low adverse impact • Because of their relationship to the job, these tests are typically viewed more favorable by examinees than aptitude or personality tests • Difficult for applicants to fake job proficiency which helps to increase the relationship between score on the test and performance on the job • Work Sample tests use equipment that is the same or substantially similar to the actual equipment used on the job	• Costly to administer; often can only be administered to one applicant at a time • Although useful for jobs where tasks and duties can be completed in a short period of time, these tests have less ability to predict performance on jobs where tasks may take days or weeks to complete • Less able to measure aptitudes of an applicant thus restricting the test to measuring ability to perform the work sample and not more difficult tasks that may be encountered on the job

Physical Abilities Tests: Tests typically test applicants on some physical requirement such as lifting strength, rope climbing, or obstacle course completion.

Advantages	Disadvantages
• Can identify individuals who are physically unable to perform the essential functions of a job without risking injury to themselves or others • Can result in decreased costs related to disability/medical claims, insurance, and workers compensation • Decreased absenteeism	• Costly to administer • Requirements must be shown to be job related through a thorough job analysis • May have age based disparate impact against older applicants

Self-Assessments

A. This technique involves applicants generating self-ratings on relevant performance. Over time, self-assessments can be useful to clarify job performance expectations between employees and supervisors (Bassett & Meyer, 1968; Campbell & Lee, 1988), but initial discrepancies in understanding of what job requirements and performance dimensions between self and supervisor ratings cause problems in a performance appraisal system (e.g., Ash, 1980).

B. Problems with this approach

1. Self-ratings show greater leniency, less variability, more bias, and less agreement with the judgments of others (Ash, 1980; Harris & Schaubroeck, 1988; Johns, Nilsen & Campbell, 1993; Thornton, 1980; van Vliet, Kletke, & Chakraborty, 1994; Williams & Levy, 1992)
2. The predictive validity of this technique is questionable (Mabe & West, 1982). The predictors related to self-assessments and supervisor's ratings may show a lack of congruence (e.g., self-efficacy related to self-ratings) (Lane & Herriot, 1990)
3. Research suggests that applicants may not honestly respond to this type of technique (Love & Hughes, 1994).
4. Self assessment scores tend to be inflated (Gupta & Beehr, 1982; Ash, 1980).
5. Evidence suggests there is low face validity and perceived fairness associated with using this technique to promote law enforcement personnel.
6. The evidence suggests low accuracy compared to objective measures (George & Smith, 1990; DeNisi & Shaw, 1977).
7. Self-assessments may not correspond to ratings from other sources (e.g., peers) due to a lack of congruence on which specific job dimensions are to be assessed and the relative importance of specific job dimensions (Zalesny & Kirsch, 1989; Zammuto, London, & Rowland, 1982).
8. Congruency in ratings between supervisors and employees may be affected by the decisions of supervisors to agree with the self-assessments of employees to avoid potential employee relation conflicts (Farh, Werbel, & Bedeian, 1988).

An Assessment Center consists of a standardized evaluation of behavior based on multiple evaluations including: job-related simulations, interviews, and/or psychological tests. Job Simulations are used to evaluate candidates on behaviors relevant to the most critical aspects (or competencies) of the job.

Several trained observers and techniques are used. Judgments about behavior are made and recorded. These judgments are pooled in a meeting among the assessors or by an averaging process. In discussion among assessors, comprehensive accounts of behavior, often including ratings, are pooled. The discussion results in evaluations of the performance of the assesses on the dimensions or other variables.

Leaderless Group Discussion

A. The leaderless group discussion is a type of assessment center exercise where groups of applicants meet as a group to discuss an actual job-related problem. As the meeting proceeds, the behavior of the candidates is observed to see how they interact and what leadership and communications skills each person displays (Schultz & Schultz, 1994).
B. Problems with this technique:
    1. This type of exercise was not feasible for selecting candidates from a potential applicant pool of 8000 individuals because of the time and cost involved with training the individuals rating the applicants.
    2. Since every group would be different, individuals could argue that the process is biased or unfair
    3. The process is not standardized.

Role Playing

A. Role playing is a type of assessment center exercise where the candidate assumes the role of the incumbent of the position and must deal with another person in job-related situation. A trained role player is used and responds ‘’in character’’ to the actions of the candidate. Performance is assessed by observing raters.
B. Problems with this technique:
    1. Since this technique is not conductive to group administration, test security would be an issue.
    2. Job content areas identified in the job analysis were not as amenable to this type of exercise as they were to the selection techniques utilized in the final test

Assessment Center Exercises. An Assessment Center can be defined as ‘’a variety of testing techniques designed to allow candidates to demonstrate, under standardized conditions, the skills and abilities that are most essential for success in a given job’’ (Coleman, 1987). The term ‘’assessment center’’ is really a catch-all term that can consist of some or all of a variety of exercises. Assessment centers usually have some sort of in-basket exercise which contains contents similar to those which are found in the in-basket for the job which is being tested. Other possibilities include oral exercises, counseling simulations, problem analysis exercises, interview simulations, role play exercises, written report/analysis exercises, and leaderless group exercises (Coleman, 1987; Filer, 1979; Joiner, 1984). Assessment centers allow candidates to demonstrate more of their skills through a number of job relevant situations (Joiner, 1984).

While assessment centers vary in the number and type of exercises included, two of the most common exercises are the in-basket and the oral exercise. In a traditional in-basket exercise, candidates are given time to review the material and initiate in writing whatever actions they believe to be most appropriate in relation to each in-basket item. When time is called for the exercise, the in-basket materials and any notes, letters, memos, or other correspondence written by the candidate are collected for review by one or more assessors. Often the candidates are then interviewed to ensure that the assessor(s) understand actions taken by the candidate and the rationale for the actions. If an interview is not possible, it is also quite common to have the candidate complete a summary sheet (i.e., a questionnaire). Thus, a more recent trend over the past ten (10) years has been the development of selection procedures which are based upon the assessment center model, but which can be turned into low-fidelity simulations (Motowidlo, et al., 1990). Some low-fidelity simulations involve having an applicant read about a work situation. The applicant then responds to the situation by choosing one of five alternative answers. Some procedures have the applicant choose the response he/she would most likely make in a situation and the response that he/she would least likely make. These samples of hypothetical work behavior have been found to be valid predictors of job performance (Motowidlo, et al., 1990).

CHAPTER 8

Transnational Comparing Methods used in participating countries (Cyprus – Italy – Romania)

8.1. Cyprus

The recent banking and financial crisis in Europe, and more especially in Cyprus, has created a brand new environment for businesses. This environment has inevitably affected the Republic of Cyprus as the country faced serious economic difficulties. These difficulties concern the sensitive field of Human Resource (Aaltio, Salminen, and Koponen, 2014) as the need for corresponding to these difficulties created a new concept for managers in order to effectively train and manage their staff in order to boost productivity and corporate financial performance (Huselid, 1995). All these constitute serious challenges that apply to the Human Resource sector and have a great deal of impact in the personnel selection procedure, from both practical and legal point-of-view.

In Cyprus the development of Human Resource, and therefore, the Laws that govern the selection procedure are in full compliance with all the relevant European Union legislation and also in full alignment with the respect of Human Rights and the protection of Personal Data / Information. According to one of the country's most respectable Law Offices that deal with Labour Law, 'George Z. Georgiou & Associates LLC'; "The Cypriot employment legal framework is a combination of principles from both the English and Greek legal systems. Cypriot employment law is social in its nature and, as such, it is more protective of the employee rather than providing absolute freedom to the employer." Additionally, George Z. Georgiou & Associates LLC clarifies that the Personnel Selection as well as a number of other employment aspects such as:

1. Termination of Employment within one year;
2. Termination of Employment;
3. Maternity
4. Social Insurance;
5. Minimum Salaries Cap;
6. Equal Law;
7. Law for Parental Leave and Leave on Grounds of Force Majeure;
8. Safety and Health;
9. Gender Equality;
10. Organization of Working Time

…are protected by the local legislation. The Ministry of Labour, Welfare and Social Insurance of the Government of Cyprus (www.mlsi.gov.cy) uses its legislative tools and power in order to ensure that the legislation shall be fully implanted at all stages, including the Personnel Selection procedure.

In addition to The Ministry of Labour, Welfare and Social Insurance, the Cyprus Human Resource Development Authority plays a key role in providing crucial information towards the application of the relevant Laws and Regulations at all stages. The Authority provides valuable information and training to companies in order to gain adequate professional knowledge and experience on how to develop powerful procedures and tools that will allow them to attract, recruit, train, and most importantly, maintain their Human Resource.

1. Interviews
2. Self-Assessments
3. Biographical Data
4. Personality Tests

5. Physical Ability Tests (If needed and as supplementary to other procedures).

On a practical level the Cyprus businesses use a wide range of techniques / methods that allow them to attract, recruit, train, and maintain the best possible individuals. Some of these techniques / methods are the following:

1. Interviews: Interviews are designed in order to provide the ability to sides, employer and candidate, to understand the needs and wants of each other. Interviews provide a unique opportunity for exchanging opinions and developing a close relationship, taken into serious consideration that Cyprus is a small country, and the personal relationships on a professional level constitute a usual tactic.

    1.1. Interviews are usually unstructured when companies are relatively small. This provides the opportunity for an open discussion and expression of views. Formality is applied to a relatively low level.

    1.2. Interviews are structured when companies are large and operate within a more formal environment, with a solid internal business formality.

2. Self-Assessments: Self-Assessment considers the evaluation of a person's abilities at the work-place. It considers the "continuing process through which managers at all levels evaluates the effectiveness of their performance in all areas of responsibility, and determine what improvements are required." (Business Dictionary) Self-assessment is a typical process for Cyprus large companies as they provide them the opportunity to gain deep knowledge over their potential employees, eliminate the risk of employing the wrong people, hence, gaining a serious competitive advantage. (Dyer, 1993; Cummings and Marcus, 1994; Barney and Clark, 2007; Qehaja and Kutllovci, 2015).

