BrightlightOn Scientific methodology

Abstract

This paper outlines the scientific basis for the BrightLightOn methodology. The rationale behind the methodology is a combination of psychological theory and statistical theory. Psychological theory and Statistical theory have been applied to 36,351 tests over a 63 month period.

The outputs from a Cognitive - Statistical methodology, based on the Luscher Colour Test are analysed using statistical analysis and coefficients calculated based on a Cronbachs Alpha Analysis.

This paper shows that with an analysis base of N=3000, chosen at random from a participant sample base of 36,351 with 57 stimulus words, 110 analysed variables with data collected from Jan 2008 to April 2013 a Cronbachs' Alpha of between 0.8 and 0.9 is obtained.

This paper finds that there is a good to excellent correlation between the results from the Luscher based Cognitive - Statistical test and the consistency of the statistical analysis.

Further study by Professor Allen Thurston, Professor in the School of Education and Director of the Centre for Effective Education, is currently taking place to identify the correlation between the BrightLightOn Methodology and improvement in Academic results.

Contents

Introduction to Psychological Analysis

This technique is based in the well established Lüscher-Colour-Test invented by Dr. Max Lüscher[1-20] in Basel, Switzerland. The Lüscher colour test is a psychological test invented by Dr. Max Lüscher in Basel, Switzerland. Max Lüscher believed that sensory perception of colour is objective and universally shared by all, but that colour preferences are subjective, and that this distinction allows subjective states to be objectively measured by using test colours.

Lüscher believed that because the colour selections are guided in an unconscious manner, they reveal the person as they really are, not as they perceive themselves or would like to be perceived.

Lüscher believed that personality traits could be identified based on one's choice of colour. Therefore, subjects who select identical colour combinations have similar personalities. In order to measure this, he conducted a test in which subjects we shown 8 different coloured cards and asked to place them in order of preference. Colours are divided between "Basic" (blue, yellow, red, and green) and "Auxiliary" (violet, brown, grey, and black).

The BrightLightOn methodology adapts Lüschers' colour methodology and adds words into the methodology. The person taking the test is asked to respond emotionally to the word by selecting three colours.

The methodology is defined as follows; by submitting to any type of impulse, a picture, a video, a sound, etc. we provoke an association in the person between the impulse and the mind, which cannot be consciously influenced, ignored or interrupted. The person produces this association immediately. So, the association occurs in every case immediately after the impulse is submitted.

Sometimes automatic emotional responses can then be rationally corrected, for example using one's previous experience or having an expected outcome. The person asks a question such as:

- What is the proper reaction to this?
- How do I answer this 'correctly'?
- If I say this, what will the consequences be?

If, however, we deal with "uncensored" authentic emotional responses, we acquire a very different, deeper and more wholesome view.

- For example, if we ask the question 'Do you like your manager?' you may wish to answer 'No'. However, to rationally correct this answer you may consider, how do I answer this 'correctly'? , and what will the consequences be? Therefore the person may answer 'Yes' to the question 'Do you like your manager?' This methodology bypasses the rational.

The "Colours & Words" method is one of the few methods which deal with measuring and evaluating these "authentic uncensored emotional responses". Using this method we can submit impulses in various forms (words, pictures, etc.). These words provoke emotional responses to which the person is instructed to react via selecting three colours. After evaluating their answers and comparing them with the norm, we can describe the psychological characteristics of their association quite precisely.

How do we achieve this with eight colours, or more precisely eight coloured spheres? Colours are not used in this diagnostic method to work with the symbolic meaning of colours, as people often think.

Colours are not employed to represent blue, red, yellow etc. as such. The reason for using colours in detecting emotional responses and their psychological dynamic in a complexly structured psychological field is that each colour represents a part of a physically and exactly measurable frequency field of colour. As a result, people are able to distinguish with the help of matching colours.

By the analysis of their associative links, the person provides experts with basic material, enabling them to describe the dynamics of his/her inner way of experiencing and processing the world.

