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## Special Introduction for The Symposium

In Early Child Education, the connection between children- parents and scientists of different disciplines influenced economy, society and ethics. Major influence came also from the perception of a holistic approach of the child. Today, the active role of the parents within educational and care facilities, the specialization and increased professionalization and the responsibilities of the staff are more recognized.

Changes of society generated new questions related to current needs of the three protagonists (children, parents, scientists of different disciplines), and also related to ways in which the necessary cooperation between them could be harmonic in this new atmosphere of childcare and education spaces. Within a context of combination an innovative functionality is cultivated in early childhood. Additionally, we are searching for contact points with relative professions with common objective the development of the child through love and respect.

The role of preschool education (crèche / day nursery) as a mediator towards society and family in the direction of problem solving considered by experts as primary. Regularly, preschool education creates successful collaboration with specialists to deal with situations or in the context of specific programs.

Furthermore, preschool education has important impact in research studies, since its space that provides interactivity with the family environment of the child for his psycho-emotional development. In this context learning experience may be evaluated to whether effortlessly evolves through routine daily activities of the child.

At the same time research in the day nursery is framing the need for educators' training, seeking on the one hand a professional development, but also satisfying a social demand for better quality of education.

*Prof. T. Sidiropoulou*



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# The Healthy Bodies and Healthy Minds program: Empowering children to make changes

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## Summary

The Healthy Bodies and Healthy Minds program (HB&HM) is an after-school program aimed at helping school-age children learn how to make better lifestyle choices that promote a healthier life. Over the past four years the program has had as its focus teaching children how to make better food choices, and how to increase their level of physical activity. This paper describes a particular nutrition unit entitled “Recipe Remakes” in which children were given the tools to revise their favorite recipes and create healthier versions. Data collected through pre and post assessment suggest that students were very successful in using the learning tools to create healthier versions of their favorite recipes.

## Introduction

Childhood obesity is rapidly becoming one of the most serious threats to children’s development. Over the past 40 years the U.S incidence of childhood obesity has increased more than 50% for children and adolescents ages 6-17 (Ogden, Carroll, Curtin, McDowell, Tabak, & Flagal, 2006). Childhood obesity carries severe consequences. Obese children are often rejected by their peers, socially isolated, and suffer from low self-esteem (Davis & Fitzgerald, 2008). In addition to psychological and social effects, childhood obesity has severe physiological effects such as early onset of type II diabetes, cardiovascular diseases, and asthma. Rates of childhood obesity are particularly high in the rural Southeastern U. S. ranging from 39.7% of all children in the state of Mississippi to 34.1% in Tennessee (National Survey of Children’s Health, 2011). Some of the factors that have been identified as contributing to this epidemic of childhood obesity are lack of physical activity and a diet high in sugar, fats, and processed foods.

Healthy Bodies and Healthy Minds (HB&HM) is an educational program located in the Southeastern US that was created with the goal of helping address the childhood obesity epidemic by providing children with a better understanding of the nutritional value of foods, how to make better food selections, and how to increase their physical activity. Over the past five years we have developed a series of lessons with the aforementioned goals. In this paper we are describing one of our new HB&HM lesson units entitled “Recipe Remakes”.

In this unit, we wanted to introduce children to the following concepts: a) some ways of cooking are healthier than others, b) we can substitute healthier cooking techniques for less healthy ones, c) we can still enjoy our favorite recipes by changing them to healthier versions.

## Materials and Method

### Method

#### Participants.

A total of 54 children matriculating in a public middle school located in a rural area of the US participated in this study. Children’s age ranged from 8-12 years of age. Ninety eight percent of the children were Caucasian. Sixty percent of the children were male and 40% were female. All children participating in this study were attending a two-hour after-school program that took place at the school after the regular school day.

## **Procedure.**

HB&HM instructors (college students who created the lesson) in teams of five to six instructors visited the after-school program once per week for several weeks in the fall and once in the spring. During the fall, the team administered the pre-test, collected recipe information and taught the HB&HM "Recipe Remakes" unit to the children during the after-school program. This unit was comprised of several lessons taking place over several weeks during the school year. Each lesson took approximately 45 minutes to complete. Students were given a paper and pencil pre-test prior to participating in this unit and were given a post-test four months after the completion of the unit. Rather than a discussion-based lesson, these lessons focused almost entirely on the activity (described below) as the way to teach students about cooking techniques. Students were divided into small groups, and each group had a set of notecards featuring each cooking technique and its description (see Materials below).

## **Activities.**

Prior to the commencement of the unit, children (and their parents) were given a form to complete and return to the investigators. Each form requested children and their parents to write their favorite meals. Researchers collected the completed forms, compiled the information, and selected six of the most "popular" meals. Two of the six meals were used at pre and post test, while the other four were used in the lessons.

In order to familiarize students with different cooking techniques, the students played a game with the notecards featuring cooking techniques. After reviewing the content of the cards, the teams of students took turns drawing a card. During each group's turn, students decided to present the information on the card in either a picture or using charades, but were not allowed to use the technique's name, and students from the other groups raised their hands to guess the technique. Instructors called on students to guess; for each correct guess, the student's team received one point. Groups took turns until they had all gone through each of their notecards. By the end of the game, all students in the class should be very familiar with the different cooking techniques, which would make learning about recipes in the next session easier. One instructor per group of students acted as coach/facilitator and led students in a discussion of the potential negative implications of the "less healthy" ingredients on each card and the potential benefits of the "healthier" ingredients on each card. Instructors helped children review ingredients and answered any questions students might have.

When instructors believed students had become familiar with the cards, they engaged the students in the recipe remake activities. Instructors had chosen one meal and had obtained recipes for each of the dishes in the meal. For example, we used recipes for meatloaf and mashed potatoes. Students were given a "less healthy" recipe for the dishes and then worked together in groups and with the instructor to create an alternative, "healthier" recipe. Groups of students were also given different recipes to change and then presented their new remade recipes to the rest of the class at the end of the session.

## **Materials.**

A. Five sets of cards containing the following categories: a) fats, b) cooking methods, c) grains/starches, d) dairy, and e) meats/poultry. All cards were two-sided, in color, and laminated to withstand repeated use by students. Each set was held together by a binder ring or string. The front side of each card depicted a common ingredient or food (name and picture). The back side of each card labeled "healthier choice," included a list of healthier substitutes for the common ingredient or food featured on the front side. An example would be: front side of the card featured "ice cream" and a picture of an ice cream cone, while the back side of the card featured a list including "low-fat ice cream," "low-fat" or "non-fat frozen yogurt," "fruit sorbet," etc.

B. Sheets containing photographs of the children's favorite recipes, followed by the recipe (ingredients and cooking instructions). At the bottom part of each sheet there was a space in which students could write the suggestions they had for revising the recipe in order to make it healthier.

C. Assessment sheets containing a "traditional" favorite recipe followed by a space in which children could write how they would revise this recipe to make it healthier. Two different types of recipes were included in the assessment. Investigators used a counterbalanced design so that a child who received recipe "A" at pre-test would receive recipe "B" at post-test.

## **Results**

While 55 children participated in the program, only 14 children were present at both pre-test and post-test and were included in these analyses. Children's pre-tests and post-tests were coded by two investigators (inter-rater agreement was 96%). Raters were blind to the condition of the assessment (pre or post). Coding

categories included: a) reducing the amounts of “unhealthy” ingredients in a recipe, b) exchanging existing ingredients in a recipe with “healthier” ingredients, and c) adding ingredients that would make a recipe healthier. Coders coded the number of correct suggestions children made in each of the aforementioned categories.

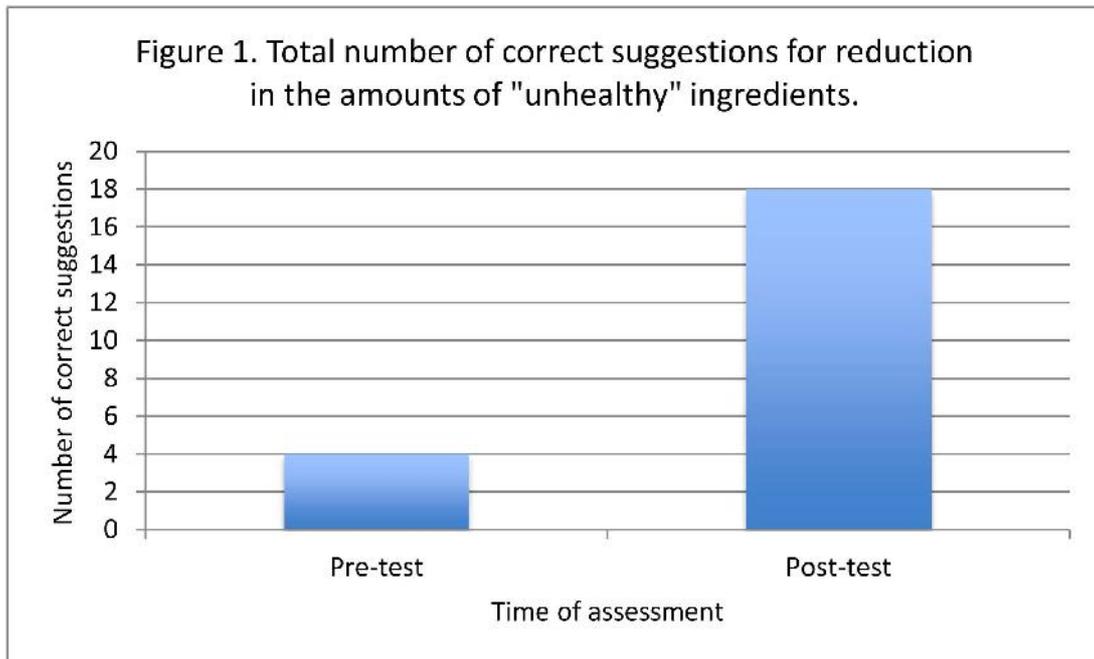


Figure 1. Total numbers of suggestions for reducing the amounts of “unhealthy” ingredients.

Figure 1 depicts the total number of correct suggestions students made for reducing the amounts of “unhealthy” ingredients before and after participating in the HB&HM unit. Results indicate that children’s suggestions on reducing the amounts of “unhealthy” ingredients increased after participating in the “Recipe Remakes” unit.

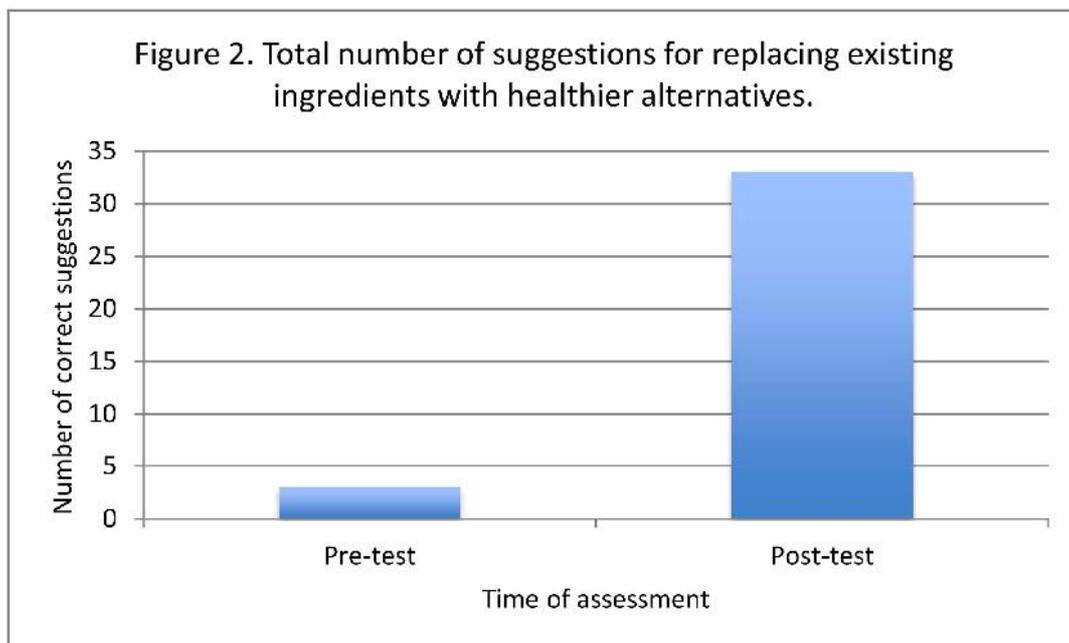


Figure 2. Total number of suggestions for replacing existing ingredients with healthier alternatives.

Figure 2 depicts the total number of correct suggestions children made for replacing existing recipe ingredients with “healthier” alternatives. Results indicate that children’s suggestions on replacing “unhealthy” ingredients with “healthy” ingredients increased after participating in the “Recipe Remakes” unit.

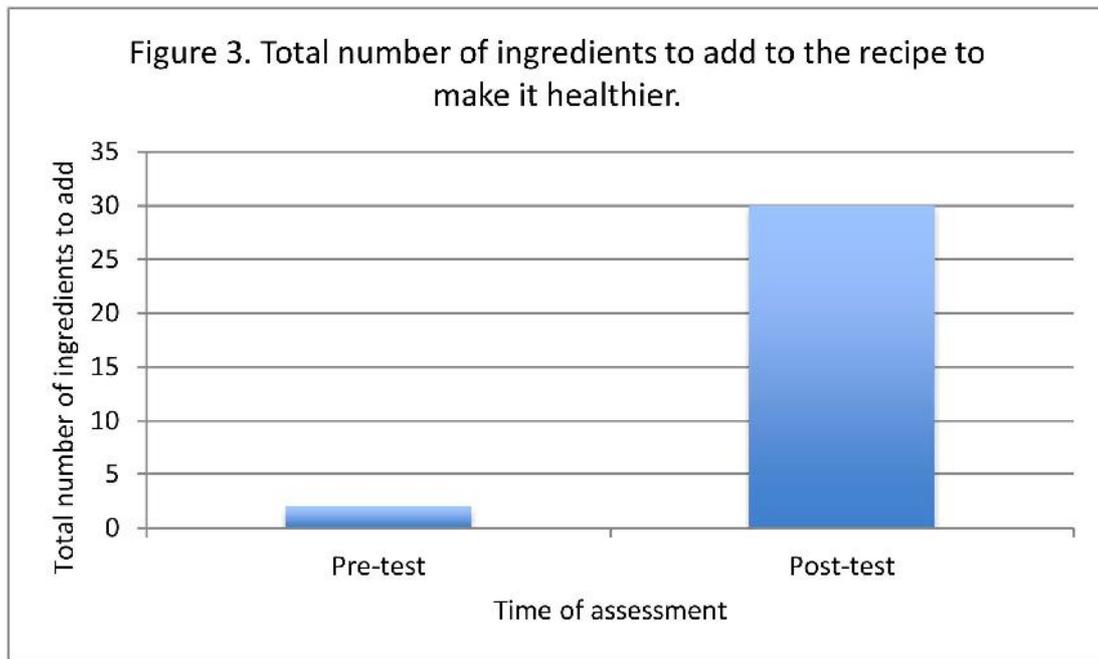


Figure 3. Total number of ingredients to add to the recipe to make it healthier.

Figure 3 depicts the total number of “healthy” ingredients that students suggested adding to the recipe to make it healthier. Results indicate that children’s suggestions on adding “healthy” ingredients to a recipe increased after participating in the “Recipe Remakes” unit.

Table 1

Means and standard deviations for pre and post test assessment

Variable	N	Time			
		Pre-test		Post-test	
		M	SD	M	SD
Reduce amounts	14	.29	.61	1.29	2.13
Exchange ingredients	14	.21	.43	2.36	1.78
Add ingredients	14	.14	.36	2.14	1.56

Table 1. Means and standard deviations for pre and post test assessment

Table 1 depicts the means and standard deviations for all three dependent variables. Analyses of variance using a within-subjects design comparing the pre and post assessment means show that the mean number of ingredients students suggested removing from a recipe to make it healthier increased marginally statistically,  $F(1, 13) = 3.64, p = .079$ . In addition, we found that the mean number of healthier ingredient

exchanges students suggested increased significantly,  $F(1, 13) = 20.01, p = .001$ . Finally, we found that the mean number of ingredients students would add to a recipe to make it healthier increased significantly,  $F(1, 13) = 24.3, p = .001$ .

## Conclusions

Results suggest that the “Recipe Remakes” unit was very successful. Children were far more successful in revising their favorite recipes so they would be healthier after participating in the “Recipe Remakes” HB&HM unit. Of particular interest was the fact that students were able to remember the lessons they learned in recipe remake four months after the completion of the unit. This suggests that children were able to have long-term retention of the information they learned during the “Recipe Remake” lessons. The fact that we were able to demonstrate statistically significant differences in students’ pre and post assessment with students performing significantly better at post-test in two of the three dependent variables and display marginally significant gains in the third dependent variable (especially given our extremely small number of participants) provides strong support for the effectiveness of our “Recipe Remakes” unit.

One major limitation of the study is the small number of students who were able to participate in both pre- and post- tests. The large attrition rate is attributed to the length of time between assessments and the fact that during this time many of the children who participated in the fall assessment and lessons were no longer available to participate in the post-test during the spring assessment. Another limitation is the lack of a control group from the school.

Overall, results suggest that, with the use of learning tools such as index cards, and hands-on learning activities children are able to learn how to revise their favorite recipes to make them healthier and they are able to retain these skills over a long period of time. This provides support to the idea that we need to start teaching healthy cooking habits to children when they are still young and to the hypothesis that such early education efforts will have long-term positive effects.

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# Big Five Personality Traits Associated with High-School Students' Creativity

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## Abstract

The research was aimed to identify personality factors and traits that are associated with different levels and forms of creativity of high-school students, in order to develop a differentiated non-specific creativity stimulation program that could be applied within the formal educational system. Creativity was assessed with the Torrance Tests of Creative Thinking, both figurative and verbal forms, while personality traits were assessed using the Big Five model approach offered by IPIP-NEO Personality Inventory. The statistical procedure used was the Pearson correlation test. The results highlight the strong link between creativity and several personality traits, such as those included within extraversion, conscientiousness and openness to experience factors, traits that could be exploited in order to achieve the educational goal of the modern society, namely to shape the creative personality of the students.

Keywords: verbal creativity, figurative creativity, personality traits, Big Five model, high-school students.

## Introduction

The concept of creativity is still defined in various ways by research designers focused on the matter. When referring to creativity, we have defined it as a universal human potential that can be developed in a proper personal, social and educational environment. At the basis of our conceptualization lies the theory of Abraham Maslow, who introduced the concept of creativity as a self-actualization, referring to a specific type of creativity that is universal and which manifests on a mentally sane ground, in every field, and which could be educated in school just like other skills. We also wrapped our definition around the conceptualization of Edward de Bono, who identifies creativity as a general thinking skill or mode, that can also be trained through exercise and practice.

The rapid changes that the new society we live in is going through, due to technological progress and globalization, create new problems for each individual, but for whole communities too. Thus, creativity represents an important resource and a key ability for overcoming the new obstacles and adapting to new situations – and whose importance is even greater if one can predict it and stimulate it [6].

In order to try to predict a person's creativity, numerous researches have attempted to establish links between creativity and other individual factors, such as intellectual general abilities, attitudes or personality traits. But even though anyone has a creative potential and despite the intellectual resemblance, some individuals are more creative than others and some social environments seem to be more stimulating than others. In order to identify the differentiating factors, research designs have focused in the past decades on the potential links between creativity and personality. Thus, studies around the world have revealed various personal, non-intellectual premises for nurturing a creative personality, such as curiosity towards surrounding things, events and phenomena [2, 3, 4, 8], strong inner motivation for change [4, 13], perseverance, activity [1, 2, 5, 10, 12, 13], desire to compete, independence, tendency towards risk, self-confidence [5, 10, 11, 12], nonconformity [5, 9, 10, 13], initiative, leadership abilities [9, 10, 12], esthetic and artistic interests [5, 9], humor, playfulness [2, 5], openness to experience, adventurousness [5, 11, 13], emotionality [10, 13], intuition [5], self-discipline [2, 10], extraversion [7, 14], cooperation [2].