All the above actions constitute the theoretical, professional, and business background on which companies develop their actions during the Personnel Selection process, as well as after hiring the candidates, especially at the primary steps on which the newly recruited staff needs and seeks assistance in order to adjust to the new working environment. This need is extremely important when the selection considers young people who do not have the adequate professional experience. Cyprus is a limited economy which has recently experiences serious problems. Focusing on attracting the right people through a powerful Personnel Selection procedure should constitute a strategic choice by all companies, since globalisation can provide serious opportunities, however, at the same time, can develop a number of severe threats. These threats apply for the businesses as individual entities as well as for the entire economy. Hence, it is the duty of the authorities to establish the appropriate political, economic, and legal environment that will allow companies to develop the adequate Personnel Selection processes.

8.2. Italy

Italy constitutes European Union's fourth largest economy (www.tradingeconomics.com) with annual Gross Domestic Product (GDP) of nearly € 2 trillion. According to the Organisation for Economic Corporation and Development (OECD), "Employment in the Italian civil service is governed by the Legislative Decree nr.165/2001, and was recently amended by the Public Employment Reform nr.15/2009…Italy is one of 27 countries who reported that they anticipate a decrease in public employment levels as a result of current reforms." (OECD: https://www.oecd.org 2012) Additionally, the personnel assessment is a mandatory action, especially at the public sector in order to ensure the quality of services provided to the public as well as for the appropriate personnel evaluation.

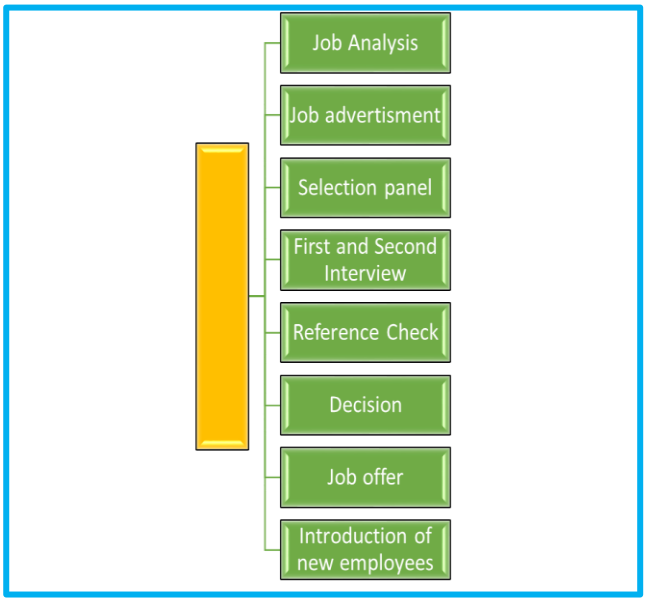
According to Doornenbal, Stitselaar and Jansen (2012), Italian companies have adopted contemporary and specific Personnel Selection procedures that apply in a large number of European Union countries such as Spain, France, Netherlands, Luxemburg, Austria, United Kingdom, Sweden, and Finland. These procedures strive to:

i. Attract the best possible candidates;

ii. Gain understanding of the real capabilities of the candidates;

iii. Eliminate the risk of hiring the wrong people.

Graph 7.1.



This process constitutes a fair and viable process which ensures that Italian corporations adapt techniques / methods that are able to serve the scope of the adequate Personnel Selection based on the capabilities of each candidate. The process is also based on the values of equality and transparency.

The Department of Economic and Social Affairs of the United Nations (based in Rome – Italy) pays attention to the development of Personnel Selection criteria and identifies the following steps in order to recruit the office personnel:

i. Assessment and screening of candidates;
ii. Pre-selection of candidates;
iii. Final selection of candidates;

Additionally, in Italy methods such as:

1. Physical Ability Tests (if needed);
2. Cognitive Ability Tests;
3. Work Sample Tests

…are applied in order to serve the scopes of the Personnel Selection.

Furthermore, the personnel selection outlines the specific periods in which every step takes place in order to provide candidates the opportunity to prepare for the actual procedure. The UN office in Rome operates in accordance with all relevant rules and regulations that apply on Italy, and therefore, in European Union, as Italy is in full compliance with all European Union legislation.

The Italian Ministry of Labour and Social Policy pays exceptional attention to the personnel development and provides information to employers and job candidates in order to prepare for the Job selection procedure. The Italian Government is fully aware of the unemployment issues as unemployment in the country is currently over 11% and the unemployment within young people is over 35%, hence, providing scientific knowledge and know-how is considered as a powerful tool in the overall Personnel Selection procedure.

JPMorgan Chase Foundation as part of the 'JPMorgan's New Skills at Work initiative' in cooperation with a team of eleven members from the famous Italian Bocconi University, has introduced a pioneer program in order to provide scientific support to all parties involved in the Personnel Selection procedure. The program has recognised the negative impact of the financial and banking crisis in the country and stated that: "In order to understand the causes of the 'Italian malaise', the project will focus on the role of employment, skills and productivity in the Italian economic growth. In particular, imbalances between offered and needed skills in the labor market – the 'skill mismatch' – may be responsible for significant losses in terms of productivity and growth." (https://www.unibocconi.eu) Furthermore, the programs have outlined three specific steps that will enable the Personnel Selection procedure for both businesses and job candidates.

1. Understanding unemployment and skill mismatch in Italy.
2. The demand for skills: the role of firms.
3. The supply of skills: education, unemployment and workers' mobility.

These steps focus on supplying skills and knowledge to all parties involved in order to tailor the need of one party to those of the other party involved. The engagement of academic institutions in collaboration with leading financial organisations can only provide positive results and assistance in order for the Italian economy to gain from its human resource.

The examination of the procedures developed in Italy lead to the conclusion that the country, despite of the recent problems that have been developed during the financial and banking crisis, remains a powerful player in the European economy. The country has introduced legal and practical measures in order to assist the Personnel Selection and this can become a useful tool that will lead the country to further economic growth.

8.3. Romania

Romania is currently experiencing a significant unemployment rate (5.4%) (Institutul National De Statistica). This low rate provides a primary understanding of the effectiveness of Personnel Selection procedures in the country. Ispas et.al. (2010) conducted an important study that examines in depth the Personnel Selection methods applied in the country. More specifically, the authors have separated the methods in two categories; Favorable and Unfavorable. The following graph outlines these categories and provides a sound understanding of the Personnel Selection procedure trends in the country:

Graph 7.2: Favorable and Unfavorable Personnel Selection procedures in Romania

Favorable	*Unfavorable*
Work Sample	Graphology
Interviews	Ethnicity
Written Ability Tests	Personal Contacts
Resumes	

The authors have identified a number of research implications such as the validity and reliability of the results due to the research sample (240 participants, all over 18 years old) as well as the methods used. However, as any research carries a certain level of implications and limitations, the research is considered as valid due to its triangulation with certain other factors.

The Personnel Selection procedures in Romania have been a subject for extensive academic research such as that of Septimiu-Rareș (2012, p.56) who argues that: "Personnel selection methods have undergone major changes in recent decades because of technological advances and changing opinions about selection criteria…Information on these matters is important for local employers and for companies planning to invest in a particular country…" The author has focused his attention on the importance of a powerful Personnel Selection procedure within the small and medium sized companies as they are more vulnerable in the staff selection and they do not have enough (re)sources, such as Financial, Human, and Technological, to attract and recruit the correct staff by using advanced methods. Therefore, the need for these companies to develop internal procedures is now more important than ever before.

Dragusin and Petrescu (2009) add to the above and point out that Romanian companies are facing challenges, however, at the same time: "More and more entrepreneurs are becoming aware that quality of the hired human resources is one of the main success variables' and that recruitment and selection processes require professional approaches." Hence, the respond of businesses can be considered as positive and matches the requirements of the contemporary business environment. Romania, like the other two participating countries is constantly developing contemporary methods and this can only provide the country with long-term competitive advantages in the new marketplace.

CHAPTER 9

Analysis of the Laws related to personnel selection in different European countries

9.1. Introduction

The Personnel Selection within the European Union constitutes an important element in the overall political, social, and economic development. It concerns all the 450 million European citizens, whether these people are currently part of the working force, or if they are students at any level, hence, they will be soon joining their countries workforce. Additionally, the Personnel Selection concerns the people who are out of work as Europe is suffering from a massive 9.6% unemployment, 20% unemployment of young people, and 4.8% of long-term unemployment rate (www.tradingeconomics.com).

All these have to be examined within a comprehensive framework in order to gain deep understanding of 'The Laws related to the personnel selection in European Union'. This must also take into account an important parameter, that of the application of all the relevant Rules, Regulations, and Directives of the European Union as all these surplus the national legislation of each member-country of the European Union (Treaty of Lisbon, 2007).

The importance of the application of all the relevant Laws takes a greater dimension as the Free Movement of People for working purposes constitutes one of the four pillars that the European Union. Hence, this specific parameter must be at the epicenter of the overall examination.

8.2. Human Resource: The European Union Perspective

The European Union pays exceptional attention to the development of Human Resource, and therefore to the personnel selection. This can easily be identified through the examination of the policies developed by the Union and it falls under the wider concept of 'Labour Law.'

According to the European Commission:

"Labour law defines your rights and obligations as workers and employers. EU labour law covers 2 main areas:

1. Working conditions - working hours, part-time & fixed-term work, posting of workers,
2. Informing & consulting workers about collective redundancies, transfers of companies, etc."

Additionally, the European Union develops its Labour Law having at the epicenter the development and further establishment of:

i. Adequate working conditions;
ii. Informing employers and workers;
iii. Achieve high employment & strong social protection;
iv. Improve living & working conditions;
v. Protect social cohesion.

Furthermore, the European Union calls for all the member states to implement through their legislation and their national courts all the relevant Labour Law in order to introduce unified procedures that will apply to all countries and all European Union citizens. Such an action shall ensure equality between all member states an all citizens, enhance the feeling of protection of one's rights independently from where this person comes from and work he/she works. Hence, the member states are urged to comply with these legislations.

Data Protection at Work

The Personnel Selection within the European Union begins with the application of the 'Data Protection at Work.' European Union pays exceptional attention to this important parameter as: "It takes place even before the beginning of the employment relationship, during recruitment. It continues throughout employment and may extend even after its termination. Specific justifications may include compliance with the law; health, safety and security; assisting selection, training and promotion; assessing performance; checking quality and customer service; verifying entitlement to certain benefits etc." (http://ec.europa.eu).

