ABSTRACT

A STUDY OF THE SELF-CONTROL IN ROMANIAN PRESCHOOL AND PRIMARY SCHOOL CHILDREN

by

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ABSTRACT OF GRADUATE STUDENT THESIS

Montemorelos University

School of Education

Title: A STUDY OF THE SELF-CONTROL IN ROMANIAN PRESCHOOL AND PRIMARY SCHOOL CHILDREN

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Date completed: May 2019

Problem

Recognizing the positive influence of religion on self-control and self-regulation, and the importance of developing self-control at a young age, the present research aims to discover if religiosity is positively related to self-control in the case of young children.

Method

Self-control scores of preschool and primary school students from two Romanian schools (a public one and a Christian one) were assesed, observing the differences according to the type of school, church attendance, age, and gender.

Results

Results show significant differences in self-control levels by age and gender, with girls having higher self-control rates than boys, and older children having higher self-control rates than younger children (being in accordance with other researches), but no significant difference according to the school type or church attendance.

Conclusion

The results of this research do not support the existence of a correlation between self-control and church attendance or the attendence of a Christian school. Further research is needed to determine whether there is really no relationship between a child's religiosity and self-control, or religiosity was not properly assesed in the present research.

Montemorelos University

Education Department

A STUDY OF THE SELF-CONTROL IN ROMANIAN PRESCHOOL AND PRIMARY SCHOOL CHILDREN

Thesis
presented in partial fulfillment
of the requirements for the degree
Master in Education

by

Mirela Frăţilă Ţuţuianu

May 2019

A STUDY OF THE SELF-CONTROL IN ROMANIAN PRESCHOOL AND PRIMARY SCHOOL CHILDREN

Tesis
presentada en cumplimiento parcial
de los requisitos para el título de
Maestría en Educación

por

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30 de mayo de 2019
Fecha de aprobación

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CHAPTER I

THE RESEARCH PROBLEM

Antecedents

Self-control is one of the most widely studied constructs in the social sciences. It's the characteristic of humanity, that makes it possible for advanced civilizations to exist. Researchers found a close association between self-control and what we consider to be a successful life (Tangney, Baumeister & Boone, 2004). Moreover, they observed that childhood self-control has a considerable influence on success in adult life. According to Moffitt et al. (2011), the way self-control is exercised over the first ten years of life is related to better outcomes in adulthood, in areas like financial/occupational security, physical and mental health, and social behavior. Therefore, Fthenakis (2003) and Moffit et al. (2011) emphasize the importance of developing self-control in early childhood.

One of the factors associated with high levels of self-control proved to be religion. The most relevant contributions to the research regarding the relationship between religion and self-control – although not specifically referring to self-control in the case of children – are those of McCullough and Willoughby (2009) and Koole, McCullough, Kuhl and Roelofsma (2010), who emphasized the undoubted relationship between religiosity and self-control, concluding that intrinsic religiosity is positively related to higher levels of self-control (McCullough & Willoughby, 2009), and even more, that religiosity fosters self-control (Koole et al., 2010).

Unfortunately, there is not much research about the relationship between religion and child self-control. Despite the raising attention religion got in the past decades for its salutary effects on people's psychological and social well-being, there is too little research regarding religion's impact on child development.

Bartkowski, Xu and Levin (2008) conducted one of the few but significant researches emphasizing the influence of religion on various dimensions of the psychological and social development of children. Using data from the Spring 2000 wave of the Early Childhood Longitudinal Study (ECLS-K), the research analyzes the impact of parent's religiosity, the religious homogamy of couples, and the family's religious environment on child development. It compares children from religious families with children from non-religious families, showing that the first had higher levels of self-control, better social skills and better approaches to learning. Essential characteristics of religious families that determined the outcomes were both parent's regular church attendance and their talking with their kids about religion.

Description of the problem

On one side there is the importance of self-control development at a young age and on the other side the positive correlation between self-control and religiosity and the possibility that religiosity fosters self-control. It would be important to research if religiosity is positively related to self-control, because in this case the educators would be interested to use the positive influence of religion upon child development.

The Adventist educational system aims to offer a high quality education together with internalization of Christian values. Students are encouraged to develop a personal relationship

with God and to adopt high moral standards. Especially in Adventist preschools and primary schools most pupils have the proper environment to develop high levels of religiosity: a Christian family background, regular church attendance, Christian teachers, religious activities and teachings in school (singing, praying, bible lessons, service).

Most of the pupils from public schools in Romania are Orthodox. Orthodoxy in Romania has a strong formal and ritual character. Most Orthodox children attend church almost only at special occasions (Easter, Christmas). In school they have a single religion class a week. Public schools must have a „scientific" character and therefor it is discouraged to discuss religious problems in class.

Research question

In the context of the previous observations, the aim of the present research is to answer to the following question: What is the level of self-control exercised by Romanian children of preschool and primary school and, what are the differences perceived by age, gender, type of school (public and denominational) and, church attendance, in the year 2011-2012?

Working hypothesis

Comparing the two educational systems (public and Adventist) we could say that, if religiosity fosters self-control, than pupils from an Adventist school should have higher levels of self-control than their peers attending a secular school. If religiosity and living in a religious milieu foster self-control, than attending a Christian school that provides solid religious education should equal an intervention for improving self-control and should increase self-control levels of the children attending such a school.

Therefore, the research hypothesis (Hi) is the following: There is significant difference

between the self-control levels of preschool and primary school children attending a Romanian Adventist school and the self-control levels of their peers in a Romanian public school.

Specific research goals

The specific goals of the present research are the following:

1. Identify the level of self-control in the Romanian children of preschool and primary school.

2. Analyze if there is a difference in the level of self-control according to church attendance.

3. Analyze if there is a difference in the level of self-control according to religious affiliation.

4. Analyze if there is a difference in the level of self-control according to gender.

5. Analyze if there is correlation between the level of self-control and the age of the students.

Importance and justification of the research

Any teacher concerned about the development of his pupils experiences a profound satisfaction when they are successful in learning and he strives to help them more on that direction. But we often observe that a lot of talented students fail at school, or they don't benefit as much as possible from the educational process. I often asked myself what could I teach my pupils as a “secret” recipe for success.

After a closer analysis of the situations of failure, I realized that in most of the cases they were associated with lack of self-discipline. Less talented students, who were organized and had a tight learning schedule were having more success than the talented but undisciplined

and unorganized students. So, the problem of self-discipline (self-control) got my attention.

The existing research shows that self-control is an essential key to success in life. One of the first experiments to emphasize the importance of self-control was the Stanford marshmallow experiment conducted by psychologist Walter Mischel in 1972. The scientists analyzed the correlation between how long each child resisted the temptation of eating the marshmallow, and their future success. The results showed strong correlations between childhood self-control and success in later life and are a powerful reason for encouraging the practice of self-control in the first years of life (Shoda, Mischel, & Peake, 1990). Similar to Walter Mischel's marshmallow experiment, Moffit et al. (2011) observed a group of 1,000 children from birth to the age of 32, and they confirmed the fact that childhood self-control was related to better outcomes in adult life (physical and mental health, substance abuse, social behavior, and personal finances). Self-discipline provides the necessary power and perseverance, that enables people to overcome challenges and problems in life. We need it for studying and learning, for developing skills of any kind and for self-improvement. Tangney et al. (2004), for example, identified strong correlations between high self-control on the one side and higher grades, better psychological adjustment, higher self-esteem, less binge eating and alcohol abuse, better relationships and optimal emotional responses, on the other side, in the case of college students. According to Duckworth and Seligman (2005), self-control surpasses intelligence as predictor of academic performance. Self-confidence, self-esteem, inner strength and consequently happiness and satisfaction in life are some of the results of high self-control. On the other hand, lack of self-control is associated with poor health, relationship problems, and failure. But for what reason some students practice self-discipline and others not? What is the cause of a low level of self-control and how can this be improved?

McCullough and Willoughby (2009) conducted a comprehensive analysis of the available studies related to self-control and religion, and they found that there was a powerful relationship between this two variables. With few exceptions, all studies showed that religious persons have higher self-control than non-religious ones, and this was manifested in various aspects of life: children from religious families did better in school, religious couples had successful marriages, and generally, religious persons lived healthier lives and were happier, all this being outcomes related to self-control.

Acknowledging the strong influence religiosity seems to have on self-control, we may ask ourselves if this could explain self-control (or the lack of it) in pupils from our schools. Unfortunately, there is only little research regarding the link between religiosity and self-control in children. Also, most of the research reviewed in the study of McCullough and Willoughby (2009) was conducted in North America, and the researchers recommended for further studies to explore the extent to which the relation between religion and self-control / self-regulation is present in other religions and societies. Therefore, the goal of the present research is to study the correlations between the two elements, in the case of preschool and primary school children in Romanian schools, with a Protestant and Orthodox population.

This is a topic of interest especially for Christian schools and kindergartens. Is a Christian school just an educational environment less exposed to bad influences, where children learn about religious issues – or is it more – a place where the practice of self-control can be fostered, so that students learn better, develop healthy personalities and achieve better success in life? Positive findings regarding the relationship between religiosity and self-control in children could grant a new meaning to Christian schools and Christian education.

Limitations

Most of the teachers completing the self-control scale do not have higher education and aren't acquainted with scientific research. They might not take seriously the task of evaluating their students. One limit of the research is that we can't make sure of the reliability of their evaluation. I should explain the importance of their seriously completing the scale but I can't make sure they did.

Another limit of the research is related to the evaluation of religiosity. It could be wrong to assume that Orthodox children who seldom attend church and which go to a secular school will be less religious or not intrinsically religious comparing to Protestant peers which regularly attend church and which go to a Christian school, benefiting from a deep religious education. To make this assumption sure we should assess pupils' religiosity individually, which is not possible in the case of the present research, due to objective limitations. But despite the risk of a wrong assumption, our interest in the present research is not an individual comparison, but rather the comparison of two groups: one exposed to religion in family, church and school and the other not having much connection with religion.

Delimitations

Limitations of the study are as follows:

1. The research is designed to explore the relationship between self-control and religiosity in the two schools. It doesn't aim at generalizations, but rather to be a starting point for further research.

2. The population of the research are primary and preschool students from two country schools in Romania: and Adventist and a public one.

3. The present research does not assume to explain the causes of the research results.

4. The research was conducted during the years 2010-2012.

Definitions of terms

The definitions of some important concepts of the study are presented.

Self-regulation refers to the self's ability "to exert control over one's own inner states, processes, and responses" (Baumeister, Heatherton & Tice, 1994, p. 6). This (responses) may include actions, thoughts, feeling, desires, and performances. It involves changing the self or aspects of it to bring it into line with any sort of standard, such as a social norm, a cultural ideal, or a personal goal (Baumeister & Alquist, 2009; Henden, 2008).

Self-control was defined by some theorists as "the conscious, effortful form of self-regulation" (Baumeister & Alquist, 2009). In this writing we will use the terms self-control and self-regulation interchangeably because the focus is on the conscious, effortful self-regulation, in this case the terms self-regulation and self-control referring to the same phenomenon.

State self-control and trait self-control. Some authors distinguish between state self-control and trait self-control (e.g., Tangney et al., 2004; Baumeister & Alquist, 2009; Hong & O'Neil, 2001). State self-regulation is defined as "a transitory state that varies with intensity depending on the demands of the intellectual situation", while trait self-regulation is "a relatively stable intellectual characteristic relevant to one's performance of tasks that does not vary widely given different situations" (Hong & O'Neil, 2001, p. 187). The state refers to an act, while the trait defines a dispositional tendency to exert self-control. In the present research, teachers will evaluate pupil's self-control as a trait.

Religiosity and spirituality. Shreve-Neiger and Edelstein (2004) differentiate between religiosity and spirituality. The first concept is mainly related to the outer religious life, characterized by religious customs and practices (like going to church), while the second defines some inner, less visible, more personal experiences. Spirituality is a trait, typical for any human being and is closely related to one's mental life, while religion is only a form spirituality may take.

Extrinsic and intrinsic religiosity. Many authors make a differentiation between intrinsic and extrinsic religiosity.

Intrinsic religiosity corresponds with what others call 'spirituality'. Intrinsic religiosity is considered "the faith and belief in a superior force, not just a simple agreement with a religious doctrine" (Laurencelle, Abell & Schwartz, 2002). Glas (2007) defines intrinsic religiosity as being related to "a lifestyle in which religion is personally appropriated and lived from within" (p. 621).

Extrinsic religiosity, on the other hand, "refers to a lifestyle in which religion is related to social convention." According to Allport and Ross (1967) "the extrinsic motivated person *uses* his religion and the intrinsic motivated person *lives* his religion" (p. 621). So, the concept of extrinsic religiosity has more of a negative connotation.

It is worth mentioning that not just any exterior form of living the religion falls in the extrinsic religiosity concept. The interior dimension cannot be separated from exterior manifestation. But the presence of such exterior manifestation, without the interior dimension, corresponds to the concept of extrinsicity.

Researches proved that intrinsic religiosity is positive related to mental health, while extrinsic religiosity often relates to mental illness (Laurencelle et al., 2002; Maltby & Day,

2004; Park, Cohen & Herb, 1990; Glas, 2007). McCullough and Willoughby (2009) also states that the intrinsically religious people have higher self-control while the extrinsically religious do not. Considering this, in the present research we are interested in the way intrinsic religiosity is related to self-control in the case of preschool and primary school children.

CHAPTER II

LITERATURE REVIEW

What is self-control?

Dictionaries define regulation as change designed to bring something into agreement with a standard. Applied to the self, regulation involves changing the self or aspects of it to bring it into line with any sort of standard, such as a social norm, a cultural ideal, or a personal goal (Baumeister & Alquist, 2009; Henden, 2008).

Self-regulation or self-control (terms used interchangeably here) is *the ability of a person to control its own thoughts, emotions, and actions* in order to overcome self-destructive, irrational, or undesirable behaviors. Self-regulation has to do with the conscious control of eating behavior, impulses, task performance, obsessive thoughts, and emotions (Baumeister et al., 1994). According to the mentioned authors typical self-control problems are overeating, not exercising enough, drugs and alcohol abuse, overspending, and not sticking to study schedules.

Self-control is inversely associated with impulsiveness. Some taxonomies regard self-control as a *subset of impulsiveness* (Carver, Johnson, Joormann, Kim, & Nam, 2011). Individuals need to suppress strong impulses, emotions, or thoughts that foster behaviors which are divergent from social norms or their personal goals. *The capacity to inhibit these impulses, emotions, thoughts, or behaviors is called self-control* (e.g., Baumeister et al. 1994).

Tangney et al. (2004) define self-control as “the ability to override or change one’s

inner responses, as well as to interrupt undesired behavioral tendencies and refrain from acting on them" (p. 275).

"Choosing a large delayed reward over a small immediate reward" is the way Rachlin (2000) describes self-control. In his view, self-control is a special case of choice, and must therefor obey the normal laws of choice.