The on-line sensor of BrightLightOn Methodology emotional responses is simply an instrument used to capture original emotional responses with the help of colours, evaluate them and transform them into results, parameters and conclusions. Even though it may look like "playing with colours", the psycho-diagnostic method of BrightLightOn Methodology emotional responses functions on a neurobiological basis.

The technique of colours and word emotional responses is a combined projective technique using a palette of eight colours and calibrated sets of words, which can be adjusted according to the focus of a certain problem.

In our case monitoring these emotional responses is possible thanks to a computer program, the so-called sensor. It is a radically new attitude to diagnostics and intervention to those previously known in classical psychology or psychiatry, where colours have been used in reputable psychological methods for a very long time (knowledge of colours has been employed by ancient Chinese and Sumerian philosophers).

Lüscher first pointed out the trans-cultural transferability that the colours show. This assumption was then additionally confirmed by the most recent studies of the human brain, which registered extensive webs of neurons working on processing colours, time and space that are not dependent on the cultural environment in which the individual or the group lives.

This knowledge served as inspiration for a team of Czech experts led by psychologist Jiří Šimonek, who has spent his life studying colours and BrightLightOn Methodology emotional responses. The result of over forty years of psychological research in this area is the technique of BrightLightOn Methodology emotional responses together with the on-line sensor. Due to its original synergic connection of interdisciplinary methodological and methodical sources and grounds, the BrightLightOn Methodology association is rightly ranked with progressive psycho diagnostic methods of the new generation.

This combined technique is one of the so-called blind techniques. This means that the respondent has very little opportunity of adjusting his/her answers to the expectations and opinions of others. During testing, he/she is not limited with the quantity or quality of available information or the level of his/her rational thinking. This is because the respondent uses association mechanisms, which are almost uniform in all people.

The technique of BrightLightOn Methodology association went through many stages from picking colours to picking coloured cards and working with imaginary colours as well as using the three dimensional colour spheres encircling a word. This is the layout we now use in our on-line sensor.

Cronbachs' Alpha – Theoretical basis

In statistics, **Cronbach's (alpha)**[21-36] is a coefficient of internal consistency. It is commonly used as an estimate of the reliability of a psychometric test for a sample of examinees. It was first named alpha by Lee Cronbach in 1951, as he had intended to continue with further coefficients. The measure can be viewed as an extension of the Kuder–Richardson Formula 20 (KR-20), which is an equivalent measure for dichotomous items. Alpha is not robust against missing data. Several other Greek letters have been used by later researchers to designate other measures used in a similar context.[2] Somewhat related is the average variance extracted (AVE).

Cronbach's alpha statistic is widely used in the social sciences, business, nursing, and other disciplines. The term *item* is used throughout this article, but items could be anything — questions, rates, indicators — of which one might ask to what extent they "measure the same thing." Items that are manipulated are commonly referred to as *variables*.

Definition

Suppose that we measure a quantity which is a sum of K components (*K items* or *testlets*):

$$X = Y_1 + Y_2 + \cdots + Y_K.$$

Cronbach's α is defined as

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} \sigma_{Y_i}^2}{\sigma_X^2}\right)$$

where σ_X^2 the variance of the observed total test scores, and $\sigma_{Y_i}^2$ the variance of component *i* for the current sample of persons.[24]

If the items are scored 0 and 1, a shortcut formula is[4]

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} P_i Q_i}{\sigma_X^2}\right)$$

where P_i is the proportion scoring 1 on item *i*, and $Q_i = 1 - P_i$. This is the same as KR-20.

Alternatively, Cronbach's α can be defined as

$$\alpha = \frac{K\bar{c}}{(\bar{v} + (K-1)\bar{c})}$$

where K is as above, $\bar{v}$ the average variance of each component (item), and $\bar{c}$ the average of all covariances between the components across the current sample of persons (that is, without including the variances of each component).