Additionally, the concept of Data Protection during the Personnel Selection concerns the Protection of Human Rights of every individual and extends to the Protection of the rest of the member of the families of the workers. This is even more important when the Data Protection extends to children who are more vulnerable in this framework.

DIRECTIVE 95/46/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

The 'Directive 95/46/Ec of the European Parliament and of the Council' constitutes the primary step in protecting workers, especially at the selection procedure. Article 1 of the specific Directive is fundamental in the Data Protection and is clear about the scopes of the European Union as it clarifies that:

1. "In accordance with this Directive, Member States shall protect the fundamental rights and freedoms of natural persons, and in particular their right to privacy with respect to the processing of personal data.
2. Member States shall neither restrict nor prohibit the free flow of personal data between Member States for reasons connected with the protection afforded under paragraph 1."

The overall spirit of the Directive moves towards the Data Protection and this is more important taking into consideration the time that it had been developed (1997). Respect of the Privacy is crucial as the companies that proceed to Personnel Selection are liable to the legal consequences in case that they bridge the Directive. It is also important to note that the Directive allows member states to develop further regulations for Data Protecting (Paragraph 71) as long as these regulations enhance and do not eliminate the spirit and the scope of the actual Directive.

DIRECTIVE 2002/58/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

The current Directive takes the previous Directive to the next level and enhances the Personnel Selection in the favour of the Recruiters / Employers and the candidate employees.

Paragraph 23 is clear of the scope the Directive and clarifies that: "Confidentiality of communications should also be ensured in the course of lawful business practice. Where necessary and legally authorised, communications can be recorded for the purpose of providing evidence of a commercial transaction."

The extensive reference on the protection of candidates, the use of internet and sophisticated Information Technology Systems (ITS) and the need for respecting privacy ensure that the member states operate under the European Convention for the Protection of Human Rights and Fundamental Freedoms. Hence, it is clear that member states need to adjust their actions in accordance with the all the above Directives and the related Treaties and Conventions that need to be taken into serious consideration.

9.2.1. Finland

Finland, just like most of the Scandinavian countries, is considered as a highly advanced country in most fields, such as education, health, and business. In order to reach this advanced level Finland has designed, introduced, and executed a number of pioneer moves in order to attract and recruit the best possible staff. Tihveräinen (2009) provides important information in regards with the Personnel Selection in the public sector, and more specifically in eight municipalities. Tihveräinen has identified the following steps that are introduced by the municipalities:

1. Decision for opening the position;
2. Advertising of the vacancy;
3. Time limits are set for applications;
4. Set of application format;
5. First Applications' review;
6. Short list of applications;
7. Second Application review;
8. Decisions taken by a Committee

Furthermore, Tihveräinen (2009, p. 44) explains that: "Main characteristics of the rest of the process are as follows: the most potential applicants with appropriate education and experience are interviewed. Interviews are conducted by a group of people including in all municipalities at least the leading education administrator(s)."

The above procedure reflects the typical procedure held in the wider public sector. The procedures are characterized by a high level of transparency in order to avoid any conflict between candidates and ensure that the best interests of the public are served.

Nederström and Furnham (2012) explain that in Finland the 'Five Factor Model (FFM) personality and personality disorders' can be examined during the Personnel Selection process. The FFM can be applied if required by the job description and it is applied by highly qualified individuals, usually Psychologists who have extensive knowledge over the specific issue.

Honkaniemi, Tolvanen, and Feldt (2011) have focused their research on the process of avoiding fake and/or false information by job candidates. In order to avoid these obstacles, contemporary companies in Finland introduce the following measures:

1. Questionnaire;
2. Personal interview;
3. Balanced Inventory of Desirable Responding;
4. Structural Equation Modelling (SEM);
5. Second Interview;
6. Committee examination if necessary.

Further to the above, Finnish companies introduce:

1. Cognitive Ability Tests;
2. Work Sample Tests;

3. Assessment Centers

Finland constitutes an example for others to follow. The country has a unique business culture which starts from the Personnel Selection procedure throughout the entire organisation. Additionally, the fact that the country is characterized by a high level of transparency (http://www.transparency.org) adds to the opinion that the procedures that have been adopted are unique, powerful, and more importantly, effective.

9.2.2. Spain

Spain has a solid legislation in regards with the Human Resource management which includes the recruitment / selection procedure. According to the Organisation for Economic Corporation and Development (OECD), Spain has established the 'Central Human Resources Management Body' which deals with all the relevant matters such as Legal, Training and Development, and Evaluation. Amongst other responsibilities, the Management Body deals extensively with the legal aspects of Recruitment and provides 'Standardized recruitment and skills profiles' to both employers and candidates in order to enable the companies to recruit the best possible employees, and also, the candidates to gain knowledge of what to expect during the recruitment procedure. This process allows the implementation of law, national and European, and also eliminates the risk of loss time for all parties involved in the procedure, including the government services that are responsible of assisting businesses and candidates in serving their scope.

The Spanish Law is also clear and strict in regards of the amount of working hours for new entry employees, especially in regards with their salary, in order to eliminate the risk of employees been hired with disadvantaged conditions. The hours are in compliance with the OECD and are currently estimated to 1.745 annually (average 4.78 hours per day based on 365 days). Spain can be identified as a positive example as despite that the country has experienced a massive economic slowdown, has managed to maintain a solid legislation in regards with the Personnel Selection and Development. This legislation has enabled both the businesses and the employees to bring the country back to positive Gross Domestic Product (GDP) growth (www.eurostat.eu).

9.2.3. Sweden

Sweden just as the rest of the Scandinavian European Union countries (Finland – Denmark), as well as the non-European Union Scandinavian countries (Norway – Iceland – Faroe Islands) has established a powerful Labour legislation which includes the personnel selection. Sweden has recently introduced "A Work Environment Strategy for Modern Working Life 2016-2020." The Strategy aims to:

1. Enable companies to introduce contemporary recruitment policies;
2. Enable unemployment people to prepare themselves for job interviews;
3. Assist companies to develop continuous Human Resource Development Programs;
4. Ensure that the new-entry employees enjoy e healthy and sustainable working environment;

Additionally, the introduction of specific procedures during the personnel recruitment is governed by strict regulations in favour of job candidates, especially for those who are classed as long-term unemployed as well as the newly employed (Rudenstam, 2015). Furthermore, the selection procedure orders that the possible employer must inform the candidate for his/her working rights. Further to all the above 'The Swedish Employment Protection Act' provides extensive guidelines to the legal aspect of personnel selection and identifies the rights and obligations of both sides, especially at the primary steps of the employment. Sweden constitutes a fine example that needs to be followed in regards of the personnel selection and this is identified in the overall financial performance of the country which has managed to escape the recent banking and financial crisis in the European Union.

9.3. Conclusion

The examination of all the relevant information, the European Union Legislation, and the important academic literature background lead to the conclusion that the legal concept of the European Union is extremely important in regards with the Human Resource Personnel Selection. The continuous focusing on the protection of the fundamental rights of the candidate employees during the selection process provides all interest parties with high level of protection and responsibility. This responsibility is inevitably transferred to the governments of the member states as they have an obvious interest, social, financial and legal, in the specific matter. The European Union has wisely developed a number of important legislations in order to ensure the protection of its Human Resource. Member states, companies, and Human Resource, now more than ever before need to focus on the application of law in order to ensure that they will adequately protect Human Resource. The rapid development of Information Technology provides candidate employees with further ability to ask and fight for their rights at any given stage. It is therefore important that Law must be applied at all European Union countries, at the highest possible level. Uniformity of Law and Court decisions play a key role and it is the duty of all governments to ensure that the selection of employees will contribute to the overall financial development of each member state and the Union as a united entity which is governed by the same values, rules, and regulations. European integration goes through the respect of this fundamental principle.

CHAPTER 10

Review and Summary of the most used methods and techniques for personnel selection

Briefly I will describe the most used methods and techniques organizations may use for personnel selection.

Cognitive Ability Tests: These assessments measure a variety of mental abilities, such as verbal and mathematical ability, reasoning ability and reading comprehension. Cognitive ability tests have been shown to be extremely useful predictors of job performance and thus are used frequently in making selection decisions for many different types of jobs.[123] Cognitive ability tests typically consist of multiple–choice items that are administered via a paper-and-pencil instrument or computer.

Some cognitive ability tests contain test items that tap the various abilities (e.g. verbal ability, numerical ability, etc) but then sum up the correct answers to all of the items to obtain a single total score. That total score then represents a measure of general mental ability. If a separate score is computed for each of the specific types of abilities, then the resulting scores represent measures of the specific mental abilities.

Sample Cognitive Ability Test Items

Verbal ability
Innocuous means the same as:

a. Harmless
b. Preventative
c. Distasteful
d. Futile

Numerical ability
16% of 62.5 is

a. .844
b. 8.44
c. .084
d. 8.4

Reasoning ability
132435465 __

a. 4
b. 5
c. 6
d. 7

Reading ability
In American politics, the concern of each party is to win. This requires gaining the support of many people with differing views. Political parties often have to build into their programs potentially conflicting objective that speak to the needs of these different groups in order to win. As a result, the platforms of major parties typically reflect:

a. Unified principles
b. Prejudice
c. Compromise
d. Disagreement

Job Knowledge Tests: These assessments measure critical knowledge areas that are needed to perform a job effectively. [4]Typically, the knowledge areas measured represent technical knowledge. Job knowledge tests are used in situations where candidates must already possess a body of knowledge prior to job entry. Job knowledge tests are not appropriate to use in situations where candidates will be trained after selection on the knowledge areas they need to have. Like cognitive ability tests, job knowledge tests typically consist of multiple-choice items administered via a paper-and-pencil instrument or a computer, although essay items are sometimes included in job knowledge tests.