As one can easily observe from the short review made above, several of the personality factors identified as being important for the development of creativity are included in the Big Five personality model, which is why we have decided to use this model and, thus, a personality inventory based on this model, in our study.

## Materials and method

The research is based on the assumption that personality factors have a significant influence upon the pupils' creative skills and might be used to predict a certain level and type of creativity. 202 high-school students, with ages between 14 and 19 years old, were tested. Creativity was assessed with the Torrance Tests of Creative Thinking, both figurative and verbal forms, while personality traits were assessed using the Big Five model approach offered by IPIP-NEO Personality Inventory. The statistical procedure used was the Pearson correlation test.

## Results

The statistical results indicated that in all five cases of the personality factors tested, either the main factor, either part of the subfactors or both appear to have a significant connection with the pupils' creative skills, as shown in *Tab. 1.* (each of the five factors is marked with a different colour).

*Tab. 1. Significant Pearson correlation coefficients between both figurative and verbal creativity and personality factors and traits.*

		Figurative creativity	Verbal creativity
Extraversion	Pearson Correl.	0.142	0.253
	Sig. (2-tailed)	0.044	0.000
	N	202	202
E1 - Friendliness	Pearson Correl.		0.230
	Sig. (2-tailed)		0.001
	N		202
E2 - Gregariousness	Pearson Correl.		0.201
	Sig. (2-tailed)		0.004
	N		202
E3 - Assertiveness	Pearson Correl.	0.214	0.157
	Sig. (2-tailed)	0.002	0.025
	N	202	202
E4 - Activity	Pearson Correl.		
	Sig. (2-tailed)		
	N		
E5 - Excitement seeking	Pearson Correl.		
	Sig. (2-tailed)		
	N		
E6 - Cheerfulness	Pearson Correl.		0.209
	Sig. (2-tailed)		0.003
	N		202

		Figurative creativity	Verbal creativity
Agreeableness	Pearson Correlation		
	Sig. (2-tailed)		
	N		
A1 - Trust	Pearson Correlation		
	Sig. (2-tailed)		
	N		
A2 - Morality	Pearson Correlation	0.180	0.244
	Sig. (2-tailed)	0.010	0.000
	N	202	202
A3 - Altruism	Pearson Correlation	0.178	0.252
	Sig. (2-tailed)	0.011	0.000
	N	202	202
A4 - Cooperation	Pearson Correlation		
	Sig. (2-tailed)		
	N		
A5 - Modesty	Pearson Correlation		-0.274
	Sig. (2-tailed)		0.000
	N		202
A6 - Sympathy	Pearson Correlation		
	Sig. (2-tailed)		
	N		

		Figurative creativity	Verbal creativity
Conscientiousness	Pearson Correlation	0.231	0.331
	Sig. (2-tailed)	0.001	0.000
	N	202	202
C1 - Self-efficacy	Pearson Correlation	0.239	0.275
	Sig. (2-tailed)	0.001	0.000
	N	202	202
C2 - Orderliness	Pearson Correlation	0.151	0.346
	Sig. (2-tailed)	0.032	0.000
	N	202	202
C3 - Dutifulness	Pearson Correlation	0.269	0.364
	Sig. (2-tailed)	0.000	0.000
	N	202	202
C4 - Achievement striving	Pearson Correlation	0.220	0.245
	Sig. (2-tailed)	0.002	0.000
	N	202	202
C5 - Self-discipline	Pearson Correlation	0.164	0.183
	Sig. (2-tailed)	0.020	0.009
	N	202	202
C6 - Cautiousness	Pearson Correlation		0.190
	Sig. (2-tailed)		0.007
	N		202

		Figurative creativity	Verbal creativity
Neuroticism	Pearson Correlation		-0.201
	Sig. (2-tailed)		0.004
	N		202
N1 - Anxiety	Pearson Correlation		
	Sig. (2-tailed)		
	N		
N2 - Anger	Pearson Correlation		
	Sig. (2-tailed)		
	N		
N3 - Depression	Pearson Correlation		-0.249
	Sig. (2-tailed)		0.000
	N		202
N4 - Self-consciousness	Pearson Correlation		-0.197
	Sig. (2-tailed)		0.005
	N		202
N5 - Immoderation	Pearson Correlation	-0.161	
	Sig. (2-tailed)	0.022	
	N	202	
N6 - Vulnerability	Pearson Correlation		-0.191
	Sig. (2-tailed)		0.007
	N		202

		Figurative creativity	Verbal creativity
Openness to experience	Pearson Correlation		
	Sig. (2-tailed)		
	N		
D1 - Imagination	Pearson Correlation		
	Sig. (2-tailed)		
	N		
D2 - Artistic interests	Pearson Correlation	0.145	
	Sig. (2-tailed)	0.039	
	N	202	

		Figurative creativity	Verbal creativity
D3 - Emotionality	Pearson Correlation	0.149	0.165
	Sig. (2-tailed)	0.034	0.019
	N	202	202
D4 - Adventurousness	Pearson Correlation	0.180	
	Sig. (2-tailed)	0.010	
	N	202	
D5 - Intellect	Pearson Correlation	0.253	0.184
	Sig. (2-tailed)	0.000	0.009
	N	202	202
D6 - Liberalism	Pearson Correlation		-0.205
	Sig. (2-tailed)		0.003
	N		202

When focusing on the first personality factor, namely extraversion, the statistical analysis reveals significant positive correlation coefficients with both figurative and verbal creativity, though the relationship with the latter seems to be stronger ( $p < .000$  vs.  $p = .044$ , see *Tab. 1.*). These results are similar to those reported by other researchers [7, 14]. Extraversion implies a higher focus on the outer world and phenomena and usually draws with itself a good capacity to use language, both figurative and verbal, in order to establish relationships with surrounding objects, whether things or persons, fact which might offer a greater material for creativity to use and compile, as well as a higher proficiency in creative expression. As in teenage students verbal language tends to be used more often than the figurative one, the verbal creativity seems to have a better flow, also significantly correlating with friendliness, gregariousness, cheerfulness and assertiveness – the latter also positively correlates with figurative creativity (see *Tab. 1.*).

Agreeableness, the second Big Five factor, does not appear to correlate with the two forms of creativity, but several traits included in this dimension do: morality and altruism have a significant positive link with both figurative and verbal creativity, while modesty negatively correlates with verbal creativity (see *Tab. 1.*). All these traits are important premises to cooperation, found to be linked with creativity performance by Rosa Aurora Chavez-Eakle [2].

The conscientiousness factor has a strong influence upon the creative performance, both figurative and verbal, and so do almost all of its subfactors – except the cautiousness trait, which only correlates with verbal creativity (see *Tab. 1.*). These results are not at all surprising, as a lot of theoreticians and research designers accept the fact that creativity implies hard work, perseverance, ambition, desire to compete, strong inner motivation, self-discipline [1, 2, 4, 5, 10, 12, 13] – all of those being included in or related to the conscientiousness factor under different terms. More to it, conscientiousness is the most consistent predictor of achievement in any field, as it sustains the effort oriented towards the goal. The creative performance makes no exception, even though the goal is not always clear one needs responsible effort and self-discipline to maintain the creative flow.

In what concerns the neuroticism factor, it negatively correlates with verbal creativity, probably because speech is affected in a higher degree by pathology than figurative expression. Also, depression, self-consciousness and vulnerability significantly influence in a negative way the verbal creative flow; while immoderation negatively affects the figurative creativity (see *Tab. 1.*). Although in the beginnings of this field of study, there were authors who suggested that creativity and insanity are strongly linked, later studies revealed the fact that pathologic personality disorders inhibit the creative flow. Thus, the results of the present study are congruent with the ones obtained by Rosa Aurora Chavez-Eakle [2], who also obtained negative correlation coefficients between creativity and severe personality disorders.

The last factor in the Big Five model, the openness to experience, does not appear to influence the creative performance, despite our expectations based on other studies [5, 11, 13]. Still, several of the traits included within this factor, such as artistic interests, emotionality, adventurousness, intellect, have a strong positive influence upon figurative creativity, while emotionality and intellect also positively correlate with verbal creativity (see *Tab. 1.*). Esthetic and artistic interests are identified as having a strong connection with creativity by several authors [5, 9], because art has always been seen as having lesser rules than science and, thus, is more likely to trigger original forms of individual manifestation – and that is why the stronger link with the figurative creativity as opposed to the verbal one. Adventurousness, nonconformity, tendency towards risk also represent important premises for creativity [5, 9, 10, 12, 13], as the latter requires courage to overstep the common borders and step into an unknown territory, that could be rewarding as well as dangerous. Emotionality and intellect seem to be in opposition, but creativity – either verbal or figurative – activates them both as resources in producing the creative item [4, 8, 10, 13]. Last, the liberalism trait appears to significantly correlate in a negative way with verbal creativity.

The results of the study indicate the fact that personality is an important influence factor of creative performance and by cultivating certain personality traits one can stimulate in a certain degree the native creative potential and facilitate a certain form of creative expression, figurative or verbal.

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# A cognitive approach to the functioning of the disability models

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## Summary

Implicit social cognition is an empirical phenomenon encompassing the effects of experience on judgements and decisions. We evaluate whether the wide range of attitudes towards people with disabilities are attributable to universal and species-specific cognitive constraints. We propose that there is a link between an evolved mechanism of avoidance of disease and contemporary prejudices affecting people with physical disabilities. Using the Implicit Association Test and two questionnaires evaluating sensitivity to perceived disgust and vulnerability to disease, we found strong, implicit associations of the concept, “disability,” with “illness” and “unpleasantness” and a significant positive correlation between disgust and the implicit association between the attributes, “disability/unpleasantness.” The results provide evidence for a domain-specific cognitive mechanism underpinning the cultural construction of the medical model. In addition, the unpleasantness of disability seems grounded in the germs of aversion and the contamination of disgust.

## Introduction

Disability models are categorical representations in which to understand, build and share social relationships. These models offer social perspectives (GOFFMAN, 1963, p. 138) either as frames, in which everyone finds his or her own identity, or as scripts, in which identities are represented in a complex system of defined attributes that lets us make decisions and judgments (BICKENBACH, 2012; FEDERICI and MELONI, 2008, 2009; FEDERICI, MELONI, *et al.*, 2008). Since the late 1960s, scientific literature has gathered various social perspectives on disability, grouping them into three main theoretical models: medical, social, and biopsychosocial (BICKENBACH *et al.*, 1999; WHO, 2001). To date, studies of disability models have been conducted almost exclusively within a sociological perspective (ALTMAN, 2001; BROWN, 2001). This approach has been influenced by the dominant paradigm in the social sciences known as the Standard Social Science Model (SSSM; SPERBER and HIRSCHFELD, 2004; TOOBY and COSMIDES, 1992). It has attributed a purely cultural origin to mental organization and to the processes of categorization. Culture is an external fact, able to affect individual’s cognitive organization. According to the SSSM, cultural phenomena are completely acquired during the process of development and socialization, and the innate side of cognitive organization is limited to procedural or algorithmic features, which are privy to content (SPERBER *et al.*, 2004). The influence of the SSSM on disability studies is such that the research paradigms take the nature of disability for granted because of a cultural construction process about diversity and difference, neglecting any element related to the innate cognitive architecture of humans (e.g., ANTONAK and LIVNEH, 1988, 2000; FEDERICI and MELONI, 2008; FEDERICI *et al.*, 2009; FEDERICI, MELONI, *et al.*, 2008).

The current research was designed to verify whether the wide range of attitudes toward people with disabilities and disability models are attributable not only to contextual variables but also to universal and species-specific cognitive constraints. An experimental paradigm was designed to measure the degree to which disability models, which guide the categorization of reality, are, in whole or in part, referable to universal cognitive constraints. Previous research has demonstrated people maintain a strong implicit association between disability and illness (FEDERICI *et al.*, 2009). Furthermore, Park and colleagues (2003) have found a link between a mechanism evolved to avoid disease and contemporary prejudices affecting people with physical disabilities. Since infectious disease is often accompanied by abnormal physical characteristics, it was plausible that humans evolved psychological mechanisms responding heuristically to the perception of those characteristics. Therefore, physical impairment would trigger specific emotions (disgust and anxiety), cognitions (negative attitudes) and behaviors (avoidance). This research builds on these previous findings.

The objective of this research was to investigate the cognitive mechanisms related to the medical disability model. In particular, we investigated the possible correlation of an implicit association between

dimensional attributes related to the medical model (illness/disability) with the individual's perception of vulnerability to disease and the degree of individual sensitivity to disgust.

## Materials and Methods

*Participants.* A total of 89 university students, 37.1% male (N = 33), M age = 23.48, 56.8% claimed to have a relative or an acquaintance or friend with a disability.

*Materials.* Following Park and colleagues' (2003) research, we administered three instruments:

- i. The Implicit Association Test (IAT; GREENWALD, MCGHEE, and SCHWARTZ, 1998; GREENWALD, NOSEK, and BANAJI, 2003) centered on the categories of abled and disabled in a twofold version, one based on a combination of the dimensional attributes, health/disease, and the second of the dimensional attributes, pleasant/unpleasant;
- ii. The Italian version of the Disgust Scale Revised (DS-R; HAIDT, MCCAULEY, and ROZIN, 1994; MELLI, 2009) as modified by Olatunji and colleagues (2007); and
- iii. The Perceived Vulnerability to Disease Scale (PVD; DUNCAN and SCHALLER, 2009) translated into Italian by Federici and Meloni for the present research.

*Design and procedure.* The experiment was administered online using Millisecond Software's Inquisit Web Edition™ software. Participants completed a socio-demographic questionnaire and answered two dichotomous (yes/no) questions concerning their direct or indirect knowledge of people with disabilities. Respondents were asked: (i) "Do you have immediate family members with disabilities?" and (ii) "Do you have friends or acquaintances with disabilities?"

The experimental design involved the administration of the first three instruments, the questionnaire master, DS-R, and PVD. Two groups were created concerning both the order of administration of the two IAT (health/illness and pleasant/unpleasant) and the priming of IAT. The administration of the IATs was preceded by manipulating the setting: one randomly selected half of the group read five false news articles about the transmission of contagious diseases; the other half read five false news articles pertaining to non-contagious health matters. In this way, we obtained four experimental conditions, to present the best possible balance of participant number and sex (Table 1).

**Table 1:** Order and methods of test administration

		Gr.	I° IAT	II° IAT
PRIMING	Infective (40)	1 (18)	healthy/sick	pleasant/unpleasant
		3 (22)	pleasant/unpleasant	healthy/sick
	Neutral (49)	2 (25)	healthy/sick	pleasant/unpleasant
		4 (24)	pleasant/unpleasant	healthy/sick

## Results

*The PVD and the contact with disability.* A t-test shows that participants who did not have a friend or acquaintance with a disability showed a history of higher hypersensitivity to infectious diseases contagion (Item 6:  $t(86) = 2.15, p < .05$ ). There are no significant differences in the PVD total scores either related to gender or between the two groups (with and without acquaintance or friend with a disability).

*The strength of the implied powers of disease and unpleasantness disability.* The IATs were administered to detect implicit individual differences in the intensity of the association between the category of disability and the pairs of health/illness and pleasant/unpleasant attributes. The estimate of this association is through the development of a measure called d-BIEP that is based on the calculation of the difference in average reaction time (GREENWALD *et al.*, 2003). The t-test highlights that the associations of "disability/illness" and of "disability/unpleasant" are significantly stronger than "disability/health" and "disability/pleasant" ( $p < .01$ ).

The differences between the two IAT (health/illness and pleasant/unpleasant) scores are significant ( $p < .05$ ): The t-test for paired samples revealed a significantly higher score on the association "health/disease" compared to "pleasant/unpleasant" (Table 2). The infective and neutral prime does not have any effect on the IAT scores.

**Table 2:** T-test between the two IAT d-BIEP “health/illness” and “pleasant/unpleasant”

	Paired Differences				t	df	Sig.
	M	SD	95% Confidence Interval of the Difference				
			Inf.	Sup.			
<b>IAT d-BIEP health/illness - IAT d-BIEP pleasant/unpleasant</b>	.114	.436	.022	.205	2.46	88	<b>.016</b>

A correlation was performed to ascertain whether and to what extent the strength of implicit associations observed in the previous experiment is connected to the PVD and DS-R scores. The scores of the two d-BIEP dimensions (disability/illness, disability/unpleasant) were previously processed to make the data more homogeneous in two 7-point scales, both constructed with the same criterion (1 = strong association disability/health or pleasant, 7 = strong association disability/illness or unpleasant). The analysis returned a positive correlation between the IAT pleasant/unpleasant dimension and the two subscales of the two questionnaires: the scale of aversion to germs of the PVD ( $r = .228$ ,  $p < .05$ ) and the scale of the interpersonal contamination of the DS-R ( $r = .218$ ,  $p < .05$ ). The stronger the association between disability and unpleasantness, the higher was the level of aversion to germs and to the fear of interpersonal contagion (Table 3).

**Table 3:** Correlations among IAT, PVD, and DS-R

SCALES	1	2	3	4	5	6	7	8
<b>1) 7-point scale IAT health/illness</b>								
<b>2) 7-point scale IAT pleasant/unpleasant</b>	.371**							
<b>3) PVD perceived infectability</b>	.044	-.044						
<b>4) PVD germ aversion</b>	.163	.228*	.241*					
<b>5) PVD total</b>	.121	.096	.791**	.764*				
<b>6) DS-R core disgust</b>	.044	-.029	.053	.185	.146			
<b>7) DS-R animal-reminder disgust</b>	-.028	-.080	.095	.140	.135	.692*		
<b>8) DS-R contamination disgust</b>	.029	.218*	.132	.389*	.324**	.595*	.356**	
<b>9) DS-R total</b>	.016	.007	.094	.241*	.201	.942*	.847**	.679*

## Conclusions

The implicit association of the category of disability with the dimensions of illness and unpleasantness is significantly stronger than its association with health and pleasantness. This result confirms those obtained in previous research (FEDERICI and MELONI, 2008; FEDERICI *et al.*, 2009; PARK *et al.*, 2003). The more people fear interpersonal contagion and the infection potential of germs, the more strongly they associate disability with unpleasantness. This suggests the existence of a domain-specific cognitive mechanism that binds deformity or impairment perceptions to disease unpleasantness by evoking the fear of contagion.

A limitation of this study is the relatively small sample size. For this reason, these findings can be generalized cautiously and further experiments with a larger number of participants are required. In addition, our findings only partially confirm the results obtained by Park and colleagues' (2003). In contrast to their research, we did not find: (i) differences in the PVD total scores between the two groups (with and without acquaintance or friend with a disability); (ii) a significant priming effect for health/illness and pleasant/unpleasant when

administered before the IAT; and (iii) a correlation between the scale, “Germ Aversion” of PVD and the d-BIEP of IAT “health/illness.” On the contrary, unlike Park et al. (2003), we found a correlation between the d-BIEP of IAT “pleasant/unpleasant” and the scale “Contamination Disgust” of DS-R. These differences could be due to the online administration procedure that we performed for both IAT and the PVD and DS-R questionnaires.

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# Do Eye Movements Predict Beliefs? A Bio-behavioural Investigation on Implicit Attitudes

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## Summary

Implicit social cognition is an empirical phenomenon encompassing the effects of experience on judgements and decisions. We evaluate whether eye movements relate to implicit associations according to embodied cognition theories, claiming that cognition directly affects the content of sensory-motor systems. We propose that a psychological attribute, such as an implicit attitude towards an ethnic category, influences individuals' eye movements during the visual exploration of related relevant stimuli. By using eye-tracking methodology in a bio-behavioural study, we found that participants with high implicit attitudes towards an ethnic category performed high fixation duration towards the stimuli that disconfirmed their implicit attitude. The results provide evidence for an association between social beliefs and eye movements, thus highlighting the oculo-sensory-motor embodiment of social cognition.