In their research Cleanthous and Christodoulou (2009) indicated that "self-control is a learned strategy employed by a reward maximizing brain in the presence of competing neural systems that results to the regulated activation of the respective systems" (para. 2).

In self-regulation *higher processes are overriding lower processes*. Self-regulation fails when the situations is reversed. Those higher processes involve "longer time spans, more extensive networks of meaningful associations and interpretations, and more distal or abstract goals" (Baumeister, 1991a, 1991b).

Components of self-regulation

Baumeister et al. (1994) bring the concept of the feedback loops to the fore. It is highlighted in the research and theory about self-regulation, and borrowed from systems theory (Miller, Galanter, & Pribram, 1960). The feedback loop model assumes that there are three important ingredients for self-regulation.

1. Standards. Exercising self-regulation involves the existence of certain standards (social norms, personal ideals or goals, the expectations of others and the like). They are beliefs about how things should be. Baumeister and Vohs (2007) suggest that clear and unambiguous standards are essential for an effective self-regulation. The exercise of self-regulation is difficult, if standards are conflicting or doubtful.

2. *Monitoring.* “People can only regulate themselves successfully if they pay attention to what they are doing” (Baumeister et al., 1994). The feedback-loop of self-regulation implies the following steps: test, operate, test, and exit. That means you compare the reality to the standards. If reality does not meet the standards, you change it, in order to closer resemble the standard and then you compare the two again. This continues until reality and standards overlap. When the two are in line, you reached the exit point. Then, the self-regulation process for that specific behavior (reality) can stop (Baumeister & Vohs, 2007).

3. *Self-regulatory* strength. The tool that operates in the self-regulation process is often called “willpower” (Baumeister & Vohs, 2007, p. 3). It is the means by which naturally, instinctive responses can be changed as desired. According to recent studies, blood glucose seems to have an essential contribution to self-regulatory strength. Blood glucose is used for each self-regulatory act and sometimes the supplies can be temporarily depleted. This is the reason why it is said that willpower is limited. Self-regulation is ineffective in this case (Schmeichel & Baumeister, 2004).

In addition to the three components derived from the feedback loop model, Baumeister and Vohs (2007) identify a fourth essential ingredient of self-regulation:

4. *Motivation.* The existence of clear standards, of a monitoring process and of the necessary strength are not enough for self-regulation to take place. One needs the motivation to meet the standards. If you don’t care enough about the goal, you won’t put in the necessary effort to reach it (Baumeister & Vohs, 2007).

According to Baumeister and Vohs, each of these four components is needed for a successful self-regulation. At some degree, however, the components can substitute for each other (lack of self-regulatory strength may be substituted by motivation, for example).

Self-control and willpower

Henden (2008) distinguished three different approaches to the mechanisms of self-control in the philosophical literature:

1. The *desire account*. Exercising self-control involves a mental state characterized by an intrinsic desire of the agent to act in accordance with what he or she believes to have most reason to do.

2. The *cognitive-dispositional account*. An agent which possess various cognitive skills will be able to exercise self-control, because those skills are all what she needs for the accomplishment of the self-regulatory act.

3. The *volitional account.* According to it, *will-power* is responsible for particular acts of self-control. Through will-power acting according to one's deliberation and decision becomes possible, despite the resistance from personal inclinations. The attention is drawn away from rebellious desires and focuses on the execution of one's intentions and decisions.

These three accounts explain self-control either in terms of a special kind of desire or style of thinking (the first two accounts), or in terms of an act of will (the third). In Holton's view people do not act just under the power of their desires and intentions. There is a separate faculty of will-power involved in the process (Holton, 2003), which faculty works similar to a muscle: if it is used for too long, it will lead to burn out (Baumeister et al., 1994; Baumeister, Bratslavsky, Muraven, & Tice, 1998).

Explaining self-control failure

Given the importance of self-control and the costs of self-control failure, the question arises if and how self-control could be fostered. To find the answer to this question, it should

be first understand why self-control doesn’t sometimes function well, and what does cause self-regulation failure?

Baumeister et al. (1994) who promoted the feed-back loops model of self-control claim that lack of self-control can be explained through failing in one of the three components of the process: standards, self-monitoring and inner strength.

1. *Problems with the standards*. Missing or wrong standards means there is no basis for self-regulation. This is an issue especially for family and education. It should be also take into account the role of culture. There are cultures (such as the Asian cultures, for example) that promote high discipline and self-control and there are cultures in which self-indulgence is encouraged. Another explanation for lack of standards is the philosophy of the modern world. Globalization and information technology broaden the horizon of knowledge and raise the aspirations regarding what we call a "decent living". The consumer society we live in, convinces us that we need a lot of things in order to be happy. You have to satisfy your desires and pleasures here and now, regardless of your material resources. This philosophy encourages self-indulgence and teaches that discipline and self-control is something rigid, uncomfortable and undesirable.

But what affects self-regulation failure more than lack of standards, is the existence of multiple and inconsistent, or conflicting standards. Children exposed to consistent standards succeeded on the long term with their self-control processes, while children from families, where the authority figures disagreed about the rules, experienced self-control failure (Baumeister et al., 1994).

2. *Problems with the monitory function.* Anything that affects self-awareness may be a cause of self-regulation impairment. When people are unable (or unwilling) to pay attention to

what they are doing, self-regulation will fail. According to the research in this area the prefrontal cortex is involved in achieving self-control. If the prefrontal cortex is affected through alcohol use, for example, its ability of self-monitoring will be diminished. On the other hand, serotonin seems to increase self-control (Strayhorn, 2002a).

3. *Inadequate strength.* Baumeister et al. (1994) affirm that there are three main reasons why someone would have inadequate strength for successful self-regulation: (a) chronic, (b) external, and (c) temporary.

Chronic: Some people have simply a stronger will than others do. They have more of the strength needed to exercise self-discipline. It's easier for them to resist temptation and to control their actions and feelings. If this strength works like a muscle, then one should be able to increase its capacity over time by frequent exercise.

External: The strength of the response is to strong to be regulated. Strength may be inadequate simply because the impulse or behavior is itself to strong to overcome.

Temporary. Like a muscle that becomes tired, the strength involved in self-regulation may weaken. Multiple simultaneous or successive demands in a short time span lead to depletion of this limited resource.

The resource model of self-control.

In the 1990's, researchers began to identify an energy model of self-control. In 1994, Baumeister et al. suggested that self-control depended on a limited energy resource. They observed that repeated exertions of self-control weakened the ability to exercise it again, the same way a muscle gets tired when exercised longer. Later researches (Baumeister, 2003; Baumeister et al., 1998; Baumeister & Vohs, 2004; Muraven & Baumeister, 2000; Muraven,

Baumeister, & Tice, 1999) brought evidence for the theory of depleted resources. These studies all showed that the use of self-control in a task led to depletion of some kind of psychological resource. This resource was then less available when needed for a second self-control task. The phenomenon was called ego depletion (Baumeister, Vohs, & Tice, 2007). Gailliot et al. (2007) go further and claim that self-control depends on the glucose (blood sugar) resources of the body. Glucose is a limited resource. Laboratory tests showed that fallowing actions of self-control the level of blood sugar drops under an optimum level so that there is not enough energy for an upcoming task.

Besides being depleted through repeated actions of self-control, inner resources of energy can be lost through experiences like depression, anxiety and fatigue. Campbell (1995) states that all these inner states weaken self-control.

Another explanation for lack of self-control is social exclusion. In 2005, Baumeister, Dewall, Ciarocco and Twenge realized a series of experiments which emphasized another contributing factor to self-control decrease: social exclusion. In the first experiment, the participants who were encouraged to anticipate a future of loneliness were less capable to drink a healthy drink but with a bitter taste. In the second experiment, some of the participants were told that no one within their group wants to work with them. Later, these participants consumed more cookies than other participants. In the third experiment, the excluded participants gave up earlier on completing a difficult task. In the experiments 4 to 6, exclusion lead to a diminished capacity to self-regulate the attention, assessed by a dichotomic obedience task. Being in one way or another socially excluded lessened the motivation to exert self-control.

Although positive emotions have the power to counteract ego depletion, positive

fantasies are associated with low energy levels, leading to poor achievement, according to Kappens and Oettingen (2011). The explanation is that, whyle people imagine an idyllic future situation, they experience a feeling of fulfillment and, as a consequence, they have no motivation to mobilize energy and effort. Their state is rather characterized by lethargy than energy. In contrast, when people imagine a positive future but are aware of the complications that need to be resolved, this problem does not arise.

When individuals experience a sense of pride – for example, after they are praised – they often, but not always, become more indulgent. That is, they frequently select immediate temptations over more responsible pursuits (Wilcox, Kramer, & Sen, 2011). Specifically, this sense of pride is associated with accomplishment or achievement. When individuals experience pride, they feel like their goals have been accomplished and they no longer have to pursue some goal, being more likely to behave indulgently. At the same time, pride can also increase self-awareness. Becoming more aware of the self, individuals will be more likely to pursue their enduring values, reducing the chances for an indulgent behavior to occur. So, feelings of pride can either increase or decrease indulgence.

Concluding, researchers have identified several factors which lead to self-control failure. These are lack of standards or the existence of multiple, inconsistent or conflicting standards, loss of self-awareness, a chronic lack of strength, overwhelming strength of the impulse to be controlled, ego depletion, depression, anxiety and fatigue, social exclusion, positive fantasies and pride.

Improving self-control

Once we've determined the causes for self-control failure, we have to go further and try

to identify if and how self-control can be improved. It appears that self-control can be improved through psychological interventions even in adulthood. This explains why self-control is considered more valuable than intelligence to success: while intelligence – as a possible key to success in life – is a given, and can't be developed, self-control can be trained and improved.

The strength model presented by Baumeister et al. (2007) explains how self-control works. It represents valuable information, because it can provide a basis for the development of psychological strategies to improve people's mental health and well-being.

Counteracting ego-depletion

The same researcher who noted the phenomenon of losing ego strength also identified ways to recover the lost energy. Gailliot et al. (2007), for example, found a solution to restore the reserves of psychic energy by administrating a glucose containing drink. Baumeister (2003) suggests rest and positive emotions. Others think that positive emotions are even more efficient than rest in fighting ego-depletion. In an experiment accomplished by Tice, Baumeister, Shmueli, and Muraven (2007), participants who, after an initial act of self-regulation, watched a comedy or received a surprise gift exhibited the same self-regulation ability as participants whose energy was not depleted, and performed significantly better than participants who had a short time of rest. Ren, Hu, Zhang, and Huang (2010) have also shown the importance of positive emotions. In two experiments, after an implicit positive emotion, the researcher measured the duration of self-regulation of the participants. After exposing the participants, who were in an ego-depleted condition, to subliminal positive stimuli, these persisted in subsequent self-regulation longer than another group of participants, who were

exposed to subliminal neutral stimuli (Ren et al., 2010).

Self-control improves through exercising

According to Muraven et al. (1999), the self-regulatory strength will increase over time through repeated exercise of self-control. In their experiment, after two weeks of doing a type of self-control exercises, the participants showed a significantly increased ability of self-regulation.

Strayhorn (2002a) says that as often as self-control is successfully practiced in a certain field, as easier it will be to exercise it later. Like a muscle, self-control becomes stronger by exercise. It seems tiresome on short term, but it becomes stronger on long term. Strayhorn (2002b) also shows that exercising self-regulation in certain fields, for example maintaining a good posture, exercising regularly, improves, in time, the capacity of self-regulation in other apparently non-related areas.

Improving self-control through physical exercise

In Oaten and Cheng's study (2006), maintaining a physical exercise program for a period of over two months proved to be beneficial to a wide range of regulatory behaviors". Like the ways in which muscular strength can be improved, there are two ways to increase self-control strength: power (an increase in the simple baseline capacity) and stamina (a reduction in vulnerability to fatigue). The self-regulatory training appears to make people stronger, diminishing the effects of resource depletion.

According to Hung and Labroo (2011) flexing or firming muscles improves willpower, making you able to achieve certain goals or resist temptations.

The mind and the body are so closely tied together (that) merely clenching muscles can

> also activate willpower. Thus simply engaging in these bodily actions, which often result from an exertion of willpower, can serve as a non-conscious source to recruit willpower, facilitate self-control, and improve consumer well-being. (p. 1058)

Abstract thinking and psychological distancing

Fujita (2008) analyzes the importance of abstract thinking and psychological distancing for self-control. The more abstract the perspective of your thinking is, the higher will be the levels of self-control. For instance, the participants on a research were asked to think on their physical health in two different ways. Some of them were asked to fill in a diagram which must show *why* they try to maintain a good health. This way of thinking determined the participants to look to the finality, to the ultimate purpose of physical health, engaging them on a higher level of thinking. Contrary to that, other participants had to think about *how* they maintain their health, being thereby focused more on means, than on finality. Afterwards they've been asked to perform a physical exercise they've done before. The results indicated that people who have been led towards a lower level of thinking resisted less than before. Meanwhile, the ones conducted to a higher level of thinking resisted longer than before. Therefore, the research shows that people can take easier decisions which involve self-control when they think on long term effects and when they think on a more abstract level.

Hypo-egoic self-regulation

Repetition and practice reduce the need to focus consciously on one's behavior in order to successfully execute behavioral sequences. Thus, one way to encourage hypo-egoic self-regulation is to promote automaticity through repetition, practice, or overlearning. Because excessive self-attention is interfering with performance of a skilled behavior, one should work to make the behavior as automatic as possible, so it shouldn't be disrupted by

conscious thought (Leary, Adams, & Tate, 2006).

Fujita and Han (2009) have a similar approach. They propose that temptation impulses can be altered by people's subjective mental construals of events, without using conscious deliberation.

Conclusion: Improving self-control

Ego-depletion can be counteracted through energy (eg. glucose) intake, rest or positive emotions. By exercising self-control one can improve the ability to exercise it later, even in other areas than the one it was exercised in. Physical exercise (flexing or firming your muscles), abstract thinking and automatizing of behavior can improve self-control.

"There must be many ways of achieving self-control", Henden (2008, p. 86) writes.

> Learning how *to think right* in situations of temptation might be one. Encouraging *character traits* closely related to one's capacity for reason-responsiveness, such as conscientiousness, discernment and practical wisdom, might be another. But perhaps the most important will be *frequently practicing* self-control in a variety of circumstances in order to strengthen one's 'muscle' of will-power. (p. 86)

Children and self-control

Beginning with Walter Mischel's marshmallow experiment, many researches (Moffit et al., 2011) showed that childhood self-control predicts success in later life. It is consequently important to understand how self-control develops in childhood and which are the means to enhance it.

Theoretical and practical issues of children's self-control behavior are a frequent topic of discussion in the literature concerning self-regulation, self-management, and self-control. Wang (2002) reviewed the literature about children's self-control and identified several points of view on this topic. Self-control was seen as (a) a personality trait, like willpower (Freud);

(b) a behavior related to the individual's history of reinforcement and the present situation (Skinner); (c) a behavior modification in the operant paradigm (Nye); (d) a trait having developed through modelling (Bandura and Mischel); (e) a learning based behavior, on an avoidance paradigm (Premack and Anglin).