The *standardized Cronbach's alpha* can be defined as

$$\alpha_{\text{standardized}} = \frac{K\bar{r}}{(1+(K-1)\bar{r})}$$

where K is as above and $\bar{r}$ the mean of the $K(K-1)/2$ non-redundant correlation coefficients (i.e., the mean of an upper triangular, or lower triangular, correlation matrix).

Cronbach's α is related conceptually to the Spearman–Brown prediction formula. Both arise from the basic classical test theory result that the reliability of test scores can be expressed as the ratio of the true-score and total-score (error plus true score) variances:

$$\rho_{XX} = \frac{\sigma_T^2}{\sigma_X^2}$$

The theoretical value of alpha varies from zero to 1, since it is the ratio of two variances. However, depending on the estimation procedure used, estimates of alpha can take on any value less than or equal to 1, including negative values, although only positive values make sense.[26] Higher values of alpha are more desirable. Some professionals,[27] as a rule of thumb, require a reliability of 0.70 or higher (obtained on a substantial sample) before they will use an instrument. Obviously, this rule should be applied with caution when α has been computed from items that systematically violate its assumptions. Furthermore, the appropriate degree of reliability depends upon the use of the instrument. For example, an instrument designed to be used as part of a battery of tests may be intentionally designed to be as short as possible, and therefore somewhat less reliable. Other situations may require extremely precise measures with very high reliabilities. In the extreme case of a two-item test, the Spearman–Brown prediction formula is more appropriate than Cronbach's alpha. [28]

This has resulted in a wide variance of test reliability. In the case of psychometric tests, most fall within the range of 0.75 to 0.83 with at least one claiming a Cronbach's alpha above 0.90 (Nunnally 1978, page 245–246).

Internal consistency

Cronbach's alpha will generally increase as the intercorrelations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because intercorrelations among test items are maximized when all items measure the same construct, Cronbach's alpha is widely believed to indirectly indicate the degree to which a set of items measures a single uni-dimensional latent construct. However, the average intercorrelation among test items is affected by skew just like any other average. Thus, whereas the modal intercorrelation among test items will equal zero when the set of items measures several unrelated latent constructs, the average

intercorrelation among test items will be greater than zero in this case. Indeed, several investigators have shown that alpha can take on quite high values even when the set of items measures several unrelated latent constructs.[8][1][9][10][11][12] As a result, alpha is most appropriately used when the items measure different substantive areas within a single construct. When the set of items measures more than one construct, coefficient omega_hierarchical is more appropriate.[34][35]

Alpha treats any covariance among items as *true-score* variance, even if items co-vary for spurious reasons. For example, alpha can be artificially inflated by making scales which consist of superficial changes to the wording within a set of items or by analyzing speeded tests.

A commonly accepted rule of thumb for describing internal consistency using Cronbach's alpha is as follows,[36][37] however, a greater number of items in the test can artificially inflate the value of alpha[39] and a sample with a narrow range can deflate it, so this rule of thumb should be used with caution:

Cronbach's alpha	Internal consistency
α ≥ 0.9	Excellent (High-Stakes testing)
0.7 ≤ α < 0.9	Good (Low-Stakes testing)
0.6 ≤ α < 0.7	Acceptable
0.5 ≤ α < 0.6	Poor
α < 0.5	Unacceptable

Generalisability theory

Cronbach and others generalized some basic assumptions of classical test theory in their generalisability theory. If this theory is applied to test construction, then it is assumed that the items that constitute the test are a random sample from a larger universe of items. The expected score of a person in the universe is called the universe score, analogous to a true score. The generalisability is defined analogously as the variance of the universe scores divided by the variance of the observable scores, analogous to the concept of reliability in classical test theory. In this theory, Cronbach's alpha is an unbiased estimate of the generalisability. For this to be true the assumptions of essential $\mathcal{T}$-equivalence or parallel-ness are not needed. Consequently, Cronbach's alpha can be viewed as a measure of how well the sum score on the selected items capture the expected score in the entire domain, even if that domain is heterogeneous.

