

**PLOVDIV UNIVERSITY “PAISII HILENDARSKI”**

**FACULTY OF PEDAGOGY**

**DEPARTMENT OF PSYCHOLOGY**

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***“Development of strengths  
in children and adolescents”***

## **ABSTRACT OF A DISSERTATION**

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**AREA OF HIGHER EDUCATION:**

**3. SOCIAL, ECONOMIC AND LEGAL SCIENCES**

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## Summary

The dissertation has a volume of 214 pages and consists of an introduction, three chapters, conclusion, contributions, list of references and appendices. The first chapter presents a theoretical analysis of the researched problem in four directions. The second chapter presents the organization of empirical research. The third chapter presents results, analysis of results, explanation and discussion of research results. The list of used literature includes 205 sources in Bulgarian and English. The dissertation contains 106 tables, 40 figures. The numbers of the tables and figures included in the abstract coincide with those of the dissertation.

The doctoral studies were conducted at the Department of Psychology at the Faculty of Pedagogy at Plovdiv University “Paisii Hilendarski”. The dissertation research was conducted with children and adolescents aged 11–17 from different cities in the country. The forming quasi-experiment was conducted in June 2021 with children aged 11–13, students in VI grade of Sofia University “St. Paisii Hilendarski” – Plovdiv.

The dissertation was discussed and directed for defense by a scientific unit, including lecturers from the Department of Psychology at the Faculty of Pedagogy at Plovdiv University “Paisii Hilendarski”, held on 17.05.2022.

The defense of the dissertation will take place on September 26, 2022 at 12:00 in the New Building of the University of Plovdiv, 236 Bulgaria Blvd. before a scientific jury composed of: Prof. Dr. Sc. Mayana Mitevska, Assoc. Prof. Dr. Yuri Yanakiev, Prof. Dr. Romyana Bozhinova, Prof. Dr. Kalin Gaidarov, Prof. Dr. Velislava Chavdarova with reserve members Assoc. Prof. Dr. Plamen Tsokov and Assoc. Stoil Mavrodiev, appointed by the Rector of Plovdiv University “Paisii Hilendarski”.

The materials on the defense are available to those interested in the Department of Psychology. The abstract is published on the website for the development of the academic staff of the university.

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Title: Development of strengths in children and adolescents

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## **Introduction**

The topic of this dissertation is “Development of strengths in childhood and adolescence.”

Modern psychology shows a lasting interest in the strengths of character. Most researchers of the so-called “human virtues” begin their search in religious literature, where the education of strengths is key to the initiation of adolescents. Today, more and more authors are conducting research on the strengths of character, both in adolescents and adults. Tools for measuring strengths have been developed, as well as programs for their development. Childhood and adolescence is considered by most researchers of strengths as a “golden age” for their development. According to many modern psychologists on this topic, it is during this period that children and adolescents should be stimulated and directed in the right direction – to build their character based on virtues that will serve society and themselves for life.

This dissertation examines the theoretical formulation of the construct “strengths”. The most common theories about the strengths from antiquity to the present day are given with special emphasis – modern theoretical research and empirical research in this field. Psychological tools for researching the strengths of children and adolescents are discussed in detail.

The paper presents the empirical research through a formative quasi-experiment. The aim of the empirical research in the present dissertation is twofold: diagnosis of strengths of character in adolescents aged 11–17 years and conducting an experiment with a development program to monitor the development of strengths in adolescents aged 11–13 years. related to diagnosing the level of development of strengths in 11–17 year olds, establishing differentiations in the level of strengths of character depending on socio-demographic factors gender and age, creating and testing a program for development of strengths of character (development program) to be tested empirically in adolescents aged 11–13 years.

The dissertation assumes the hypothesis that strengths can be developed practically in childhood and adolescence by applying specially developed activities and tasks. The hypotheses are also studied theoretically by analyzing a large number of relevant literature sources. A literature review, comparison, classification, systematization, summary was made. The data were collected through a self-assessment test of strengths and a formative quasi-experiment conducted in 2021.

The analysis and the processed data from the results of the two stages of the research are presented in tabular and graphical form, different types of statistical analyzes were performed to determine the impact of the experiment. Based on this stage, the relevant conclusions have been drawn. A list of used literature in Bulgarian and English is attached.

### **Structure and content of the study:**

The results of the present study are systematized in a dissertation consisting of an introduction, three chapters, a conclusion, contributions, a declaration of authenticity of the results and contributions of the dissertation, conclusions and a list of references. The dissertation contains tables, diagrams, charts and applications.

## **FIRST CHAPTER. Theoretical formulation of the construct “Strengths of character”**

### **1.1. Historical review**

Character education is a key feature in building children as individuals from the dawn of history to the present day. Most parents want to develop in their children fundamental values and virtues. The family aims to raise children who have good personality traits and whose characters are built on strong ethical values (Delattre and Russell, 1993).