Vaughn, Kopp, and Krakow (1984) showed evidence that the achievement of self-control is a major developmental accomplishment, and that the second and third years of life are the time when individual differences in self-control emerge and are consolidated. Self-control increases with age, especially from early childhood to middle childhood (Raffaelli, Crocket, & Shen, 2005). Mischel & Mischel (1983) also proved that delay strategies improve with age. Preschool children (until age 5) are lacking awareness of the effective strategies for delaying rewards, this being the reason why in Mischels experiment they wanted the reward not to be covered while waiting, which led them to be less able to resist the temptation.

The importance of developing self-control in early childhood led Fthenakis (2003) to emphasize that the preparation of kindergarten teachers should aim at helping children to develop competences for learning, like self-control, rather than concentrating on contents. According to Moffit et al. (2011), childhood self-control predicts adolescent's mistakes and this is why early childhood interventions to improve self-control are of great importance. The researchers suggest that such interventions are of higher value than programs which are destined to help adolescents. Considering Fthenakis (2003) and Moffitt et al. (2011) conclusions, if there is something to be done in order to help a person to develop self-control, it should be done during the early childhood, that means while being at preschool-age or primary school-age.

There are also gender differences in the exertion of self-control. In a study examining

the developmental course of self-regulation in a group of children from the National Longitudinal Survey of Youth, Raffaelli et al. (2005) demonstrated that girls exhibited greater self-regulatory capacity than boys at all ages.

Starting from the implicit bargain theory (Baumeister & Stillman, 2007), which identifies a powerful link between the self-control and belongingness, Stillman, Tice, Fincham, and Lambert (2009) tested the hypothesis that bringing family relationships to mind could improve the ability to exercise self-control. Three studies, using different methods and measures, demonstrated that the psychological presence of family provides a temporary increase in self-control.

Another study (Mauro & Harris, 2000) showed that the parenting style of mothers was linked with the ability of children to delay gratification. In the study, those children who did not delay gratification had experienced a permissive parenting style, whereas children who did delay gratification were coming from families with an authoritative parenting style.

Lee, Lan, Wang and Chiu (2008) showed that positive labeling led to increased delay of gratification. A group of young children have been labeled as ‘‘patient’’ kids. The children in this group delayed longer (M = 13.23 m) than the control group which received no label.

Self-control is learned through *modeling*. According to Johnson (2000), children's eating behavior is related to their mothers' weight and perceived control over eating. If the mothers reported difficulty controlling food intake, the children also showed less evidence of self-regulation.

In another study testing the effects of self-regulation training for kindergarten teachers on their own self-regulation and on the self-regulation of the preschool children whom they were teaching, Perels, Merget-Kullmann, Wende, Schmitz, and Buchbinder (2009) showed a

significant improvement of both the self-regulation of the kindergarten teachers and the self-regulated learning of preschoolers, whose teachers took part in the training. The researchers consider it to be possible to improve self-regulated learning of preschool children through training programs for kindergarten teachers.

Moffitt et al. (2011) have found that children who experienced loss, trauma or violence demonstrated higher frequences of impulsiveness and out-of-control behavior. Stress may also affect the proper development of the frontal cortex in children's brains, diminishing in this way the ability to exercise self-control.

Bath (2008) claims that children develop their self-regulatory abilities through co-regulation. It means that their connections with reliable caregivers help children to learn and develop themselves their abilities for emotional self-regulation. Strayhorn (2002b) supports this claim by saying that through long-time association of a child with an adult person, the first will observe many successful experiences in exercising self-control, will understand the process, will learn to appreciate the gain, and be willing to accept the costs of self-regulation. Through this observation the child's ability to exert self-control will be reinforced. Bernier, Carlson, and Whipple (2010) also suggest that the parent–child relationship helps children to develop their self-regulatory capacities. They assessed maternal sensitivity, mind-mindedness and autonomy support and identified a positive link between these elements and child executive functioning (working memory, impulse control and set shifting). The strongest predictor of executive functioning was the autonomy support.

Phelan (2009) underlines the importance of shifting from external control to self-control in education. Most adults are satisfied to be able to control the child's behavior themselves. But this won’t help children becoming responsible, even more, they will become

compliant persons, easy to be influenced by others. In conclusion, not only the connection to the adult is important, but also the process of building the child's internal power.

Two aspects of the role of standards are to consider when talking about children exerting self-control: first, they need high standards (Logue, 1995); and second, it is important that all educators and influential persons in their lives promote the same standards (Baumeister et al., 1994). Jensen-Campbell and Graziano (2005) also found that the structure of adult communications and admonitions to children could promote resistance to temptation. More specifically, clear messages from adults regarding what is right or wrong would promote resistance to temptation. Mixed messages from adults appear to undermine resistance, and they appear to be worse than no message at all. This could justify the importance of choosing a school, where a child can meet the same life ideals and standards as in his home.

Religion and self-control

Religion and mental health

James and Wells (2003) define religiosity as a specific form of worship, theology, ritual or belief (associated with one of the world religions: Christianity, Judaism, Islam, Hinduism and Buddhism). Compared with spirituality, that refers to the beliefs and practices of a person, religiosity is associated with an organizational structure.

"One of the most powerful forces throughout human history", as Pincus calls it in the preface of the *Handbook of religion and mental health*, religion proves to be strongly related to issues of overall or mental health (Koenig, 1998). Levin and Chatters (1998) also showed the preventative or therapeutic effect of religion on mental health.

Myers and Diener (1995) characterized the links between religion and mental health to

be “impressive”, religious people seeming to be “happier and more satisfied with life” than the nonreligious. Koenig, McCullough, and Larson (2001) reviewed approximately 100 studies and found that in most of them religiosity is in some way positively related to well-being, happiness, joy, fulfillment, pleasure, contentment, or other positive experiences. Seybold and Hill (2001) also reviewed the literature on the relation between religion and spirituality on one side, and physical and mental health on the other side, concluding that the influence of religion is “largely beneficial” for health.

According to Cohen and Koenig (2004), religion and spirituality seem to have many components that are of potential relevance to mental health. These components include church attendance, religious activities like prayer and scripture reading, a feeling of connection or relationship with God or a higher power, religious beliefs, and religious coping. Religion and spirituality may also benefit mental health via healthy lifestyles and behaviors and the promotion of social support.

Intrinsic and extrinsic religiosity

Extrinsic religiosity is “a form of religiosity mainly ‘for show’ where religiosity is used as a means to some more important end (financial success, social status, comfort, or as a congenial social activity), rather than for religion’s sake alone” (Koenig & Büssing, 2010, p. 80). In the case of extrinsic religiosity, religion is required by social convention and religious practice is merely a mean to obtain approval and social integration (Allport & Ross, 1967; Glas, 2007). Unlike extrinsic religiosity, intrinsic religiosity “involves pursuing religion as an ultimate end in itself” (Koenig & Büssing 2010, p. 80). It refers to a life style in which religion fits the personality and it is lived from within (Laurencelle et al., 2002).

In a review of the literature about religion and anxiety, Shreve-Neiger and Edelstein (2004) compared the results of several studies and discovered that extrinsic religiosity is associated with the incapacity of individuals to integrate anxiety in an adaptive manner in daily life, while intrinsic religiosity does the opposite: it is associated with less worry and anxiety. Contemplative prayer, for example, is related to increased security and less distress.

Laurencelle et al. (2002) investigated the relationship between intrinsic religious belief and psychological well-being in a sample of 210 adult participants. Results showed that participants with a very strong belief had significantly lower scores of anxiety and depression, were less prone to manifest pathologies of character and had significantly higher scores of ego strength than their less-religious counterparts. Park et al. (1990) state that higher intrinsic religiosity leads to better capacity for controlling stress. Maltby and Day (2004) also emphasize the association of extrinsic religiosity with poorer mental health, in contrast to intrinsic religiosity being related to better mental health.

Religion and self-control

McCullough and Willoughby (2009) conducted an important research review regarding the relationship between religion and self-control. They tested some assumption with regard to the links between religion and self-control. First, they found strong evidence for the assumption that religion is positively related to self-control. However, they found poor evidence for evaluating whether religion causes self-regulation or self-control. Second, researches support the hypothesis that religion influences how goals are selected, pursued, and organized. Several studies also indicate that goals with a spiritual or religious importance generate more goal striving and less goal conflict. There was mixed evidence about

religiousness promoting self-monitoring and also little data regarding the ability of religion to promote the development of self-regulatory strength (the third and fourth assumptions of the research).

McCullough and Willoughby also found reasonably supportive evidence for the fifth assumption, that some religious rituals like meditation, prayer, and scripture reading have a self-regulation promoting function. They also claim that many of the links between religiousness and health, well-being, or social behavior may be explained by the influence of religion on self-control or self-regulation. However, they say, scientific confidence in this regard can be obtained only through more research.

Concerning the previous differentiation between intrinsic and extrinsic religiosity, 13 from 14 cross-sectional studies showed that individual differences in self-control were positively associated with individual differences in general religiousness and intrinsic religious motivation. Two of the studies suggest that extrinsic religious motivation is either negatively related or unrelated to self-control.

Geyer and Baumeister (2005) examine the power of religion to promote morally virtuous behavior by means of improving self-control. They consider self-control to be the master virtue and consequently focus their analysis on the operation of self-control. Their explanation is that religion is able to contribute to people's attempts to control themselves and be virtuous.

Rachlin (2000) illustrates the way religion helps improving self-control. From a religious point of view, will-power aims not to control behavior directly, but rather to facilitate the control of behavior by good or evil. In other words, religious practices offer a way to achieve self-control. Buddhism, for instance, suggests certain mental and physical exercises;

Judaism and Christianity suggest study of sacred texts. Many religions suggest prayer. All these religious practices offer practical access to self-control. In conclusion Rachlin states that from the religious point of view the purpose of self-control is “a body under the control of the best part of the soul”.

James and Wells (2003) explain that religious beliefs and particularly religious behaviors may affect the way individuals pay attention to their internal events. For example, a religious person may keep track more carefully of her internal cognitive processes, assuming that thinking in certain ways is sinful and deserves to be punished. On the other hand, there are religious behaviors, that might generate states of diminished self-focus and worry. During meditative prayer, for example, worry/rumination processes related to emotional-disorder maintenance may be suspended, this behavior contributing thereby to self-regulation. Such religious behaviors are positively associated with mental health. At the same time, religiously motivated behaviors that increase these factors should be associated with negative outcomes. This mechanism assumes that religious behaviors, which effect self-regulatory processes, are differentially associated with mental health.

Children and religion

There is much literature showing the benefits of religion and religiosity for overall and specifically mental health of adults. But we can find little research on whether religion and religiosity could have protective or beneficial effects on the health status of children.

De Roos, Iedema and Miedema (2001) studied the way God concepts of young children are influenced by parents and teachers. They found that both parents’ and teachers’ God concepts predicted children’s God concepts. The relational component of children’s God

concepts is influenced by parents, whereas teachers contribute to the biblical content of children's God concepts.

The research of Bader and Desmond (2006) focuses on the ability of parents to transmit their religious behaviors and attitudes to their children. Results of the research hilights the importance of the consistency between parent's attitudes and behaviors for a successful religious transmission. When children receive mixed messages about religion, and their parents' religious attitudes are in-congruent with their behaviors, the religious transmission is less effective. So, children raised in consistently religious families show higher levels of religiosity than children of religiously inconsistent parents. In the case of inconsistency, what counts more for the religious transmission is the importance of religion for the parents, not their church attendance.

Bartkowski et al. (2008) conducted one of the largest studies that looked at the effects of religion on young child development. Nationally representative data from the Spring 2000 wave of the Early Childhood Longitudinal Study (ECLS-K) was used to analyze the influence of parents' religiosity, the religious homogamy of couples, and the family's religious environment on child development. The researchers asked parents and teachers of more than 16,000 kids (most of them first-graders) to evaluate the self-control levels of the kids. These scores were afterwards compared to the frequency of behaviors associated with parents' religiosity: church attendance, talking about religion with their kids and arguing about religion in the home. According to this study, kids with religious parents had better self-control scores, better social skills and approaches to learning, compared to kids from from non-religious families.

But even in religious families, when religion was a topic for parents to argue about, the

children had negative mental health outcomes. They showed problematic social behavior, and especially poor self-control. Religion can hurt if faith is a source of conflict or tension in the family (Bartkowski et al., 2008).

A later research focusing on the link between religion and psychological health of children was conducted by Chiswick and Mirtcheva (2010). The study examined the determinants of the health of children ages 6 to 19, as reported in the Child Development Supplements (CDS) to the Panel Study of Income Dynamics (PSID). They studied the effects of religion on the reported overall health and on the psychological health of children. The research reveals higher levels of overall health and psychological health in the case of children with a religious affiliation, children who view religion as very important, and who attend church at least weekly, compared to children without a religious affiliation, who view religion as unimportant, and who seldom or never attend church.

Why so good?

Bartkowski suggests three reasons why religion can be good for kids. First, religious networks provide social support to parents, helping to improve their parenting skills. Inside of such networks, parental messages are reinforced by other adults, and thereupon children assimilate easyer the values promoted at home. Another reason are the values and norms promoted in religious congregations. These values emphasize the importance of self-sacrifice and of family, encouraging parents to better relate to their kids, what benefits the development of the latter. A last reason is the way parenting is seen by those religious organizations. Giving the parenting a sacred meaning and significance, religious organisations are more able to improve family life, than secular organizations with the same goal (Bartkowski et al., 2008).

Factors related to self-control

The following conclusions may be stated from the literature review, in terms of factors related to self-control.

1. Self-control should be developed at a young age. In order to prevent problems in adolescence due to lack of self-control, early childhood interventions to improve self-control are of great importance (Fthenakis, 2003; Moffitt et al., 2011).

2. Self-control develops through exercise. Practicing self-control in a specific domain will enable you to exert it also in other domains/areas (Muraven et al. 1999; Strayhorn, 2002a; 2002b).

3. Physical exercise improves self-control (Hung & Labroo, 2011; Oaten & Cheng, 2006b).

4. Abstract thinking, psychological distance and automatisation of behavior improve the ability to exercise self-control (Fujita, 2008; Leary et al., 2006).

5. Children develop better self-control when educators (parents and teachers) send a consistent message with respect to standards (Bader & Desmond, 2006; Bartkowski et al., 2008; Baumeister et al., 1994; Jensen-Campbell & Graziano, 2005).

6. Children who are brought into religious networks, where they hear parental messages reinforced by other adults, may take these messages more seriously (Bartkowski et al., 2008). Put in other words, psychological presence of family provides a temporary increase in self-control (Baumeister & Stillman, 2007).