Sample Job Knowledge Test Item

The principle of the ''lever'' is essential to the use of a:

a. Hydraulic jack
b. Plow
c. Auto steering wheel
d. Forklift

Personality Tests: Personality tests that assess traits relevant to job performance have been shown to be effective predictors of subsequent job performance.[5] [6] The personality factors that are assessed most frequently in work situations include conscientiousness, extraversion, agreeableness, openness to experience and emotional stability.[7] [8]Research has shown that conscientiousness is the most useful predictor of performance across many different jobs, although some of the other personality factors have been shown to be useful predictors of performance in specific types of jobs. [9]Personality inventories consist of several multiple-choice or true/false items measuring each personality factor. Like cognitive ability and knowledge tests, they are also administered in a paper-and-pencil or computer format.

Sample Personality Test Items

It does not make sense to work hard on something if no one will notice.

a. Definitely true
b. Somewhat true
c. Neither true nor false
d. Somewhat false
e. Definitely false

I tend to let others do most of the talking in conversations.

a. Definitely true
b. Somewhat true
c. Neither true nor false
d. Somewhat false
e. Definitely false

I have remained calm in situations where others have become upset.

a. Definitely true
b. Somewhat true
c. Neither true nor false
d. Somewhat false
e. Definitely false

Biographical Data: Biographical data (biodata) inventories, which ask job candidates questions covering their background, personal characteristics or interests, have been shown to be effective predictors of job performance. [10 11]The idea is that the best predictor of future performance is past performance. Thus, biodata questions focus on assessing how effectively job candidates performed in the past in areas that are identical or highly related to what they will be required to do on the job for which they are being considered. For example, the item on page 10 about the number of volunteer organizations to which one belonged could be used to assess one's willingness to volunteer to pitch in and help others. The second item could be used to assess one's responsibility and independence. Biographical inventories consist of multiple-choice items that are also administered via paper-and-pencil or computer formats.

Sample Biographical Inventory Items

To approximately how many volunteer organizations do you belong?

a. 0
b. 1
c. 2 to 4
d. 5 or more

Where did most of your spending money come from during your high school years?

a. Allowance from family
b. Own earnings
c. Partly allowance, partly earnings
d. Other sources
e. Had no spending money

Another form of a biodata inventory is an instrument called an ''accomplishment record.'' With this type of assessment, candidates prepare a written account of their most meritorious accomplishments in key skill and ability areas that are required for a job (e.g. planning and organizing, customer service, conflict resolution. [12] The candidate also provides the name of an individual, such as a past supervisor, who can verify the accomplishment. Evaluators are trained to score the accomplishments in a consistent manner using standard rating criteria. These types of assessments have been shown to be effective predictors of subsequent job performance. [13]

Integrity Tests: Integrity tests measure attitudes and experiences that are related to an individual's honesty, trustworthiness and dependability. [14 15 16 17]Like many of the tests discussed here, integrity tests are typically multiple-choice in format and administered via a paper-and-pencil instrument or a computer.

Sample Integrity Test Items

It is alright to misrepresent the truth if being completely honest will create problems that small ''white lies'' can solve.

a. Strongly disagree
b. Disagree
c. Neither agree nor disagree
d. Agree
e. Strongly agree

As long as people follow the spirit of policies and regulations, they don't need to follow them exactly.

a. Strongly disagree
b. Disagree
c. Neither agree nor disagree
d. Agree
e. Strongly agree

Structured Interviews: The interview is the most common selection device used in organizations. Most selection interviews are unstructured. That is, the questions to be asked are left up to the interviewer to decide, and there are no agreed-upon standards for evaluating an applicant's performance during the interview. Research has shown that unstructured interviews are not particularly useful for predicting job performance.

Structured interviews, on the other hand, consist of a specific set of questions that are designed to assess critical KSAs that are required for a job. [18] [19] [20] [21]Structured interview questions can be developed to assess almost any KSA, but they are used most frequently to assess softer skills such as interpersonal skills, communication skills, leadership, planning, organizing and adaptability, among others. An important characteristic of an effective structured interview is that it provides standardized rating criteria to help interviewers judge the quality and effectiveness of the responses provided by the interviewee. To work well, interviewers must be trained in how to administer the structured interview properly, probe for additional information and apply the rating criteria accurately and systematically in evaluating job candidates.

Sample Structured Interview Question and Rating Criteria

Tell me about a time when you were able to establish rapport with someone when the situation made it difficult to do so. What were the circumstances? What did you do? What were the results?

1 **2** **3** **4** **5**

Low

- Made minimal attempts to understand the person's perspective.
- Developed only a surface-level relationship in a simple situation.

Moderate

- Attempted to understand the other person's perspective.
- Developed a positive working relationship with the person in a moderately difficult situation.

High

- Effectively reached out to the person and actively sought to understand the person's perspective.
- Developed an extremely positive relationship with the person in an extremely difficult or contentious situation.

Physical Fitness Tests: Physical fitness tests are used in some selection situations. These tests require candidates to perform general physical activities to assess one's overall fitness, strength, endurance or other physical capabilities necessary to perform the job.

Sample Physical Fitness Tests

- Run a mile
- Lift 20 lb. weights for 50 repetitions.

Situational Judgment Tests: Situational judgment tests provide job candidates with situations that they would encounter on the job and viable options for handling the presented situations.[22,23,24] Depending on how the test is designed, candidates are asked to select the most effective or most and least effective ways of handling the situation from the response options provided. Situational judgment tests are more complicated to develop than many of the other types of assessments discussed previously. This is because there is more inherent difficulty in developing scenarios with several likely response options that are all viable, but, in fact, some are reliably rated as being more effective than others. Situational judgment tests are typically administered in written or videotaped form, with responses collected either in a paper-and-pencil test booklet or on a computer.

Sample Situational Judgment Test Items

You are currently working on several tasks, all of which are pressing. Your supervisor asks you to work on another assignment with an immediate deadline. She asks you to phone companies to obtain financial data. The list of companies is long and not yet complete. You would…..

a. Describe the pressing deadlines in which you are already involved and ask your supervisor to assign the new task to a less busy colleague.
b. Complete those assignments on which you are already working, then concentrate on phoning the companies.
c. Work on your other assignment and begin phoning companies only when you receive a complete list.
d. Immediately phone the companies currently listed, then continue working on your other assignments; make the other phone calls as you are notified of company names.

You have just prepared a report that you have checked and rechecked for accuracy. Before you attend a meeting at which you will submit your report, you review the typed version and note many serious errors. You would…

a. Show the original and the typed version to the person in charge of typing and demand that the errors be changed before the meeting.
b. Present the report at the meeting, point out the errors and state they were due to the typist.
c. Present the errors to the typist, ask him or her to make the corrections and explain to individuals at the meeting that your report is still being typed.
d. Present your report at the meeting and make no mention of the errors but notify attendees of corrections after the meeting.

<u>Work Sample Tests:</u> Work sample tests consist of tasks or work activities that mirror the tasks that employees are required to perform on the job. [25 26 27]Work sample tests can be designed to measure almost any job task but are typically designed to measure technically-oriented tasks, such as operating equipment, repairing and troubleshooting equipment, organizing and planning work, and so forth.

Work sample tests typically involve having job applicants perform the tasks of interest while their performance is observed and scored by trained evaluators. Similar to job knowledge tests, work sample tests should only be used in situations where candidates are expected to know how to perform the tested job tasks prior to job entry. If training on how to perform the job will be provided after selection, work sample assessments would not be appropriate to use.

Sample Work Sample Tests[28]

Mechanic

- Repairing a problem on a car
- Reading a blueprint.

Clerical

- Typing test.
- Proofreading

Cashier

- Operating a cash register.
- Counting money and totalling balance sheet.

Airline Pilot

- Pilot simulator
- Rudder control test.

Taxi Cab Driver

- Driving test.
- Street knowledge test.

Computer Programmer

- Programming and debugging test.
- Hardware replacement test.

Assessment Centers: An assessment center is a type of work sample test that is typically focused on assessing higher-level managerial and supervisory competencies. [29] [30] [31]Candidates are asked to complete a series of exercises that simulate actual situations, problems and tasks that they would face on the job for which they are being considered, and they are asked to handle these as if they were in the real situation. In this sense, assessment centers are similar to the work sample tests described previously.

Assessment centers usually last at least a day and up to several days. They typically include role-play exercises, in-basket exercises, analytical exercises and group discussion exercises. Trained assessors observe the performance of candidates during the assessment process and evaluate them on standardized rating. Some assessment centers also include other type of assessment methods, such as cognitive ability, job knowledge and personality tests. It should be noted that assessment centers are not only used for selection purposes, but can also be used to provide comprehensive development feedback to participants.

Sample Assessment Center Process

Candidate Orientation

- Role – Play: Candidate prepares for and conducts a counselling session with a subordinate who is not performing well on the job. Trained assessors play the role of the subordinate and evaluate the candidate's performance.
- In-Basket Exercise: Candidate completes a mock ''in-basket'' where he or she responds to phone messages, e-mails, memoranda, reports and other items that require action to be taken. Sometimes in-basket exercises also include an interview with trained assessors where the candidate explains the rationale for his or her actions.
- Case Analysis: A business problem is presented to the candidate that he or she has to analyze and prepare a written plan discussing the actions to be taken. Trained assessors evaluate the written products.
- Role-Play: Candidate is given a set of facts and must prepare a persuasive oral presentation regarding a situation. Following the presentation, the candidate responds to questions. Trained assessors play the role of audience members who ask the questions and evaluate the candidate's performance.
- Leaderless Group Discussion: A small group of candidates is given a problem to work on that is similar to what they would encounter on the job. As they work to resolve the problem, trained assessors observe and evaluate their performance.

Following all of the exercises, assessors discuss their evaluations of the candidates, decide on consensus evaluations of their performance and prepare feedback.

Physical Ability Tests: Physical ability tests are used regularly to select workers for physically demanding jobs, such as police officers and firefighters. [32] [33] [34]These tests are similar to work sample tests in that they typically require candidates to perform a series of actual job tasks to determine whether or not they can perform the physical requirements of a job. Physical ability tests are often scored on a pass/fail basis. To pass, the complete set of tasks that comprise the test must be properly completed within a specified timeframe.

While perhaps a subtle distinction, physical ability tests usually replicate actual job tasks and evaluate whether individuals can complete these within specified timeframes that mirror how quickly they would need to perform them on the job. Alternatively, physical fitness tests (discussed previously) do not replicate job tasks, per se, but rather require candidates to perform more general physical activities (e.g., running a mile) to assess their overall fitness.