Character is a characteristic of the individual, composed of different aspects. His study raises a number of questions: How does character develop? Can it be learned? Is it possible to teach and who can be the most effective teacher? What roles do families, schools, peers, youth development programs play; the media, religious institutions and the general public?

An important period in the knowledge and development of strengths is the era of antiquity. In ancient Greece, during the Hellenistic period, dozens of philosophical and natural philosophical schools flourished in republican and imperial Rome, actively arguing over those virtues that are fundamental to epebes and girls. “Scholes”, “high schools”, “gymnasiums” and “stadiums” and “arenas” are being set up, where intensive and well-planned training of the young generation is taking place. In addition to their pragmatic function, these schools and academies have an ethical mission. They identify and develop strengths through a variety of individual and group approaches. The rise of democratic and imperial models necessitated different interpretations of human virtues, but the essence remained the same – these are the foundations of the individual through which the individual can overcome obstacles and serve himself in the right way – by serving the community.

## **1.2. Theoretical construct “strengths of character”**

### **1.2.1. Definition**

Strengths of character are specific, measurable aspects of virtues and are defined as “psychological components – processes or mechanisms – that determine virtues” (Peterson and Seligman, 2004). Operationalizations of character strengths are usually seen as interpersonal differences – dimensions that describe the intensity of these processes, as defined by Peterson and Seligman.

### **1.2.2. Prerequisites for creating a classification of strengths of character**

The modern classification of strengths is based on a long philosophical tradition of morality explained by virtue. The first Greek philosophers asked, “What is the use of man?” This framework of morality makes them explore character, and virtue in particular. Socrates, Plato, Aristotle, Augustine, Aquinas, and others enumerate such virtues, viewing them as traits that make someone a good person. Over the years, dozens of moral philosophers, theologians, educators, legislators, and writers have developed ideas about what character means. In creating a classification of strengths of character, scholars distinguish “character” from related concepts and must distinguish between its components and the virtues that make up a well-lived life. Scientists have been looking for some ubiquitous, possibly universal virtues, under whose hat to unite the individual strengths of character.

### **1.2.3. Classification of strengths of character**

- The classification of strengths and virtues of character is found in three similar alternative lists that identify strengths of character:
- the first by Peterson and Seligman (2004),
- the second is proposed by Goldberg in the framework of the International Personality Item Pool (IPIP) project (Goldberg, 1999; Goldberg et al., 2006),
- The third is by Ryan Niemick and Robert McGrath (2020), published by the Institute for Character Research VIA Character ([www.viacharacter.bg](http://www.viacharacter.bg)).

Table 2 – Classification of the strengths of the character of the VIA Institute

**Classification of strengths of character**  
(Peterson, K. & Seligman, M., 2004)

<i>1. Wisdom and knowledge – cognitive forces that lead to the acquisition and use of knowledge</i>		
	<b>Strength</b>	<b>Interpretation</b>
1.1.	Creativity [originality, ingenuity]:	Inventing new and productive ways to conceptualize and do things; includes, but is not limited to, artistic achievements
1.2.	Curiosity [interest, search for news, openness to experience]:	Showing interest in one's own experience; finding objects and topics fascinating; research and discovery
1.3.	Impartiality [judgment, critical thinking]:	Reviewing and considering things from all sides; without hasty conclusions; ability to change one's opinion on the basis of evidence; weighing all the evidence fairly
1.4.	Love of learning:	Mastering new skills, topics and volumes of knowledge, whether self-learning or through formal education; obviously related to the power of curiosity, but goes beyond that to describe the tendency to add systematically to what one knows
1.5.	Perspective [wisdom]:	Ability to give wise advice to others; to have ways of looking at the world that make sense to yourself and other people
<i>2. Courage – emotional strength, which includes the exercise of will to achieve goals in the face of opposition, external or internal</i>		
	<b>Strength</b>	<b>Interpretation</b>
2.1.	Courage[bravery]:	Ability not to shy away from threat, challenge, difficulty or pain; talking about what is right, even if there is opposition; acts on convictions, even if not popular; includes, but is not limited to, physical courage
2.2.	Perseverance [persistence, diligence]:	Completion of what has been started; perseverance in the course of action despite obstacles; pleasure from the completed tasks
2.3.	Integrity [authenticity, honesty]:	Speaking the truth, acting in a sincere way; to be unpretentious; taking responsibility for your feelings and actions
2.4.	Vitality [heat, enthusiasm, energy, zest]:	Approaching life with excitement and energy; not to do things half or unwillingly; life as an adventure; feeling alive and active
<i>3. Humanity – interpersonal strengths that include care and friendship with others</i>		
	<b>Strength</b>	<b>Interpretation</b>
3.1.	Love:	Maintaining close relationships with others, especially those in which sharing and caring are mutual; closeness to people