7. Self-control is learned through modeling, in a process called co-regulation (Bath, 2008; Johnson, 2000; Strayhorn, 2002b). Mother's and teacher's abilities to control themselves will be related to children's self-regulation ability (Johnson, 2000; Perels et al., 2009). Also

self-regulated learning of preschool children can be improved through self-regulation training for kindergarten teachers (Perels et al., 2009).

8. An authoritative parenting *style* seems also to be beneficial for children's self-control (Mauro & Harris, 2000). But adults should help children to shift from external control to self-control (Phelan, 2009).

9. Positive labeling increases delay of gratification (Lee et al., 2008). Could being labeled as “Christian” and “student of a Christian school” possibly help to increase pupils' self-control?

10. Through practices like prayer, bible study, and meditation religion offers ways to achieve self-control (James & Wells, 2003; Rachlin, 2000).

11. Children with a religious affiliation, who view religion as very important, and who attend church at least weekly, have higher levels of overall health and psychological health (Chiswick & Mirtcheva, 2010).

12. Children whose parents regularly attend religious services and talk with them about religion have better self-control, social skills and approaches to learning than kids with non-religious parents (Bartkowski et al., 2008).

CHAPTER III

RESEARCH METHODS

Introduction

The objective of the present research was to verify if there is a correlation between self-control and the type of the school attended: a Christian school versus a secular school. In the present chapter I will explain the research methodology, specifying the type of research, the population, sample, the measurement instruments, hypothesis, methods of data collection and data analysis.

Type of research

There are mainly two types of research: quantitative and qualitative (Best & Kahn, 2006). While the qualitative research deals with non-numeric variables trying to get an in depth and more subjective understanding of the research object, the quantitative research is a more systematic empirical investigation of social phenomena, using statistical, mathematical or computational techniques to process numeric data. From this point of view the present research is a quantitative one.

Another classification divides research types in descriptive and experimental, according to the way of variables manipulation (Best & Kahn, 2006). The experimental research involves manipulating one or more variables, while controlling and measuring any change in other variables. In the case of descriptive research, the researcher doesn't influence in any way the behavior of the subject; he only observes and describes it, trying to reach

generalizations, to drive principles and theories with general validity. Descriptive research is called “ex post facto” or “causal-comparative”. When using correlational analysis, they are called “correlational”. According this classification, this research is descriptive and correlational.

In conclusion, the research was quantitative, because variables were measured on a quantitative scale and take numerical values; transversal, because data were collected at a specific time; and descriptive, because it analyzed the relationship between religiosity and self-control without intervening on variables.

Population and sample

The population was composed of the primary and preschool students of two Romanian schools in the school year 2011-2012. One school was “Muntele de Foc”, an Adventist Christian school in Campenita, with 24 preschool and 36 primary school students. The other school was “Scoala Generala Sinca Noua”, a public school in Sinca Noua, with 54 preschool children and 85 children in primary school. The two groups consisted of children between 3 and 11 years old, grouped as follows: 3-7 years old children in preschool (divided in three age groups) and 7-11 years old children in primary school (divided in four grades). Both schools were located in villages. Sinca Noua is a village with almost 100% Orthodox population, while Câmpenita has a mixed population: Orthodox, Catholic, Protestants.

With about one or two exceptions, the students of Muntele de Foc school came from Protestant Christian families who regularly attend religious services, who teach religion in their homes and want their children to be as well educated with high religious values in school. In the Christian school, students have a daily bible lesson, they pray together and sing

Christian songs. Also the teachers are conservative Protestant Christians. They include religion in their everyday life, they dress very modest, and most of them are vegetarians or vegans. Students are taught to live a healthy lifestyle. According to current researches, the characteristics mentioned above are specific for a background meant to foster self-control. Because in the Christian school teachers have a smaller number of students in each grade, they have been asked to assess all their students. Accordingly, there has been no sampling for the Adventist school students. Two girls – one with ADHD and one with borderline intellectual functioning have been excluded from the evaluation, because their self-control level is affected by their disorders and obviously can't be related to religiosity. Teachers from the Adventist school returned 58 questionnaires, 34 for primary school and 24 for preschool.

In case of the public school, a systematic sample was used. In each grade or preschool group there are about the same number of students (about 20). Although students of one class are not always the same age, they are presumably close in age. Therefore, the public school teachers have been asked to evaluate each second student from the alphabetical list in their register, resulting in 60 returned questionnaires: 42 for primary school and 18 for preschool students. The number of assessed preschool children was considerably smaller than half of the population in preschool, because the teachers excluded from the selection all children which only seldom attend kindergarten. Comparing to the Christian school, where the parents have to pay a monthly tax for their children, in the public school they often keep their children at home, because they don't feel they are losing money that way. Therefore, the number of questionnaires returned from the public preschool was lower than half of the enrolled children (as would be awaited to obtain through choosing each second student).

Concluding, in case of the Christian school, the sample was equal to the whole

population, and in case of the public school, sampling was done by choosing each second student (systematic sample). This sampling method was chosen in order to make the work easier for public school teachers, whose response to the request was not very benevolent. In the end it was expected to have two almost equal, and therefore comparable groups. Details regarding the population and sample can be seen in Table 1.

Table 1

Population and sample

School name	Locality	Population			Sample			Percent from the whole population
		Total	Pre-school	School	Total	Pre-school	School	
Liceul „Muntele de Foc” (MF)	Câmpenita	60	24	36	58	24	34	96.00%
Scoala Generală Sinca Nouă (SN)	Sinca Nouă	139	54	85	60	18	42	43.00%

Variables

Independent variables

The first independent variables of this research were school choice (Christian versus public school), religious affiliation (affiliated or not), and church attendance. All mentioned independent variables are indicators of religiosity in children. If religiosity of children affects their self-control, then attending a Christian school, having a religious affiliation and regularly attending church should be correlated with higher amounts of self-control compared with attending a secular, public school, not having a religious affiliation, and not frequenting church services.

The choice of a Christian versus a public school was the criteria for selecting the two samples. Religious affiliation was recorded by teachers in the questionnaires and church-attendance was indicated by the local priest in case of the students from the public school, and by the teachers, according to student's self-reports, in case of the Adventist school.

Other independent variables were age and gender. Both were recorded on the questionnaires by the teachers.

Dependent variable

Self-control was the dependent variable. In the present research, teachers evaluated pupil's self-control as a trait, using the Self-Control Rating Scale designed by Kendall and Wilcox (1979).

Written permission to use the Self-Control Rating Scale was obtained from Dr. Kendall through e-mail.

Kendall and Wilcox (1979) identified two relatively consistent aspects of self-control: a cognitive and a behavioral one. Cognitive factors, which led a child to act non-impulsively, are deliberation, problem solving, planning, and evaluation. The behavioral component of self-control includes the ability to follow deliberation, to execute the selected behaviors or to inhibit behaviors which are cognitively disregarded. Starting from this definition, they developed a Self-Control Rating Scale (SCRS), with 33 items measuring cognitive-behavioral self-control. This scale was designed to measures self-control in 3 through 12 years old children. The 33-item SCRS showed high internal consistency (.98) and test–retest reliability (0.84).

The form of the instrument was questionnaire/survey. Teachers assessed their students individually, by rating each item on a 7-point continuum, 7 indicating *maximum self-control*

and 1 indicating *maximum impulsivity*. A Romanian translated version was used.

Operationalization of variables

The operational definition of variables was required in order to ensure that the used instrument was valid and measured what it was supposed to measure. Table 2 presents the operationalization of variables. It provides a conceptual definition of variables and then explains how they were measured.

Operationalization of hypotheses

Table 3 presents the operational form of the null hypothesis, the corresponding variables, level of measurement for each variable, the values that theses variable may take, the measuring instrument, and the test for statistical significance.

Data collection

The first step for data collection was to contact de principals of the two schools (Scoala Generală Sinca Nouă and „Muntele de Foc" – school) in order to get their permission. The principal of the public school allowed us to explain the research goal and the reason of our need for collaboration during a meeting of the school teachers. Then we explained the procedure to the preschool and primary school teachers and asked them to fill out the questionnaires and to return them to the school principal.

In case of the Adventist school (Muntele de Foc) we communicated through a contact teacher (another student of the Master of Education who works in this school). We explained to this teacher the intention of the research and the procedure to complete the questionnaires. She then did the work to obtain the filled questionnaires and return them to the researcher.

Table 2

Operationalisation of variables

Variables	Conceptual definition	Instrumental definition	Operational definition
Self-control	The self's ability to exert control over one's own inner states, processes, and responses.	The variable was measured trough the 33-item Self-Control Rating Scale (see Appendix A).	Self-control levels were determined through summing the points obtained at each of the 33 items of the SCRS. The variable may take values between 33 and 231. A 7-point scale is used, where 1 means never and 7 always.
School choice	Being enrolled in a particular school	Measured through teacher's answer to following item: School name: _____	Teachers wrote down the name of their and their student's school. The two answers were: *Scoala Generală Șinca Nouă* and *Liceul "Muntele de Foc"* (a public vs. an Adventist school).
Religious affiliation	Being baptized in or belonging to a particular religious denomination	The position of the participant towards the variable "religious affiliation" was determined through the answer to the question: "Does the student belong to a particular religious denomination?", found at the end of the SCRS.	Teachers circled for each student one of the two options of the variable "religious affiliation": Yes / No
Church-attendance	How often a person is going to church services	The variable was measured through the answer of the priest (respectively teacher) to the additional item "How often attends the students church services?", at the end of the SCRS.	The priest, respectively the teachers, assessed the variable "church attendance" by circling the appropriate of the three answers for the item "How often attends the students church services?": 0 = never or almost never 1 = sometimes 2 = always or almost always
Gender	A set of features that divides human beings in two large classes: male & female.	Determination of the participant's position towards following item: girl/boy	Teachers circled for each student one of the two options of the variable gender. The variable may take following values: male (1) and female (2).
Age	How many years old a student is.	The position of the participant towards the age variable was determined through the answer to the item "age"	Age was determined recording the amount of years of the participants noted by the teacher for the item "age".

Table 3

Operationalization of the hypothesis

Null hypothesis	Variable	Level of measurement	Values	Instrument	Statistical test of significance
Ho: There is no significant difference between the self-control levels of preschool and primary school children attending a Romanian Adventist school and the self-control levels of their peers in a Romanian public school.	Self-control	Interval	33-231	Self-Control Rating Scale (SCRS) teacher about child	T-test for independent samples (null hypothesis will be rejected for a significance level of ≤ .05).
	School-choice	Nominal	0: Public 1: Adventist	Questionnaire	

In June (the last school month) teachers filled out the questionnaires and returned them to the school principal (in the public school) or to the contact teacher (in the Adventist school) before the end of school. We retrieved the questionnaires at the end of June (from the public school) and in July (from the Adventist school).

After retrieving the completed questionnaires from the school in Sinca Nouă, we conducted an interview with the local priest, and asked him to evaluate the church attendance of the assessed students. Being a small country church, he knows well all who participate to church services. In case of the Adventist school, church-attendance was assessed by teachers, who are familiar with the religious activity of their students.

Data analysis

For data analysis, Statistical Package for Social Sciences (SPSS), Version 20, was used. Descriptive statistics was used for organizing data and data description, and inferential

statistics to study the relations between variables and to test the hypotheses of the research.

The *t*-test for independent samples was used to study the relationships between self-control and school-choice, self-control and religious affiliation, and self-control and gender. Spearman's rank correlation coefficient was used to study the correlation between self-control and church-attendance, and self-control and age.

CHAPTER IV

RESULTS

Introduction

The purpose of this research was to determine if there is a significant relationship between self-control and religiosity in case of preschool and primary school students from two Romanian schools and to explore differences in self-control levels based on age and gender of students.

The present chapter presents the results of the research in two parts: the demographic description of the sample (descriptive statistics) and the testing of the hypotheses, according to the results of the statistical analysis (inferential statistics). The research hypotheses were tested for a significance level of .05.

Descriptive statistics

In order to explore the structure of the sample, demographic characteristics will be presented in tables. The demographic characteristics taken into account are school, grade, age, gender.

Table 4 presents the number of students from each school, distributed on preschool and school. As mentioned earlier, from Şinca Nouă – school the number of preschool children is lower and the number of primary school students is considerably higher than from the Muntele de Foc school.

Table 4

Distribution of participants by school and level

School name / Locality	*n*	Pre-school	%	School	%
Liceul Muntele de Foc (MF)	58	24	41.4	34	58.6
Şcoala Generală Şinca Nouă (SN)	60	18	30.0	42	70.0

In Table 5 we can observe the distribution of the participants by age. The sample consists of 3 - 11 years old children. For the public school (SN), the highest percent is for 7, 8, 9, and 10 years-old children. This is the age range for primary school. Comparing with the previous table, this is the consequence of the fact that in case of this school we had 70% participants from primary school level, compared to 30% from preschool. The participants' ratio in case of the Adventist school (Câmpeniţa) was, with three exceptions, more or less evenly distributed (between 5.2 and 8.9 percent for each age). The exceptions are the ages of 7, 9, and 11, with 18.9 and twice 20.7% of the sample.

Table 5

Distribution of participants by age

	Şinca Nouă		Muntele de Foc	
Age	*n*	%	*n*	%
3	2	3.3	3	5.2
4	3	5.0	5	8.6
5	3	5.0	3	5.2
6	5	8.3	4	6.9
7	13	21.7	11	18.9
8	10	16.7	4	6.9
9	12	20.0	12	20.7
10	9	15.0	4	6.9
11	3	5.0	12	20.7
Total	**60**	100	58	100

In terms of gender distribution, the participants were almost evenly distributed. The sample consisted of 61 girls and 57 boys, representing 51.7%, respectively 48.3% of all students (see Table 6). From each school we had almost equal percents of girls (51.7%) and boys (48.3%).

In terms of religious affiliation, Table 7 shows that only two participants (1.69%) had no religious affiliation. The small number of religious unaffiliated participants makes a comparison of the two groups statistically irrelevant.

Church-attendance is evenly distributed for the public school (SN), as presented in Table 8. In case of the Adventist school (MF), however, all the participants had high church attendance. A possible explanation is the fact that Protestant believers attend church services more regularly, and more than once a week, compared to Orthodox believers.

Table 6

Distribution of participants by gender

	Sc. Gen. Sinca Nouă		L. ”Muntele de Foc”		Total	
Gender	*n*	%	*n*	%	*n*	%
Male	29	48.3	28	48.3	57	48.31
Female	31	51.7	30	51.7	61	51.69
Total	60	100	58	100	118	100

Table 7

Distribuition of participants by religious affiliation

Religious affiliation	*n*	*%*
Without religious affiliation	2	1.69
Religiously affiliated	116	98.31

Table 8

Distribution of participants by frequency of church attendance

School	Value label 0	1	2	*M*	*SD*	Minimum	Maximum
Şc.Gen. S.N.	22	17	21	.98	.85	0	2
L. ”M.F.”	0	0	58	2.00	.00	2	2
Total	22	17	79	1.48	.79	0	2

* Value labels: 0 = never or almost never; 1 = sometimes; 2 = always or almost always

Table 9 presents the mean, minimal and maximal values, the median and standard deviation for the self-control variable (the main variable). The mean for self-control is media of 166.3 with a standard deviation of 30.43.