Intra-class correlation

Cronbach's alpha is said to be equal to the stepped-up consistency version of the intra-class correlation coefficient, which is commonly used in observational studies. But this is only conditionally true. In terms of variance components, this condition is, for item sampling: if and only if the value of the item (rate, in the case of rating) variance component equals zero. If this variance component is negative, alpha will underestimate the stepped-up intra-class correlation coefficient; if this variance component is positive, alpha will overestimate this stepped-up intra-class correlation coefficient.

Factor analysis

Cronbach's alpha also has a theoretical relation with factor analysis. As shown by Zinbarg, Revelle, Yovel and Li,[35] alpha may be expressed as a function of the parameters of the hierarchical factor analysis model which allows for a general factor that is common to all of the items of a measure in addition to group factors that are common to some but not all of the items of a measure. Alpha may be seen to be quite complexly determined from this perspective. That is, alpha is sensitive not only to general factor saturation in a scale but also to group factor saturation and even to variance in the scale scores arising from variability in the factor loadings. Coefficient omega_hierarchical[13][14] has a much more straightforward interpretation as the proportion of observed variance in the scale scores that is due to the general factor common to all of the items comprising the scale.

Cronbachs' Alpha as applied to the BrightLightOn Methodology

This chapter explores statistically selected variables which are used to scan and represent an in-depth picture of individuals and demonstrate the statistical reliability within a randomly selected data set. The selected variables, which are applicable to conventional statistical methods, are used for item by item analysis within the surveys. The results present the variable factors which are extracted and measured for their reliability.

For the methodological evaluation we assume that the item analysis, which is commonly used in the development of classical and other tests, can be a useful tool for the analysis of our variables.

We build an in-depth picture of the individual dependent on the statistical analysis of various items and variables. The basic building block of the classical tests is a battery of related items (questions) that relate to one psychological construct. The basic building block of the classical test requirement that we shall use will be a verified multiple correlation. We will provide a factor analysis for classified items (signs and variables), which are statistically significantly and are correlated with each other. We analysed those items which are closely related. Our condition for the battery of tests is to ensure that we consistently measure the same item, that is, the same construct. Using our factor analysis we then extracted factors and sub-factors that possibly identify the so-called latent variables. Consequently we can then be assured of the analysis of the reliability factors and sub-factors. We then optimize the composition of the battery of tests on the items so that the items which correlate with the weaker variety of factors are rejected, and those that correlate with the stronger variety of factors are emphasised. Therefore over time, and with additional tests, there are new items which emerge with stronger correlated parameters.

Our ‘Item’ analysis includes the following methods:

1 Multiple correlations.

2 Reliability analysis.

3 Factor analysis.

The battery of stimulus questions in the classical tests are usually the Likert scale summed estimates, i.e. ordinal scale with different numbers of steps, most with 5 degrees.

The battery of responses to the stimulus words for the BrightLightOn Methodology association methods also have a similar ordinal scale - a rank of 8 colours and combinations of colours.

Our 'Item' analyses 110 variables to give an in-depth picture of the individual, and in our case to see if it can be extracted to provide latent variable constructs (factors) which are measured at a higher level for the same individual. We can also construct extracted factor analysis, and describe their parameters for the individual.

Requirements

- Variablesfor a battery of tests, variables to be significantly correlated, minimum at r = > 0.3.

- Reliabilityfor a battery of items (variables) must not fall below 0.6 measured by Cronbach's alpha reliability coefficients, Guttmann lambda, GLB and omega_total.

- The extracted factor has to be one-dimensional, one has to measure the construct,

- The extracted factor can be meaningfully named and defined,

- The proportion of the variation in the factors should not be less than 50 %.