Sample Physical Ability Tests

Firefighter

- Climb a ladder while carrying equipment
- Drag a hose
- Carry a person down from a building

Warehouse Worker

- Lift materials of weight required on job
- Drag materials for distances required on job
- Roll barrels
- Carry materials of weight and distance required on job

Properly identifying and implementing formal assessment methods to select employees is one of the more complex areas for HR professionals to learn about and understand. This is because understanding selection testing requires knowledge of statistics, measurement issues and legal issues relevant to testing. Accordingly, this section provides guidelines and criteria to help HR professionals make informed decisions about what assessment methods to implement in their organizations. The table on page 17 lists the assessment methods discussed previously and shows their standing on four important criteria:

- **Validity** – the extent to which the assessment method is useful for predicting subsequent job performance.
- **Adverse impact** – the extent to which protected group members (e.g., minorities, females and individuals over 40) score lower on the assessment than majority group members.
- **Cost** – both to develop and to administer the assessment.
- **Applicant reactions** – the extent to which applicants react positively versus negatively to the assessment method.

For example, the first entry in the table is cognitive ability tests. On the positive side, this type of assessment is high on validity and low on costs. However, it is also high on adverse impact, and applicant reactions are only moderately favorable. Thus, while cognitive tests are inexpensive and very useful for predicting subsequent job performance, minorities score significantly lower on them than whites.

It is important for HR professionals to understand the implications and tradeoffs involved in using different types of assessment methods. There is no simple, formulaic approach for selecting ''one best'' assessment method, because all of them have advantages and disadvantages. The following sections define and discuss the four criteria for evaluating assessment methods in detail to help HR practitioners make good decisions about which methods will be most appropriate and practical for their situations.

Evaluation of Assessment Methods on Four Key Criteria				
Assessment Method	Validity	Adverse Impact	Costs (Develop/Administer)	Applicant Reactions
Cognitive ability tests	High	High (against minorities)	Low/low	Somewhat favorable
Job knowledge tests	High	High (against minorities)	Low/low	More favorable
Personality tests	Low to moderate	Low	Low/low	Less favorable
Biographical data inventories	Moderate	Low to high for different types	High/low	Less favorable
Integrity tests	Moderate to high	Low	Low/low	Less favorable
Structured interviews	High	Low	High/high	More favorable

Physical fitness tests	Moderate to high	High (against females and older workers)	High/high	More favorable
Situational judgment tests	Moderate	Moderate (against minorities)	High/low	More favorable
Work samples	High	Low	High/high	More favorable
Assessment centers	Moderate to high	Low to moderate, depending on exercise	High/high	More favorable
Physical ability tests	Moderate to high	High (against females and older workers)	High/high	More favorable
Note: There was limited research evidence available on applicant reactions to situational judgment tests and physical ability tests. However, because these tests tend to appear very relevant to the job, it is likely that applicant reactions to them would be favorable.				

CHAPTER 11

Interviewing companies of personnel selection regarding methods and techniques used

In this article I conducted interviews with several managers of different companies in regards to methods and techniques used by them. I tried to find companies that differ in orientation or object of interest. Here follows the companies and persons that were in charge for techniques used.

11.1. First interview conducted with Mrs Chrisanthi Danou of Eurobank.

Interviewer: What is the most frequent method of choice in order to choose the right employee for your Bank?

Mrs Danou: Primarily the tools of choice are interviews after we check very carefully their CVs. If for example we post an opening for a cashier's position which is a non-technical position we of course pay a lot of attention to the personality and character of the individual. Doubtless honesty, integrity, discretion, good manners, pleasant personality are all parts of that equation. We try to weed our moody personalities for that would be damaging for the bank as a whole. We definitely seek recommendations and/or prior expertise or experience in this field. A Bank has to be extra careful in regards to whom it employs for there is no room for mistakes. Then again, if all paperwork is in order we screen the candidates very carefully in the interview or interviews for we may ask for two or three interviews if they are successful in the first one.

Interviewer: So the prior part you discussed relates to cashiers. What about other positions?

Mrs Danou: In regards to accountants, actuaries or financiers we will check very much in detail their qualifications and/or accreditations. Also all prior experience and any and all recommendations they may have. We check whether they have all necessary licenses for their said profession. We are very strict when it comes to this aspect and if all is in order, then the interview is one part and testing for technical knowledge is also another part.

Interviewer: So the method of choice for technical personnel is interviews and tests pertaining to their skills?

Mrs Danou: Exactly. That way we try to be as objective as possible and as fair as possible at the same time.

Interviewer: What about the higher ups, directors or the upper echelon of the ranks of the bank?

Mrs Danou: Top tier positions usually have already pre-established their position in the field and thus the highest recommendation is their prior work in another bank. These people are known for their work and/or qualities, therefore the question for a bank becomes whether this particular leader is a right fit for our field. It is like hiring a coach for your team. It is a matter of leadership and naturally the board of directors will take or make a decision there on whom to hire. Even there though the ones that will do the hiring have an unofficial interview with the candidate. In essence a bank has a variety of positions, some are technical, others of a more redundant work. Most used methods are interviews. They are the ones that will define whether this person is a right match for our company. We have naturally a clientele that expects a lot from us in order to not go off to other competitors and therefore we screen to find the best possible people no matter how low or high rank the position is.

11.2. Second interview was taken from Abacus and the HR Director answered our questions. His name is Theodoros Chiotis.

Interviewer: What is the specialization of your company? What do you do?

Mr. Chiotis: We are a company that deals with corporate administration accounting and finance. We deal mainly with international clients that usually have companies located in Cyprus. We expedite all work related to financial areas depending on the needs of the clients.

Interviewer: When you select personnel what type of a person do you usually seek and what techniques do you use to select?

Mr. Chiotis: We pride ourselves that we manage a very professional company and therefore we are very careful before selecting a candidate for a job. No matter what the position all our employees are screened for having a good ability in English and so we require certifications or exams they pass so as to better assess their skills. Above secretarial jobs, we seek people that have University degrees, many times graduate degrees matters or being members of the ACCA. Actuaries have different qualifications. For mid level positions such as accountants or administrators we use interviews as a tool to guide us and written tests if the position requires it. Interviews are very detailed, very structured and are not easy. A candidate is put in a position so as to show that he has beyond the knowledge required the right personality for the job. For any job above secretarial level the preferred methods used are tests and interviews.

Interviewer: Thank you.

11.3. Third company that was asked is Papaellinas group of companies. Interviewed Mr. Georgiou.

Interviewer: In regards to your company, what types of methods do you use to find right candidates for your organization?

Mr. Georgiou: Naturally we have a big organization and therefore we employ a variety of specialists such as lawyers, accountants, workers, clerks, cleaners, managers etc. The primary tools of choice are interviews after carefully examining the credentials and qualifications of the employees.

Interviewer: Do you use any written or psychological testing to assess personality?

Mr Georgiou: No…. not that I am aware of. Just what I said prior.

Interviewer: Thank you.

11.4. Interview of Mr. Nicolaou for PWC in Cyprus for what type of methods they use for selecting personnel showed that they use similar methods as in Abacus therefore I will not go into much detail since answers were of similar nature. No psychometric tests are used, nor personality tests. Much attention is paid to the certification of credentials prior expertise (experience) and also recommendations by prior employer. So the interview or series of interviews maybe the defining factor if someone is to be given a position. The interview also tries to assess personality so that the person is the right fit for the company. So in essence if all else is equal in qualifications and expertise, the one who gets selected is usually the one that makes the best impression in the final interviews.

11.5. Interview of Argyris Kalogirou manager at Unicars Limited. As the name implies is a company that sells cars and therefore it has different structure and personnel characteristics in comparison with previous companies.

Interviewer: What is the method of choice for hiring employees in your company?

Mr. Argyris: There are two ways we use for all positions. Examining the CVs carefully and if the candidate is selected he will be assessed very carefully in the interview which is very detailed. It is structured in a way to assess beyond the technical knowledge the type of personality he/she is. If he/she passes he/she is hired. Therefore only these two methods are used.

11.6. Interview Mrs Katerina Antoniou from Pasykaf (Pancyprian Association of cancer patients) regarding most commonly used methods and techniques for personnel selection.

Interviewer: Mrs Antoniou what for your association is the method used for selecting the right personnel?

Mrs Antoniou: Apart from verification of credentials in the CVs, the primary tools are interviews that seek to find out the personality of the individual along with the expertise they have. We try to assess the type of character one has because it is crucial for our association. We wish to have pleasant and optimistic personalities for the jobs we do.

Interviewer: So you don't do personality or psychometric tests?

Mrs Antoniou: No, what we do are within the framework of the interviews to find out what capabilities a person has along with the personality. We have 3 members in each interview examining the candidate. One is always a certified psychologist and he assesses the personality of the candidate, while the other two may focus on other areas.

Interviewer: So in other words within the basis of the interview you try to figure out, what a person is and how good a fit he/she will be for the job?

Mrs Antoniou: Yes.

Interviewer: Are you planning to introduce personality or psychometric testing in the future?

Mrs Antoniou: Not for the time being. That need has not risen. Once hired a person will stay for a minimum of one year under some form of supervision in order to see that the employee fulfils all relevant criteria for our organization as well as its mission. Therefore the best testing is done while at work. A new employee goes through supervision under all aspects. If people do not meet our criteria we will unfortunately have to let them go. So in essence our method of choice is to hire whom we think is best for our organization and then supervise to see whether they actually can carry out the work they were hired for. Overall, in a way the interview lasts for a whole year. It gives us a chance to see their work under real life scenarios which in my opinion is the only way to actually find out who a person is.

Interviewer: That is really a very exhausting interview. So you tell everyone that if they are hired, they will be working on a provisional basis and that supervision is imposed?

Mrs Antoniou: Yes due to the fact that our work is very delicate we need to be careful so as to have people that actually enjoy working with people that suffer from a serious disease. We can't risk having people that are not capable. Therefore, the interview lasts a whole year. In that space there is time to really assess who the person is. We are not working with machines here we have to be extra cautious.