For the purpose of testing the normal distribution of the research variables the Shapiro-Wilk test was used. The test result for the self-control variable is statistically insignificant ($S\text{-}W(118) = 0.984$, $p > .05$), which means that the variable is normally distributed. The histogram (see Figure 1) also indicates a symmetric distribution of self-control, with moderate tails.

Inferential statistics: Testing of hypotheses

This part presents the results of the statistical analysis conducted in order to test the hypotheses. According to null hypothesis, there is no significant difference between the self-control levels of preschool and primary school children attending a Romanian Adventist school.

Table 9

Mean, minimum, maximum, standard deviation for self-control

Variable	*M*	Minimum	Maximum	Median	*SD*
Self-control	166.33	82	229	171	30.43

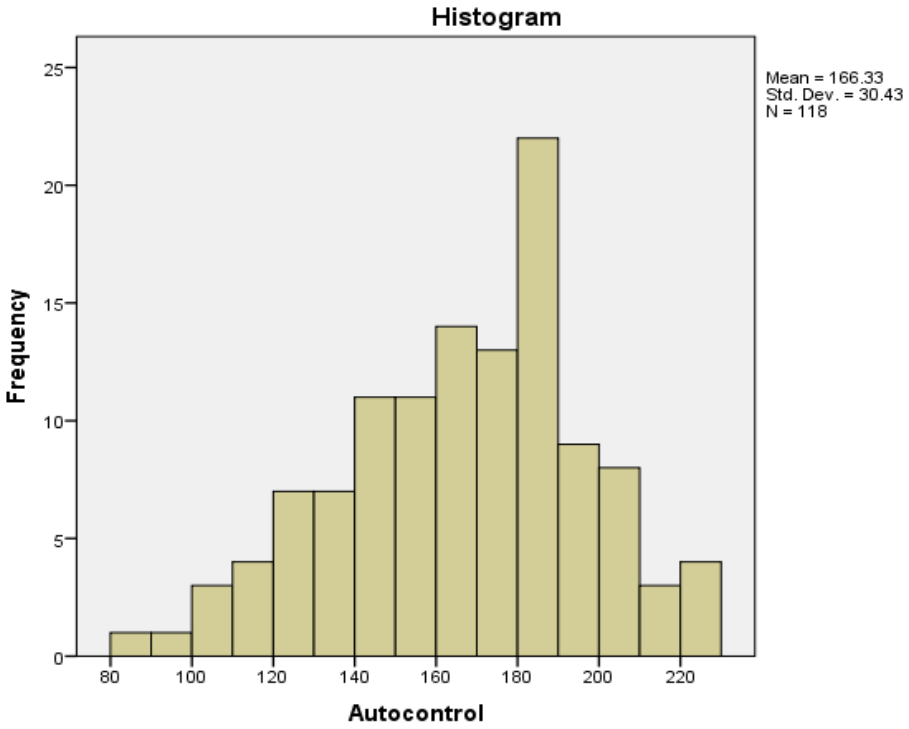


Figure 1. Histogram of self-control.

and the self-control levels of their peers in a Romanian public school. In order to test this hypothesis, a 2-tailed t-Test for two independent samples has been used.

The mean in case of the students from Muntele de Foc school (*M* = 164.7, *SD* = 31.43) being smaller than the mean of the Sinca Noua – students (*M* = 168.0, *SD* = 29.60).

Levene's test was used to assess the homogeneity of variances. As F is not statistically significant ($F_{(116)} = 0.114$, $p = 0.736 > .05$), the condition of homogeneity of variances is satisfied. The results of the t-test for two independent samples ($t_{(116)} = 1.217$, $p = .226 > .05$) meaning that the means of the two samples are not significantly different. The results validate the null hypothesis, resulting that there is no significant difference in the self-control levels of the preschool and primary school students from the Muntele de Foc school and the self-control levels of their peers from the school in Sinca Noua. Thus, the basic hypothesis of the research was rejected.

In order to obtain a deeper understanding of the hypothesis, the Student's t-test was performed to the dimensions of impulsivity and self-control, where no significant differences were observed ($t_{(116)} = 0.308$, $p = .759$ and $t_{(116)} = 0.132$, $p = .895$, respectively).

Analysis of the difference in the level of self-control according to church attendance

The second specific goal of the research was to test the difference in the level of self-control according to church attendance. The test used to assess this relationship was ANOVA. This test can be used when one variable is interval or ratio, and other is categorical nominal u ordinal.

As shown in Table 10, both the dimensions and the total scale of self-control show significant differences in relation to church attendance. Figure 2 shows the behavior of the total score, with the differences between the groups defined by church attendance.

Table 10

ANOVA table for the total score and dimensions of the self-control scale

Dimension	*gl*	*F*	*p*
Impulsivity	2, 115	3.490	.034
Self-control	2, 115	3.454	.035
Both	2, 115	3.829	.025

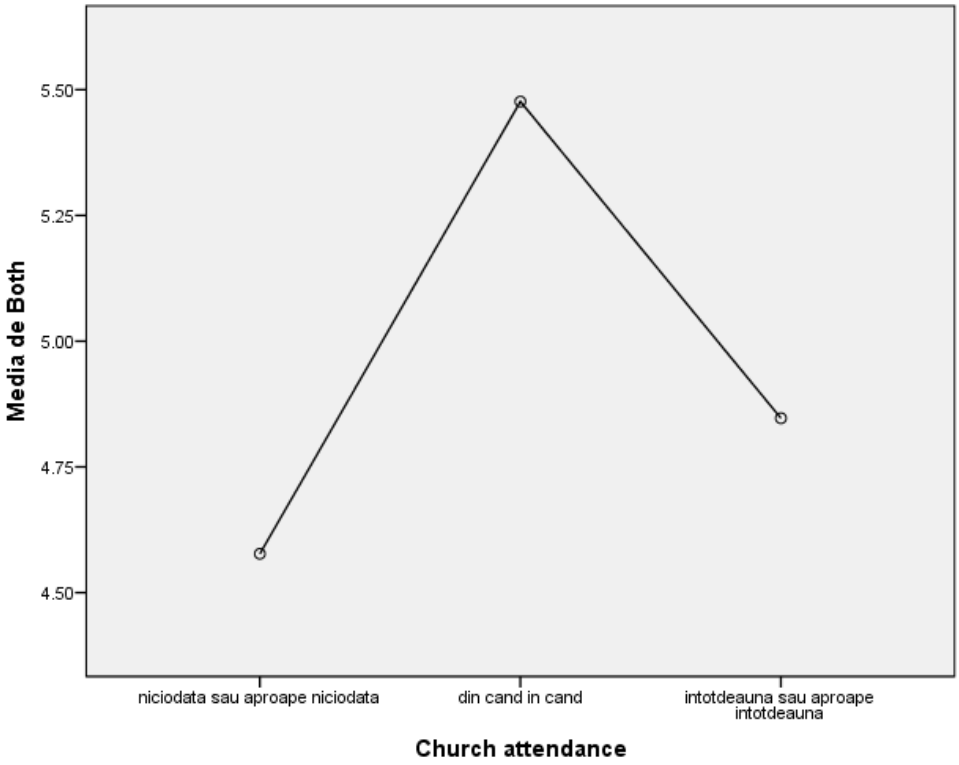


Figure 2. Polygon of the arithmetic mean of the total score of the instrument related to church attendance.

Analysis of the difference in the level of self-control according to gender

As one of the two variables mentioned is of interval and the other nominal, I used the t-Test for two independent samples to test the difference in self-control between genders. The mean of the female group, M = 173.25, DE = 26.26, is obviously higher than the mean of the male group, M =158.93, s =32.99, as shown in the group statistics (see Appendix B).

The results of Levene's test for equality of variances were the following: $F(116)$ = 0.929, p = .337. As F was not significant (p > .05), equal variances were assumed (the condition of homogeneity of variances was satisfied). Therefore the t-test had significant results ($t_{(1167)}$ = -2.08, p = .040 < .05), The difference among the groups was significant at the .05 level (2-tailed). The results of the analysis show that there was a significant difference in the self-control levels between boys and girls, the mean difference being 14.31, with girls having higher self-control than boys. I found similar differences when testing for the dimensions of the instrument.

Analysis of the correlation between the level of self-control and the age of the students

Pearson r was used in this part to test for a correlation between the level of self-control and the age of the participants. The results exhibited a moderate, positive correlation between the two variables (r = .353 p < .001), the correlation being significant at the .001 level (2-tailed). Consequently, the test results show that participant's self-control levels increase with age. Older students have higher levels of self-control than the younger ones.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Discussion

The question raised by the present research was about the existence of any difference between the self-control levels of preschool and primary school children attending an Adventist school and those of children of the same age attending a Romanian public school during the year 2011-2012. More precisely it was expected that the students in the Adventist school will have higher levels of self-control than their peers from a public school. This hypothesis was invalidated through the research results. The t-Test for independent samples showed that there is no significant difference between the two groups. Even more, it appears to be no significant correlation between self-control levels and student's church-attendance, while for the case of religious affiliation we had only two cases in the non-affiliated group, which made the comparison of the groups statistically irrelevant. Thus, the research doesn't indicate any relationship between self-control and aspects of religiosity (church-attendance or attending a religious school).

At the same time, both age and gender variables showed significant correlations to self-control, being thereby in agreement with other researches in the field. The fact that self-control is a trait that increases with age is supported by Mischel & Mischel (1983) and Raffaelli et al. (2005), and regardless of age, girls have higher self-regulatory abilities than boys do (Raffaelli et al., 2005). Therefore, this should be an argument that the data of the

SCRS is well collected and corresponds to the reality.

The lacking correlation between the type of school that students attend, and their self-control levels is evident. Despite all logic arguments, that learning in a religious-marked environment will foster self-control, the results show no evidence that students attending the Adventist school have higher self-control levels than students in the public school. The assumption that Adventist school students will show higher self-control levels than students in a public school was based on several characteristics of the Adventist school (as described by the school principal and by teachers in this school), that according to the existing research, should be related to increased levels of self-control, on the side of the children exposed to them. These characteristics are the following:

1. Parents and teachers have consistent messages concerning standards (Bader and Desmond, 2006; Baumeister & Stillman, 2007; Bartkowski et al., 2008; Baumeister et al., 1994; Jensen-Campbell & Graziano, 2005).

2. Teachers are models of self-control, facilitating the co-regulation process (Bath, 2008; Johnson, 2000; Perels et al., 2009; Strayhorn, 2002b).

3. A healthy lifestyle and self-control in eating behaviors are a strong point of both teachers and students in the Adventist school (Muraven et al., 1999; Strayhorn, 2002a, 2002b).

4. Students are taught to think about the final goal of their acts (to please God, to improve their character), thus being provided with the ability of abstract thinking and psychological distance (Fujita, 2008; Leary et al., 2006).

5. Prayer, Bible study, and meditation are practiced on a daily basis in this school (James & Wells, 2003; Rachlin, 2000).

6. Both, students and their parents, attend church at least once a week (Bartkowski et

al., 2008; Chiswick & Mirtcheva, 2010).

Considering the negative results of the research, either the assumption, that the "Muntele de Foc" Highschool manifests all the listed characteristics is wrong, or the characteristics are present, but they are not related to self-control. In order to determine which is the case, more precise measurements of religiosity are recommended.

As for the (invalidated) hypothesis that high church-attendance will be associated with high levels of self-control, this hypothesis was based on Chiswick and Mirtchevas research (2010), which found a positive relationship between religiosity and overall mental health. However their research doesn't refer particularly to a link between church-attendance and self-control. Although church-attendance was one of the three dimensions of religion to be examined in the aforementioned research, and despite the fact that the ability to exercise self-control is an important component of what we call "mental health", the result found by Chiswick and Mirtcheva (2010) refers only to a relationship between religiosity and psychological health in general. Furthermore, the authors measured mental health as absence of mental health issues, not including issues related to self-control. In so far it might have been a falsely derived assumption that church-attendance and self-control will be positively correlated.

Another element that has a significant influence on a child's self-control, which wasn't considered by the present research, is the way religion is lived in the family. If there are conflicts motivated by religious issues between family members, the fact that the family is very religious doesn't have the expected positive influence in fostering self-control. On the contrary, children who experience tension because of religion will have problems in exercising self-control (Bartkowski et al., 2008).

Conclusions

Self-control is a powerful personality trait that seems to have a significant influence on succes in life. Given the importance of its development in early childhood and its positive correlation to religiosity in various studies, we explored in this research the possibility that religiosity and self-control are also positive correlated in the case of preschool and primary school children from two Romanian schools during the year 2011-2012: an Adventist school and a public school. A significant positive correlation between the two constructs could have been an indicator of a causal relationship and lead to further investigation, meant to highlight the importance of religion in a kids life.

Self-control or self-regulation is the ability of a person to control its own thoughts, emotions and actions, bringing them in accordance to some standards. It requires the existence of standards, a monitoring activity, self-regulatory strength and motivation. If any of these components is missing or doesn't work properly, the person will fail to self-regulate herself. Self-control improves with age and girls have higher self-control levels than boys. It can also be improved through counteracting ego-depletion, through exercising it, or through physical exercise, abstract thinking, and automation of behavior.

Beginning with Walter Mischels Stanford marshmallow experiment in 1972, and continuing with others like Tangney et al. (2004), Duckworth & Seligman (2006) or Moffit et al. (2011), researchers have observed (observat) the strong correlation between self-control in childhood and success in life, suggesting the importance of practicing self-control in the first years of life (Fthenakis, 2003; Shoda et al., 1990). Important ways to help children develop their self-regulatory ability are consistent messages sent by adults about standards, inclusion in networks where parental messages are reinforced by other adults, exposure to adults with high

self-control levels, authoritative parenting style, and positive labeling. Most of these conditions are met when the child lives or is integrated in a religious environment. This conclusion, along with all the research showing the positive relationship of religiosity and mental health in general and particularly in the case of children (Bartkowski et al., 2008; McCullough and Willoughbys, 2009), led to the assumption that children attending an Adventist school could or should have higher self-control levels than their peers from a public school.

The findings of this research don't support the hypothesis mentioned above. It is important to determine through further research if either there is really no relationship between a child's religiosity and self-control, or religiosity in our case was not well measured. Because of its importance for success in both school and life, self-control should be a concern for all teachers and especially for researchers in the field of education. Many of the problems in education (be it in school, or at home) would disappear if children would develop high levels of self-control.

APPENDIX A

INSTRUMENT

Scala de evaluare a autocontrolului

Numele copilului: Vârsta: Genul: B / F

Numele evaluatorului: Încercuiţi o variantă: Părinte / Învăţător

Numele şcolii: Data:

Vă rog să evaluaţi acest copil pe baza întrebărilor de mai jos, încercuind numărul corespunzător**.** Nu ezitaţi să folosiţi întreaga scală numerică.