In addition to the other requirements relating to reliability others are clearly measurable and the results can be clearly interpreted. The most widespread measure of reliability confidence is still Cronbach Alpha. Concurrently, however, there are several alternative reliability measures, Guttmann lambda 1-6, GLM, omega_hierarchical and omega_total, Rewellova beta, and other lesser known ratios. There is a debate about whether Cronbach alpha is a good measure of reliability. Therefore, in addition to Cronbach Alpha also identified several alternative measures of reliability, calculated in the statistical system R. We have also used Bartlett's test for Melon et al. (2005) Statistical correlations between tests. Prerequisites for use of the factor analysis we tested using the Kaiser - Mayer - Olkinovou rate (KMO) KMO is under Meloun et al. (2005) index that compares the size and experimental coefficients in relation to coefficients. For the evaluation of the test results, we used the following table:

The evaluation index KMO

0.9 = Excellent correlation

0.8 is still a good correlation

0.7 average correlation

0.6 The mean correlation

0.5 Weak correlation.

Below 0.5 unacceptably low correlation

Bartlett's test for Melon et al. (2005) Statistical correlations Between Test original features, determines variables in the terminology item analysis. Tests statistical null hypothesis Ho, who says "there is no correlation between the items". An alternative hypothesis Ha said it was "a correlation exists between the items" tested.

We at significance level alpha = 0:05. If Bartlett's test p value is less as specified significance level of the test, then we do not have enough good reasons to. We accept the null hypothesis. In practice this means that we can take alternative statistical hypothesis, which argues that there is a correlation between items.

Terminological remarks

We used two types of factor analysis. First we extracted components factor analysis method of principal components, and then we verify one-dimensionality and other parameters of the model factor analysis correlation method. Therefore, we generally use the term factor, but when interpreting tables of principal components analysis we use the term components. Variables used in the process of item analysis will be called items.

Sample data

He was selected following sample of data on April 9, 2013.

Number of respondents 3000

The period of data collection January 1, 2008 to April 9, 2013

The age range 6-15 years

Average age 9.607

Number of boys in 1581

Number of girls 1419

Sample data would be chosen so as to enable to demonstrate the reliability of the variable factors. Depth image that is used just for this age group of children primary schools. Sample data was collected when you use the internal school evaluation in primary schools in the country and had to include responses to 57 stimulus words needed for the use of diagnostic profile depth image for individuals ages 6-15.

Respondents are represented from all regions in the country. After applying all the criteria was selected original data sample 36,251 people (18,715 boys and 17,536 girls), which was used for the statistical function RANDOM provided a random selection of data and limited to 3,000 respondents.

The method used a diagnostic profile

For the diagnosis method was used colour-word emotional responses. Group stimulus words are words that respondents react when using a diagnostic profile depth image for individuals aged 6-15 years. Information the selection of stimulus words is available in the BrightLightOn Methodology.

Variable codes are designed according to the chart title and the name of the item the depth image of the individual. The definitions of the variables are available the basic training methods and on BrightLightOn. 110 analyzed variables forming part of variable depth image on individuals that are suitable for the analysis using the item analysis.

Conclusion

We can say that all the extracted factors achieved good to excellent values of reliability in various coefficients. All 18 extracted factors have created units that have been re-named as to match the original meaning of the variables. Naming achieved conjunction with the standard interpretation of individual variables in the whole and election one short concise name.

Measurement in Schools

Our unique “Word & Colour” analysis of the Educational process diagnoses three separate but mutually dependent areas, which are;

1. The effectiveness of Teaching and Learning.

2. The Interplay of Relationships within the school.

3. The Behavioural Risks within the school.

The appropriate mutual interaction of these three areas within the school provide for high quality skills and development of the competencies of students.

Our measurements can accurately measure the current effectiveness of teaching and learning methodologies within the school to assist with predicting the future overall performance of the school at an early stage. Preventative action can be employed in areas of identified concern prior to fire fighting actions.

Measurements accurately highlight the current interplay of relationships within the school, at all levels of management, teachers, classroom assistants and administration staff, effectively producing a complete picture of relationships within the school environment.