## Introduction

Social cognition theories traditionally investigate attitudes by focusing on both verbal and non-verbal human expressions representing beliefs, feelings, and attitudes. Many studies confirmed that attitudes are the outcome of implicit and unaware psychological processes related to social stimuli (BARGH *et al.*, 1992; FAZIO *et al.*, 1986). Attitude is a relatively latent or context-sensitive organisation of favourable or unfavourable beliefs, feelings, and behavioural dispositions towards objects, groups, events, or symbols that guide or influence behaviour (ANDERSON, 1974; GREENWALD and BANAJI, 1995; HOGG and VAUGHAN, 2008; TESSER, 1978). Nosek and Banaji define attitude in more operational terms as “an association between a concept and an evaluation – an assessment of whether something is good or bad, positive or negative, pleasant or unpleasant” (2009, p. 84). Attitudes can be directly inferred from behaviour, regardless of whether the subject is aware or not of the related underlying evaluation purposes (AJZEN and FISHBEIN, 1980; FAZIO and ZANNA, 1981). Therefore, since attitudes are not a directly observable construct, they can be investigated only by measuring behavioural responses to social stimuli reflecting the underlying positive or negative feedback (DE HOUWER, 2003; GREENWALD, MCGHEE, and SCHWARTZ, 1998; MURRAY, 1943; NOSEK and BANAJI, 2001; PAYNE *et al.*, 2005; WITTENBRINK, JUDD, and PARK, 1997).

Although the state of the art agrees in considering the behavioural response of implicit processes as an index of mental attributes, it is still unclear how eye movements can provide a predictive model of implicit processes. Top-down theories of embodied cognition show that modality-specific cognitive systems—i.e., the systems that underlie the sensory perception of a given context, the effector systems that underlie action, and the introspective systems that underlie the aware experience of emotion, motivation, and cognitive operations—would simultaneously activate bodily experiences (BARSALOU, 1999; DAMASIO, 1994; GALLESE, 2003; GLENBERG, 1997). This work comes from the following questions: Does eye behaviour predict information on implicit social processes? Which eye dynamics are involved in this process? Can we benefit from an eye-tracking methodology to enhance the existing implicit process assessment techniques? The following cognitive and behavioural study aims to answer these questions, concluding that eye movements are more related to implicit attitudes than previously thought.

## Materials and Methods

This study aims at investigating whether ethnic category/attribute pairs influence eye movements during an Implicit Association Test (IAT). We found a positive relationship between fixation duration and implicit attitudes.

*Participants.* 30 Caucasian (15 female; age  $M = 34$ ;  $SD = 4.31$ , 80% right-handed; 33% with contact lenses) took part in the experiment. Subjects were selected in accordance with a previous assessment of both visual acuity and dominant eye.

*Materials.* Eye movements were measured by means of the ITU Gaze Tracker software ([www.gazegroup.org](http://www.gazegroup.org)) which tracks eye movements with a mean error in visual angle degrees of 1.48 ( $SD = 0.58$ ) (JOHANSEN *et al.*, 2011). An IAT measuring ethnic bias was administered twice, in a random order. The test combines two ethnic categories, Caucasian and African, with two qualitative attributes, good or bad. The IAT was administered both online (<http://www.millisecond.com/download/library/IAT>) to measure the IAT scores, and by means of the OGAMA software (<http://www.ogama.net/>) to measure and analyse the eye movements performed during the visual interaction with the IAT stimuli.

*Design and procedure.* The testing sessions were conducted in a silent and sufficiently lit room. Participants were asked to complete either the online IAT or the OGAMA IAT first, by associating a pictorial or textual stimulus presented in the centre of the screen to one of two ethnic categories (Caucasian vs. African) or a bipolar attribute (good vs. bad) (Table 1). The OGAMA slideshow consisted of three different kinds of blocks: one control block and two experimental blocks, called initial and reversed. Nineteen trials compose each block, in which the position (left or right) of the attributes bad and good is fixed for all trials, whereas the position (left or right) of the African or Caucasian categories varies between blocks. Therefore, for the initial blocks, the category/attribute pair Caucasian/good was presented on the left and African/bad was presented on the right while for the reversed blocks, African/good was presented on the left and Caucasian/bad was presented on the right (see Table 1).

Control Block	Control Block	Initial blocks	Reversed blocks
•White Black•	•Good Bad•	•White/Good Black/Bad•	•Black/Good White/Bad•

**Table 1** Categories and attributes positions for the “Black”-“White” Implicit Association Test (IAT). The black dots on the table indicate the left or right position of the target on the screen.

## Results

86% of subjects showed an automatic preference for Caucasian people compared to African people (33% strong preference, 33% moderate, and 20% slight preference), 7% showed no automatic preference and 7% showed a slight automatic preference for African people compared to Caucasian people.

A multiple linear regression analysis showed a trend effect of fixation number and duration (Intercept = .85;  $t(27) = 8.09$ ;  $p < .01$ ) in predicting automatic preferences, although they are not sufficiently strong to singularly explain the effect when taken apart ( $R^2 = .029$ ,  $F(2, 27) = .415$ ,  $p > .05$ , fixation number  $\beta = .118$ ,  $p > .05$ ; fixation duration  $\beta = .064$ ,  $p > .05$ ).

A repeated-measures ANOVA on fixation number showed a main effect of condition ( $F(2, 28) = 4.198$ ,  $p = .025$ ) and position (left, right) ( $F(1, 29) = 4.677$ ,  $p = .039$ ). No significant interaction was found between condition and position ( $F(2, 28) = 1.033$ ,  $p > .05$ ). The rANOVA on fixation duration showed no effect of both condition and position and no significant interaction between condition and position.

The ANOVA on fixations towards the category/attribute pair combinations revealed that, for the participants with an automatic preference for Caucasian people, fixation number for the pair African/bad ( $M = 2.93$ ;  $SD = 5.38$ ) was significantly lower than Caucasian/good in the initial blocks ( $M = 7.8$ ;  $SD = 14.8$ )  $F(1, 29) = 14.34$ ,  $p < .05$ , whereas no difference between the African/good ( $M = 4.5$ ;  $SD = 6.4$ ) and Caucasian/bad pairs was found in the reversed blocks ( $M = 3.73$ ;  $SD = 7.4$ )  $F(1, 29) = .237$ ,  $p > .05$ . Moreover, in the initial blocks, fixation duration was higher for African/bad ( $M = 1374.3$ ;  $SD = 2586.5$  ms) than Caucasian/good ( $M = 810.7$ ;  $SD = 2556.3$  ms)  $F(1, 29) = 7.85$ ,  $p < .05$  and, in the reversed blocks, fixation duration was higher for African/good ( $M = 1442.5$ ;  $SD = 2649.1$  ms) than Caucasian/bad ( $M = 1212.5$ ;  $SD = 2791.2$  ms)  $F(1, 29) = 3.38$ ,  $p < .05$ .

## Conclusions

The aim of this study was to understand whether eye movements could be considered as a predictive variable of implicit measures, according with embodied cognition theories claiming the interdependency between cognition and sensory-motor mechanisms. Data showed a trend effect for the predictive relationship among implicit attitudes, fixation number, and fixation duration.

The results on the differences between the eye fixations and the category/attribute pair combination suggest that people tend to gaze for more times towards the Caucasian/good combination but for longer times towards the ethnic category corresponding to the object of their implicit negative attitudes, i.e., African people, independently from its combination with the qualitative attribute (good or bad). These results show that the visual attention focus is guided by the location of the object of the implicit negative attitude, in this case the out-group ethnic category “black”. We believe that people fixate for more time on the “black” target to confirm their implicit negative attitude towards African descendants since the African category appears to be more salient than the Caucasian one for Caucasian participants. However, it is important to underline that, in the experiment shown here, the Caucasian/good and African/good pair combinations occur only on the left side of the screen. Therefore, we cannot say if participants gaze more towards the African/good combination because of the actual saliency of the target stimulus or because of a side effect. All participants, in fact, use Latin alphabets and, therefore, begin the reading process generally starting from the upper left side of a visual textual space (DE KERCKHOVE and LUMSDEN, 1988). Therefore, although the result of the IAT is not influenced by the left or right position of the positive attribute good (GREENWALD *et al.*, 1998), the methodological design behind the IAT did not systematically exclude or explain any influence of the lateralisation on the visual strategies used by the participants to explore the Areas of Interest (AOIs) in the experimental condition. A research following this study systematically analysed and controlled the lateralization effect on eye movements on the IAT (MELE, FEDERICI, and DENNIS, 2014).

This research provides a first step in understanding how implicit attitudes are associated with oculo-sensory-motor mechanisms, which guide human perception and behaviour. As the embodiment theories propose, social perceptual stimuli elicit cognitive responses (FAZIO, 2007; STRACK and DEUTSCH, 2004), which in turn produce bodily responses that are coherent to the belief system underlying psychological attributes (BARSALOU, 1999). The results guided us to study in more depth the involvement of oculo-sensory-motor mechanisms into social information processing mechanisms (MELE *et al.*, 2014), since the measure of these mechanisms seems to be a predictive measure of psychological constructs like attitudes and prejudices (DE HOUWER and MOORS, 2010).

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# Special education in ECEC in Greece

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## Abstract

The international community, in its commitment to education for all, supports the creation of a school that operates on the principle of equivalence and effectiveness against the rights and needs of all children, regardless of sex, physical or mental ability, ethnicity and socio-economic level, with the ultimate aim of social integration and cohesion. The development of special education in Greece in recent decades is marked by the principles of the transition from the periphery to the core of social and cultural life, through the professional development of special educators alongside a new orientation towards the inclusion of children with special needs in mainstream education and through special emphasis on the educational and supportive role of the family. In this paper we will discuss special education in Early Childhood Education and Care institutions, so as to highlight the possibilities and limitations that emerge from the existing legal framework and its implementation into practice.

## Introduction

The scientific, political and social concern regarding the educational treatment of children with special needs (CSN) has increased significantly in developed countries over the last decades. As Corbett notes, we should bear in mind that one generation's utopia may well be another generation's challenge (2004:38). The development of inclusive school requires a dynamic policy, which must be combined with financial support and a successful effort to inform the public, thus confronting prejudice and promoting positive attitudes (The Salamanca Statement 1994). Special education today seems to be moving from the periphery to the core of social and cultural life. Improving social awareness contributes to the social inclusion of individuals with social needs. Greater emphasis is given to the pedagogical and therapeutic role of the family on special needs-related issues, with parent education and preparation for this role. Furthermore, the role of educators takes on an advisory function regarding the family. Today the state's concern about children with special needs, special education and continuous training and social inclusion is actively manifested.

For children aged 0-6 education is extremely important for their personal and social life and lifelong learning, due to the significance of developmental changes that take place at all levels during this period of life. In case they have disabilities or learning difficulties, early diagnosis and intervention (Robertson and Messenger, 2010) could ensure a better inclusive schooling (European Agency, 2011). The role of Nurseries and Kindergartens and other related institutions is crucial in this procedure. Providing information and support to parents is the keystone for supporting children to overcome difficulties, while close collaboration between parents and educators is of the utmost importance. The legal framework for special education in Greece defines a framework for the bodies and the way they work together on how to integrate CSN in respective educational contexts. However, despite the improvement in the quality of special education and the opportunities provided, serious problems and inadequacies have been marked by entities and specialists.

## Context and method

Early Childhood Education and Care System in Greece is divided. There are nurseries for children aged 0-4 years old and preprimary schools or kindergartens for children aged 4-6 years old. Nurseries –public and private- are supervised by the Ministry of Health and Social Solidarity and by local municipalities (497/22-4-2002). Kindergartens –public and private- are supervised by the Ministry of Education. Since December 2006 attending kindergarten is compulsory for children aged 5 and access is granted to all children, with or without special needs. The split ECEC system means differences for the implemented curriculum in general and especially for children with special needs. In nurseries there is not a specific curriculum of activities, while in kindergarten there is one that provides activities in language, math, science, arts and technology (DEPPS, 2003).

Moreover, the daily program is different as in nurseries, as opposed to kindergartens, there are no standard arriving and dismissal times for children. As regards the workforce, nurseries employ several people with distinct duties, such as pedagogues, assistant pedagogues, kitchen staff, etc., whilst kindergartens only employ teachers and special teachers for children with special needs. In addition, the initial education and continuous training for kindergarten teachers is of a higher level than that of nursery pedagogues (EC, Proposal, 2014). Finally, kindergarten teachers are supported in their pedagogic work and curriculum implementation by school advisors, who also encourage and support collaboration between parents and kindergarten workforce or other institutions.

In this article we discuss the legal framework of ECEC special education, analyzing the content of official papers, such as laws, recommendations, curriculum guides, regulations, and also, experience reports by pre-school professionals and parents, with the aim of pointing out the possibilities and the limitations of the issue. The results could contribute to a common understanding by those involved and lead to a better quality of special education in childhood.

## **Special education and care for early childhood in Greece - Analysis**

### **Special education in nursery**

Nurseries mainly address working parents, offering children aged 6 months to 4 years old education and care aimed at a holistic development of children. Early Childhood Special Education nurseries or special classes within mainstream nurseries, staffed with specially trained personnel are not available. Each nursery has its own Rules of Procedure, based on the Standard Operating Regulations (168/04), which state that, all children, with the exception of those suffering a communicable disease, are entitled to enroll. Children with physical, mental or psychological disorders may enroll upon presentation of a medical certificate issued by a state hospital or insurance institution. Until recently, admission of CSN was left to the discretion of the head and educators. On several occasions, admission was denied owing to lack of infrastructure, in particular specialized or additional staff to support the children's inclusion in the group.

The Athens Municipal Nursery was the first organization nationwide to implement, since the 1990s, a pilot program integrating CSN. The latest amendment of the Rules of Procedure describes in detail the integration procedure to be followed. It states, for example, that "infants or young children with severe physical and/or mental health problems (eg severe developmental disability, multiple disabilities) whose care requires specialized personnel and special structures are not to be admitted". Applications by CSN are examined by a Commission made up of doctors, psychologists and the head of the nursery. The Commission shall also determine the daily time spent with CSN in nursery. It also prescribes that only one CSN can join each class, unless otherwise ruled by the Commission, and proposes a maximum of two children. Moreover, CSN do not apply for a special program, but for one accommodating all children based on their individual needs and learning style. Their optimal integration presupposes cooperation of pediatricians, psychologists, educators and parents, as well as cooperation of the nursery's scientific staff with institutions monitoring children outside the nursery. An increasing number of municipalities appear to opt for modifications in their Rules of Procedure so as to provide for admission of children with disabilities to ordinary nurseries.

### **Special education in kindergarten**

Kindergartens or preprimary schools are part of primary level in the Greek educational system, in which special education is included in mainstream education. For all levels preprimary, primary and secondary special programs are established, in order to provide the appropriate education to CSN. According to the latest Law (3699/2-10-2008), students with disabilities and special educational needs are those who exhibit significant learning difficulties due to sensory, mental, cognitive, or developmental problems, psychic and neuropsychological disorders according to the multidisciplinary evaluation, and students with complex cognitive, emotional and social difficulties, delinquent behavior resulting from abuse, parental neglect and abandonment or domestic violence. Diagnostic Assessment and Support Centers provide services to CSN and their families, both in special and mainstream schools. The most severe congenital disabilities are identified by doctors or other health services early on. Early intervention can help in confronting difficulties and overcoming problems, but the number of institutes devising early intervention programs is not enough to cover the existing needs.

The main concern of the Ministry of Education is the inclusion of pre-school CSN. The majority of these children attend mainstream kindergartens with the appropriate support outlined in their Individual Educational Program. In some cases CSN attend an inclusive educational class for some hours or days per week. In this context, a special education teacher provides individual support to pupils in the mainstream class, while maintaining a discreet presence in the classroom, facilitating mutual interaction between students, participating

in activities and encouraging pupils to engage in events during breaks and school activities. Those pre-school children with special needs who are unable to follow mainstream school or inclusive settings take lessons in special kindergartens. The education of a pupil with special educational needs at special kindergartens is proposed by the Diagnostic Assessment and Support Centre under the condition that the proposal is preceded by a diagnostic assessment and parental consent. The number of special kindergarten and inclusion settings is not constant because it depends purely on the actual needs.

## Results

Considering the context of special education at nurseries we find out that a) generally at nurseries nationwide there are significant difficulties in supporting children and their families, and b) the Municipality of Athens has developed a system for supporting CSN. The lack of specially trained staff and special support structures does not allow the proper treatment of these children, so it is not feasible to implement early intervention and inclusive schooling. Given this situation, parents avoid revealing problems they may have identified, leaving them to educators to discover, thus wasting valuable time that could be dedicated to intervention and integration. Moreover, the process of detection of needs and offer of support requires close cooperation and is time-consuming. Children are examined by the Commission, but rarely adequately supported by their family. Where the needs of children are particularly serious, children are excluded from attending nursery and either enter institutions for the disabled or remain at home. In many of these cases, the children would be able to join the nursery if there were adequate staff and an appropriate support program.

As regards kindergartens, a legal framework does exist, which provides for the crucial demands of CSN on a theoretical basis. In practice, however, there are significant problems. Firstly, the number of specialized staff in mainstream schools is insufficient, with special educators often being appointed on short-term contracts. Secondly, the attitude of parents to disabilities or special needs and their treatment generates difficult situations that are not in favor of CSN. Parents rarely inform educators or consent to their child attending special kindergarten when this course of action has been proposed by the diagnostic center. Thirdly, the teacher/children ratio in mainstream kindergarten is 1/25 making the inclusion of CSN extremely difficult in the absence of specially trained teachers. Finally, we believe that the greatest difficulty lies in parent-teacher communication and collaboration which should make it possible to solve problems and help children overcome difficulties. Improving family support by the state and counseling centers, as well as appointing workforce can significantly help solve these problems at special education level.

To sum up, despite existing difficulties in special childhood education, the close collaboration of parents and teachers, the existence of adequate workforce to cover the existing needs in an institution; and a supporting system of pre-school advisors and other specialists can produce positive results for children and render early intervention and inclusion significantly more effective.

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# Playing object as a means of communication between the child and the adult.

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## Abstract

Playing is an activity that starts spontaneously from infancy. It takes different forms over the life span of the child, depending on the accomplishments on an emotional, cognitive, kinetic and social level. Play constitutes one of the most important activities that contribute to the organization of self, as well as to cognitive and emotional development (Papadopoulou, 1999).

In our survey we looked how playing became a means of communication between the child and the adult. The explored questions considered around how did the infant and toddler's presence in relation with the playing (materialistic) object. How did the infant and toddler's presence differentiated when child played alone or by the presence of an adult. Moreover, in this dissertation, it is important to discuss in addition, the role of instructor as well as view of things from different perspective.

**Key words:** playing object, transitional object, toddler, communicative, relationship

## Introduction

The social and emotional values of playing are enormous. Playing helps the child to develop.

The game helps the child to develop physically (respiratory system, heart, circulatory system, blood system, nervous and digestive system).

The comments we have chosen to the Article is from infant observation I made about two years in the family of the little S. And the materials from the workplace are two children of my class. The names and details of family of the infant, and children from the nursery have been changed for protection reasons facts and data.

Playing is a useful employment for a child's life as a means of preparation for activities important in later life. Nature itself has cared for the education of children through the game because through this child grows and develops. When the baby and later the child play actively, it shows that he has mental health while the opposite when not playing have mental disorder indication or biological inferiority.

The game is set as "a very interesting work, which includes within it a pleasant physical or mental effort that has as a goal the emotional pleasure" (Tsiantis, 1991, s.55)

## Play with objects - How to start the game with objects

Playing objects are the link between the child and the environment in many ways. They provide a means by which the child can represent or express his feelings, his interests and that concerns me. They also provide a "channel" for social contact with adults or other children. Even an unfamiliar object, for the child, is starting a exploration and familiarization, a frequently recurring series that will ultimately lead to a more mature understanding of the characteristics (shape, texture, size) of the natural world. The game with objects requires the ability to grip with hands directed the eyes and adequate eye and hand co-operation (hand-eye coordination). Such game still depends on the achievement of the concept of "permanence of objects", i.e. the understanding that an object continues to exist, even if temporarily located outside the field of vision of the child. Developing the ability to control body movement, the baby develops simultaneously and the ability to repeat an action, an act that did previously.