1	Când copilul promite că va face ceva, vă puteţi baza pe el că o va face?	1 niciodată	2	3	4	5	6	7 întotdeauna
2	Întrerupe în mod nedorit jocuri sau activităţi?	1 niciodată	2	3	4	5	6	7 întotdeauna
3	Se poate linişti singur atunci când este agitat?	1 niciodată	2	3	4	5	6	7 întotdeauna
4	Este calitatea muncii realizate de către copil constantă în timp?	1 niciodată	2	3	4	5	6	7 întotdeauna
5	Este capabil să urmărească ţinte pe termen lung?	1 niciodată	2	3	4	5	6	7 întotdeauna
6	Aşteaptă îndrumări sau răspunsuri la întrebări înainte de a se apuca de o sarcină?	1 niciodată	2	3	4	5	6	7 întotdeauna

7	Întrerupe în mod nepotrivit conversaţiile cu colegii?	1 niciodată	2	3	4	5	6	7 întotdeauna
8	Este copilul în stare să ducă la bun sfârşit sarcinile primite?	1 niciodată	2	3	4	5	6	7 întotdeauna
9	Urmează instrucţiunile date de adulţii cu autoritate?	1 niciodată	2	3	4	5	6	7 întotdeauna
10	Este capabil să aştepte până primeşte ceea ce doreşte sau ce are nevoie?	1 niciodată	2	3	4	5	6	7 întotdeauna
11	Este capabil să aştepte cu răbdare până îi vine rândul?	1 niciodată	2	3	4	5	6	7 întotdeauna
12	Este copilul în stare să stea liniştit?	1 niciodată	2	3	4	5	6	7 întotdeauna
13	Poate să lucreze în echipă?	1 niciodată	2	3	4	5	6	7 întotdeauna
14	Insistă să impună altora propriile idei?	1 niciodată	2	3	4	5	6	7 întotdeauna
15	Are nevoie să i se amintească în mod repetat până să se supună sau să îndeplinească o sarcină?	1 niciodata	2	3	4	5	6	7 întotdeauna
16	Ripostează sau răspunde într-un mod nepotrivit atunci când este mustrat?	1 niciodata	2	3	4	5	6	7 întotdeauna
17	Este un copil predispus la accidente?	1 niciodată	2	3	4	5	6	7 întotdeauna
18	Îşi neglijează sau uită în mod repetat sarcinile sau îndatoririle?	1 niciodată	2	3	4	5	6	7 întotdeauna

19	Sunt momente când copilul pare incapabil de a se calma şi concentra?	1 niciodată	2	3	4	5	6	7 întotdeauna
20	Se întâmplă să apuce (înhaţe) lucruri sau bunuri de la alţii?	1 niciodată	2	3	4	5	6	7 întotdeauna
21	Îi deranjează pe alţii când sunt ocupaţi?	1 niciodată	2	3	4	5	6	7 întotdeauna
22	Încalcă copilul reguli de bază?	1 niciodată	2	3	4	5	6	7 întotdeauna
23	Are grija pe unde merge?	1 niciodată	2	3	4	5	6	7 întotdeauna
24	Când răspunde la întrebări, dă răspunsuri gândite (îngrijite)?	1 niciodată	2	3	4	5	6	7 întotdeauna
25	Poate fi distras uşor de la munca sau îndatoririle sale?	1 niciodată	2	3	4	5	6	7 întotdeauna
26	Pare a fi neatent cu îndatoririle şi responsabilităţile?	1 niciodată	2	3	4	5	6	7 întotdeauna
27	Se joacă bine cu colegii? (Respectă regulile, îşi aşteaptă rândul, cooperează)	1 niciodată	2	3	4	5	6	7 întotdeauna
28	Este capabil să se concentreze pe sau să participe la o activitate pentru o perioadă mai lungă de timp?	1 niciodată	2	3	4	5	6	7 întotdeauna
29	Se opreşte din realizarea unei sarcini atunci când este frustrat de gradul de dificultate al acesteia?	1 niciodată	2	3	4	5	6	7 întotdeauna
30	Caută ajutor atunci când este frustrat datorită vreunei dificultăţi?	1 niciodată	2	3	4	5	6	7 întotdeauna

31	Întrerupe jocurile cu manifestări de neastâmpăr sau izbucniri de mânie?	1 niciodată	2	3	4	5	6	7 întotdeauna
32	Pare să studieze cu atenţie acţiunile înainte de a le realiza?	1 niciodată	2	3	4	5	6	7 întotdeauna
33	Este copilul conştient de relaţia cauză – efect în ceea ce priveşte cuvintele şi faptele sale?	1 niciodată	2	3	4	5	6	7 întotdeauna

Întrebari suplimentare legate de afilierea religioasă

A.) Aparţine elevul unei anumite Denominațiuni religioase?

DA / NU

B.) Cât de des frecventează elevul biserica?

0	1	2
niciodată sau aproape niciodată	din când în când	întotdeauna sau aproape întotdeauna

APPENDIX B

STATISTICAL OUTPUTS

Tabla de frecuencia

Scoala School

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	Public school	60	50.8	50.8	50.8
	Adventist school	58	49.2	49.2	100.0
	Total	118	100.0	100.0	

Clasa Grade

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	grupa mica	13	11.0	11.0	11.0
	grupa mijlocie	15	12.7	12.7	23.7
	grupa mare/pregatitoare	14	11.9	11.9	35.6
	clasa 1	18	15.3	15.3	50.8
	clasa a II-a	19	16.1	16.1	66.9
	clasa a III-a	16	13.6	13.6	80.5
	clasa a IV-a	23	19.5	19.5	100.0
	Total	118	100.0	100.0	

Sex

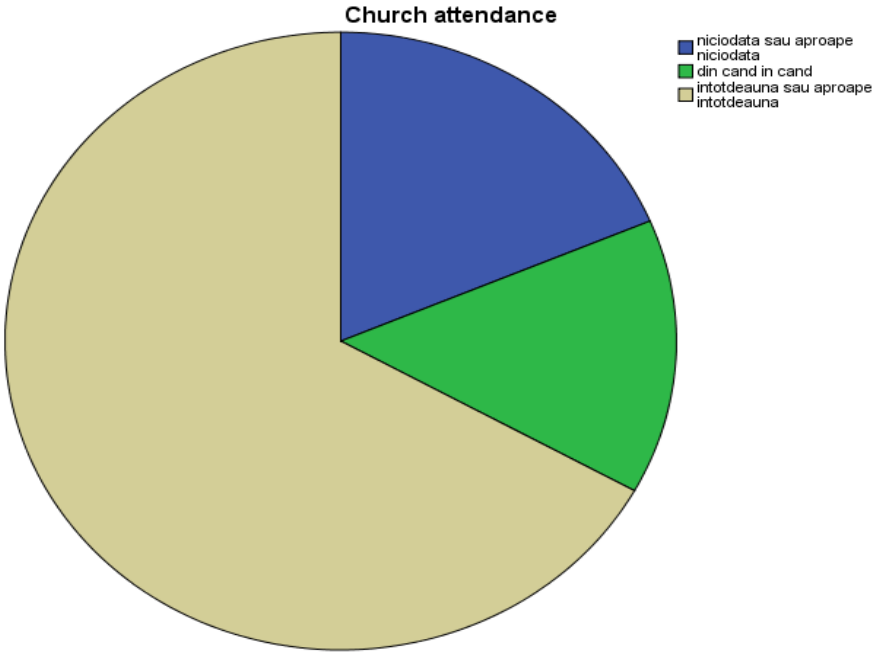
		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	baiat	57	48.3	48.3	48.3
	fata	61	51.7	51.7	100.0
	Total	118	100.0	100.0	

Afiliere Religious affiliation

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	fara afiliere religioasa	2	1.7	1.7	1.7
	afiliere religioasa	116	98.3	98.3	100.0
	Total	118	100.0	100.0	

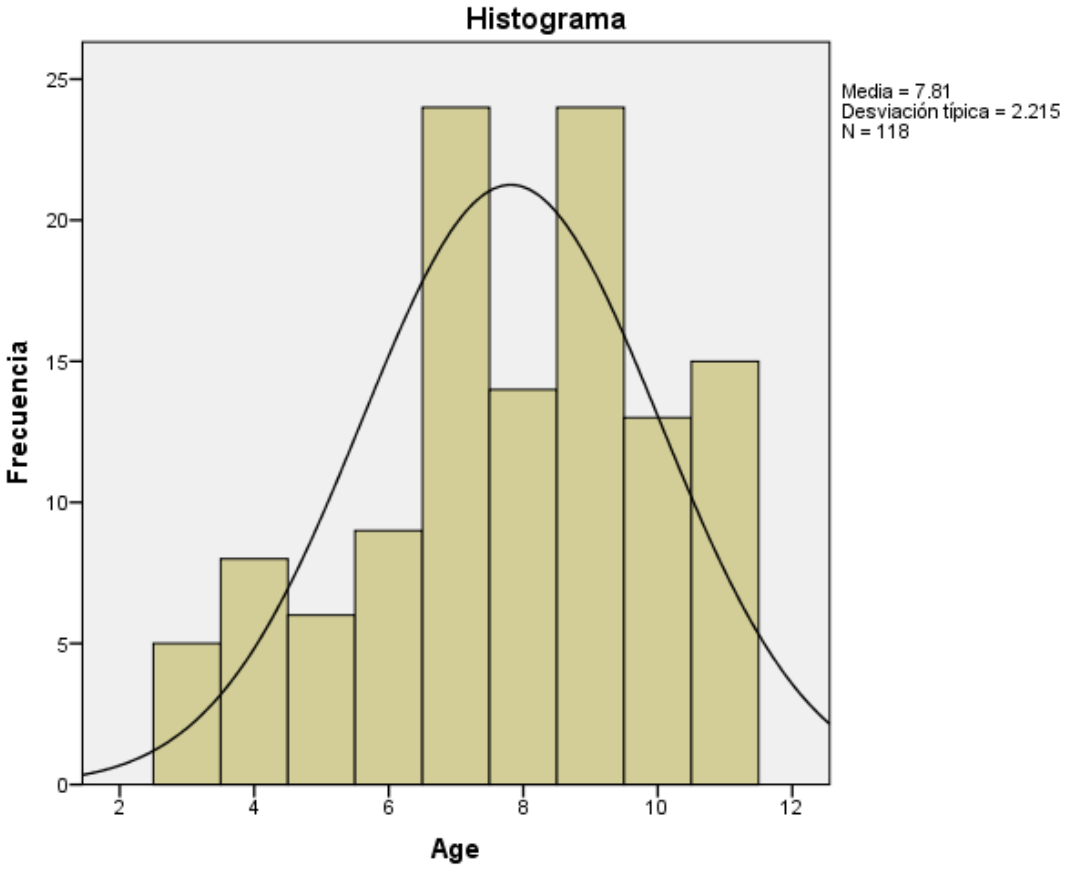
Frecv Church attendance

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	niciodată sau aproape niciodată	22	18.6	18.6	18.6
	din când în când	17	14.4	14.4	33.1
	întotdeauna sau aproape întotdeauna	79	66.9	66.9	100.0
	Total	118	100.0	100.0	



Varsta Age

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	3	5	4.2	4.2	4.2
	4	8	6.8	6.8	11.0
	5	6	5.1	5.1	16.1
	6	9	7.6	7.6	23.7
	7	24	20.3	20.3	44.1
	8	14	11.9	11.9	55.9
	9	24	20.3	20.3	76.3
	10	13	11.0	11.0	87.3
	11	15	12.7	12.7	100.0
	Total	118	100.0	100.0	


Histograma
Media = 7.81
Desviación típica = 2.215
N = 118
Frecuencia
25
20
15
10
5
0
2
4
6
8
10
12
Age

Descriptivos

Estadísticos descriptivos

	Mín	Max	M	SD
self9 Urmează instrucțiunile date de adulții cu autoritate?	2	7	6.02	1.054
imp20 Se intamplă să apuce (înhațe) lucruri sau bunuri de la alții?	2	7	5.90	1.487
both8 Este copilul în stare să ducă la bun sfârșit sarcinile primite?	1	7	5.69	1.465
imp21 Îi deranjeaza pe alții când sunt ocupați?	2	7	5.55	1.400
imp22 Încalcă copilul reguli de bază?	2	7	5.52	1.448
self11 Este capabil să aștepte cu rabdare până îi vine rândul?	1	7	5.42	1.543
self23 Are grijă pe unde merge?	2	7	5.38	1.490
both24 Când răspunde la întrebări, dă răspunsuri gândite (îngrijite)?	2	7	5.30	1.487
imp30 Caută ajutor atunci când este frustrat datorită vreunei dificultăți?	1	7	5.30	1.510
both4 Este calitatea muncii realizate de către copil constantă în timp?	2	7	5.24	1.442
both19 Sunt momente când copilul pare incapabil de a se calma și concentra?	2	7	5.23	1.504
imp28 Este capabil să se concentreze, sau să participe la o activitate pentru o perioadă mai lungă de timp?	1	7	5.23	1.464
both13 Poate să lucreze în echipă?	1	7	5.23	1.458
imp16 Ripostează sau răspunde într-un mod nepotrivit atunci când este mustrat?	1	7	5.19	1.839
self5 Este capabil sa urmărească ținte pe termen lung?	1	7	5.17	1.475
imp10 Este capabil să aștepte până primește ceea ce doreste sau ce are nevoie?	2	7	5.16	1.402
self27 Se joaca bine cu colegii? (Respectă regulile, își așteaptă rândul, cooperează)	1	7	5.14	1.634
self12 Este copilul în stare să stea liniștit?	1	7	5.14	1.655
imp17 Este un copil predispus la accidente?	1	7	5.08	1.710
self1 Când copilul promite ca va face ceva, vă puteti baza pe el ca o va face?	2	7	5.03	1.574
self3 Se poate liniști singur atunci când este agitat?	1	7	4.95	1.668
self6 Asteaptă îndrumari sau răspunsuri la întrebări înainte de a se apuca de o sarcină?	1	7	4.95	1.778
self31 Întrerupe jocurile cu manifestări de neastâmpăr sau izbucniri de mânie?	1	7	4.92	1.723
both33 Este copilul conștient de relația cauză – efect în ceea ce privește cuvintele și faptele sale?	1	7	4.83	1.492
imp2 Întrerupe în mod nedorit jocuri sau activități?	1	7	4.78	1.665
both7 Întrerupe în mod nepotrivit conversațiile cu colegii?	1	7	4.72	1.734
imp18 Își neglijeaza sau uită în mod repetat sarcinile sau îndatoririle?	1	7	4.66	1.721
both32 Pare să studieze cu atenție acțiunile înainte de a le realiza?	2	7	4.60	1.542
imp15 Are nevoie sa i se amintească în mod repetat până să se supună sau să îndeplinească o sarcină?	1	7	4.51	1.839
imp14 Insistă să impună altora propriile idei?	1	7	4.36	1.810
both26 Pare a fi neatent cu îndatoririle și responsabilitățile?	1	7	4.34	1.696
imp25 Poate fi distras ușor de la muncă sau îndatoririle sale?	1	7	4.11	1.653
both29 Se oprește din realizarea unei sarcini atunci cand este frustrat de gradul de dificultate al acesteia?	1	7	3.69	1.752