Interviewer: Thank you

In conclusion of this it appears that all companies/organizations interviewed use only authentication of certifications/diplomas of candidates / recommendations and primarily interviews.

CHAPTER 12

Interviewing HR professionals, recruiters, managers about basic needs

Below follow a series of small interviews from Directors of a variety of organizations regarding types of needs they have based on what they specialize and do.

12.1. First interview was taken from Apolloneio Hospital with Mr. Andreou. Apolloneio is a private hospital.

Interviewer: In todays fast paced society and competitive environment what do you have as basic needs?

Mr. Andreou: Since this is a private hospital, we primarily have a need for specialized individuals in this case doctors and nurses that can offer the best possible choices for clients (that is patients and their families). Therefore we look to find nursing staff that is well trained and of pleasant personality. You probably noticed that I mentioned the nursing staff first rather than the doctors. There is good reason for that. The experienced ones are hard to find because as soon as there is a job opening in the government sector they all quit and go there. So in reality we are always short on nursing staff. However competitive we are with salaries and other bonuses we nevertheless can't compete with the government. They offer a better salary than us and safety for permanent status in terms of employment. As a private organization unfortunately we do not have the money the state has or offers for such personnel. In order to maintain the costs down we have to have salaries that are more in line with the private sector. Let us take for example a nurse that has years of work in a surgical unit and decides to leave. For us it is a loss that can't easily be replaced. And again as soon as we hire someone else, then after a few years if an opening arises in the government sector they as well will be gone. In that regard we always have a need for experienced nursing staff and then are either hard to find or keep. Moreover we also must have people that are patient, good natured and pleasant. A doctor does not spend so much time with a patient but a nurse does so. Thus, the best reflection for our reputation lies in the nursing part of the equation. We by no means wish our good name to be defined in the social media or elsewhere by incompetent personnel. Regarding doctors we vie to hire people (doctors) of various specialties so that we have complete units of different specializations. Moreover we seek and need people that have expertise in rare specialties. If for example we have a great surgeon for gastrointestinal track systems that is great for us and the reputation of the hospital. The more specialized or rare specialties we have the better it reflects on us but that again it is not an easy process to attain. Rare specialties such as Hematologists that deal with rare cases of cancer are sought by all private institutions. It is way easier to find pathologists than child psychiatrists that know what they are doing. Last but not least are the technical personnel that make the whole system of the hospital operate. Cleaning and maintaining the complex of buildings and/or machinery of the hospital is a very complicated process. Therefore, all of the three systems are required in order to attain our needs.

Interviewer: Thanks for the informative answer.

12.2. Second interview is from ABACUS. Mr Verdis answered.

Interviewer: So what constitutes your basic needs for your company?

Mr. Verdis: For a medium sized company such as ours are many in Cyprus of this type and competitions is brutal and therefore our needs are as follows:

Competent and dedicated personnel that can work in a team spirit. Believe it or not this is what makes or breaks a company these days. We are in need of making as few mistakes as possible because there are dozens of other companies that do exactly the same thing as we do. There are a lot of specialized professionals in this field and any position opens we usually get above 100 CV's but the trick is to make them all work together. Our need is basic. How to turn all of these people into a working unit and so the task at hand is always to select according to that need. If for example we hire a person who is moody and likes to pick fights then that person will in all likelihood cost us a share of the business. We cannot have that. We can't make a mistake. It might be less worse if we hire someone who is less skilled but a better team player, rather than one who is an egoist and cannot work with others. Instantly our clients will either complain or leave. This will cost us clearly both in reputation or money. In conclusion of this we need team players with pleasant personalities above all.

Interviewer: Thanks for the feedback.

12.3. Third interview was with Unicars Limited company manager Argyris Kalogirou.

Interviewer: What constitutes for your basic needs?

Mr. Kalogirou: Well in this company we have three layers of personnel. The technical department that deals with mechanical repairs and servicing, the sales people for cars and the office personnel which are accountants and managers that derive strategies on how best to boost sales. In this respect the technical personnel requires primarily skills and expertise in repairing. Most people there do little talking, therefore it is the skill we seek. The sales persons of course need to be absolutely pleasant and experts in communication and the office personnel, accounting for example to be skilled enough so as everything clears with the tax department of the government. The managers that derive strategy need to be people with vision and how best to tackle the competition. Therefore we seek very specific sets of skills from each department. Unlike companies that deal with foreign clients we tend to the local population therefore we need to be able to seize on the momentum of what local people need as a car for transportation in this environment. So it is a specialized product we have, just cars and the market is very specific.

Interviewer: Thanks for your input.

12.4. Next interview is with Eurobank. Mrs Danou

Interviewer: What are your basic needs for your Bank?

Mrs Danou: Our Bank naturally deals with both local and foreign clients. Regarding foreign clients that may derive from many countries, the people servicing them must be excellent communicators with perhaps very specialized knowledge of foreign markets, customers, laws and/or other international laws or procedures. That sector of the personnel usually has mastery of that language as well. Since many of our clients speak as their native language Russian we do have personnel that are quite fluent and also travels in that country many times. Of late Chinese investors or clients begun to appear therefore we also seek professionals that are more familiar with the customers language and culture of that country in a way we always have need for people that are specialized in International Banking, financing and markets. On the local front, things of course are easier to know but in order to keep competitive we need to always have personnel that are reliable, honest that is discrete, pleasant and people can rely for their confidentiality. After all this is a bank and people expect us to be that way.

Interviewer: Thank you for the information.

12.5. Last interview is with Mrs Antoniou from the Pancyprian Association of cancer patients

Interviewer: Mrs Antoniou your organization caters to cancer patients. I assume that you have very specialized needs in that context.

Mrs Antoniou: That is in fact quite true. Unlike other organizations, our duties include seeing patients both in hospital settings as they undertake therapies and as in house patients. Usually after a patient is diagnosed he will follow a certain pattern. He will most likely discontinue from any work so as to follow his therapy and treatment. During therapy a patient usually gets rendered weak and so he is not capable of working. So he/she is either at house or in the hospital. Our organization visits them both while in the hospital or in their house. Therefore our personnel which includes nurses, physiotherapists, psychologists, doctors, social workers usually follow the patient. So this is a crucial difference from having the patient follow or visits you in your office. So here it is where it becomes a bit tricky. The visiting professional will go to your home using his/hers car and in a way half of the allocated time of work is usually expended on traveling. So our nurse, doctor, physiotherapist etc are in way professional drivers as well. Close to half of their time at work is expended driving. It is a hard work because summer in Cyprus is especially cruelling and our doctor will in many times expend 20 to 30 minutes of driving in tense traffic before arriving at a patient’s house. He/she might be tired but at the same time he has to treat a patient who suffers from a complex disease such as cancer. This is quite tiring and taxing at the same time and it is something that is followed by all of our personnel besides the very few people that work in office. Unlike other organizations we have a tiny number of people doing office jobs while 90% of our personnel is working out of our office building. Concluding all of this I need to state that while we are actively seeking the very best expertise and skill from our professionals in regards to their profession we as well ask that they also possess excellent communication abilities and a natural inclination for teamwork. Though this is not enough. They need to have physical stamina and endurance while traveling. Thus our needs are many and varied and our selection must be art in itself.

Interviewer: That was quite informative. Thank you Mrs Antoniou.

CHAPTER 13

Analysis of methids and techniques used in the psychological assessment for personnel selection within th Romanian Ministry of Internal Affairs

Psychological assessment is one of the main components of the psychological activity in the Romanian Ministry of Internal Affairs. Psychological assessments is defined, according to Art. 3, lit. a), O.m.a.i. 23/2015 – the documents that regulates the psychological activity undertaken within the Ministry, as the process of investigation and quantitative and qualitative estimationof psychological functioning through the use of specific instruments, methods and techniques.

Psychological assessment for selection is either part of human resources procedures or is performed for assignment to tasks and missions that are highly psychologically demanding. Psychological assessment as part of human resources procedures has as objective selection of the Ministry's personnel and is performed in the following situations:

a) Recruitment of candidates for Ministry of Interior training schools;
b) Selection of law enforcement personnel for entry-level positions;
c) Promotion
d) Selection for a higher professional body;
e) Transfer of personnel from other defense or national security public institutions.

Psychological assessment for assignment to tasks and missions that are highly psychologically demandinghas as objective to assess the individual ability, from a psychological perspective, to perform a proffesional activity with demaning tasks, concerning the nature, duration and intensity of the mental effort.

Psychological assessment for assignment to tasks and missions that are highly psychologically demanding is performed in thefolowing situations:

a) Selection for international missions;
b) Selection for internal affairs attaches vacancies
c) Teaching positions, excepting teaching positions in universities
d) Performing coding activities
e) Certification as artificers and pyrotechnists
f) Certification as firearms trainers
g) Performing activities which imply psycho-social risks
h) Certification for sailing positions
i) Certification as trainers and evaluators of applicants for driving licence
j) Certification for driving work vehicles
k) At the request of the physician specialist in labor medicine, for other employees, according to legislation regarding protection of employees' health
l) In other justified situations, according to existing regulations

13.1. Guidelines For Predictors Used In Psychological Assessment

The predictors used in psychological assessment for personnel selection are outlined below. For each individual difference considered, empirical data the support its predictive validity for job performance and training success are shown. The data presents below is mainly from meta-analyses or from research within the European Union or using law enforcement samples. Also, information that allow for a better undestanding of the results are mentioned.

13.2. Cognitive Ability

Meta-analyses results show that cognitive abilityis the best predictors of job performance and training success, across job domain or culture, and the general mental ability (GMA) is the most important individual difference determinant of job performance, across situations, organizations or jobs. The predictive validity of cognitive ability is not moderated by situational variables, validation strategy, criterion measurement, or cultural context (Ones, Viswesvaran & Dilchert, 2005).