There are many types of playing such as: assets, exploratory, mimetic, creative fantastic, play rules.

## The relationship of the transitional object to Symbolism

The child's journey to the transitional object (piece of blanket, teddy bear etc.) progresses gaining experiences. (Winnicott, p. 31)

1. The transitional object represents the chest or the subject of the first relationship.
  2. The transitional object predates the foundation of the criterion of reality.
  3. In connection with the transitional object, the infant passes from (magical) omnipotent control, control of the handling, which involves muscle erotica sensual body resonance.
  4. The transitional object may eventually develop into a fetish object and so persist as a characteristic of the adult sexual life.
  5. The transitional object may, because anal - erotic organization representing the faeces.
- Therefore, the transitional object may represent the outer chest but indirectly, through a representation of an internal breast.
- The person reaches the external reality through omnipotent fantasies developed in an attempt to escape from the inner reality. (Winnicott, 1991)

### **Material from infant observation**

The baby observed for two years was S., a very nice and smiley baby. He was dude and chubby. It had many brown hair and bright eyes. It was the first child in the family and everyone involved with him. He seemed to enjoy it. He was very sociable. He liked hanging out, listening to speeches and seeing familiar faces. Draws smiles, voices and made joys to them. The family house is a small apartment in a two-storey building which was rented children. The socioeconomic status of the family was moderated to low. S.'s mother was a young woman, sweet and smiling. She had tawny hair, big eyes and very bright person. She was always smiling and very affective with me. C., S's father, was a young man of average height, dark in his thirties. Recently lost his job due to the economic crisis and at that time working in a garage.

#### *Infant 12 months*

*Ph. puts him in the chair to feed him. He gouged sounds - voices like talking and Ph. says "what happened S.. our talk, lest hungry? ". Ph. speaks very often or describes what S's das and the same time change the tone of her voice. Was S.. opens easily mouth and eats one spoonful after another. Ph. tells me that when he doesn't want another, starts rubbing his face, his nose and mouth and really S. in last spoonfuls does exactly what described to me his mom. Without grumbling turns his face and rubbing his nose and mouth. Ph. starts talking and singing to make him forget but she doesn't succeed. After she is leaving a book on the table in front of him and S. begins to pry with his hands, turning the pages of clumsy and from the first arrives at last. Ph. gives a spoonful of food and he opens his mouth and smiles. When F. gets the book because S. starts eating book, he. refuses to open his mouth when food comes close. Nervously shakes his hands and seems looking for something. When Ph. restores the book S. edit and eat again undeniably a spoonful of.*

This observation deserves to comment on the relationship game - food. What serves here the game and because it gives the mother to the infant?

In the first year S. has started differentiation is one piece autonomy from the side of the infant. It is obvious in the above observation that refuses the food received from the mother that denies her food. And then she introduces the object to fulfill the substance of its own desire. While S. puts a limit to the mother, the mother puts the object as if it wants to hear this limit puts S.

The book is used as playing object - mediator, eating. The mother communicates with the infant via the game object which functions as a stimulus in the reactions of the infant. So the book becomes mediator - stimulus in the child's contact with the adult.

This observation concerned how focusing attention and bidirectional trigger is established with the spark of the game book. Through the observation often see the use of different objects game to serve the same purpose, namely the mother communication - infant.

The book gave joy to S., served with spontaneous inner motivation of the need for pleasure. (Tsiantis, 1991)

The social and emotional development of the baby is paramount. Specifically, the direct observation of an infant and its relationship to do with his mother and reciprocity between mother infant in this relationship during the routine care of the infant from its mother as feeding, bathing, play indicate that the transaction is significant, mutual interactions are developed and there is pleasure to experience both. (Tsiantis 1997)

### **Material from the Work Area me, nursery Municipality Chalandriou**

#### *Takis 3 years*

*Takis first came into kindergarten. He was big for his age, tall, with big cheeks and brown hair. When his mom brought the class he held him in his arms a white teddy bear hiding behind her and pulled out. She was saying how nice the school and tried to put him in the classroom is. I once talked a little with his mom, went down to height and invited him to go and show him the games of our class. He did not want and I said to Mom to come together. She seemed hasty, rather wanted to be fast separation maybe because it was difficult for her. I told her I would get him a hug and she can wait just outside. Once mom came through the door Takis very*

*flustered. I tried with several games to the trouble and to catch the attention and interest but he was shouting that he wants his mom and grumbling without taking tears. I managed to calm him sometime when I gave him a large castle we did house for the teddy bear and we played together for about twenty minutes. When you hit the door was his mom came to take him because I had to return to work. I greeted him, I kissed him, he put a sticker prize that had succeeded so well on the first day of school and I told him that I expect him tomorrow to play again with the castle. He left smiling and proud of the prize.*

The above presentation clearly showed the operation of the transitional object. The adult creates a bridge, hook, and frame and gives a space in this teddy putting it inside the castle - inside T. home. I showed in small Takis that I respect and acknowledge this beloved object.

The period of adaptation is a difficult time for both the child and the mother. Takis felt in new and foreign to him environment great insecurity and anxiety. Fear was huge and needed something to keep him something to frame the (holding). I think that I did for him. I think the emotions and mental energy that the child needs to adapt to this new condition. Mother side shows not resist separation so it might be reluctant to enter the classroom. Cannot bear to see a child crying and holding defensive.

Winnicott stressed the need to have the baby to hold, physically and emotionally from the mother 'this grip, holding, facilitates and promotes development because it allows a period for anxiety. "This function of holding illustrated further by the way Ms. Klein analyzes the complex psychonoitiki life of the infant, with the limited capabilities of even keep, to endure and overcome the destructive (destructive) elements, and the need to use his mother as a receiver of aggression and anxiety raised. The mother takes care of the baby and "holds". "Embodies" the infant with his fear. (Lignou L. E. 1993)

In classic example of S. Freud, «the boy with the bobbin," the Winnicott sees the effort of a child of eighteen months, to gain some control of the mental state after the separation with the object-mother, while making the absence of more tolerable . The effort of the boy is an attempt to adapt to reality and tolerance of frustration (Winnicott refers to Alvarez, 1992).

The decisive factor in psychonoitiki child development is the creation of a national security sense. In order to develop a secure internal base (Bowlby, 1988) the child needs to experience many repeated positive experiences with persons of primary care, while accepting irresistible negative emotions. The experiences stemming from the bond transformed and create a standard that affects behavior in a predictable both in interpersonal relationships, and in stressful conditions (Bowlby, 1988)

The Bowlby speaks two behavior patterns that are linked with the bond behavior: a) the exploration model, b) the care model.

According Exploration Model: When the child is sure for the person who has created an emotional bond begins to move away from the caregiver and to explore its environment. This behavior contrasts with the behavior of the bond, but in healthy subjects alternated these two standards.

According Care Model: The caregiver provides the child care and protection and must be available when requested. This behavior is crucial for the mental health of the child and is complementary to the bond behavior.

## Conclusions

The period in a child's life from 1 to 4 years marks the transition from babyhood to being a young child ready to go to school. The establishment of a secure inner world, derived from the first relationship with the mother, gradually enables the infant to explore the wider external world and to extend relationships within the family, with other children and adults. The process of separating from mother, started by weaning, highlights the complex interplay between physiological, psychological and cognitive developments. The child during this period makes enormous physical progress which enables him or her to have more control of their own comings and goings. (Steiner D.)

Playing is an extremely important factor of child's evolution – development. There is an interesting contrast in child's mixture its real actions with pragmatic – real objects and this is exactly what represents (characterizes) of playing transitional nature.

The mother communication - infant is achieved through the combination use of toys and infant allowed the discovery, emotional expression, the expansion of moods and the fullest possible understanding of the growth kinetics.

As well has played the role of mother to the game - infant and preschool educator with the game - infant, the more perfect personality develops the child covering needs mental and physical. Mother and educator allow the child the illusion that what creates really exists. Winnicott says that the game is the point of attachment and separation between internal and external reality.

The flow in the mother replacement - observer and infant gaze - object, infant gaze - this adult confirms Winnicott's case for the transitional object and holding.

Playing child owns a particular space. That space is not easily abandoned by the child but also no one can easily intrude into that very same space.

This area of playing is not internal mental psychological reality, nor external world. There is a gradual evolution from transients in playing and the playing action in the playing together and thence to the cultural experience. Nevertheless playing engages the body due to the handling of objects and because of certain types of strong interest, strongly associated with certain aspects of physical stimulation.

There by playing is basically satisfactory presupposes that stimulation of Instinet's not exceed a limit. Playing will reach saturation point mentioned in the child's ability to keep within the experience.

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# Same sex couples: A New Family Form

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## Abstract

In recent years homo sexual relationships are increasingly gaining acceptance and marriage has become more inclusive in many places, extending to same sex couples. Questions like if same sex marriage should be legalized and if same sex couples should be allowed to adopt are nowadays common. Although people's attitudes have changed and social acceptance has grown, many continue to express disdain for same sex parents, saying that homo sexuality is reason enough to keep someone away from a child. This research has been done to find out what Greek and Spanish parents think about same sex couples and their rights. Specifically, eighty parents, whose children attended kindergarten in Athens and twenty six Spanish, whose children attended kindergarten in Barcelona, accepted to complete a questionnaire of close and open-ended questions. We assumed that same sex-relationships would be less acceptable by parents from Greece. Results indicated that the sample of parents from Spain admitted that same sex parenting through adoption is becoming a reality. On the contrary, homosexuality is still stigmatized in Greece. The majority of parents believe that sexual orientation is in itself a criterion that negatively affects the quality of parenting.

Keywords: same sex parenting, same sex adoption, nuclear family, alternative family forms.

## Introduction

The nuclear family is the traditional type of family structure. This family type consists of two parents and children. The nuclear family was long held in esteem by society as being the ideal in which to raise children. However, this two-parent nuclear family has become less prevalent, and alternative family forms have become more common (Edwards, 1987). The traditional "father" and "mother" roles of the nuclear family have become blurred over time. While the 21st century showcases a variety of family units such as extended family, single parents, non-married parents, foster families, blended families, and couples without children are on the rise, nuclear family is the most common family form in our country.

According to Alibranti (2010) 73% of Greek households constitute a family without taking into account the type of it. The majority of Greek families (57% out of 73%) are composed of a married mother and father raising their biological children. Moreover however the 2012 US census revealed a general increase worldwide in children living in single parent homes, in Greece there's a low percent of single parent families (12% out of 73%) and most of them (84%) are headed by a single mother to (Alibranti, 2010).

By early 2006, same-sex couples enjoyed at least some degree of official recognition in most European countries and full marriage rights in the Netherlands, Belgium, Spain, and Canada. In the United States, they are legally allowed to marry only in Massachusetts. Currently same-sex marriage in Greece is not legal (Herek, 2006). This research has been done to find out what Greek and Spanish parents think about same sex couples and their rights. Specifically, eighty parents, whose children attended kindergarten in Athens and twenty six Spanish, whose children attended kindergarten in Barcelona, accepted to complete a questionnaire of close and open-ended questions. We assumed that same sex-relationships would be less acceptable by parents from Greece.

### *1.1. A broader definition of a family*

A nuclear family, also called a conjugal, elementary, or traditional family, typically consists of two married or legally-bound parents and their biological or adopted children all living in the same residence and sharing the values, duties, and responsibilities of the family unit. There can be any number of children in the family, and one or both parents may work outside the home. Pre-industrialisation, the family worked together as a unit and was self-sufficient (Goode, 1963). Because of the women's movement push for women to engage in traditionally masculine pursuits in society, as women choose to sacrifice their child-bearing years to establish their careers, and as fathers feel increasing pressure to be involved with tending to children, the traditional roles of fathers as the "breadwinners" and mothers as the "caretakers" have come into question (Fine, 1992).

Women's new-found sense of independence changed the traditional family structure together with cultural shifts leading to the feminist movement and advances in birth control. The number of stay-at-home dads began gradually increasing in the late 20th century, especially in developed Western nations. Though the role is subject to many stereotypes and men may have difficulties accessing parenting benefits and services targeted at mothers, it became more socially acceptable by the 2000s (Doucet, 2006). The idea that parents and children make a family is a basic definition; however, in order to accurately acknowledge other family structures, a broader definition is necessary.

Same-sex parents are gay or lesbian couples that choose to raise children. It is difficult to obtain an accurate count of same-sex parent families because many lesbians and gay men are not open about their sexual orientation due to fears of discrimination, such as loss of employment, loss of child custody, and antigay violence. There is not a "usual" gay family. Some same-sex couples may decide to have a child within their relationship, while others may bring children from previous heterosexual or same-sex unions. The rise in same-sex parenting is partially due to the increase in options available for same-sex couples to become parents. Although most children of same-sex couples are biological children of one of the parents, a growing number are the result of donor insemination, surrogacy, foster care and adoption (Stacey, 2006). In the 2000 US census, there were 594,000 households that claimed to be headed by same-sex couples, with 72% of those having children.

Legal marriage confers a host of protections and advantages to the couples who marry and to their children. Married couples generally share joint legal custody of their co resident children. In a system of employer-based health care insurance, either spouse in a married couple can usually provide health insurance for both spouses and all their children. Marriage is a long-term contract that allows and encourages parents to make long-term investments in their children (Waite and Gallagher, 2000). The benefits of marriage, combined with the exclusion of gays and lesbians (and their children) from those benefits, together form one cornerstone of the case for same-sex marriage (Eskridge, 1996). The American Academy of Pediatrics (2013) concludes that it is in the best interests of children that they be able to partake in the security of permanent nurturing and care that comes with the civil marriage of their parents, without regard to their parents' gender or sexual orientation.

As the social visibility and legal status of lesbian and gay parents has increased, three major concerns about the influence of lesbian and gay parents on children have been often voiced (Falk, 1994; Patterson, Fulcher & Wainright, 2002). One is that the children of lesbian and gay parents will experience more difficulties in the area of sexual identity than children of heterosexual parents. A second category of concerns involves aspects of children's personal development. For example, some observers have expressed fears they would be more vulnerable to mental breakdown, would exhibit more adjustment difficulties and behavior problems, or would be less psychologically healthy than other children. A third category of concerns is that children of lesbian and gay parents will experience difficulty in social relationships. In other words they will be more likely to be stigmatized, teased, or otherwise victimized by peers.

Research suggests that sexual identities (including gender identity, gender-role behavior, and sexual orientation) develop in much the same ways among children of lesbian mothers as they do among children of heterosexual parents (Patterson, 2004a). Studies of other aspects of personal development (including personality, self-concept, and conduct) similarly reveal few differences between children of lesbian mothers and children of heterosexual parents (Perrin, 2002; Stacey & Biblarz, 2001; Tasker, 1999). However, few data regarding these concerns are available for children of gay fathers (Patterson, 2004b). Evidence also suggests that children of lesbian and gay parents have normal social relationships with peers and adults (Patterson, 2000, 2004a; Perrin, 2002; Stacey & Biblarz, 2001; Tasker, 1999; Tasker & Golombok, 1997).

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## **1.2. Results**

However restrictions against civil marriage for same-gender couples, deny these couples and their children numerous protections and benefits deemed valuable by society and government to which heterosexual married couples and their children have access, very few Greek parents were in favour of it (19%). Around half of them (45%) said that they could accept the idea of a relationship between two people of the same sex but not as a husband and wife. On the other hand the majority of Spanish (80%) agreed that marriage between people of the same gender should be legal. Almost the entire Spanish sample (96%) agreed that being a gay or a lesbian is a sexual choice while Greek parents did that in a quite lower percent (77%). There was a 17 percent among the Greeks who thought homosexuality a disorder.

Views between the two samples were very different about if homosexuals should have biological children. The Spanish found it right in a 72 percent. From the other side most of the Greek parents answered that it couldn't happen in an 86 percent. They also agreed that homosexuality is a negative adoption criterion (59%). The Spanish Parents didn't have the same opinion. According their answers a couple's good relation ship is a more significant criterion than their sexual orientation (62%). The parents from Greece also preferred heterosexual couples have priority over homosexual (85%) in adoption process, but the Spanish answered that they shouldn't (77%). Although almost the entire Greek sample (91%) believes that children of lesbian and gay parents will be more likely to be stigmatized by their social environment, the Spanish answered that discriminations against children with homosexual parents aren't as strong as they were in the past ( 73%). Almost all of the parents from Spain (96%) also claimed that they have no objection to friendly relationships between their child and a child with same sex parents compared with 45 percent among the Greeks.

### **1.1. Discussion**

In recent years homo sexual relationships are increasingly gaining acceptance and marriage has become more inclusive in many places, extending to same sex couples. Children depend on their parents for guidance, nurturing, protection, support and love. Their resiliency derives from their sense of permanence, security, and unconditional attachment. However as a consequence of this central value to their children, modern societies have developed the legal and social contract of marriage to ensure the permanent commitment of parents to each other and to their children, and thus to provide an optimal environment for children to thrive, our survey showed that the Greek parents don't believe that same sex marriage should be legalized.

This attitude includes concerns that lesbians and gay men are mentally ill, that lesbians are less maternal than heterosexual women or gay fathers are unfit parents. First, homosexuality is not a psychological disorder (Conger, 1975). Also, research has failed to provide a basis for any of these concerns (Patterson, 2000, 2004a; Perrin, 2002; Tasker, 1999; Tasker & Golombok, 1997). In general, homosexuality is still stigmatized in Greece. The majority of parents believe that sexual orientation is in itself a criterion that negatively affects the quality of parenting. On the contrary, questions like if same sex couples should be allowed to adopt are nowadays common. Although people's attitudes have changed and social acceptance has grown, the Greek sample of our survey continue to express disdain for same sex parents, saying that homo sexuality is reason enough to keep someone away from a child. On the other side results indicated that the sample of parents from Spain admitted that same sex parenting through adoption is becoming a reality.

Empirical studies comparing children raised by sexual minority parents with those raised by heterosexual parents have not found reliable disparities in mental health or social adjustment (Patterson, 1992, 2000; Perrin, 2002; Stacey & Biblarz, 2001). Differences have not been found in parenting ability between lesbian mothers and heterosexual mothers (Golombok et al., 2003; Parks, 1998; Perrin, 2002). Studies examining gay fathers are fewer in number (e.g., Bigner & Jacobsen, 1989; Bigner & Jacobsen, 1992) but do not show that gay men are any less fit or able as parents compared to heterosexual men (Patterson, 2004; Perrin & Committee on Psychosocial Aspects of Child and Family Health, 2002). Overall, results of research suggest that the development, adjustment, and well-being of children with lesbian and gay parents do not differ markedly from that of children with heterosexual parents.

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# Thoughts and Feelings of students involved in assessing themselves and their studies through the creation of an individual assessment folder - Portfolio

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## Introduction

Each educational process is based on a wide range of objectives, the achievement of which underlines its qualitative characteristics. The manner which will determine the degree of realization of this process relates to *educational evaluation*. The search for appropriate student assessment methods is an important parameter for the student's progress and impartial evaluation in order to learn **how to learn**.

Recently in the domain of education, and alternative forms of assessment are sought as a creative response to the widespread deployment and use of forms of formal evaluation. In the case of alternative forms of assessment, the subject of the evaluation defines the objectives, describes his/her learning or professional field and assesses/considers his/her abilities. On a second level, making his/her perspective on matters that concern him/her public, he understands that the above process is part of his creative personal development.

## *Autonomy, Personal Identity, Reflection*

**The building of personal identity** has many dimensions and allows the individual to be able to answer questions like:

- Who am I?
- What makes me unique?
- What d I do well and what not?
- Which are my values?
- How do I see others see me?

One's personal history, the environment one lives and develops and relations with others help structure one's personal identity.