Frecuencias

Estadísticos

		Impulsivity	Selfcontrol	Both
N	Válidos	118	118	118
	Perdidos	0	0	0
Media		5.0261	5.2119	4.8873
Desv. típ.		.94673	.95427	1.05592

Tabla de frecuencia

Impulsivity

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	2.54	1	.8	.8	.8
	2.92	1	.8	.8	1.7
	3.08	1	.8	.8	2.5
	3.23	1	.8	.8	3.4
	3.38	1	.8	.8	4.2
	3.46	3	2.5	2.5	6.8
	3.54	2	1.7	1.7	8.5
	3.62	3	2.5	2.5	11.0
	3.69	2	1.7	1.7	12.7
	3.77	1	.8	.8	13.6
	3.85	1	.8	.8	14.4
	3.92	2	1.7	1.7	16.1
	4.00	2	1.7	1.7	17.8
	4.08	3	2.5	2.5	20.3
	4.15	4	3.4	3.4	23.7
	4.31	4	3.4	3.4	27.1
	4.38	1	.8	.8	28.0
	4.46	1	.8	.8	28.8
	4.54	4	3.4	3.4	32.2
	4.62	1	.8	.8	33.1
	4.69	1	.8	.8	33.9
	4.77	5	4.2	4.2	38.1
	4.85	2	1.7	1.7	39.8
	4.92	1	.8	.8	40.7
	5.00	3	2.5	2.5	43.2
	5.08	4	3.4	3.4	46.6
	5.15	3	2.5	2.5	49.2
	5.23	6	5.1	5.1	54.2
	5.31	2	1.7	1.7	55.9
	5.38	4	3.4	3.4	59.3

	5.46	5	4.2	4.2	63.6
	5.54	4	3.4	3.4	66.9
	5.62	10	8.5	8.5	75.4
	5.69	4	3.4	3.4	78.8
	5.77	3	2.5	2.5	81.4
	5.85	1	.8	.8	82.2
	6.00	3	2.5	2.5	84.7
	6.08	4	3.4	3.4	88.1
	6.15	3	2.5	2.5	90.7
	6.23	2	1.7	1.7	92.4
	6.31	2	1.7	1.7	94.1
	6.38	2	1.7	1.7	95.8
	6.46	1	.8	.8	96.6
	6.54	1	.8	.8	97.5
	6.69	1	.8	.8	98.3
	6.85	1	.8	.8	99.2
	6.92	1	.8	.8	100.0
	Total	118	100.0	100.0	

Selfcontrol

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
Válidos	2.70	1	.8	.8	.8
	2.90	1	.8	.8	1.7
	3.10	1	.8	.8	2.5
	3.20	1	.8	.8	3.4
	3.30	1	.8	.8	4.2
	3.40	1	.8	.8	5.1
	3.60	2	1.7	1.7	6.8
	3.80	3	2.5	2.5	9.3
	3.90	2	1.7	1.7	11.0
	4.00	1	.8	.8	11.9
	4.10	5	4.2	4.2	16.1
	4.20	1	.8	.8	16.9
	4.30	3	2.5	2.5	19.5
	4.40	1	.8	.8	20.3
	4.50	7	5.9	5.9	26.3
	4.60	2	1.7	1.7	28.0
	4.70	3	2.5	2.5	30.5
	4.80	4	3.4	3.4	33.9
	5.00	4	3.4	3.4	37.3
	5.10	9	7.6	7.6	44.9

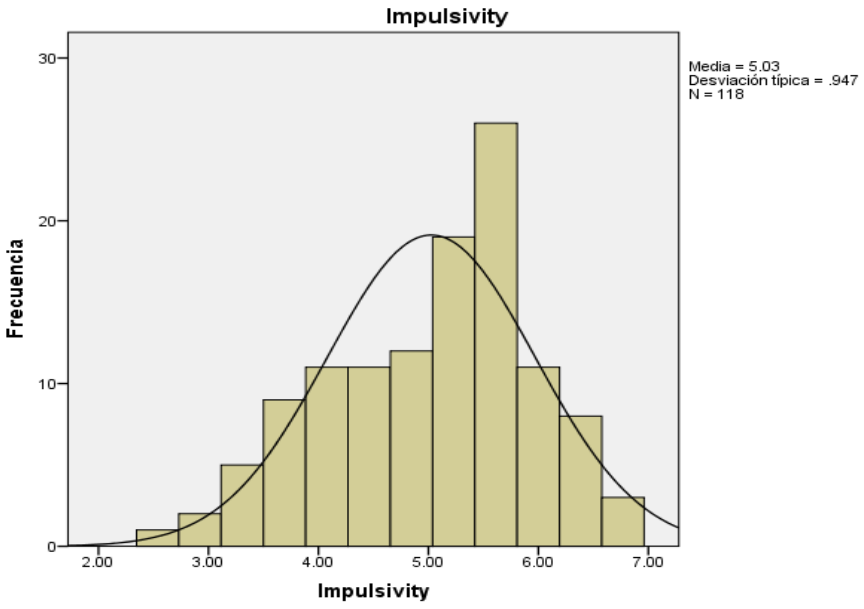
	5.20	5	4.2	4.2	49.2
	5.30	4	3.4	3.4	52.5
	5.40	5	4.2	4.2	56.8
	5.50	3	2.5	2.5	59.3
	5.60	3	2.5	2.5	61.9
	5.70	7	5.9	5.9	67.8
	5.80	5	4.2	4.2	72.0
	5.90	6	5.1	5.1	77.1
	6.00	4	3.4	3.4	80.5
	6.10	5	4.2	4.2	84.7
	6.20	4	3.4	3.4	88.1
	6.30	3	2.5	2.5	90.7
	6.50	3	2.5	2.5	93.2
	6.60	1	.8	.8	94.1
	6.70	1	.8	.8	94.9
	6.80	2	1.7	1.7	96.6
	6.90	3	2.5	2.5	99.2
	7.00	1	.8	.8	100.0
	Total	118	100.0	100.0	

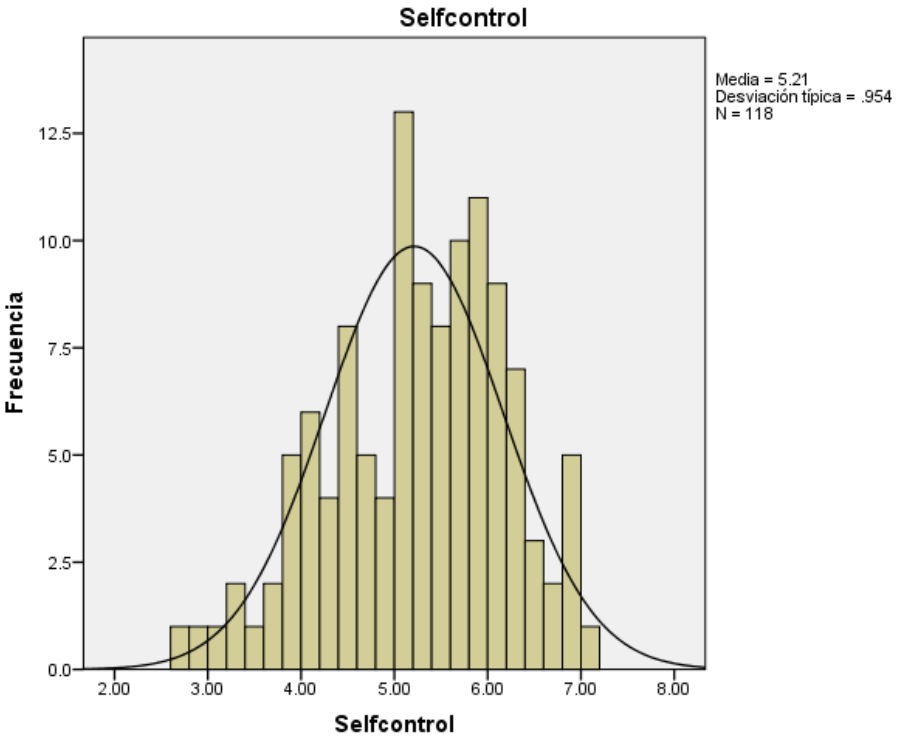
Both

		Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
	2.20	1	.8	.8	.8
	2.30	1	.8	.8	1.7
	2.60	1	.8	.8	2.5
	2.70	1	.8	.8	3.4
	2.80	1	.8	.8	4.2
	3.00	2	1.7	1.7	5.9
	3.10	1	.8	.8	6.8
	3.20	1	.8	.8	7.6
	3.30	3	2.5	2.5	10.2
Válidos	3.40	1	.8	.8	11.0
	3.70	2	1.7	1.7	12.7
	3.80	3	2.5	2.5	15.3
	3.90	5	4.2	4.2	19.5
	4.00	2	1.7	1.7	21.2
	4.10	2	1.7	1.7	22.9
	4.20	3	2.5	2.5	25.4
	4.30	5	4.2	4.2	29.7
	4.40	2	1.7	1.7	31.4
	4.50	4	3.4	3.4	34.7

	4.60	6	5.1	5.1	39.8
	4.70	3	2.5	2.5	42.4
	4.80	4	3.4	3.4	45.8
	4.90	5	4.2	4.2	50.0
	5.00	6	5.1	5.1	55.1
	5.10	6	5.1	5.1	60.2
	5.20	3	2.5	2.5	62.7
	5.30	5	4.2	4.2	66.9
	5.40	4	3.4	3.4	70.3
	5.50	1	.8	.8	71.2
	5.60	5	4.2	4.2	75.4
	5.70	4	3.4	3.4	78.8
	5.80	3	2.5	2.5	81.4
	5.90	3	2.5	2.5	83.9
	6.00	2	1.7	1.7	85.6
	6.10	2	1.7	1.7	87.3
	6.20	3	2.5	2.5	89.8
	6.30	2	1.7	1.7	91.5
	6.40	4	3.4	3.4	94.9
	6.50	1	.8	.8	95.8
	6.70	1	.8	.8	96.6
	6.90	2	1.7	1.7	98.3
	7.00	2	1.7	1.7	100.0
	Total	118	100.0	100.0	

Histograma

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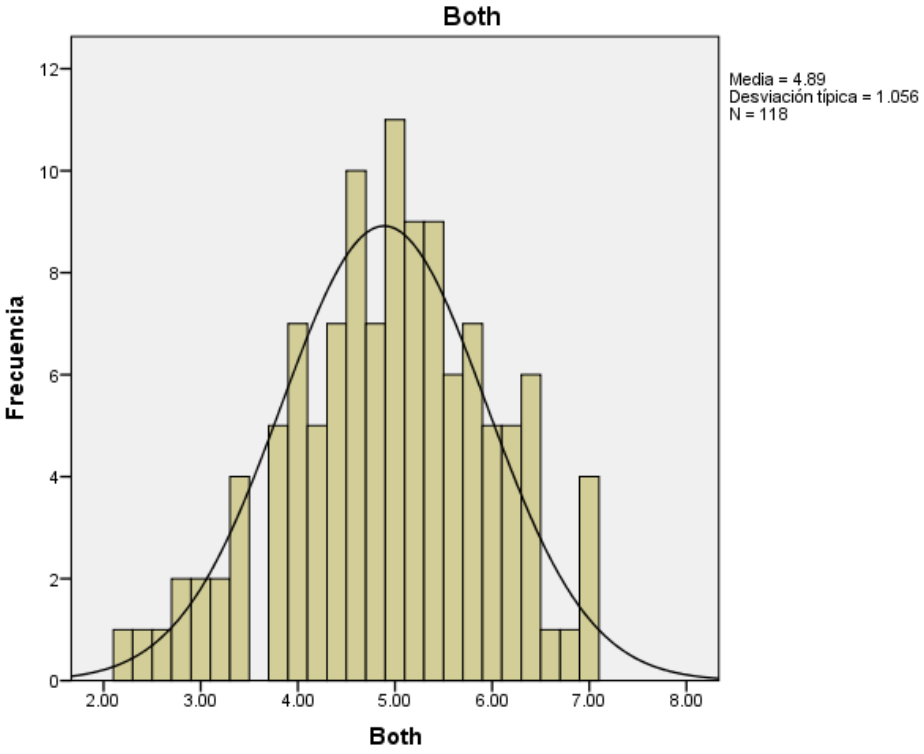
6.00
7.00
8.00
Selfcontrol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Frecuencia
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6
4
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3.00
4.00
5.00
6.00
7.00
8.00
Both

Prueba T.. HYPOTHESIS

Estadísticos de grupo

	Scoala School	N	Media	Desviación típ.	Error típ. de la media
Impulsivity	Adventist school	58	4.9987	1.02815	.13500
	Public school	60	5.0526	.86873	.11215
Selfcontrol	Adventist school	58	5.2000	.99860	.13112
	Public school	60	5.2233	.91769	.11847
Both	Adventist school	58	4.7672	1.00898	.13248
	Public school	60	5.0033	1.09529	.14140

Prueba de muestras independientes

		Prueba de Levene para la igualdad de varianzas		Prueba T para la igualdad de medias		
		F	Sig.	t	gl	Sig. (bilateral)
Impulsivity	Se han asumido varianzas iguales	2.250	.136	-.308	116	.759
	No se han asumido varianzas iguales			-.307	111.512	.759
Selfcontrol	Se han asumido varianzas iguales	.110	.740	-.132	116	.895
	No se han asumido varianzas iguales			-.132	114.398	.895
Both	Se han asumido varianzas iguales	.248	.619	-1.217	116	.226
	No se han asumido varianzas iguales			-1.218	115.736	.226