We also measure and identify behavioural risks within the school, and if these risks are being managed in a pre-defined way. All pupils, forms, and staff are accepted to have a level of risk without which the overall performance of the school will not be satisfactory. Management of these risks is presented around the level of risks, pastoral care and pupil acceptance of rules.

Effectiveness of Teaching & Learning.

This methodology measures key school factors that have an influence on the effectiveness of teaching and learning in the school. It shows how big their influence is relative to each other, and compared to a general standard (in the Czech Republic) found during five years of diagnostic testing.

This methodology measures the following School factors and their influence on the effectiveness of teaching and learning;

1. The School built environment – specifically classrooms, workshops, canteen, gym, toilets etc.

2. Teachers – how they interact with the specific classes, we measure the effectiveness of the current pedagogy, not the specific learning achieved. Results may take the form of “The teachers are regarded as good at supporting student´ learning independence. Students perceive the overall approach positively. This has a positive effect on the efficiency of teaching and learning.”

3. We measure the effectiveness of teaching and learning in specific subjects – e.g. Maths, Chemistry, and English etc. Some subjects may have gender effects, for example girls may not favour the sciences. Results may take the form of “Students are partially identifying with subject content during lessons are able to take satisfactory advantage of their skills”.

4. The management and evaluation of the teaching process has an effect on how the pedagogy may operate within the class, and we measure the influence of the evaluation on the effectiveness of learning. Results may take the form of “This school’ teaching methods are positively accepted and support the efficiency of teaching and learning.”

5. How school management tools, such as attendance measures, academic results etc. have an influence on the effectiveness of teaching and learning.

6. How career opportunities may influence the effectiveness of teaching and learning within the school. For example, if it is perceived that there are many opportunities with computer studies, but fewer opportunities with art, then this may have an influence on the effectiveness of teaching and learning.

In measuring the effectiveness of teaching and learning we utilise the following ‘associative words’.

The higher the value of individual items, the more influence they have on the effectiveness of teaching and learning in all subjects at your school, the smaller the value, the less influence. Hint: try to use words with high correlation values to form a sentence. For example if 'I can', 'Learning', 'Group Work' and 'Certificate' had high correlations then the sentence you could form would be, 'I can learn through group work to gain a certificate'.

In this specific example we choose, ‘Classes’, ‘Repetition’, ‘Teachers’ and ‘Oral Exam’ we would form the sentence, “I can learn through teacher led repetition in class and oral exams”.

The Interplay of Relationships

We measure 8 different scenarios within the interplay of relationships.

The Interplay of relationships supporting the emergence of students' key competencies:

1. Heaven's gate

This interplay of relationships is the most pleasant one. The class is ready to accept discussed rules, does not block teaching and learning, and even actively supports it. It is normal for the class to talk. The class is obeying the rules and it is not its intention to block the teacher or teaching by talking. If this is happening there are other causes than the talk itself.

2. Rose tinted Glasses

This interplay of relationships is uneasy for the teacher. There are clearly to be seen requirements and conditioning towards the teacher. The teacher clearly sees the pressure from the class in the conditioning of “how to learn and work“. The class is not blocking the teaching in any way, but it is not able to accept the conditions from the teacher that would be inadequate (or the teaching style). The class usually asks for higher-than-usual tolerance and respect for its conditions and requirements. If the teacher insists on his model, the class can easily resign to a teaching and learning style, which has an adverse effect on teaching and learning.

3. Truth bulldozer

This interplay of relationships is very hard for the class. The communication from the teacher is uncompromising, intolerant, and with no respect to the abilities of the class at all. The class is presented with the teaching, learning, behavioural, performance, evaluation and social rules, without discussion. The teacher is not blocking the class activity, (it is asked for) if the class accepts the conditions and the teaching style. This interplay of relationships is the “authoritative style", which diminishes individual creativity and does not allow for an authentic relationship between the teacher and the class.