**The ability of one to work autonomously** is directly linked to the development of personal identity and becomes evident when the individual is able to:

- Support his/her needs and choices
- Make plans, set goals for his future and life which are consistent with his values and beliefs.

**The development of personal identity and autonomy** contributes to the development of social skills, such as communication, cooperation, acceptance, respect for others, etc., which are associated with *active citizenship*. According to modern concepts, the child is considered an "active social subject", a concept which is associated with the child's model as a "citizen". In this sense, children have the right to active participation in decision making on matters affecting them (Convention on the Rights of the Child, 1989).

In the field of education sciences **reflection** occurs in studies concerning the content of the work of the educator. The authorship of **«reflective action»** belongs to Dewey who formulated the theory of teacher-researcher, a teacher who is bold with quick understanding in solving problems.

By clarifying **the term subject** we should mention the fundamental contribution of psychoanalysis to the configuration of the term, describing it as a person whose existence is determined by his psychological structuring, his/her representations and his unconscious (Blanchard-Laville, 1992) and the properties of self-reference and rationality allow the subject from an early age to participate actively in the process for conquering knowledge (Sidiropoulou & Tsaoula, Σιδηροπούλου, Φ. & Τσαούλα, Ν. 2008).

**The reflective individual is certainly thoughtful, but not only:** he acquires the desire and ability to become the subject of his own reflection, "to walk and observe himself to walk» (Fernagu, Oudet, 1999). The

reflective professional puts himself in the position of the object of reflection, contemplates his own way of acting, with self-criticism and constructivism (learning through experience).

**Reflective learning** is mainly the analysis of educational work, analysis of complex educational situations, and analysis of action. The adoption of reflective practice by the educator is an element that directs toward a different attitude to work practices, such as:

- the search of a redefinition of “I and the other”,
- concerns about the position of a professional in society
- the relation of the profession with the subject

### **Educational Evaluation**

It is an information gathering process, it is systematic and organized, and aims to identify with valid, reliable and objective manner the results of each pedagogical-didactic activity in relation to specific objectives and methodology. It also aims to identify and assess the effectiveness of teaching, of the teacher, the students, the curriculum and the school system, the selection, adoption, assessment and amendment of various methods and processes of education with a view to improving the teaching and learning processes (Hopkins, 1989, Elliot, 1993, Ntoliopoulou & Gourgiotou, Ντολιοπούλου, Ε. & Γουργιώτου, Ε. 2008).

Forms of Educational Assessment are the Traditional and Alternative Assessment.

#### **Traditional Assessment:**

- a) It emphasizes the learning outcome (final)
- β) It is qualitative, it is expressed with marks
- c) It tests the memorization of specific knowledge
- d) It is not connected to teaching and learning
- e) It entails comparison between students and this results in a climate of competition

#### **Alternative Evaluation:**

- a) It emphasizes the process of learning
- b) It is qualitative, descriptive
- c) Requires complex mental processes
- d) Connects the teaching and learning processes
- e) It is personalized but encourages partnerships

#### **Alternative or authentic evaluation**

An assessment is authentic when the objectives have value and meaning for the learner. Authentic assessment occurs in real life terms and conditions, and as a result may not be identical for all people and all space and time conditions (Meyer, 1992). The authentic evaluation directly expresses the performance of the learner, in contrast to the traditional assessment which indirectly expresses the elements of the learner's performance.

One of the most popular tools of the alternative or authentic assessment is the **Personal File of Activities** or **Portfolio** which involves its creator in the process of bringing up his needs and conquest of areas concerning him. It is aimed at professional teachers, trainees in teacher training and students of all educational levels. As opposed to classical works, the portfolio allows the identification of all the academic, social and cultural experiences of its creator and is a tool for personal and social development of all the factors (pupil, student - future educator and professional educator) in the educational process.

**The Portfolio** is a structured collection of the best works of the author's proving the grounds of selection, reflection and collaboration (Arter & Spandel, 1992). It is the testimony of the work built over time in different contexts and includes: **planning, implementation and evaluation**. It is much more than a task list because although it contains samples of courses and work plans of students and educators, these are accompanied by reflective thoughts on their essence. Therefore, the Portfolio is primarily a self- and hetero-student evaluation tool and differs radically from a folder where various tasks are pooled.

In particular, the Portfolio in higher education is closely linked to the concept of reflective practice of students and includes the ability to draw conclusions with deliberate, systematic use of previous experience. The use of the Portfolio as an alternative assessment instrument, especially as a means of self-assessment of the work of students, gives the opportunity to the student to be involved in his own learning, leading him to think of ways to improve. The Portfolio is an additional tool where the student demonstrates his progress and helps him to identify the knowledge, needs, as well as his motivations and set future goals.

**The portfolio of the student - future teacher** starting from his student years, accompanies the professional throughout his professional life, focusing on continuous training, dissemination of his/her work and peer exchanges. Creating a portfolio, the student and professional is actively involved in the issue of authentic assessment.

As part of the basic training, for example, the portfolio aims to give an accurate and complete portrait of the expected training results of the training and gives an account of the essence of the work taking place during the student's studies.

**The portfolio of the prospective student-teacher** was first created for the needs of laboratory courses in the education departments of higher education, mainly for those who carry out their practical training, future professionals and education professionals. For those who use it, regardless of their personal identity, the portfolio leads to improved personal development, self-esteem, the assessment of strengths and weaknesses and autonomy.

### **But how can the Portfolio facilitate reflective practice of a student- future educator?**

**Reflective practice** (the ability to draw conclusions with deliberate, systematic use of previous experience) is facilitated by self-evaluation and brings up questions such as:

- What should I include in my Portfolio?
- Which parts would stress reflection?
- Is this my best work/practice and why?

In fact the choice of work that demonstrates mastery of a subject is not accomplished without reflective practice. The adoption of reflective practice by the educator is an element that helps him toward:

- Practices with a different attitude toward work,
- Search for a redefinition of the "I and the other",
- Concerns on the position of the professional in society
- And the relation of the profession with the subject

The **Portfolio of prospective student-teacher** is necessary to include all components of the educational work. With the mind on the emphasis on the personal character of each Portfolio it should "photograph" its creator. With questions seeking diversity and the personal involvement of each of those who want to implement a Portfolio and whose philosophy is the enhancement of personal characteristics of each teacher, trying to underline what is different.

Therefore, we begin with questions such as:

- What distinguishes you from your colleagues?
- What is your favourite domain?
- Beyond every day school routine, is there anything different you would like to try and what is

this?

#### ***Difficulties of the portfolios***

The difficulty arising from the implementation of the portfolio is that the portfolio should not become just a file or folder where one saves things or a file accumulating actions without apparent and specific criteria. Every mechanical creation of a portfolio carries the risk of a mistreated effort by its creator -that is- of having personally invested in a project that does not "belong to him". Another difficulty is the time it takes for a teacher to prepare a portfolio and in the process reflect either individually or collectively.

The inability of traditional portfolios focuses on communication problems and access to information. It is also difficult to fully depict the evaluation and store and use the material of old portfolios.

Thus, the use of e-portfolios which are the electronic versions of the student work folder is proposed, which contains not only text but also graphics, audio and video work. The difference with a classic portfolio lies in the presentation and interactivity.

**Advantages of e-portfolios:** (Heath, 2002, 2005, Love & Cooper, 2004):

- *The development of skills and competencies with the use of C/T and multimedia technology*
- *The promotion of learning*, providing a rich picture of the knowledge and skills of students.
- *Feedback*, which facilitates the exchange of ideas.
- *Reflection*. Just like the traditional Portfolio, the e-portfolio encourages students to reflect on

their work.

- *Evaluation*. Students fully understand the assessment they are subject to and can use it to continuously improve their knowledge. At the same time, they may assess themselves and therefore to acquire full knowledge of the learning process, setting their own goals in the context of self-regulated learning.

- *Preservation*. The e-Portfolio is easy to maintain, publish, be updated and due to this it may be continually revised.

- *The portability and handling*. Whether stored on CD-ROM or on the Web, the e-Portfolio is easy to transport, to share with others and be disseminated.

Despite the above advantages of portfolio, perhaps the greatest is the experience of creating it.

- ❖ I can do it - Autonomy
- ❖ I should "throw" things in it randomly – Reflection
- ❖ "I" exist in it – Personal identity

**Evidence included in the e-portfolio:**

- Evidence of planning, preparation of the actions.
- Evidence of evaluation of the project or informal evaluation of the students.
- Collective interventions with colleagues, members of the staff, and social partners.

- Evidence of cooperation and third party criticism
- Evidence concerning the training and new knowledge of the educator.

### **Research Method**

In this paper we attempt to make a first assessment of the finds of an alternative form of assessment we have been using for five years in the context of laboratory courses in higher education. It is a project that followed 150 students during a biannual laboratory course of the Department of Pre-school Education of the TEI -Athens, in the course of which they experienced the accomplishment of their own assessment tool, **the portfolio of the student** in electronic form, which is considered more compatible with the ways of expression of young people .

**Aim:** The detection of the thoughts and feelings of students in a type of evaluation characterized as 'authentic' (the assessment of their portfolios which depicts their thoughts and emotions).

The **method** used was **content analysis** (Coen, L. & Manion, L. 1994).

We tried, through content analysis of a short written narrative to explore the main features, the concept of creativity and capacity inference by a deliberate systematic use past experience, in other words toward the adoption of reflective practice in areas of their learning.

**Duration:** 6 months

### **Results**

Of the 150 students, 10 did not understand the question which concerned the written depiction of thoughts and feelings about the positive and negative aspects of their e-portfolio.

Specifically, some responded either by evaluating the laboratory course or described the six-month development of it rather than the course evaluation tool (creation and support of e-portfolio by each student-creator) and others reiterated the theory of the portfolio.

#### **Negative results**

They were very few compared to the positive ones.

Approximately 30% of the participating students mentioned negative features which concerned:

- a) The difficulty of the process of both creating the e-portfolio and presenting it.
- b) Difficulties concerning themselves and the others.

#### **Themselves and the others:**

- **Emotions of insecurity, concern about being exposed to others.**

*"I was afraid to present it in front of the other students"*

- **Danger of "betraying" their expectations in the process.**

*I was afraid I would betray the expectations I had in creating the portfolio"*

- **Difficulty in selecting projects since it is an usual educational process**

#### **Difficulties concerning the others. ( Fellow students, Teachers ) concerning the tool itself:**

- It takes a lot of time. This was the most common negative comment.
- Very few thought that the electronic form caused difficulties.
- Fears about the risk their work being assessed as to converge or diverge from an IDEAL portfolio.

• Fear of potential competition during the presentation among the assessed.

• Narrow timeframes for the presentation/publicizing of the portfolios of all students.

• The material, although versatile in this online tool, is only VISUAL, as opposed to the traditional evaluation dossier which is literally palpable.

- There was no real possibility and interim assistance in the creation from the teacher.

#### **Positive results**

##### **Concerning themselves:**

- **Personal choice, intense personal element.**

*"We said what we wanted to say"*

*"I did what I wanted"*

*"I am showing what represents me"*

- **The presentation to others**

*"Physical presence is irreplaceable"*

*"It is important to be exposed to the judgment of others"*

- **Boosting of self-confidence, self-esteem, self-development**

*"My preferences became important"*

*"Organizing the material, I had to deal with my development"*

- **The process of creation, the possibility of choice**

“What was important for me was the development of the portfolio and the choice”

“To be able to choose the works I would include, those that represent me”

“The joy of creation, a chance for self development”

- **Authenticity**

“We escaped the monotony of the written exam”

- **Reflection**

“At last! An assignment for which I ask myself about the reason for my judgment”

“Cultivates trust in my judgment»

- **Self-evaluation**

“It is important to judge the quality of your work”

**Concerning the others, concerning the tool**

- **The inevitable collaboration between students in much of the content was instrumental.**

- **The electronic form of the portfolio**

- **Its minimal cost**

- **Experimentation-research**

- **Regarding the organization of the material**

“Interesting beyond the concern for grades”

- **Alternative form of assessment**

“It gives a chance those who can't write”

- **Conjunction of theory and practice**

- **Absence of anxiety**

- **Tool for evaluation**

“We transmit what we know to others”

## Conclusion

Research has shown both the positive as well as the individual difficulties on the part of students in their ability to separate the creative part of the e-portfolio from its reflective perspective.

The subjective nature of the portfolio is of great value for the future educator, both for his conscious engagement and professional development, but not necessarily in the same form, the same areas and objectives for all.

In conclusion, the portfolio proposes the necessary diversity for society of citizens, when the pursue is not only to learn in a personalized way as possible but also to evaluate himself with factors he selects, evaluates and promotes.

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# Browsing Books In Public or in Private: Representations of reading and the book as an object in education

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## Abstract

Reading as learning, cultural activity or entertainment is at the heart of the concept of literacy. Reading is a widespread and complex phenomenon, a mental act. Studies of this phenomenon have produced various theories in interdisciplinary spectrum. But is reading enjoyable? How do we behave when we read? Do we always read when we hold a book? Do readers have rights? And can a book cause different “readings”? Questions like those exploring certain perceptions and attitudes in the context of education.

Η ανάγνωση ως δραστηριότητα μάθησης, εκπολιτισμού ή ψυχαγωγίας βρίσκεται στο επίκεντρο της έννοιας της εγγραματοσύνης και της «κουλτούρας». Αποτελεί εκτεταμένο και πολυσύνθετο φαινόμενο, μία πράξη με διανοητικό υπόβαθρο και η μελέτη της έχει αποδώσει θεωρίες σε ένα ευρύ διεπιστημονικό φάσμα. Σε αυτή την ανακοίνωση, ερωτήματα που ανασηματοδοτούν τις αντιλήψεις και τις στάσεις για την ανάγνωση τίθενται προς διερεύνηση στο πλαίσιο της εκπαίδευσης. Η διαδικασία της ανάγνωσης είναι μέρος του πολιτισμού κι είναι εξίσου υποκείμενη σε ατομική και κοινωνική αλλαγή. Αποτελεί περίπλοκη και ετερογενή κατασκευή, πολιτισμικά διαμεσολαβημένη, χαρακτηριστικά που είχαν ήδη επισημανθεί από το ιδεολογικό μοντέλο<sup>1</sup> τη δεκαετία του '70 για την εγγραματοσύνη<sup>2</sup> και συνδέονται σαφέστατα με

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<sup>1</sup> Το *ιδεολογικό μοντέλο* θεωρεί την εγγραματοσύνη σε συνάρτηση προς τα κοινωνικά πολιτισμικά πολιτικά και ιδεολογικά συμφραζόμενα στα οποία βρίσκεται ενταγμένη. Νοηματοδοτείται από την ιδεολογία, τις εξουσιαστικές δομές και τις συνθήκες που επικρατούν κάθε φορά. Το ιδεολογικό μοντέλο ήρθε ως θεωρητική απάντηση στο *αυτόνομο μοντέλο* και τη ‘Θεωρία του Χάσματος’ σύμφωνα με την οποία υπάρχει δυαδική ιεράρχηση κοινωνιών πριν και μετά την εγγραματοσύνη. Σε αυτό το θεωρητικό πλαίσιο (που εκφράζεται κυρίως από τον Goody) η εγγραματοσύνη εμφανίζεται ως ένας αυτόνομος καθολικός ιστορικός και εξελικτικός παράγοντας, ως ένα τελεολογικό φαινόμενο (Παραδέλλης Θ. 1997, εισαγωγή στο Ong, W. J., *Προφορικότητα και Εγγραματοσύνη, η εκτεχνολόγηση του λόγου*. επιμ., Ηράκλειο: Πανεπιστημιακές Εκδόσεις Κρήτης).

<sup>2</sup> Street V. B., 1984. *Literacy in Theory and Practice*, Cambridge University Press, Cambridge και Παραδέλλης ο.π.

τη Θεωρία της Πολιτισμικής Κατασκευής.

Πώς βιώνουν τα παιδιά την ανάγνωση ως εμπειρία; Πώς ερμηνεύουν τις αναπαραστάσεις της μέσα από την τέχνη και τη φωτογραφία και πόσο συναφείς είναι οι δικές τους αναγνώσεις σε αυτές τις αναπαραστάσεις; Τι συνδέει κάποιον δωδεκάχρονο που κρατάει ένα βιβλίο τώρα με κάποιον δωδεκάχρονο που κρατούσε ένα βιβλίο αιώνες πριν; Είναι η ανάγνωση απολαυστική ή τότε μπορεί να είναι; Πώς αντιμετωπίζουμε τα βιβλία και γιατί; Έχουν οι αναγνώστες δικαιώματα; Ποιες άλλες “αναγνώσεις” μπορεί να προκαλέσει ένα βιβλίο; Έχουν οι αναγνώστες απόλυτη ελευθερία; Αυτά είναι τα αρχικά ερωτήματα που έθετε η διδακτική ενότητα που σχεδιάστηκε βασισμένη στο θέμα της διατριβής μου «*Η ανάγνωση ως πολιτισμική κατασκευή- Τρόποι διαπραγμάτευσης στη χρήση των βιβλίων*»<sup>3</sup> και διερευνήσαμε με τους μαθητές της Α΄ Γυμνασίου του Πειραματικό Γυμνάσιο του ΑΠΘ στη Θεσσαλονίκη, τον Μάρτιο του 2012.

Είναι σαφές ότι η ανάγνωση δεν προσφέρεται ως πράξη αυθύπαρκτη, καθώς για να συμβεί ενεργοποιείται από ένα κείμενο. Κι ενώ σχετίζεται με μία σειρά κειμενικών προϊόντων (έγγραφα, έντυπα, εικόνες κ.α), φαίνεται, από τις σχετικές με το αντικείμενο έρευνες<sup>4</sup>, ότι το βιβλίο είναι αυτό που προσδιορίζει/ χρίζει τον αναγνώστη αλλά και «*δημιουργεί τη μορφή του*»<sup>5</sup> (Cavallo 2008: 207). Επομένως, μια αντιμετώπιση της ανάγνωσης που δεν περιορίζεται μόνο σε γνωρίσματα που αφορούν ένα πρώτο επίπεδο, δηλαδή την αναγνωστική δεξιότητα ή αποκλειστικά την διανοητική της διάσταση, αφορά τους τρόπους με τους οποίους οι αναγνώστες σχετίζονται με ή διαχειρίζονται το υλικό υπόβαθρο της ανάγνωσης που είναι εδώ το βιβλίο, αντικείμενο το οποίο συνδέεται με σωματοποιημένες πρακτικές και πολιτισμικές αξίες. Το βιβλίο αποτελεί κατά κάποιο τρόπο ένα «ειδικό» αντικείμενο. Καθώς συντίθεται από υλικά και διανοητικά στοιχεία τα οποία είναι τόσο ισχυρά δεμένα, το βιβλίο επηρεάζει ανάλογα

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<sup>3</sup> Η διδακτορική μου διατριβή «*Η ανάγνωση ως πολιτισμική κατασκευή- Τρόποι διαπραγμάτευσης στη χρήση των βιβλίων*» έχει συγχρηματοδοτηθεί από την Ευρωπαϊκή Ένωση (Ευρωπαϊκό Κοινωνικό Ταμείο - ΕΚΤ) και από εθνικούς πόρους μέσω του Επιχειρησιακού Προγράμματος «Εκπαίδευση και Δια Βίου Μάθηση» του Εθνικού Στρατηγικού Πλαισίου Αναφοράς (ΕΣΠΑ) – Ερευνητικό Χρηματοδοτούμενο Έργο: Ηράκλειτος II . Επένδυση στην κοινωνία της γνώσης μέσω του Ευρωπαϊκού Κοινωνικού Ταμείου.