I. ***Prediction of training success***

Predictor	Validity	Study	Sample
General mental ability			
GMA	0,54	Salgado et al, 2003	heterogeneous jobs, Europe
GMA	0,74	Salgado et al, 2003	high complexity jobs, Europe
GMA	0,53	Salgado et al, 2003	medium complexity jobs, Europe
GMA	0,36	Salgado et al, 2003	Low complexity jobs, Europe
GMA	0,25	Salgado et al, 2003	Police, Europe
Cognitive ability	0,41	Aamodt, 2004	police
Verbal ability	0,64	Hirsh et al, 1986	police and detectives
Verbal ability	0,44	Salgado et al, 2003	different jobs, Europe
Numerical ability	0,48	Salgado et al, 2003	different jobs, Europe
Numerical ability	0,63	Hirsh et al, 1986	police and detectives
Reasoning ability	0,61	Hirsh et al, 1986	police and detectives
Verbal reasoning ability	0,71	Hirsh et al, 1986	police and detectives
Cognitive ability	0,77	Barrett et al, 1999	fire-fighters
Specific cognitive abilities			
Mechanical comprehension	0,62	Barrett et al, 1999	fire-fighters
Memory	0,41	Hirsh et al, 1986	police and detectives

- Cognitive ability is the most important individual differences determinant of acquisition of job knowledge;
- Training success was measured by supervisor ratings or course grades;
- Validity coefficients for GMA, verbal and numerical ability have values between 0.30 and 0.70;for GMA tests, valitity coefficients have values around0.50 - 0.60(Ones, Viswesvaran & Dilchert, 2005);
- Criterion – relatedvaliditiesare higher for higher level of complexity of the learning tasks (Hunter, 1983; Salgado et al, 2003).

II. ***Prediction of job performance***

Predictor	Validity	Study	Sample	Criterion
General cognitive ability				
GMA	0,62	Salgado et al, 2003	heterogeneous jobs, Europe	supervisor ratings
GMA	0,64	Salgado et al, 2003	high complexity jobs, Europe	supervisor ratings
GMA	0,53	Salgado et al,	medium complexity	supervisor ratings

		2003	jobs, Europe	
GMA	0,51	Salgado et al, 2003	low complexity jobs, Europe	supervisor ratings
GMA	0,24	Salgado et al, 2003	Police, Europe	supervisor ratings
GMA	0,47	Hunter, 1983	different jobs	job performance
Cognitive ability	0,42	Barrett et al, 1999	fire-fighters	supervisor ratings
Verbal ability	0,18	Hirsh et al, 1986	police and detectives	job performance
Verbal ability	0,35	Salgado et al, 2003	heterogeneous jobs, Europe	supervisor ratings
Numerical ability	0,52	Salgado et al, 2003	heterogeneous jobs, Europe	supervisor ratings
Numerical ability	0,26	Hirsh et al, 1986	police and detectives	job performance
Reasoning ability	0,17	Hirsh et al, 1986	police and detectives	job performance
Specific cognitive abilities				
Mechanical ability	0,54	Barrett et al, 1999	fire-fighters	supervisor ratings
Perceptual ability	0,52	Salgado et al, 2003	heterogeneous jobs, Europe	supervisor ratings
Memory	0,56	Salgado et al, 2003	heterogeneous jobs, Europe	supervisor ratings
Memory	0,10	Hirsh et al, 1986	police and detectives	job performance

- Validity coefficients for prediction of job performance are lower than the ones for prediction of training success (Ones, Viswesvaran & Dilchert, 2005);
- For large sample studies, including a large occupational area, the estimated validity of cognitive ability is around 0.50 (Ones, Viswesvaran & Dilchert, 2005);
- Validity coefficients for GMA are at least as high as those for specific cognitive abilities (Ones, Viswesvaran & Dilchert, 2005);
- Validity coefficients are higher for high complexity jobs (Ones, Viswesvaran & Dilchert, 2005).

III. *Prediction of performance in leadership positions*

Predictor	**Validity**	**Study**	**Criterion**
Cognitive ability	0,33	Judge, Colbert& Ilies, 2005	Leadership effectiveness
GMA	0,64	Salgado et al, 2003 (*high complexity jobs*, Europe)	Supervisor ratings

Specific cognitive abilities versus general mental ability

From a criterion-related validity perspective, research did not show any increase associated with the use of specific cognitive ability tests versus tests of general mental ability. Still, it is not possible to measure specific abilities without measuring GMA and vice versa. But it is more practical to use tests of GMA. Selection is rarely performed for a specific vacancy, employees move on different positions within the company and the nature of tasks changes in time. For these reasons, the predictive validities of specific abilities varies with the change of tasks, and assessing GMA remains the best option (Ones, Viswesvaran & Dilchert, 2005).

13.3. PERSONALITY TRAITS

Research has shown the incremental validity of personality traits above the GMA. Studies in the European Community, meta-analytically reviewed by Salgado (1998) showed an incremental validity associated with Conscientiousness of 11% and of 10% for Emotional Stability, both for job performance and for training. More recent data, using larger samples and more advanced techniques in meta-analysis show the incremental validity if three personality dimensions when the criterion is job performance: Conscientiousness – 30.3%, Agreeableness – 20.12%, and Emotional Stability – 9.07%. When the criterion is training success, the incremental validity over GMA is: 24.2% for Conscientiousness, 22.24% for Openness to experience, 18.04% for Extraversion, and 7.47% for Agreeableness. These data show that in practice it is important to combine tests of GMA with measures of Conscientiousness, Emotional Stability and Agreeableness in the prediction of job performance, and tests of GMA with measures of Conscientiousness, Extraversion, and Openness to experience in the prediction of training success.

I. *Prediction of training success*

Predictor	Validity	Study	Sample
Conscientiousness	0,23	Barrick& Mount, 1991	USA
	0,39	Salgado, 1997	Europe
	0,31	Barrick et al, 2001	
Emotional stability	0,27	Salgado, 1997	Europe
Agreeableness	0,31	Salgado, 1997	Europe
	0,14	Barrick et al, 2001	
Extraversion	0,26	Barrick& Mount, 1991	USA
	0,28	Barrick et al, 2001	
Openness to experience	0,25	Barrick& Mount, 1991	USA
	0,33	Barrick et al, 2001	
	0,26	Salgado, 1997	Europe

II. *Prediction of job performance*

Predictor	Validity	Study	Sample	Criterion
Conscientiousness	0,22	Barrick& Mount, 1991	heterogeneous jobs	all criteria
	0,25	Salgado, 1997,1998	heterogeneous jobs–European Community	all criteria
	0,33	Salgado, 2004	heterogeneous	job performance

			jobs	
	0,26*	Salgado, 2002		counterproductive behavior
	0,31*	Salgado, 2002		job turnover
	0,23	Barrick, Mount& Judge, 2001		general work performance
	0,31*	Berry, Ones&Sacket, 2007		counterproductive behavior
	0,22	Barrick, Mount& Judge, 2001	police	job performance
Emotional stability	0,22	Barrick& Mount, 1991	heterogeneous jobs	all criteria
	0,21	Salgado, 2004	heterogeneous jobs	job performance
	0,35*	Salgado, 2002		turnover
	0,11	Barrick, Mount& Judge, 2001	police	job performance
Agreeableness	0,19	Salgado, 2004	heterogeneous jobs	job performance
	0,20*	Salgado, 2002	heterogeneous jobs	counterproductive behavior
	0,22*	Salgado, 2002	heterogeneous jobs	turnover
	0,10	Barrick, Mount& Judge, 2001	police	job performance
Extraversion	0,20*	Salgado, 2002	heterogeneous jobs	turnover
	0.10	Salgado, 2004	heterogeneous jobs	job performance
Openness to experience	0,14*	Salgado, 2002	heterogeneous jobs	turnover
	0.09	Salgado, 2004	heterogeneous jobs	job performance

*reversed

- Meta-analyses show that Conscientiousness is the best predictor for job performance, training success, and counterproductive behaviors. The incremental validity of Conscientiousness is moderated by occupational area and job complexity, but for most occupations a value of 0.36 is the best estimation of predictive validity for job performance.

- Emotional stability is the second dimension of personality predictor of job performance, with a general predictive validity of 0.24. The predictive validity of this dimension is moderated by occupational area and job complexity. Emotional stability is a good predictor of turnover.
- *Conscientiousness and emotional stability* have predictive validity for job performance, for all occupations and all criteria (Hurts & Donovan, 2000; Salgado, 1997, 1998).
- Agreeableness has predictive validity for job performance for medium complexity jobs, with a value estimated at 0.25. Agreeableness has also predictive validity for counterproductive behavior, such as deviant behavior and turnover.
- Extraversion and Openness to experience have a predictive value of 0.28 and 0.33 for training success. The two dimensions are also predictors of turnover.

III. *Prediction of performance inleadership positions*

Predictor	**Validity**	**Study**	**Criterion**
Conscientiousness	0,28	Judge, Bono, Ilies, Gerhardt, 2002	leadership
	0,33	Judge, Bono, Ilies, Gerhardt, 2002	Leadership emergence
	0,16	Judge, Bono, Ilies, Gerhardt, 2002	Leadership effectiveness
Emotional stability	0,24	Judge, Bono, Ilies, Gerhardt, 2002	leadership
	0,24	Judge, Bono, Ilies, Gerhardt, 2002	Leadership emergence
	0,22	Judge, Bono, Ilies, Gerhardt, 2002	Leadership effectiveness
Agreeableness	0,21	Judge, Bono, Ilies, Gerhardt, 2002	Leadership effectiveness
Extraversion	0,31	Judge, Bono, Ilies, Gerhardt, 2002	leadership
	0,33	Judge, Bono, Ilies, Gerhardt, 2002	Leadership emergence
	0,24	Judge, Bono, Ilies, Gerhardt, 2002	Leadership effectiveness
Openness to experience	0,24	Judge, Bono, Ilies, Gerhardt, 2002	leadership
	0,24	Judge, Bono, Ilies, Gerhardt, 2002	Leadership emergence
	0,24	Judge, Bono, Ilies, Gerhardt, 2002	Leadership effectiveness

The multiple correlation coefficient for Big Five dimensions and leadership was 0.48; for leadership emergence was 0.53 and for leadership efficience is 0.39 (Judge, Bono, Ilies, Gerhardt, 2002). The main difference between leadership emergence and efficience is Agreeableness that, although not relevant for emergence is important for effectiveness.