The Interplay of relationships that significantly lower the emergency of skills and key competences:

4. War valley

This is a mutually aggressive, full of conflict interplay of relationships. It is not stable and it lasts only for a short period of time. Very often it is this interplay that is diagnosed as bullying. It is a struggle between the groups inside the class, which is supported by the immense teachers’ pressure on accepting his conditions. Both sides only show their views, and the effectiveness of teaching and learning is damaged. The teacher can usually not find solutions and uses extreme conditions.

5. Mount Everest

This interplay of relationships is hard to bear for both sides (the teacher and the class). Communication between the parties is very difficult. The class does not produce activities, that would have adverse effect on teaching and learning, but it permanently exerts pressure to change the

conditions. The teacher is mostly under high pressure and requests for tolerating different conditions. The class does not have a common feeling of success.

Interplay of relationships, counter-productive for the emergence of skills and key competences of the students:

6. Defence in the trenches

In this interplay of relationships the class is blocking the teachers activities by manipulative or substitute conditioning, which makes it unable for the teacher to have influence in the teaching. Effectiveness of teaching and learning is adversely affected. The class does not give any sign of effective skills emerging. Information can be gathered by single individuals, but not in public. The teacher usually shows his / her underestimation of the human and performance quality of this class. From real life we can see, that this occurs mostly in classes, where there are more under-performing students, who have been placed there “in order to make teaching in other classes easier“. The real effect is that it discourages even good teachers.

7. Bulldozer of anger

This interplay of relationships is aggressive from the teachers’ side. It takes place in constantly negative and enforcing tension (from the teacher). The teacher pushes all performance, evaluation and social rules, uses punishing models and underestimating of the class performance, even individuals within the class.

The class activities concentrate upon blocking teachers’ activities. This adversely affects the effectiveness of teaching and learning. Good results are provided only under extraordinary pressure and threats from the teacher. Statistically, this interplay of relations is very scarce, but the more important, when diagnosed that it is recognised.

8. Gate to hell

In this interplay of relations the class ignores the teacher. The communication takes place as if parallel without interaction. Class is inherent to the teacher, unable to influence each other in any positive way whatsoever, as their life value orientations differ totally. This interplay of relationships is very stable and unchangeable. The effectiveness of teaching and learning is low. The class does not accept negative performance evaluation. It can happen, that the class „just sits there“. This model is often used in unplanned substitute teaching.

Behavioural Risks

We measure 6 different risks within school.

Everyone has a certain degree of initiative. This allows us to get excited or become anxious, to take risks for our goals, to take action, to submit to assessment, to belong to a group, or to feel good and be relaxed. It's about how much of the individual risk factor we have (genotype) and how we use it (phenotype).

1. Elated or anxious: This is the need to desire something, to be enthusiastic about something, and to quickly and eagerly have the desire satisfied. If uncontrolled, highly passionate behaviours could result in extreme activities forfeiting restraint. On crossing a certain threshold they may appear uncontrollable resorting to addictive behaviour.

2. Taking risks: The need for risk, to benefit from the adrenalin rush, and the need to push your limits to how far you can go. On crossing a certain threshold they may appear uncontrollable resorting to extremely risky behaviour.

3. Taking action: The need to perform, to make something, to create something, to move something, or to do something. To satisfy this desire requires some action. It may also manifest in excessive reaction, signs of irritation, impulsiveness, or violent actions. On crossing a certain threshold they may appear uncontrollable resorting to destructive aggression.

4. Submission to assessment: The acceptance of self and peer assessment of social status with self generated groups. The ability to inspire and learn from one´s surroundings. An acceptable and effective way to pick up ideas, knowledge and opinions from others. On crossing a certain threshold they may appear professing others values and plagiarism.

5. Social acceptance: The need to be accepted, to belong to a group, is approved by members resulting in feelings of inclusion and protection. On crossing a certain threshold they may appear uncontrollable resorting to excessive nervousness.

6. Regulating feel good factors: The feel good factors resulting from the way we realise or fall short of one´s initiatives. On crossing a certain threshold they may result in uncontrollable addictive behaviour.

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