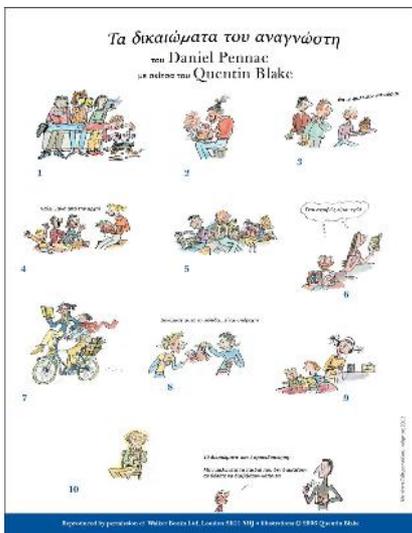
<sup>4</sup> Βλ. Establet & Felouzis όπως παρατίθεται στο Cavallo G., Chartier R. (επιμ) 2008, *Ιστορία της Ανάγνωσης στο Δυτικό Κόσμο*, επιμ. Μπάνου Χ., Αθήνα: εκδόσεις Μεταίχμιο.

<sup>5</sup> Cavallo, G., 2008. Η ανάγνωση στο Βυζάντιο. μεταφ. Τσοχανταρίδου Σ., Odorico P., Αθήνα: εκδόσεις Άγρα.

την δραστηριότητα της ανάγνωσης που το περιβάλλει αναγκάζοντάς την να κινείται μεταξύ σωματικής και διανοητικής δραστηριότητας. Η ενότητα κινούμενη σε αυτό το θεωρητικό πλαίσιο είχε βασικούς στόχους

- την κατανόηση της υλικότητας των βιβλίων και της ιδιομορφίας τους ως αντικείμενα με διανοητική και υλική αξία
- □την εξοικείωση με εναλλακτικές αναγνωστικές τακτικές μέσα από τα Δικαιώματα του αναγνώστη
- την υιοθέτηση της ιδέας ότι η ανάγνωση μπορεί να πάρει πολλές μορφές και ως εκ τούτου είναι μια δημιουργική διαδικασία
- □την ικανότητα συναισθηματικής έκφρασης και διερεύνηση των συναισθημάτων που προκαλεί η ανάγνωση

□Ας δούμε λοιπόν πώς οργανώθηκε στην πράξη η ενότητα. Σε πρώτο επίπεδο έγινε μια εκτενής συζήτηση με τα παιδιά της τάξης για το τι νόημα δίνουμε εμείς στα βιβλία, τι μπορεί να σημαίνουν για εμάς, πώς τα χρησιμοποιούμε, πού τα διαβάζουμε, τι κάνουμε με αυτά όταν δεν τα διαβάζουμε, πού τα αποθηκεύουμε, σε τι πράξεις μας και σε τι σχέσεις μας οδηγούν. Για παράδειγμα, ένα βιβλίο που μας αρέσει μπορεί να μας ωθήσει στο να το δανείσουμε στο φίλο μας για να μοιραστούμε την αναγνωστική εμπειρία μας. Ένα πολύ ακριβό βιβλίο μπορεί να μη μας «αφήνει» να του τσακίσουμε τη σελίδα. Ή αν θέλουμε να βρούμε ένα σπάνιο βιβλίο θα πρέπει να πάμε στην βιβλιοθήκη. Αφού συζητήσαμε παραδείγματα από την καθημερινότητα και μοιραστήκαμε προσωπικές ιστορίες σε σχέση με βιβλία, ζητήθηκε από τους μαθητές να φανταστούν ότι το βιβλίο είναι ένα αντικείμενο χωρίς αναγνωστική αξία. Σε αυτή την περίπτωση θα έπρεπε να λάβουν υπόψιν όλα τα υλικά χαρακτηριστικά του. Πώς θα το χρησιμοποιούσαν;



Εικ 1

Ακούστηκαν διάφορες ιδέες, όπως ενδεικτικά ότι μπορεί να γίνει καλό όπλο ή μαξιλάρι αν είναι ογκώδες, μπορεί να γίνει μια καλή κρυψώνα για κοσμήματα ή χρήματα, ότι πολλά μαζί μπορεί να χρησιμοποιηθούν ως κομοδίνο, ότι με δύο βιβλία και ένα «τρελομπαλάκι» μπορεί να παίξουν δύο άτομα πολύ καλό τένις...

Σε δεύτερο επίπεδο, η συζήτηση κυμάνθηκε στον τρόπο που διαβάζουμε, σε αυτό που αποκαλούμε αναγνωστικές συνήθειες. Καταμετρήσαμε μερικές με τα παιδιά. Είπαμε όλα όσα πιστεύουμε ότι «απαγορεύεται» να κάνει κάποιος με ένα βιβλίο. Αυτό έδωσε ένα καλό πέρασμα στα Δικαιώματα του Αναγνώστη<sup>6</sup>. Το υλικό αυτό που βλέπετε (Εικ. 1) μοιράστηκε στους μαθητές οι οποίοι δουλεύοντας ομαδικά προσπαθούσαν να μεταφράσουν τα σκίτσα του Quentin Blake σε δικαιώματα. Τα πήγαν πολύ καλά. Τα δικαιώματα του αναγνώστη διαμορφώθηκαν ως εξής:

1. Να μην διαβάζεις
2. Να ξεφυλλίζεις (απλώς) ένα βιβλίο
3. Να αφήνεις στη μέση ένα βιβλίο
4. Να διαβάζεις ένα βιβλίο ξανά και ξανά
5. Να διαβάζεις ό,τι σου αρέσει
6. Να μπαίνεις στη θέση του ήρωα
7. Να διαβάζεις οπουδήποτε
8. Να δοκιμάζεις τα βιβλία
9. Να διαβάζεις μεγαλόφωνα (χωρίς να ενοχλείς)
10. Να απαιτείς ησυχία όταν διαβάζεις

Αμέσως μετά μοιράστηκαν στα παιδιά επιλεγμένες εικόνες αναγνωστών. Αφού τις επεξεργαστήκαμε και συζητήσαμε γι' αυτές τοποθετώντας τους στο περιβάλλον και στην εποχή τους ζητήθηκε να εμπνευστούν από τις εικόνες και να γράψουν μια αναγνωστική ιστορία. Η ιστορία μπορεί να αφορούσε τους εικονιζόμενους αναγνώστες, είτε να είχε σχέση με το ανάγνωσμά τους. Για παράδειγμα, να είναι μέρος μίας σελίδα από το βιβλίο που φαίνεται να διαβάζουν. Στη συνέχεια, παρουσιάζονται επιλεκτικά τρεις διαφορετικές εκδοχές για το πώς παρουσιάζεται η ανάγνωση μέσα από τις ιστορίες των παιδιών.

#### ΚΕΙΜΕΝΟ 1ο

#### Γυρίζει γυρίζει το βιβλίο

Ένας σοφός φίλος μου είπε:

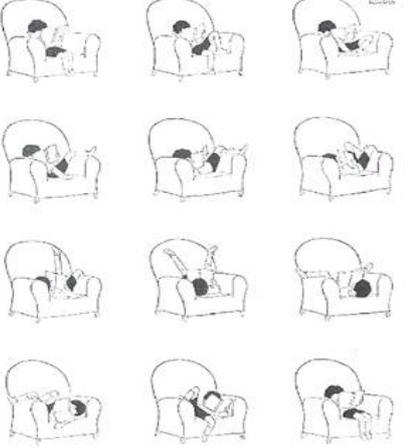
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<sup>6</sup> Τα Δικαιώματα του Αναγνώστη περιέχονται αναλυτικά στο βιβλίο του Ντανιέλ Πενάκ (1996) *Σαν Ένα Μυθιστόρημα* Εκδόσεις Καστανιώτη.

Για να διαβάσεις ένα βιβλίο σοβαρό και με αρκετές σελίδες, κυρίως φιλοσοφικό δεν μπορείς:

1. να το διαβάσεις μέσα σε μία μέρα και αν το κάνεις δεν μένεις ποτέ σε σταθερή θέση

Σοφός Συγγραφέας Βασιλίας Ζουσιφλόου



"Τυρξίζει - τυρξίζει το βιβλίο"  
Είμαι σοφός φίλος μου είπτε:

"Για να διαβάσεις ένα βιβλίο σοβαρό και με αρκετές σελίδες, κυρίως φιλοσοφικό δεν μπορείς:

1. Να το διαβάσεις μέσα σε μια μέρα και αν το κάνεις δεν μένεις ποτέ σε σταθερή θέση.
2. Οι μόνες θέσεις που θα είναι ίδιες είναι όταν ξεκινάς να διαβάζεις το βιβλίο κάθεω κανονικά γιατί σου κινεί το ενδιαφέρον και όταν το τελειώνεις γιατί βαρέθηκες και θες να σηκωθείς. Ενδιάμεσα μπορείς να κάτσεις σε όποιες θέσεις θέσεις θες, ακόμα και ξαπλωμένος αλλά πάντα θα είσαι με το βιβλίο στο χέρι." Μπορείτε να ακολουθήσετε τους «κανόνες» αλλά δεν είναι και απαραίτητο, αυτή είναι η γνώμη του σοφού φίλου μου.

2. Οι μόνες θέσεις που θα είναι ίδιες είναι όταν ξεκινάς να διαβάζεις το βιβλίο να κάθεσαι κανονικά γιατί σου κινεί το ενδιαφέρον και όταν το τελειώνεις γιατί βαρέθηκες και θες να σηκωθείς. Ενδιάμεσα μπορείς να κάτσεις σε όποιες θέσεις θέσεις θες, ακόμα και ξαπλωμένος, αλλά πάντα θα είσαι με το βιβλίο στο χέρι. Μπορείτε να ακολουθήσετε τους «κανόνες», αλλά δεν είναι και απαραίτητο, αυτή είναι η γνώμη του σοφού φίλου μου.

## ΚΕΙΜΕΝΟ 2ο

### Η αγάπη για τα βιβλία

Η μεσαία γυναίκα της εικόνας ήταν η γνωστή Park Ji Song. Αυτή διάβαζε από τότε που γεννήθηκε χιλιάδες βιβλία. Ήταν δηλαδή, βιβλιοφάγος, όπως λέμε



σήμερα. Σπούδαζε ρητορική στο Πανεπιστήμιο και ή ταν η καλύτερη φοιτήτρια. Είχε μανία μα τα βιβλία. Διάβαζε, διάβασε, διάβαζε... Και πάει λέγοντας. Αυτό που θέλω να πω είναι ότι δεν τα άφηνε από τα χέρια της.

Όλα ξεκίνησαν μια συνηθισμένη μέρα, η Park πήρε μαζί της το αγαπημένο βιβλίο της επειδή είχε μια παρουσίαση με βάση αυτό. Όταν επέστρεψε σπίτι είδε το ένα παράθυρο του σπιτιού ανοιχτό, έτρεξε και μπήκε μέσα, τότε ήταν καταστροφή. Οι κλέφτες είχαν κλέψει όλα τα βιβλία της. Από τότε δεν την είδε κανείς ξανά. Πολλοί λένε ότι κλείστηκε στον εαυτό της με το αγαπημένο της βιβλίο.

### ΚΕΙΜΕΝΟ 3ο

#### Χωρίς Τίτλο

Ήταν κάποτε ένας άνθρωπος σκυθρωπός και αμίλητος, που το μόνο που έκανε στον ελεύθερό του χρόνο ήταν να διαβάζει βιβλία. Το πρωί ήταν στο λογιστήριο όπου δούλευε και όταν γυρνούσε στο σπίτι του «έπιανε» τα μισοτελειωμένα βιβλία του και τα τελείωνε το βράδυ. Για να καταλάβετε, δεν

είχε φίλους και τη γυναίκα του την έβλεπε μόνο το βράδυ, όταν πήγαιναν για ύπνο. Η γυναίκα του μαράζωνε στην κουζίνα, ενώ αυτός καθόταν και διάβαζε τα καλογουαλισμένα και προσεγμένα βιβλία του.

Είχε γίνει αρκετά σοφός, αλλά όχι τόσο ώστε να μπορεί να έχει μια επιτυχημένη ζωή. Η βιβλιοθήκη του ήταν μια μεγάλη καλογουαλισμένη με εκατοντάδες χιλιάδες μεγάλα και μικρά βιβλία που φαίνονταν σαν καινούργια (τα πρόσεχε πολύ). Όλα αυτά έκρυβαν κάποιες σημαντικές γνώσεις που κάποιες είχε αποκτήσει, μα κάποιες άλλες όχι.

Μια μέρα ξεκίνησε να διαβάζει ένα διαφορετικό βιβλίο από τα άλλα. Όσο το

Στίβιος Γαβριήλ - Σαβανόρας #2 Γυμνασίου



Κεφάλαια: 1# ερώτημα  
2# απάντηση: Συντροφιά  
3# 7/- : Μια φιλοσοφία, πολλές γνώσεις  
4# 7/- : Ξεχωριστό βιβλίο

\* Ήταν κάποτε ένας άνθρωπος, ανώμαλος τα σκέλη του που το μόνο που έκανε σαν ελεύθερο του χρόνου ήταν να διαβάσει βιβλία. Το πρωί ήταν στο λιτόστειρο όπου δούλευε και έκανε δουλειές στο σπίτι του επίσης τα μικροπληρωμένα βιβλία του και τα κέρματα τα βράδια για να καλύψει, ενώ είχε φίλους, γυναίκα και τον εθελό μόνο το βράδυ όταν πήγαιναν για ύπνο. Η γυναίκα του μαράζωνε σαν κουζίνα, ενώ αυτός καθόταν και διάβαζε τα καλογουαλισμένα και προσεγμένα βιβλία του. Είχε γίνει αρκετά σοφός αλλά όχι τόσο ώστε να έχει μια επιτυχημένη ζωή.

\* Η βιβλιοθήκη του ήταν μια μεγάλη καλογουαλισμένη με εκατοντάδες χιλιάδες μεγάλα και μικρά βιβλία που φαίνονταν σαν καινούργια (τα πρόσεχε πολύ) Όλα αυτά έκρυβαν κάποιες σημαντικές γνώσεις που κάποιες είχε αποκτήσει, μα κάποιες άλλες όχι.

\* Μια μέρα ξεκίνησε να διαβάσει ένα διαφορετικό βιβλίο από τα άλλα. Όσο το διαβάσε άρχισε να αλλάζει ο χαρακτήρας του. Αναφερόταν στο θάνατο, και ένας κτηνώδης ο οποίος ήταν μόνος του στη ζωή χωρίς φίλους. Καποια στιγμή πέθανε από καρδιαίο θάνατο + καρδιά του ήρα που διαβάσε ένα βιβλίο που αναφερόταν στο θάνατο... σαν κηδεία του δεν είχε έρθει κανείς. - Συγκινήθηκε πολύ...

\* Από τότε άρχισε να συναναστρέφεται με άλλους ανθρώπους, να κάνει φίλους, να χαίρεται τη γυναίκα του και τη ζωή του και πάνω από όλα έμαθε να ζει τη ζωή του.



διάβαζε, τόσο άλλαζε ο χαρακτήρας του. Αναφερόταν στο θάνατο: Ήταν ένας άνθρωπος ο οποίος ήταν μόνος του στη ζωή, χωρίς φίλους. Κάποια στιγμή πέθανε από ακαριαίο θάνατο, καρδιά την ώρα που διάβαζε ένα βιβλίο που αναφερόταν στο θάνατο. Στην κηδεία του δεν είχε έρθει κανείς... Συγκινήθηκε πολύ. Από τότε άρχισε να συναναστρέφεται με άλλους ανθρώπους, να κάνει φίλους, να χαίρεται τη γυναίκα του και τη ζωή του και πάνω από όλα έμαθε να ζει τη ζωή του.

Το πρώτο κείμενο αποτελεί παράδειγμα συγγραφής ενός μικρού «αποδομιστή», ο οποίος προτείνει κάποιους αναγνωστικούς κανόνες τους οποίους καταλύει. Αξιοποιεί

στοιχεία από τη συζήτηση που έγινε στην τάξη σχετικά με το πώς η ανάγνωση αποτελεί εξίσου μία σωματική δραστηριότητα γράφοντας ένα κείμενο με συμβουλευτικό-κωμικό ύφος. Το δεύτερο κείμενο, αποτελεί μία ιστορία όπου πρωταγωνιστεί μία «βιβλιοφάγος». Στη σύντομη ιστορία διαγράφεται η σχέση της γυναίκας με την ανάγνωση. Τονίζεται η συναισθηματική αξία που έχει τόσο η ανάγνωση αλλά και η συλλογή βιβλίων τα οποία μάλιστα γίνονται αντικείμενο κλοπής. Η απώλεια αυτή είναι τόσο βαθιά ώστε διαμορφώνει τη ζωή της όπως η απώλεια ενός αγαπημένου προσώπου. Η ηρώίδα πενθεί τα βιβλία που έχασε.

Στην τρίτη ιστορία είναι εμφανής ο προβληματισμός σε σχέση με το θάνατο και τη μεταφυσική. Η ανάγνωση παρουσιάζεται ως μοναχική εμπειρία και τονίζεται η μετασχηματιστική της ιδιότητα, η δυνατότητα που έχει να σου «αλλάξει» τη ζωή, να σε απομονώσει ή να σε φέρει πιο δυνατό και σοφό πίσω σε αυτή. Την ίδια δύναμη φαίνεται να έχουν κάποια συγκεκριμένα βιβλία (βλ. Κείμενο 2 και 3).

Συμπληρώνοντας την εικόνα ας σταθούμε σε κάποιες όψεις της ανάγνωσης και του βιβλίου μέσα από το λόγο των παιδιών. Στα αποσπάσματα που παρατίθενται από τα κείμενα που έγραψαν τα παιδικά, διακρίνεται η ιδιότητα του βιβλίου να μεταφέρει τους αναγνώστες σε μια δευτερεύουσα πραγματικότητα πιο ανεκτή από την καθημερινή (Πήρε να διαβάσει ένα βιβλίο για να ξεχαστεί. Τα λόγια, οι λέξεις του βιβλίου τον ταξίδεψαν σε άλλα μέρη, μέρη εκθαμβωτικά, μέρη τα οποία είναι απλά μία όαση). Η απορρόφηση είναι μεν ολική και λόγω της φορητότητας του βιβλίου μπορεί να ικανοποιηθεί (Είχε κυριολεκτικά ρουφηχθεί απ' το βιβλίο. Το διάβαζε στο σπίτι, στη δουλειά, στο τρένο, εν ώρα κοψίματος, στο μπάνιο, στην κουζίνα, στο εντευκτήριο του νοσοκομείου, στο δικαστήριο), αλλά όχι και με μόνιμα αποτελέσματα εφόσον αυτό



συμβαίνει μόνο μέχρι να επανέλθει κανείς (*Μπόρεσε να ξεχάσει την ... Κάποια σελίδα του βιβλίου όμως τον οδήγησε σε ερωτήματα όπως: γιατί να μην διαλέξει εμένα;*)

Συχνά, η ανάγνωση είναι προθάλαμος για τον ύπνο, καθώς σταδιακά μεταφέρει τον αναγνώστη σε όλο και πιο ρευστές πραγματικότητες (*Ξάπλωσα στον καναπέ και άρχισα να διαβάζω. Διάβασα μια δυο τρεις σελίδες. Στην τέταρτη με πήρε ο ύπνος*). Άλλοτε μπορεί να είναι μέσο για να γεμίσει ο κενός χρόνος ή για να φέρουμε κοντά τα αγαπημένα μας πρόσωπα ή να αναβιώσουμε καταστάσεις και αναμνήσεις (*Άρχισε να βαριέται μόνη στο σπτικό της. Έτσι αποφάσισε να διαβάσει ένα από τα πολλά παραμύθια που διάβαζε στα μικρά της και έβρασε ένα τσάι Και αλλού: Αφήνω το ποτήρι και πάνω το μυθιστόρημα. Το ίδιο μυθιστόρημα που διάβαζα τότε*). Η ικανότητα να γράψει ο καθένας ένα βιβλίο, αρκεί να έχει μια ιδέα είναι μια αισιόδοξη οπτική που όμως τα παιδιά (ήδη από αυτή την ηλικία) φαίνεται να αντιμετωπίζουν με σκεπτικισμό ως προς την πραγματοποίησή της (*Μια μέρα της ήρθε μια φανταστική ιδέα και άρχισε να γράφει ένα βιβλίο. Όλοι της έλεγαν πως τζάμπα γράφει αυτό το βιβλίο και ότι δεν πρόκειται να εκδοθεί*). Τέλος, ο απειράριθμος όγκος των βιβλίων που υπάρχουν μοιάζει να απασχολεί τους μαθητές, οι οποίοι συνειδητοποιούν το πεπερασμένο των αναγνωσμάτων στη διάρκεια της ανθρώπινης ζωής (*Όταν έγινε γέρος ξέχασε να διαβάζει και είχε λυπηθεί πολύ γιατί υπήρχαν πάρα πολλά βιβλία που δεν είχε διαβάσει*).

