



Validity of color-word association technique and the CAmethod

We tested two hypotheses (expert diagnostic constructs) by Lawrence E. Shapiro, published in the book “**Emotional intelligence and the child's development**”, Portál 1998, page 65, relating to **Shame and Guilt** issues.

To test both hypotheses we used the summarized **color-association profile**. It contains a record of choices of **56 possible triple color combinations** to a specific word-object, commonly used in scanning via color-word association technique and stored in the DAP Services a. s. database. For the purpose of validating both processes we **have randomly generated, from the database**, a sample of 20. 000 children and adolescents, aged from 8 to 19 years and a sample of 20. 000 adults, aged from 20 to 65 years. Shame and Guilt are identified in the above mentioned publication only for the children. Due to the fact that both processes occur in common practice when dealing with the adult population as well, we have taken the liberty of extending experimental testing of both hypotheses to adults as well.

SHAME - validated by the word-object - **I am ashamed**

In the above mentioned publication **Shame** is defined as: "**A kind of extreme embarrassment, which occurs when children feel that they did not act in compliance with other people's expectations.**"

L.E. Shapiro assumes and experimentally demonstrates that the **starting point** of the **psychic process** known as **SHAME** is a **confrontation between the child's behavior** in reality and the known or expected **quality of behavior, the value of which was "established by others"**.

He therefore **assumes**, that the child must be able to recognize and realize its behavior (**quality self-reflection**) and be capable of recognizing and realizing the criteria established by a “group of people from the outside world” (**quality assessment**). From the developmental point of view, **shame** is connected to an age at which the child is capable of realizing and evaluating differences between various types of human behavior. At this stage we will not contest such a statement in order to keep an already complex subject relatively comprehensible.

In order to study “**external realization group norms**” and the quality of emotional “**acceptance and evaluation**” the **CAmethod** and the interpretational model define two **colors: blue and yellow** – they are **interconnected to create an associational pair**. Keywords for **measuring the quality** of such externally set rules are word-objects: **I may** and **I may not** within the social subsystem of consciousness. Such a complex and **integrated self-reflective evaluation** (mode + meaning of behavior) should be “automatically included” in **overall self-reflection** (Selfhood), represented by the measuring of the **central reference word object ME** (see the working materials pertaining to the model of consciousness) in the model of consciousness.



If such **self-reflective assessment** truly occurs in the integrated consciousness of a child (evaluating one's behavior through externally set norms) **and provokes or doesn't provoke the process of shame**, such a "dynamic associational stereotype" should be **measurable through the use of color-word association and the CAmethod**.

In case we wish to diagnostically differentiate whether the process of shame is manifested mostly physically or mostly mentally, we must test the hypothesis using two more central reference word-objects: **My body** and **My psyche**. **For this purpose we only use the word-object: Me**.

Word-object: ME (the central reference object of inner identity and integrity of consciousness = conscious mental construct of all four basic subsystems of consciousness), should **correlate with the word-object: I am ashamed** (topical word object for measuring of shaming process), **on the level of a group phenomenon establishment** (L.E. Shapiro predicts that it is a process common to all children – encoded in a species).

The qualitatively **numerical boundary of correlation**, which must be measured within the consciousness model in order to predict that the phenomenon is truly related to a group and a species (occurs in all children), **was standardized** on a large sample of children and adults (see description in the introduction) **to +0.650** for all used word-objects. If the measured value of object correlation does not reach this numerical boundary, the process is individualized (employed by a number of individuals) rather than related to a group and a species (employed by the population or an age group as a whole).

The CAmethod was used to measure the correlation of color-associational profiles **between the objects Me and I am ashamed: the result for the adult population was +0.6571, the result for children was +0.7192**. Both values fulfill the criterion; the children's results show a tighter correlation than the adult group's results.

The CAmethod establishes Shame as a group phenomenon occurring both in children and adults. It can therefore be assumed that man (regardless of age) incorporates the process of shame into the self-reflective evaluation and that this process may be taken into account whenever groups are considered as an intervening variable.

The experience of testing L.E. Shapiro's hypotheses of SHAME (see the mentioned publication) by using the color-word association technique and the CAmethod conveys that the phenomenon is effectively measurable and assessable.

GUILT- validated by the word-object - My guilt

In the mentioned publication **Guilt** is described as follows: "It occurs when children do not meet their own internal norms of behavior."

L.E. Shapiro assumes that the **starting point** of this **mental process** is a **confrontation between the child's behavior** and the known or expected **quality of behavior, the norms of which are "established by the child itself"**.



He therefore works with the **assumption** that the child must be capable of recognizing its own behavior (**quality self-reflection**) and capable of recognizing the values which it establishes on its own (**quality introspection**).

The **CAmethod** and the interpretational model of consciousness define two primary colors for the findings of "**internal autonomous world**" norms: **green and red - interconnected in an associational pair**. For **measuring the quality** of such internally defined rules, the key **words-objects are: I can and I cannot** – in the mental consciousness subsystem. These are connected to word-objects: **I want and I don't want** – in the energetic consciousness subsystem. This complex and already **integrated self-reflective introspection** should be "automatically incorporated" **into the overall self-reflection** (Selfhood), represented by the measuring of the **central reference word object ME** (see the working materials pertaining to the model of consciousness) in the model of consciousness.

If such **self-reflective assessment** truly occurs in the integrated consciousness of a child (evaluating one's behavior through internally set norms) **and provokes or doesn't provoke the process of guilt**, such a "dynamic associational stereotype" should be **measurable through the use of color-word association and the CAmethod** (see diagram for associational dynamic stereotype – CAmethod working materials).

Word-object: Me (the central reference object of inner identity and integrity of consciousness = conscious mental construct of all four basic subsystems of consciousness), should **correlate with the word-object: My guilt** (topical word object for expressing the process of guilt), **on the level of an individual phenomenon establishment** (L.E. Shapiro predicts that it is a process common to all children).

The qualitatively **numerical boundary of correlation**, which must be measured within the consciousness model in order to predict that the phenomenon is **truly individual, was standardized** on a large sample of children and adults (see description above) **to below +0.200** for all used word-objects.

The CAmethod was used to measure the correlation of color-associational profiles **between the objects Me and My guilt: the result for the adult population was +0.0306, the result for children was +0.1018**. Both values fulfill the criteria. In children and adults **guilt** was thus identified as a **measurable phenomenon** which is **individually specific**.

The CAmethod establishes Guilt as an individual phenomenon occurring both in children and adults. It can therefore be assumed that man (regardless of age) incorporates the process of guilt into the self-reflective evaluation and that this process may be taken into account whenever individual is considered as strictly individual intervening variable.

The experience of testing L.E. Shapiro's hypotheses of Guilt (see the mentioned publication) by using the color-word association technique and the CAmethod conveys that the phenomenon is effectively measurable and assessable.



Summary chart

Process	Correlation Me - Children	Correlation Me - Adults	Variable type
SHAME	+0.7192	+0.6571	Group
GUILT	+0.1018	+0.0306	Individual

Similarly, as above, it is possible to psychometrically **construct and validate any other word-objects** which are commonly used in scanning via **color-word association technique** and which has a large enough quantity of color triple combination data in the DAP Services a.s. database (see current numbers of scanned persons on www.dap-services.cz).

Based on that it is also possible to construct **semantic factors** (sets of word-objects focused on a specific area of an individual's/a group's behavior), which show a sufficiently **high internal measurement correlation** (reliability above 0.95). The company subsequently uses this feature to create various specific products (stress potential, adaptation potential, etc.).

12th December 2008

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