Job complexity moderates the relationship between personality traits and job performance. For medium complexity jobs (about 68% of all occupations), three dimensions have proved their validity: Conscientiousness, Emotional Stability and Agreeableness. The values of validity coefficients were of 0.36, 0.24 and 0.25 (Salgado, 2004).

Data show higher validity coefficients in studies that used instruments developed to measure Bog Five.

To avoid social desirability effects, norms specially developed for selection should be used (Ones& Viswesvaran, 1998).

13.4. METHODS AND TECHNIQUES USED IN PSYCHOLOGICAL ASSESSMENT

Methods and techniques used in psychological assessment with the above mentioned objectives are: interviews, personality inventories, ability tests, bio data etc.

Psychological tests used in the selection process have as objective to gather reliable and valid data on candidates personality traits and abilities. Tests gather in a short time frame, data that are precise, objective and quantificable on psychological characteristics of the testee (Hăvârneanu, 2000).

O good psychological test has to discriminate between testees, to be standardized, to have norms on representative populations, to be reliable and valid. To conclude, to be used in selection, psychological measures have to have a strong empirical support (Virga, 2005).

Using data based on tests (along with data provided by other methods and techniques used in psychological assessment) predictions related to future job performance of persons assessed are made. An accurate prediction, based on the use of adequate instruments in the psychological assessment, leads to an improved employee and organizational performance, and to o better image of the organization in the community. On the other hand, the use in the psychological assessment of outdated instruments, with unknown psychometric properties, leads to employee stress, motivation, low job satisfaction, having direct and indirect costs for the organization related to turnover, absenteeism, presenteeism, etc.

Test batteries used in the psychological assessment by the Center for Psychosociology personnel in 2017 are mentioned below (the optional battery being mentioned in the brakets), for each of the situations in which the psychological assessment is performed:

a) Filling higher- level education vacancies

- Filling officer vacancies and other higher-level educationvacancies:
  Bio data FA1
  Baraj (BG9)
  Praga (BG3)
  BV9 (I7)
  Matrix (RA)
  CI-N2 (DAS)
  16PF-A (6PF)
- Filling secondary education vacancies :
  Bio data FA1
  Baraj (BG9)
  Praga (BG3)
  I6 (I4)

RA (B53)
CI-N2 (DAS)
16PF-A (6PF)

b) Filling leadership vacancies

- Filling leadership vacancies for officers:
  Bio data FA2
  Baraj (BG3)
  Praga (BG9)
  BV9 (I7)
  Matrix (APM sau RA)Advanced Progressive Matrices
  CPI480/CPI260 (GZTS)
  16PF-A (16PF-B)
  Decision-making test.
- Filling leadership vacancies foragents (medium education positions):
  Bio data FA2
  Baraj (BG3)
  Praga (BG9)
  I6 (I5)
  RA (B53)
  16PF-A (16PF-B sau DAS)
  Decision-making test.

c) Psychological assessment for assignment tohighly demanding tasks and missions

- **Selection for international missions**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof / Bg10)
  R.A. (M M 3/ D.70)
  I.5 (I.4)
  16 P.F.-A (G.Z.)
  M.M.P.I. - 2 (P.N.P, C.I., CATTEL)
- **Selection for internal affairs attaches vacancies**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  B.V.9 (I.7)
  Matrix (R.A.)
  16 P.F.-A (G.Z.)
  M.M.P.I. -2 (P.N.P ,C.I., CATTEL)
- **Teaching positions, excepting teaching positions in universities**
  Bio data FA1
  Attention test 1/ Attention test 2
  R.A. (M M 3/ D.70)
  I.6 (I.4)
  P.N.P., DAS, C.I. (MMPI)
- **Performing coding activities**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  R.A. (M M 3 / D.70)
  16.P.F.-A (G.Z.)

- **Certification as artificers and pyrotechnists**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  R.A. (M M.3 / D.70)
  16 P.F - A./ 6P.F. (G.Z.)
  M.M.P.I. -2 (P.N.P, C.I, CATTEL)
- **Certification as firearms trainers**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  R.A. (M M 3. /D.70)
  6 P.F., PNP (M.M.P.I.)
- **Performing activities which imply psycho-social risks**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  R.A. (M M.3 / D.70)
  16 P.F - A, P.N.P, D.A.S../ (M.M.P.I.)
- **Certification for sailing positions**
  Bio data FA3
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  B.53 (R.A)
  6 P.F., D.A.S. (P.N.P, C.I, CATTEL)
- **Certification as trainers and evaluators of applicants for driving licence**
  Bio data FA3
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  Baraj / B.G. 10
  B.53/MM. 3 (R.A)
  6 P.F, (A.E.P.S.)
  C.I. (D.A.S.)
  Reaction time / vigilance – Psi Ruteva
- **Certification for driving work vehicles**
  Bio data FA3
  Attention test 1/ Attention test 2 (Rollof/ Bg10)
  MM. 3 (D.70)
  6.P.F, (A.E.P.S.)
  C.I. (D.A.S.)
- **At the request of the physician specialist in labor medicine, for other employees, according to legislation regarding protection of employees' health**
  Bio data FA3
  Attention test 1/ Attention test 2
  B.53/MM. 3 (R..A.)
  A.E.P.S. (6 P.F / D.A.S.)
  C.I.
  Reaction time / vigilance – Psi Ruteva
- **Jobs with particular working conditions (e.g. working at height, working in very high, high, medium and low voltage networks, security agents)**
  Bio data FA1
  Attention test 1/ Attention test 2 (Rollof/ Bg10)

B.53/MM. 3 (M.62 / D.70)
16 P.F. -A/ 6 P.F. (G.Z.)
D.A.S (C.I.)

An analysis of the above mentioned measures highlight the lack of adequacy/ improper use of a number of them for use in psychological assessment for selection. There are several arguments for this lack of adequacy:

- Some of these measures are publicly disclosed, especially online.Although test materials were kept securely within the Ministry of Internal Affairs, some instruments are available online (e.g. http://www.scritub.com/sociologie/psihologie/ Testul-Praga-test-de-atentie-d155321237.php, http://documents.tips/documents/testul-de-atentie-concentrata-toulouse-pieron.html). These are instruments developed in the '60 – '80. The usefulness of these instruments is as a consequence severely impaired, and test performance is unfairly influenced.
- For some of the instruments used in the psychological assessment the technical and user documentation does not provide enough data to evaluate their validity and reliability and recent investigations of their psychometric characteristics have not been undertaken. As an exemple, the tests developed by George Bontilă and described in ”Abilities and their measurement”and its supplement ”Ability tests” published in 1971, does not offer sufficient information on their validation process. Moreover, recent empirical investigations of their psychometric properties on relevant populations were not undertaken.
- Many of the instruments used are outdated, being at least 20 years behind current theories and models in the literature. For example, none of the personality inventories in use does not assess the Five Factor model (Big Five), which a 'mainstream' personality taxonomy, although meta-analytic data show that the five dimensions represent valid predictors of job performance, and higher validity coefficients were found for inventories developed to assess the Five factor model;
- Some of the instruments used in the psychological assessment are now protected by copyright law and can no longer be used. Their purchase and of other instruments protected by copyright law was possible just for a limited number of uses compared to the number of persons assessed, due to bugetary constraints.
- Empirical data on (possible) group differences in test performance are not available. Evidence on validity to support intended use of instruments in test takers groups are not available.
- The psychological assessment includes unstrutured interviews which were proven to have lower validity coefficients, compared to structured interviews;
- Moreover, psychological assessment does not include integrity tests, while corruption represents one of the vulnerabilities or threats in the case of a public institution.

So, guidelines for good practice, outlined also by theGuidelines for test use (ITC, 2001) issuedby the International Test Commission:choice of technically sound tests appropriate for the situation(the test's technical and user documentation provides sufficient information to enable evaluation of the representativeness of test content, appropriateness of norm groups, difficulty level, etc., accuracy of measurement and reliability demonstrated with respect to relevant populations, validity (with respect to relevant populations) and relevance for the required use,freedom from systematic bias in relation to the intended test taker groups, acceptability to those who will be involved in their use, including perceived fairness and relevance; avoidance of the use of tests that have inadequate or unclear supporting technical documentation;use of tests only for those purposes where relevant and appropriate validity evidence is available), consideration given to issues of fairness in testing (the tests are unbiased and appropriate for the various groups that will be tested; evidence is available on possible group differences in performance on the test; empiricaldata relating to differential item functioning (DIF) is available, where relevant; evidence support the intended use of the test in the various groups; effects of group differences not relevant to the main purpose - e.g., differences in motivation to answer, or reading ability - are minimised); review appropriateness of the test and its use(monitor and periodically review changes over time in the populations of individuals being tested and any criterion measures being used; monitor tests for evidence of adverse impact; updating information regarding the norms, reliability and validity of the test) etc. (ITC; 2000).

Moreover, several internal analyses of the Center for Psychosociology (e.g., a SWOT analysis from 2010 and a Progress Report from 2012) outlined, in highlighting the most important weaknness and constraintsidentified, the lack of technical and methodological instrumentsnecessary in the professional activity, that will comply with the requirements of Romanian Board of Psychologists.The documents stress that the problemes identified areseverely influencing the quality of professional activityand the image of the institution and of the profession.

The documents also mention the strenghts of the institution, such as its long tradition (it was established in 1971; after 1991, following the restructuring and reorganization of the defence, national security and justice system, several independent institutions resulting from this process such as the Romanian Foreign Intelligence Service, the Romanian Intelligence Service, the Protection and Guard Service, the Special Telecommunications Service have established their own psychological units what are staffed with psychologists from Psychological Testing Center),
its prestige at national level (*at the moment the Center for Psychosociology represents one of the biggest institutions of its kind in Romania considering the number of psychologists employeed, the annual number of psychological acts performed and the number of employees that are the beneficiaries of the psychological services offered*), the institutional regulating norms are generally aligned with the national legislation regarding psychology, the highly specialisted personnel, disponibility to cooperate with national and international partners.

To conclude, new tools, methods and techniques to be used in the psychological assessment of personnel are highly needed in order to improve the personnel selection process, employee job performance and finally to contribute to an increased level of efficiency of the institution.

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