Συνοψίζοντας, οι μαθητές συμμετείχαν βιωματικά στη συζήτηση και δημιούργησαν κείμενα τα οποία άντλησαν τόσο από τις εμπειρίες τους, όσο και από τον αναστοχασμό σε σχέση με τα ζητήματα στα οποία εστιάσαμε στην ενότητα. Εμπλούτισαν τις σκέψεις τους σε σχέση με τις χρήσεις των βιβλίων ως αντικείμενα, τη σωματική διάσταση της ανάγνωσης και την ελευθερία που μπορεί να απολαμβάνει κάποιος που διαβάζει ένα βιβλίο πέρα από εξωτερικούς ή εσωτερικευμένους κανόνες, με τα συναισθήματα που προκαλεί η ανάγνωση. Μέσα από τη συζήτηση και τα κείμενα είναι εμφανές ότι οι μαθητές συνειδητοποίησαν ότι η ανάγνωση αποτελεί μία πτυχή πολιτισμού αλλά και τη δημιουργική της διάσταση, τις διαφορετικές εκφράσεις της, και

ίσως πάνω από όλα ότι μπορεί να φαίνεται μοναχική, αλλά η αναγνώση αποτελεί σχέση με ένα υλικό αντικείμενο (εδώ το βιβλίο), με άλλους ανθρώπους και με τον ίδιο μας τον εαυτό.

# Executive Functions in Binge Eating: Preliminary Data

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## Abstract

The executive functions (EF) are mental processes by which deliberately resolve internal and external problems. According previous studies, the deficits plays an important role in the development and maintenance of binge eating disorder (BED). The aim of this study was to compare the executive functions of obese Portuguese individuals with/without BED, with normal weight individuals. Method: In this study participated 114 adults (38 obese individuals with BED (OB), 38 obese individuals without BED (O) and 38 normal weight individuals (N). All individuals were assessed using the following instruments: FAB; Action fluency, CTT, Stroop and WCST. Results: Obesity is related with general income frontal, planning and sequencing, capacity of inhibitory control, ability to solve problems, cognitive flexibility and verbal fluency; when compared to the control group, obese with binge eating were the ones that presented more difficulties in conceptualization and abstraction and response maintenance; obese with binge eating in comparison to non-binge eaters obese presented more difficulties related to response maintenance and verbal fluency. These results suggest the training of EF can represent an important dimension to consider in the prevention and treatment of obesity.

Keywords: Executive functions; Binge eating disorder; Obesity.

## Introduction

Obesity is considered the epidemic of the century and it is the most common metabolic disease of the developed countries. It is thus a major problem of public health. Obesity is a multi-determined chronic disease with physical, psychological, social and cultural repercussions<sup>[1]</sup>, presenting obese subjects with a greater risk of premature death<sup>[1]</sup>. The World Health Organization, in 2011, estimates that in 2015 about 700 million individuals will be obese. Obesity is a multifaceted problem that can be approached from different angles. One of these is that of neuropsychology and the neurosciences. Obesity has been associated with reduction of total brain volume<sup>[2-4]</sup>, especially with decreased frontal lobe areas<sup>[5,6]</sup> and hippocampus, as well as an increase in white matter hyper-intensities<sup>[7]</sup>. Brain imaging has great potential to provide insight into the human responses to food and food intake, and the last few years have seen remarkable advances in our understanding of the neural activity underlying food perception<sup>[8]</sup>. In the particular case of obesity, previous studies suggest that obese people have abnormal patterns of brain activation in the presence of food stimuli. Specifically, differences between obese and normoweight individuals have been found in two brain circuits: the limbic and paralimbic areas, which are associated with the activation of salience and reward processes in normal eating behaviour; and the prefrontal areas, which support cognitive control processes<sup>[8]</sup>. These findings suggest that obese and non-obese individuals differ in the location of cognitive resources in visual and frontal areas and in the default mode network<sup>[8]</sup>.

Executive Functions (EF) are mental processes that allow individuals to deliberately solve internal and external problems<sup>[9]</sup>. Internal problems concern the mental representations, whereas external problems result from the relation between the individuals and environment. The objective of EF is to solve these problems in an acceptable and effective way, both to the person and environment<sup>[9]</sup>. EF comprise mechanisms of intermodal and intertemporal integration, that allow the projection of past cognitions and emotions into the future, with the aim of finding the best solutions to new and complex situations<sup>[10,11]</sup>.

A number of studies have shown that obese individuals, when compared to non-obese, have lower cognitive performance in EF<sup>[5, 12-17]</sup>; in particular in planning<sup>[18]</sup>, problem-solving<sup>[18]</sup>, cognitive flexibility<sup>[5,14,18-25]</sup>, attention maintenance and inhibitory control<sup>[13,17,19,20,23-25]</sup>, and decision-making<sup>[5,13,17,19,23-25]</sup>.

Several studies indicate that many obese subjects have eating disorders (ED)<sup>[26,27]</sup>. There are three diagnoses of ED: Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Eating Disorders Not Otherwise Specified

(EDNOS) (DSM-IV-TR)<sup>[30]</sup>. The EDNOS are the more common category of the ED<sup>[28]</sup>, associated to similar levels of dysfunctionality of those of AN and BN frequent in clinical practice. This corresponds to 60% of clinical cases when compared to the 14,5% of the AN and to 25,5% of the BN<sup>[29]</sup>. In one study carried out in 2007, in Portugal, a prevalence of 0,39% was marked for the AN, with 0,30% for the BN and 3,06% for the EDNOS<sup>[28]</sup>.

The category of the EDNOS, according to the DSM-IV-TR<sup>[30]</sup> is referred to those disorders that do not meet the formal diagnose of eating disorder criteria. Six symptoms profiles integrate this part. The first ones make reference to cases of AN incomplete, the other four, are a set that correspond to partial symptoms of BN, in which are included the Binge Eating Disorder (BED).

Clinical studies indicate that 23% to 46% of obese individuals, present BED<sup>[31,32]</sup>. Those that use the criteria of BED indicate a prevalence of approximately 30% between the obese individuals that follow a treatment, between 2-3% in the general population and 50% of the candidate's subjects to bariatric surgery<sup>[31-34]</sup>.

Neuropsychology researchers are starting to focus on the influence of the cognitive functions in the eating behaviour<sup>[35]</sup>. According to previous studies, the deficits play an important role in the development and maintenance of binge eating disorder<sup>[14, 36, 37]</sup>. Many researchers have quoted cognitive deficits in patients with ED, such as, associations between this disorder and the presence of additional cognitive errors<sup>[36, 37]</sup>. Duchesne *et al.*<sup>[14]</sup>, refers that the subjects with ED present more executive deficits, evidenced by difficulties in the ability to solve problems, in cognitive flexibility and in working memory than the normal weight individuals.

Changes in EF can predict weight gain<sup>[38]</sup> and may be important determinants of dietary behaviour in adults across the life span<sup>[39]</sup>. Taken together, these studies indicate that there is a robust association between obesity, BED and the impairment of executive functions, and suggest that neuropsychological evidence can help us better understand the determinants of eating behaviour. However, these studies are limited, each of them focusing on only a few specific dimensions of EF.

### **1.1. Aim**

Compare the executive functions (general income frontal; conceptualization and abstraction; planning and sequencing; maintenance of response and distraction; capacity of inhibitory control; ability to solve problems; cognitive flexibility and verbal fluency) of obese Portuguese individuals with and without binge eating disorder (BED), with normal weight individuals.

### **1.2. Method**

#### **Participants**

In this study participated 114 adults (38 obese individuals with BED (OB), 38 obese individuals without BED (O) and 38 normal weight individuals (N) (Tab1).

TABLE 1. Demographic Characteristics by Group

	N	O	OB	TOTAL
	M(SD)	M(SD)	M(SD)	M(SD)
<b>Age</b>	40,53(10,75)	43,95(9,19)	42,53(8,97)	42,33(9,69)
<b>Gender</b>	n(%)	n(%)	n(%)	n(%)
Female	27(23,68)	26(22,81)	26(22,81)	79(69,3)
Male	11(9,65)	12(10,53)	12(10,53)	35(30,7)
<b>Years of education</b>	n(%)	n(%)	n(%)	n(%)
4-5	3(2,63)	3(2,63)	6(5,26)	12(10,52)
6-8	15(13,16)	10(8,77)	9(7,89)	34(29,82)
9-11	14(12,28)	16(14,04)	16(14,04)	46(40,36)
12-14	4(3,51)	6(5,26)	4(3,51)	14(12,28)
+15	2(1,75)	3(2,63)	3(2,63)	8(7,01)
<b>Marital Status</b>	n(%)	n(%)	n(%)	n(%)
Single	9(7,89)	8(7,02)	3(2,63)	20(17,54)
Married	19(16,67)	26(22,81)	30(26,32)	75(65,80)
Divorced/Separated	6(5,26)	2(1,75)	5(4,39)	13(11,40)
Widowhood	4(3,51)	2(1,75)	0(0)	6(5,26)
<b>Professional Situation</b>	n(%)	n(%)	n(%)	n(%)
Student	1(0,88)	0(0)	1(0,88)	2(1,8)
Domestic	2(1,75)	3(2,63)	2(1,75)	7(6,1)
Active	34(29,82)	29(25,44)	29(25,44)	92(80,7)
Retired	1(0,88)	4(3,51)	2(1,75)	7(6,1)
Unemployed	0(0)	1(0,88)	3(2,63)	4(3,5)
Sick leave	0(0)	1(0,88)	1(0,88)	2(1,8)

Note. n: Number of participants; %: Percentage; N: Normal weigh individuals; O: Obese individuals without BED; OB: Obese individuals with BED; Age: Age in years.

No statistically significant differences between the groups were found for age  $t_{(112)} = -1.42$ ,  $p \geq .05$ , years of education  $\chi^2_{(4)} = 2.72$ ,  $p \geq .05$ , marital status  $\chi^2_{(3)} = 7.35$ ,  $p \geq .05$ , professional situation  $\chi^2_{(5)} = 5.01$ ,  $p \geq .05$ , or gender  $\chi^2_{(1)} = .08$ ,  $p \geq .05$ .

None of the participants meet criteria for emotional adjustment disorders (evaluated by The Symptom Check-List-90-R /SCL-90R) [40], cognitive deficits (evaluated by Mini- Mental State Examination/MMSE) [41], neurological diseases (without a diagnosis), anorexia and bulimia nervosa (evaluated by Eating Attitudes Test/EAT-26) [42].

## Measures

Frontal Assessment Battery (FAB) [43], Action fluency [44], Color Trails Test [45], Stroop Neuropsychological Screening Test [46], and Wisconsin Card Sorting Test [47].

## Procedure

This research was reviewed and approved by the institutional review board of the general hospitals (Santa Maria, Fernando da Fonseca and Distrital de Santarém). To collect the control sample, we asked authorization to the Centro de Formação Profissional de Santarém.

All the OB subjects on the sample have been previously diagnosed by endocrinologist and psychiatric doctors, according to the criteria of the International Classification of Diseases (ICD-10; Obesity) and the criteria of investigation of DSM-IV-TR (Binge eating disorder), with a previously established BMI. All the obese participants had, at list, a six months diagnosis and were in evaluation to perform a bariatric surgery.

Prior to the individual assessment, each participant was informed about the aim of the study and signed an informed consent. All were informed about the objective of the study, that anonymity and confidentiality were guaranteed, and that they could quit at any time. An anamnesis was performed in order to obtain relevant personal and family data, for which we used a biographical report and their clinical history and the BMI was re-evaluated. The MMSE, the EAT-26, the BES and the SCL-90-R were used to define the exclusion criteria. Subjects were assessed individually, in a session lasting approximately sixty minutes, by a trained clinical neuropsychologist. All tests were applied according to their manual: FAB; Action Fluency, CTT, Stroop and WCST.

Forty-seven participants were excluded, since they did not fulfilled the inclusion criteria: four obese subjects had been submitted to chirurgical interventions; two obese subjects presented neurological disease; 14 obese subjects had history of psychofarmacs use; one normoweight subject had more than 12 years of education and a score lower than 27 in the MMSE; 18 obese subjects obtained a score higher than 2.5 in the ISG (SCL-90-R), and eight obese subjects with nervous anorexia and bulimic symptomatology, with scores above 20 in the EAT-26.

## Results

Our results reveal that the difficulties in executive functions characterize obesity (Tab 2).

**TABLE 2.** OneWay Anova of Groups in Global Executive Performance and at the Dimensions of Executive Functions

Dimensions of EF	Tests	Groups			
		N	O	OB	F
		<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	<i>M</i> ( <i>SD</i> )	( <i>p</i> )
General income frontal	FAB	17,03 (1,15)	14,34 (3,28)	12,86 (3,38)	21,55 (0,00)
Conceptualization and abstraction	Similarities (FAB)	2,58 (0,55)	2,24 (0,79)	2,13 (0,74)	4,24 (0,02)
Planning and sequencing	Motor series (FAB)	2,87 (0,34)	2,42 (0,76)	2,11 (1,11)	8,71 (0,00)
Maintenance of response and distraction	Failure to maintain set (WCST)	0,36 (0,59)	0,82 (1,09)	1,68 (1,61)	12,36 (0,00)
Capacity of inhibitory control	Inhibitory control (FAB)	2,74 (0,69)	2,26 (1,16)	1,89 (1,37)	5,51 (0,00)
	Sensitivity to interference (FAB)	2,92 (0,27)	2,08 (1,30)	2,13 (1,38)	6,91 (0,01)
	Time in seconds (Stroop Color-Word)	114,50 (11,80)	118,55 (4,46)	119,89 (0,51)	5,64 (0,00)
Ability to solve problems	Number of non perseverative errors (WCST)	9,37 (6,68)	21,26 (10,49)	18,79 (11,98)	14,88 (0,00)
	Number of trials to complete first category (WCST)	13,42 (4,30)	26,84 (33,07)	29,42 (32,13)	3,92 (0,02)
Cognitive flexibility	Number of perseverative responses (WCST)	14,66 (9,22)	37,76 (22,56)	36,18 (21,01)	18,35 (0,00)
	Number of categories completed (WCST)	5,74 (0,69)	3,55 (2,02)	3,71 (1,84)	21,24 (0,00)
	Number of total errors (WCST)	22,89 (14,01)	54,08 (25,72)	48,50 (23,26)	22,53 (0,00)
	Percentage of conceptual level responses (WCST)	69,99 (12,74)	43,33 (22,80)	49,57 (20,82)	19,87 (0,00)
	Time in seconds (CTT2)	85,45 (21,16)	122,71 (58,79)	140,89 (88,11)	7,81 (0,00)
Verbal fluency	Lexical fluency (FAB)	2,92 (0,27)	2,65 (0,58)	2,11 (0,80)	18,80 (0,00)
	Number of action verbs per minute in Fluency action	16,37 (3,82)	11,89 (4,58)	10,76 (3,35)	21,41 (0,00)

Note. N: Normal weigh individuals; O: Obese individuals without BED; OB: Obese individuals with BED

Obesity is related with general income frontal ( $p < .001$ ), planning and sequencing ( $p < .05$ ), capacity of inhibitory control ( $p < .05$ ); ability to solve problems ( $p < .05$ ), cognitive flexibility ( $p < .001$ ) and verbal fluency ( $p < .05$ ).

When compared to the control group, obese with binge eating were the ones that presented more difficulties in conceptualization and abstraction ( $p < .001$ ), and response maintenance ( $p < .001$ ).

Obese with binge eating in comparison to non-binge eaters obese presented more difficulties related to response maintenance ( $p < .05$ ), and verbal fluency ( $p < .05$ ).

## Conclusion

Our results supported previous literature in which obese reported worse cognitive performances. Both obese groups, showed poorer results in almost all dimensions of executive functions (general income frontal, planning and sequencing, capacity of inhibitory control; ability to solve problems, cognitive flexibility and verbal fluency). These results appear to confirm the relevance of deficits in the EF to the etiology of obesity, especially in what concerns to the choosing of the right food, the ideal amount to eat or even the frequency of ingestion.

When compared to the control group, obese with binge eating were the ones that presented more difficulties in conceptualization and abstraction, and response maintenance. These results seem to confirm the relevance of deficits in executive functions to the etiology of BED, especially, difficulty in focusing and completing tasks and inability to anticipate the consequences of behavior.

Obese with binge eating in comparison to non-binge eaters obese presented more difficulties related to response maintenance and verbal fluency. These findings suggest that these two dimensions should be held in consideration when addressing specific symptomatology in obesity with BED.

These results suggest that Executive Functions may play an important role in the characterization of the obese individuals, with/without BED, and can represent an significant dimension to consider in the prevention and treatment of BED and obesity.

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# Age Effects on Executive Functions: Preliminary Data

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## Abstract

Executive functions refer to a set of control processes that monitor goal-directed behavior. It is a multidimensional construct that is related to inhibition of irrelevant information and automatic responses, cognitive flexibility, planning, updating tasks demands and working memory. The aim of this study was to examine the age effects on executive functions in Portuguese adults. Two hundred and twenty one healthy normal adults (71 males and 171 females), between 18 to 88 years of age, with different educational level participated in the study. None of the subjects presented cognitive impairment. Several neuropsychological tests of executive functions were administered (Stroop, Battery of Frontal, Assessment, Wisconsin Card Sorting Test, Trail Making Test, Tower of London, Set Test and Action Fluency test). Results indicated that performance on inhibition, cognitive flexibility, planning and action fluency tests declined with age. However, aging did not affect the verbal fluency. These results provide evidence that executive functions are affected by age and support the frontal aging hypothesis.

Keywords: executive functions, inhibitory control, cognitive flexibility, planning, verbal fluency, aging.

## Introduction

Executive functions refer to a set of control processes that monitor goal-directed behaviors and future oriented behaviors [1]. It is a multidimensional construct that is related with inhibition of irrelevant information and automatic responses, cognitive flexibility, planning, updating tasks demands and working memory [1,2,3,4]. It has been well established that EF are critical for a successful life [5]. In addition, executive functions are related with daily activities and mortality at older ages [6]. There is a growing body of evidence suggesting that several components of executive functions change during the normal aging process [7]. As these functions depend on the integrity of frontal region, the frontal aging hypothesis predicts that deterioration of the frontal lobes explains the decrease of executive functions in aging [8,9].

Previous studies have shown that, when compared with younger groups, elderly adults had poorer scores in inhibitory control, cognitive flexibility and planning executive tasks. In older adults, inhibitory control decline is related with their difficulty to ignore irrelevant information which interferes with task performance and decline of capacity to stop inappropriate responses [10,11]. Data from Color Word Stroop task indicates that performance of older adults is characterized by longer execution time and more errors, which reflects cognitive interference and difficulty of inhibition [12,13,14].

Similar findings have been found for cognitive flexibility. Decline in this component of executive functions came from higher rates of perseverations made in Wisconsin Card Sorting Test. Perseverations are the most important indicator of difficulty or inflexibility. On the other hand, the numbers of categories achieved and conceptual responses are indices of cognitive flexibility. In a number of studies it was found significant age-related increases in a number of perseverative errors, perseverative responses, non-perseverative errors, as well as a significant age-related decrease in the number of categories achieved [15,16,17,18,19,20,21]. Rodríguez and Sundet [16] have also reported an increase rate of failure to maintain set in elderly participants. These results suggest an increase of cognitive inflexibility in elderly which can be explained by different reasons. Some authors argued that working memory limitations and the slower processing speed are related with higher rates of perseverations [17,19,21]. Reduced working memory capacity could affect older adults performances by reducing their capacity to use feedback effectively.