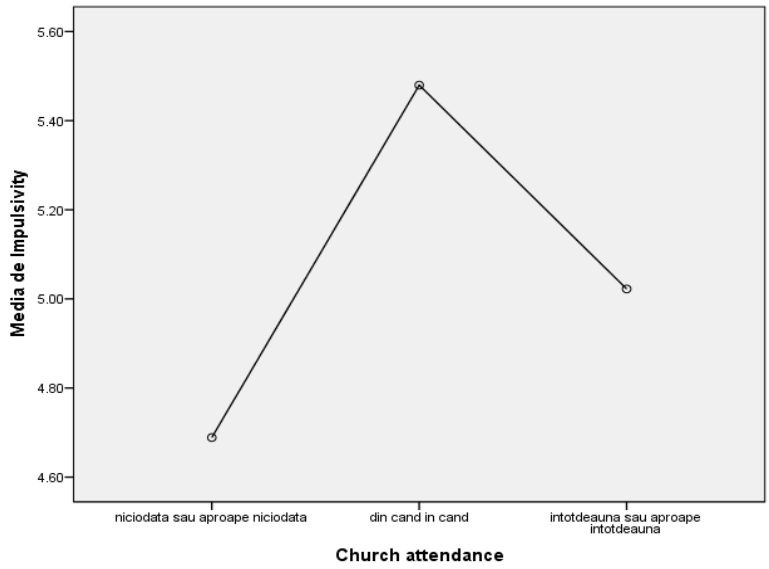
ANOVA de un factor

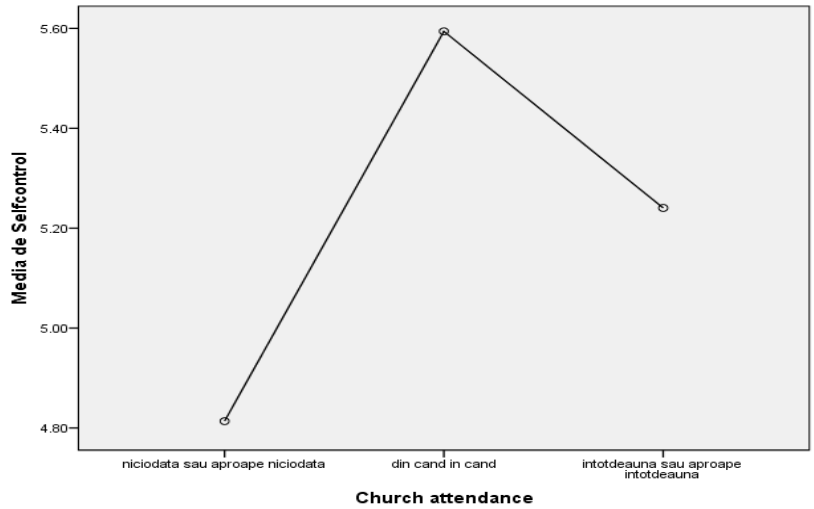
		N	M	SD
Impulsivity	niciodată sau aproape niciodată	22	4.6888	.88870
	din când în când	17	5.4796	.69206
	întotdeauna sau aproape întotdeauna	79	5.0224	.97807
	Total	118	5.0261	.94673
Selfcontrol	niciodată sau aproape niciodată	22	4.8136	1.07628
	din când în când	17	5.5941	.61793
	întotdeauna sau aproape întotdeauna	79	5.2405	.94781
	Total	118	5.2119	.95427
Both	niciodată sau aproape niciodată	22	4.5773	1.22550
	din când în când	17	5.4765	.63692
	întotdeauna sau aproape întotdeauna	79	4.8468	1.03946
	Total	118	4.8873	1.05592

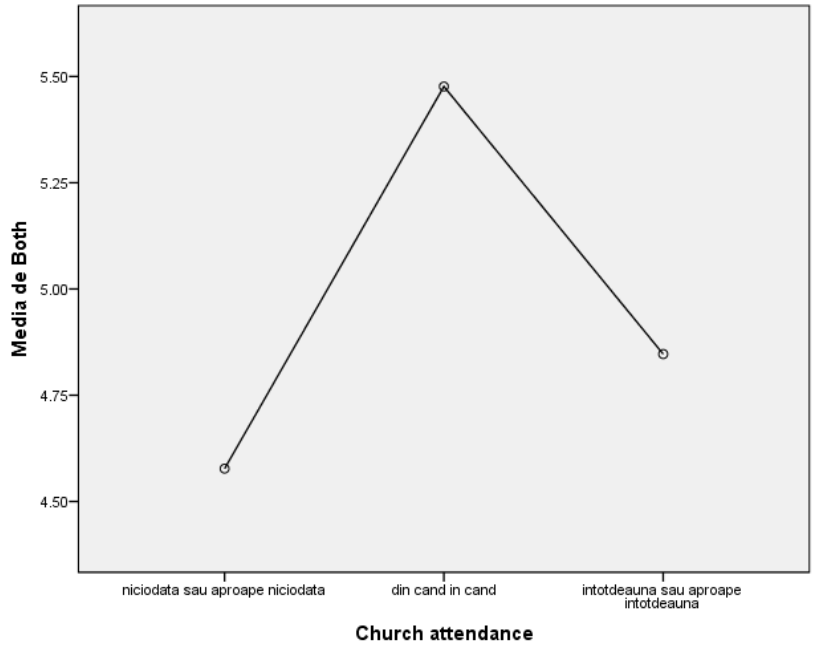
ANOVA de un factor

		Suma de cuadrados	gl	Media cuadrática	F	Sig.
Impulsivity	Inter-grupos	6.001	2	3.000	3.490	.034
	Intra-grupos	98.866	115	.860		
	Total	104.867	117			
Selfcontrol	Inter-grupos	6.038	2	3.019	3.454	.035
	Intra-grupos	100.506	115	.874		
	Total	106.543	117			
Both	Inter-grupos	8.145	2	4.072	3.829	.025
	Intra-grupos	122.306	115	1.064		
	Total	130.451	117			

Gráfico de las medias







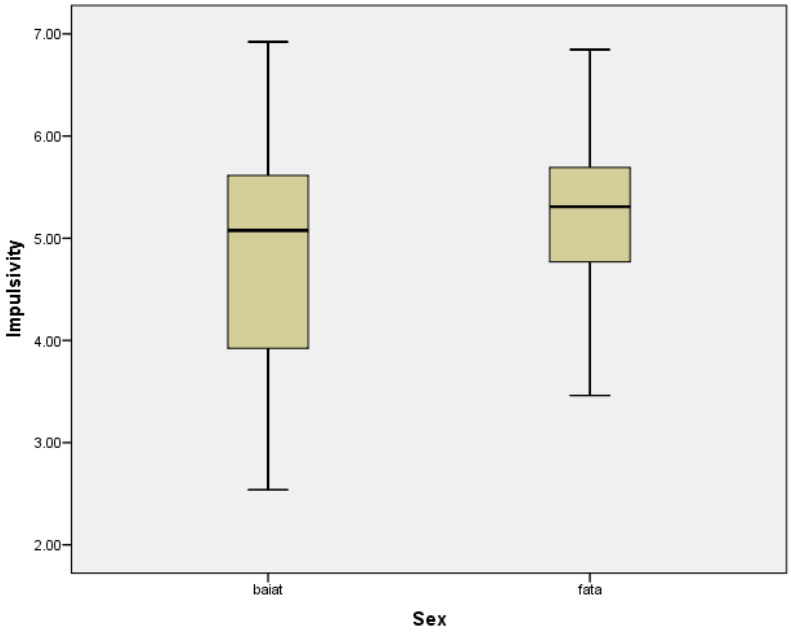
Prueba T

Estadísticos de grupo

	Sex	N	Media	Desviación típ.	Error típ. de la media
Impulsivity	baiat	57	4.7976	1.05548	.13980
	fata	61	5.2396	.78234	.10017
Selfcontrol	baiat	57	4.9754	.98566	.13055
	fata	61	5.4328	.87535	.11208
Both	baiat	57	4.6807	1.11234	.14733
	fata	61	5.0803	.97002	.12420

Prueba de muestras independientes

		Prueba de Levene para la igualdad de varianzas		Prueba T para la igualdad de medias		
		F	Sig.	t	gl	Sig. (bilateral)
Impulsivity	Se han asumido varianzas iguales	11.053	.001	-2.596	116	.011
	No se han asumido varianzas iguales			-2.570	102.936	.012
Selfcontrol	Se han asumido varianzas iguales	1.044	.309	-2.669	116	.009
	No se han asumido varianzas iguales			-2.658	112.120	.009
Both	Se han asumido varianzas iguales	.929	.337	-2.084	116	.039
	No se han asumido varianzas iguales			-2.074	111.375	.040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4.00
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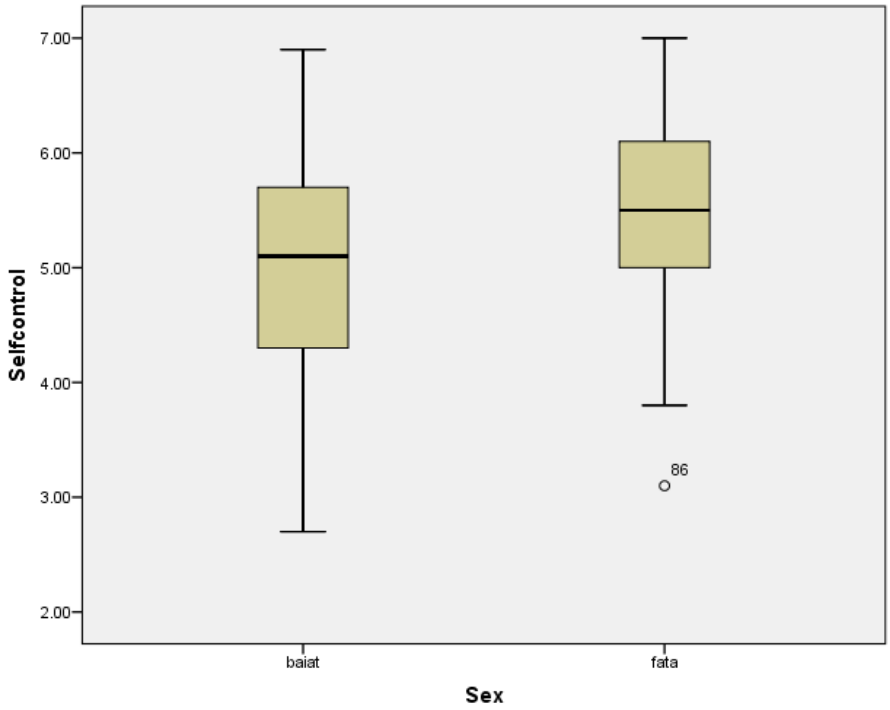
2.00
Impulsivity
baiat
fata
Sex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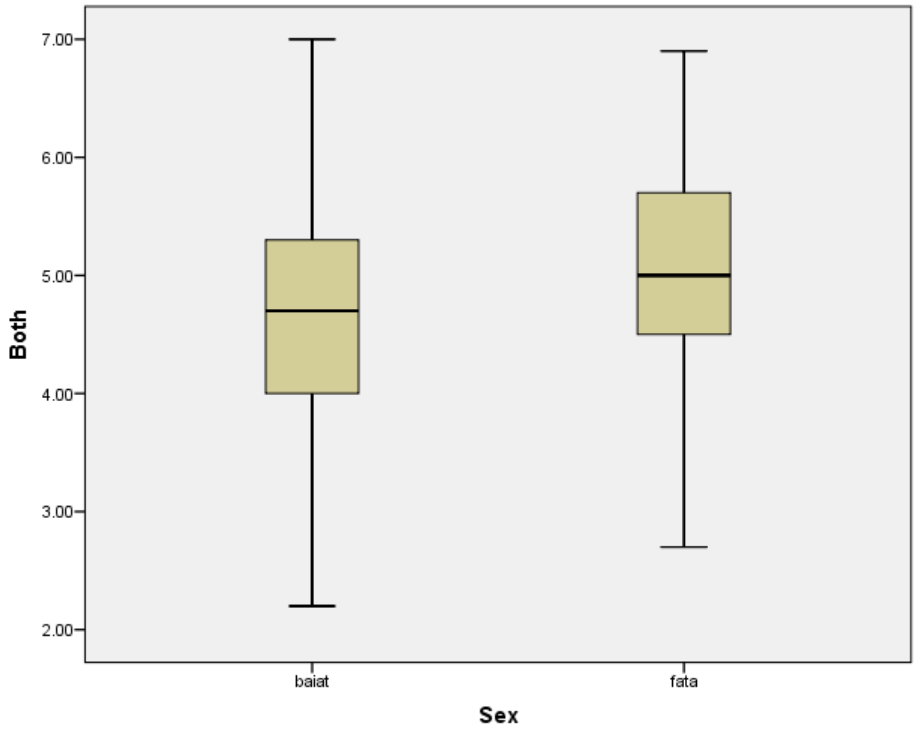
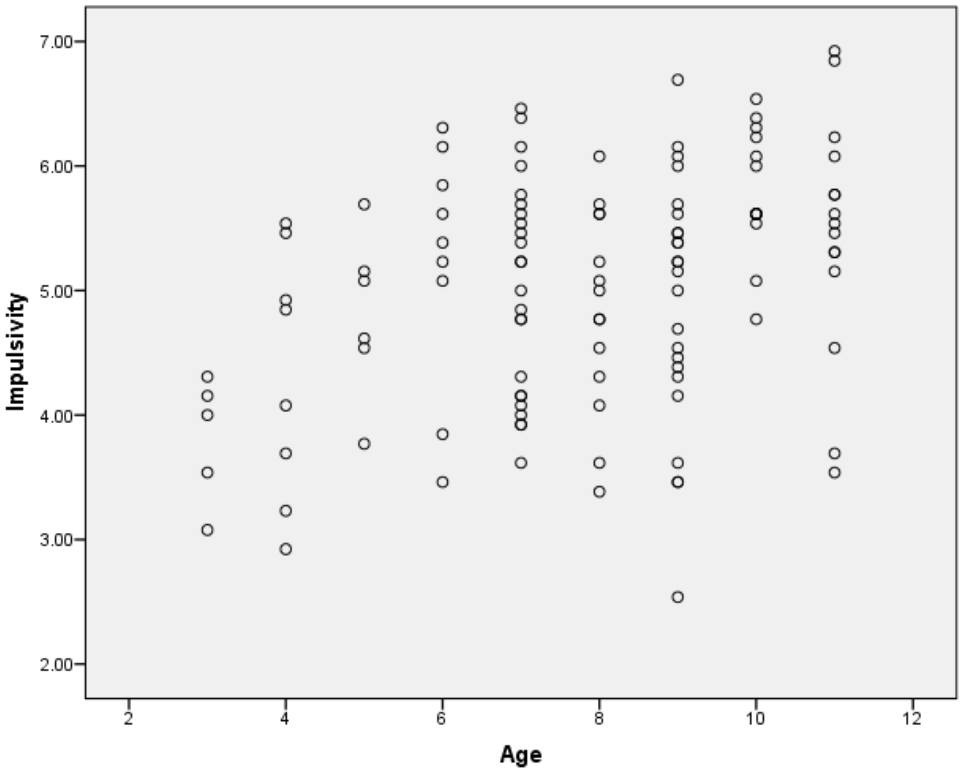
Selfcontrol
86
baiat
fata
Sex



Correlaciones

Correlaciones

		Varsta Age
Impulsivity	Correlación de Pearson	.366
	Sig. (bilateral)	.000
	N	118
Selfcontrol	Correlación de Pearson	.352
	Sig. (bilateral)	.000
	N	118
Both	Correlación de Pearson	.353
	Sig. (bilateral)	.000
	N	118


Impulsivity
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2
4
6
8
10
12
Age

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