Age-related planning impairment has been well documented. Studies using classical tasks such as the Tower of London [22,23,24,25] and the Tower of Hanoi [26] showed a decrease in performance. Specifically, in the elderly group, as the complexity of the problems increases, the number of problems solved decrease and the number of moves increases.

With respect to verbal fluency, although some studies suggested that semantic and phonological fluency [27,28,29,30,31,32] are affected by age, there is a lack of evidence from others [7,16,33,34]. According with these findings is it possible to considerate that the capacity to generate as many words as possible could be the component of executive functions less affected by aging. Nevertheless, the action fluency, i.e. the capacity to generate verbs, reduces in aging process [35].

The purpose of this study was to analyze the age effects on executive functions (inhibitory control, cognitive flexibility, planning and verbal fluency) in Portuguese adults. In line with studies reviewed, an age-related decrease in executive functions was predicted.

## Method I

### 1.1. Participants

A total of 221 healthy volunteers aged between 18 and 88 years participated in this study. Participants were divided in three groups according to age: young (aged 18-39 years), adults (aged 40-64 years) and elderly adults (aged 65-88 years). The young group consisted of 76 participants (28 male and 48 female) with mean age of 29.97 years ( $DS=6.26$ ). The adult group comprised 78 participants (21 male and 57 female) with mean age of 51.78 years ( $DS=7.31$ ). The elderly group was composed of 67 adults (20 male and 47 female) with mean age of 74.69 years ( $DS=6.18$ ). Young and adult groups are composed by students, administrative and non-administrative staff. Older participants were recruited from different senior community centers of Lisbon. Their cognitive status was screening by the Portuguese version of Mini Mental State Examination (MMSE) [36], following the educational criteria. The level of depression was evaluated using the Beck Depression Inventory (BDI) [37]. All participants were native Portuguese speakers and they reported themselves with vision that was normal or correct to normal. None of them had neurological and psychiatric disorders, history of stroke, brain injury or alcohol and drugs abuse. Differences between age groups for MMSE ( $F_{(2,220)} = 22.897$ ;  $p = 0.000$ ) and BDI ( $F_{(2,220)} = 23.336$ ;  $p = 0.000$ ) were found. The elderly group had significantly higher score in BDI and lower score in MMSE than other groups.

### 1.2. Measures

*Inhibitory control.* It was assessed using the Stroop Neuropsychological Screening Test [38]. The material consists of two sheets (A4) presenting 122 words with colors (blue, green, red and pink) printed with an incongruent ink color (e.g. the word blue printed in green). In the first trail, the participant reads aloud as quickly as possible, those words in a maximum of 120 seconds. In the second trail, the individual names, as quickly as possible, the color of ink in which the color names are printed within 120 seconds. Results are interpreted based in the time necessary to perform each trail.

Two other tasks from Frontal Assessment Battery (FAB) [39] – Conflicting instructions and Go-no-Go - were also administered in the evaluation of inhibitory control. In the first one, participants were asked to tap twice when examiner taps once. Higher scores (ranged from 0 to 3) reveal better sensitivity to interference. In Go-no-Go task, the participant is invited to tap once when examiner taps once. Higher scores (ranged from 0 to 3) indicate better inhibitory control.

*Cognitive flexibility.* Wisconsin Card Sorting Test (WCST) and the Comprehensive Trail Making Test (CTMT) were administered. The WCST [40] consists of four stimulus cards and 128 response cards. The cards differ in terms of color, shape and number of the elements represented. In the WCST, participants must deduce the correct card sorting principle using the information (correct or wrong) transmitted by the examiner. After 10 consecutive correct responses, the sorting principle changes without announcement. The test ends when six categories were completed or when the 128 cards were used. Performance is interpreted according to several indices: perseverative responses, perseverative errors, non-perseverative errors, number of categories completed, number of trails used and number of trails used to complete first category, failures to maintain set and conceptual responses. More perseverative responses and few categories completed indicate poor cognitive flexibility.

The CTMT [41] was developed from the Trail Making Test. Consisting in five trails in which participants must connect numbers and letters as quickly as possible. On Trail 1, the examinee must connect in order the numbers 1 through 25. Trails 2 and 3 are similar to Trail 1, however distractor circles are presented. The task on Trail 4 is connecting the numbers 1 through 20 however, some numbers are presented as Arabic numbers and others are presented in word form (e.g., 1-two-3). Finally, on Trail 5 participant must connect in an alternating sequence numbers and letters (e.g., 1-A-2-B). Trail 5 assumes the format of original Trail Making Test - Part B, but empty distractor circles were included in this test. In CTMT the time required to execute each trail and the whole test constitutes the measure of cognitive flexibility.

*Planning.* The Tower of London (ToL) [42] consists of two tower-structure boards with three pegs of different length and three beads of different colors. One of these pieces is used by the examiner and a second one

is used by the participant. In this test, participants must reproduce 10 patterns of ascending difficulty presented in the examiner tower in a few moves as possible. Two rules are transmitted: is it not allowed to place more beads on a peg than it will hold and just one bead can be move at a time. Each problem must be solved within two minutes. Performance is evaluated according to several scores: total correct score, total move score, initiation time, execution time and total time, time violations and rules violations.

In evaluation of planning, we also used the Motor Series from FAB [39]. In this task participants were required to reproduce motor series in correct order. Higher scores (ranged from 0 to 3) reveal higher capacity of planning.

*Verbal fluency.* The Set Test [43] was used to evaluate the semantic verbal fluency by measuring the ability to generate words in four semantic categories (colors, animals, flowers and cities). Semantic category changes when participants generate 10 words or if the time ends. The score is the sum of the number of words produced in each category (scores ranged from 0 to 40). The phonological verbal fluency was assessed by the Lexical Fluency test from FAB [39]. In this task participant is required to say as many words as possible, started by the letter p. The scores are based in the number of words evoked in one minute (ranged from 0 to 3). We also assessed the action fluency using the Action Fluency Test [44]. Subjects are invited to say as many different things (verbs) that people can do. The score is obtained by the total number of unique words produced in 1 minute.

### **1.3. Procedure**

This study was approved by the ethics committee of each institution. All participants were informed about the purpose of the study and signed a written informed consent prior to participation. Possibility to withdraw in any moment of participation was transmitted. Participants were tested individually in a quiet room. Demographic and health information was gathered from a short interview. It was administered the MMSE, BDI, Stroop, FAB, WCST, CTMT, ToL, Set Test, Lexical Fluency and Action Fluency test. The whole assessment took 90 minutes to complete. To avoid tiredness, a break of 15 minutes was made.

## **Results**

To test for differences between the three age groups on results from executive tests, we applied a univariate analysis of covariance (ANCOVAs). For all analysis, age group (young, adults and elderly) was defined as factor. MMSE and BDI scores were used as covariate. Posterior comparisons by using Bonferroni procedure were performed. Tab. 1 contains descriptive statistic and results of statistic procedures described above.

Tab.1. Descriptive statistic, ANCOVA and comparisons of age groups for executive functions measures

	Age group			$F_{(2,220)}$ ( $p$ )	Comparisons ( $p$ )
	Young	Adults	Elderly		
	M (SD)	M (SD)	M (SD)		
<b>Inhibitory Control</b>					
Color word Stroop task (time in seconds)	115.5 (.81)	116.5 (.78)	118.6 (.88)	3.077 (.048)	Young < Elderly (.046)
Conflicting instructions (FAB)	2.36 (.09)	2.27 (.09)	1.63 (.10)	14.458 (.000)	Young > Elderly (.000) Adults > Elderly (.000)
Go-no-Go (FAB)	2.92 (.08)	2.69 (.07)	2.24 (.08)	14.990 (.000)	Young > Elderly (.000) Adults > Elderly (.000)
<b>Cognitive flexibility</b>					
Perserverative responses (WCST)	15.5 (2.15)	17.9 (2.03)	31.6 (2.33)	13.800 (.000)	Young < Elderly (.000) Adults < Elderly (.000)
Perserverative errors (WCST)	13.6 (1.62)	16.7 (1.53)	26.7 (1.75)	15.647 (.000)	Young < Elderly (.000) Adults < Elderly (.000)
Nonperserverative errors (WCST)	10.7 (1.18)	15.3 (1.12)	17.4 (1.28)	7.695 (.001)	Young < Adult (.015) Young < Elderly (.001)
Categories completed (WCST)	5.59 (0.16)	4.97 (0.16)	3.92 (0.18)	19.133 (.000)	Young > Elderly (.000) Adults > Elderly (.000)
CTMT (total time in seconds)	330.8 (18.90)	376.9 (17.92)	571.1 (20.46)	38.769 (.000)	Young < Elderly (.000) Adults < Elderly (.000)
<b>Planning</b>					
Correct score (ToL)	4.73 (.26)	5.16 (.25)	4.18 (.29)	3.186 (.043)	Adults > Elderly (.037)
Move Score (ToL)	24.9 (1.84)	23.8 (1.74)	29.2 (2.00)	2.144 (.120)	
Motor Series (FAB)	2.57 (.09)	2.48 (.09)	2.11 (.10)	5.635 (.004)	Young > Elderly (.005) Adults > Elderly (.024)
<b>Verbal Fluency</b>					
Set Test	38.5 (.24)	39.0 (.23)	38.4 (.26)	1.933 (.147)	
Lexical Fluency (FAB)	2.6 (.72)	2.68 (.06)	2.55 (.07)	.851 (.428)	
Action Fluency Test	13.4 (.44)	12.8 (.42)	10.5 (.48)	10.415 (.000)	Young > Elderly (.000) Adults > Elderly (.001)

Note. FAB: Frontal Assessment Battery; WCST: Wisconsin Card Sorting Test; CTMT: Comprehensive Trail Making Test; ToL: Tower of London

There was a significant main effect of age group for all dependent variables of inhibitory control. In the color word Stroop task, post hoc analyses observed that time requested to name a word printed in a different color ink were longer in elderly adults than adults group. The elderly group scored poorer than the other groups in conflicting instructions and Go-no-Go tasks. We also found a significant main effect of age group for all measures of cognitive flexibility. Post-hoc analysis revealed that elderly participants produced a higher number of perseverative responses and perseverative errors than adults and young groups. When compared with young participants, the number of non-perseverative errors committed by adults and elderly groups was higher. The elderly group completed the lowest number of categories. In CTMT, time requested to completed total test was longer in elderly participants. In planning, there was a significant main effect of age group for correct score (ToL) and Motor Series. In ToL, older participants did more poorly than adults in terms of the number of problems solved correctly. In a similar way, the elderly group scored poorly in Motor Series than the other groups. In verbal fluency a significant main effect of age group was found only in action fluency. In this task, the number of verbs generated by the elderly group was significant lower than the other groups.

## Discussion

The aim of the present study was to analyze the age effects on executive functions (inhibitory control, cognitive flexibility, planning and verbal fluency) in Portuguese adults. It was predicted an age-related decrease in executive functions. Two main results emerged. First, our results provide evidence that inhibitory control, cognitive flexibility and planning are affect by normal aging. Second, only a specific domain of verbal fluency, namely the action fluency, is affect by age.

Our findings showed that inhibitory control, cognitive flexibility and planning remains intact in adulthood and declines by the 65 years. The longer time required by the elderly group to completed the color word Stroop task, as well as the poorer scores in FAB tests, reflects their difficulty in inhibitory control and supports results from previous studies [12,13,14]. In the elderly group it was found an increase in the number of perseverative responses, perseverative errors and a decrease in the number of categories completed, which reflects cognitive flexibility decline. In addition, data from time necessary to completed CTMT confirm the negative effect of age in cognitive flexibility. Similar data have been reported in past studies [15,16,17,18,19,20,21]. According some authors, decline in cognitive flexibility could be explained by working memory [17,18,19,21]. In order to complete categories in WCST and avoid errors, information about sort principles and examiner feedback must be active in working memory. In the same way, to complete logical sequences of numbers and letters, information needs to be stored in working memory. However, difficulties in suppression of inadequate responses may contribute for an increase of errors in switching tasks. As expected, the elderly group also reported their difficulties in planning tasks. Our data confirms results from previous studies [22,23,24,25] and can be also understood by their difficulties in inhibitory control and cognitive flexibility. As some authors pointed out, all components of executive functions are correlated [2,3]. Otherwise, our results can be also explained by the atrophy of frontal brain regions [8,9].

With regard to verbal fluency, the present study showed that semantic and phonological fluency remains intact in normal aging. The absence of age differences in this study is in the line of others studies [7,16,33,34] and suggests that verbal fluency could be the most resistant component of executive functions. However, the age-related differences found in our study in action fluency can be explained by the possibility that the generation of verbs could require different or additional strategies of search [45].

In conclusion, our results support previous literature that executive functions are affected by normal aging. A methodological limitation must be considerate. In this study we did not analyzed results according to educational level of participants. In future studies, the number of years of education should be included in statistic analysis.

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# Emotional Intelligence, Social Competence in Adolescents with Mobility Disabilities within a Stress-Resilience Model

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## Abstract

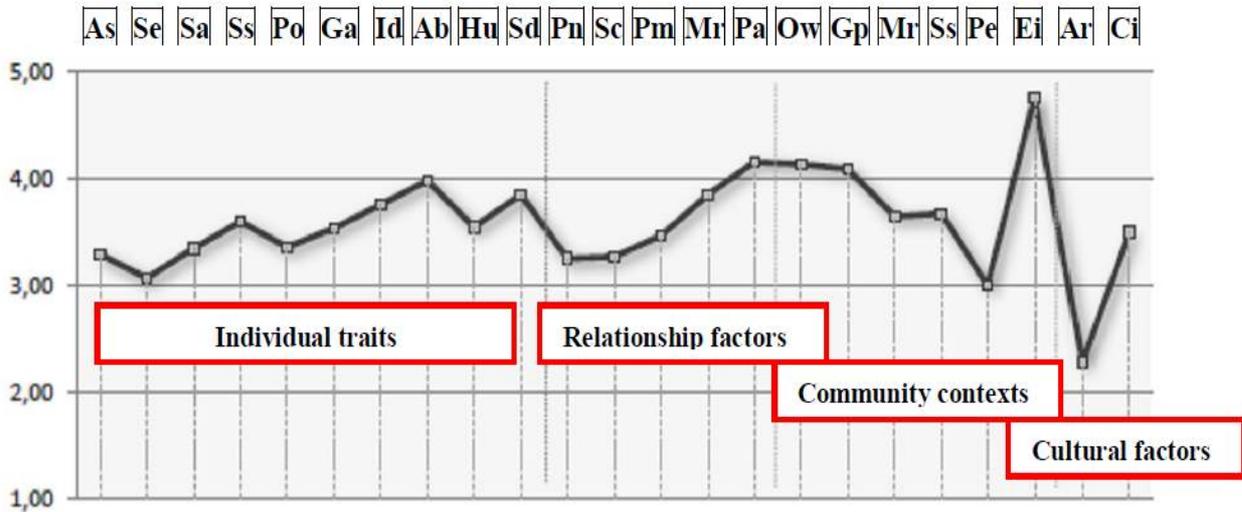
To examine the influences from life stress and the hypothesized protective variables of social competence, emotional intelligence on quality of life in adolescents with mobility disabilities within a stress-resilience model. Variables were assessed with questionnaires completed by 89 adolescents with a mobility disability and healthy individuals (aged 11–15 years). Data was collected with The Child and Youth Resilience Measure, Trait EI Questionnaire and Tromsø Social Intelligence Scale. The results confirmed the significant relationship of emotional intelligence with social intelligence as well as variability depending on the health state of adolescents and gender differences of emotional and social intelligence in both samples of students. The observed preferences of looking for understanding and emotional support by adolescent girls indicate the influence of gender on the selection of a certain type of resilience resources. Meaning and contribution of this study is seen in the identification of running and successful strategies and resources of resilience can show the ways how to improve the quality of life and the feeling of personal contentment in situations that are strenuous for a man. Next is to understand the needs of adolescents with disabilities and provide them promptings how to improve therapeutic work. **Theoretical Background**

To examine the influences from life stress and the hypothesized protective variables of social competence, emotional intelligence on quality of life in adolescents with mobility disabilities within a stress-resilience model. Only in the last few years has research started to examine constructs of intelligence in relation to children's development. Research outcomes regarding the relation of different forms of intelligence and children with disabilities are even more rare. Social and emotional intelligences are multidimensional constructs and they overlap with each other. This overlap is evident from the definition of both constructs, despite the fact that, there are not enough research studies that would be directly comparing those phenomena. **Goal Of The Study**

- Concentrating on the constructs resilience (protective factors), emotional and social intelligence. Reveal the relationships between the measurement methods of EI (trait perspective) and SI, specifically in the sample of physically disabled.
- Assume some positive similarities and associations of our examined, contextually closed constructs and differences according to gender of our participants as well. **Research Sample And Methods**

The physically disabled sample included 89 participants (aged 11-15 years), attending 5th and 9<sup>th</sup> grades of primary schools of special institution for physically disabled and with weakened health conditions (48 boys, 41 girls, 12.06). The three most common conditions were in order cerebral palsy, spina bifida, and scoliosis. The aim of this study was examined through 3 measurement methods: *CYRM*, The Child and Youth Resilience Measure (Ungar, 2005), 58-item self-report instrument covering four dimensions of children's lives (Individual, Relational, Community and Culture factors). *TSIS*, The Tromsø Social Intelligence Scale (Silvera, Martinussen, Dahl, 2001). Self reported 21 item scale includes 3 subscales (social information processing, social skills, social awareness) and 7 point likert scale for answers (1-it is not characteristic for me to 7-it is very well characteristic for me). *TEIQue*, Trait Emotional Intelligence Questionnaire (Petrides, Furnham, 2001), the model of trait emotional intelligence. Its long version consist of 153 items arranged on 7 point response scale (1-from strongly disagree to 7-strongly agree). Short adolescent version *TEIQue-ASF* offers 30 items, 4 factors (well-being, social control, emotionality, sociability) and global score for trait EI. **Results**

In the group of physically disabled respondents scored higher in relationship factors and education factors (Graph 1). *Graph 1 Overview of the values of factors resilience*



*group acceptance; Community contexts: Ow/Opportunities for age-appropriate work, Gp/Government provision, Mr/Meaningful rights, Ss/Safety and security, Pe/Perceived social equity, Ei/education, information; Cultural factors: Ar/Affiliation with a religious organization, Ci/Cultural and/or spiritual identification*

Girls with disabilities (Graph 2) show higher emotional intelligence in comparison with boys, with the exception of the feeling satisfaction which includes a scale of feelings of happiness and optimism. With girls we saw a low social-perception score, too; this may also be interpreted as their belief to have limited social skills, accompanied with their feelings of anxiety caused by an unknown environment. In spite of low values of these factors, the girls showed a high self-control score which reveals their ability to regulate emotions that are growing in stress episodes. As for boys and their emotional intelligence, they achieved a high satisfaction score, reflecting their overall positive feeling. On the contrary, they achieved low sociability levels confirming their insecurity in social situation. In the scales of emotional intelligence, boys demonstrate a control over their feelings; they also show their positive self-esteem and satisfaction in several aspects of life.

*Graph 2 AM of SI and EI – disabled adolescents*

**Discussion and Conclusion** Gender differences in total items of EI and SI as well as their specific relations and differences in both samples of respondents were proved. The concepts of emotional and social intelligence are aimed at forming of the interpersonal relationships, and the ways that inadequate relations and negative emotions attack on our physical and psychological health. Consequences of lacking the basic emotional and social skills can expose a person at several risks and negatively influence the development of complex coping strategies. Meaning and contribution of this study is seen in the identification of running and successful strategies and resources of resilience can show the ways to improve the quality of life in situations that are stress.

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