3.2.	Kindness [generosity, care, nourishment, compassion, altruistic love, kindness]:	Doing service and doing good for others; help for others; care for them
3.3.	Social intelligence [emotional intelligence, personal intelligence]:	Understanding the motives and feelings of other people and your own; knows what to do to fit into different social situations;
<b>4. Justice – civic strengths that are at the heart of healthy community life</b>		
	<b>Strength</b>	<b>Interpretation</b>
4.1.	Citizenship [social responsibility, loyalty, teamwork]:	To work well as a member of a group or team; loyal to the group; to do his part of the job well;
4.2.	Justice:	Treat all people equally according to the notions of justice and impartiality; Preventing personal feelings from changing decisions for others; Giving everyone a fair chance
4.3.	Leadership:	Encouraging the group of which one is a member to do things and at the same time maintain good relations in the group; organizing group activities and monitoring what is happening
<b>5. Temperance – strengths that protect against excess</b>		
	<b>Strength</b>	<b>Interpretation</b>
5.1.	Forgiveness and mercy:	Forgive those who have done wrong; Accepting the shortcomings of others; Giving people a second chance; Do not take revenge
5.2.	Humility / Modesty:	To let achievements speak for themselves; Don't look for the spotlight; It is not considered more special than it is
5.3.	Prudence:	Attention to your choice; Do not take unnecessary risks; Don't say or do things you may regret later
5.4.	Self-regulation [self-control]:	Regulating what one feels and does; to be disciplined; appetite and emotion control
<b>6. Spirituality – strengths that make connections with the larger universe and provide meaning</b>		
	<b>Strength</b>	<b>Interpretation</b>
6.1.	Assessment of beauty and perfection [awe, miracle, exaltation]:	Observing and appreciating beauty, perfection in various areas of life, from nature through art to mathematics to science to everyday experience
6.2.	Gratitude:	Be aware and grateful for the good things that are happening; Take the time to express gratitude
6.3.	Hope [optimism, thinking about the future, future orientation]:	Expect the best in the future and work to achieve it, believing that a good future is something that can be achieved
6.4.	Humor [playfulness]:	To love jokes and banter; To make other people laugh; To see the bright side; To make and tell jokes
6.5.	Spirituality [religiosity, faith, purpose]:	To have beliefs about supreme purpose and meaning of the universe; Knowing where you fit into the bigger scheme; To believe in the meaning of life, which will shape your behavior and provide you with comfort

#### **1.2.4. Creation and development of tools for measuring strengths**

VIA strengths were also measured in adolescents with the VIA-Y self-assessment questionnaire (Dahlsgaard, 2005) and VIA-Youth (Park & Peterson, 2005). VIA-Youth is an adaptation of VIA-IS for children and adolescents between the ages of 10 and 17. VIA-Youth has undergone significant psychometric tests by its authors, who claim to have reliable internal consistency, stability and validity (Park & Peterson, 2006). VIA-Youth has also been adapted for use in German (Weber, Ruch, Park, & Peterson, 2008) and South African (Van Eeden, Wissing, Dreyer, Park, & Peterson, 2008) studies. Like VIA-Youth, VIA-Y was also developed for use by 10–17 year olds and, although shorter, contains similar elements (Dahlsgaard, 2005), which has been used as a psychometric tool in this dissertation.

#### **1.3. Relationship between character strengths and other psychological constructs**

Researchers around the world have demonstrated the usefulness of constructing strengths of character to explain other aspects of human functioning, such as well-being (Wood et al., 2011), school / academic achievement (Shoshani and Slone, 2013), positive work experience. and Ruch, 2012), or life satisfaction (Park et al., 2004).

##### **1.3.1. Strengths of character and well-being**

Why are these strengths of character so strong correlates of well-being, and why are other strengths of character less related to happiness and life satisfaction? One explanation is that there are different ways to be happy (Guignon, 1999; Peterson, 2006; Russell, 1930; Seligman, 2002). One path to happiness is embodied in the doctrine of hedonism (maximizing pleasure and minimizing pain), formulated thousands of years ago by Aristotle, who supports immediate sensory satisfaction as the main path to a full life (Watson, 1895). In his study of hedonism, Epicurus argues that our basic moral obligation is to maximize our experience of pleasure.

##### **1.3.2. Strengths of character and moral competence**

Competence and strong qualities of character are important components of optimal human development. Research on competence and character among young people shows their important role in successful life-long development (Colby, James, & Hart, 1998). The relationship between competence and character in human development is well described by Baumrind (Baumrind, 1998), who noted that “virtuous character is necessary to want good, and competence is necessary to do good.”



### **1.3.3. Strengths of character and subjective happiness**

The relationship of strengths to 'subjective well-being', which consists of emotional responses (ie high levels of positive and low levels of negative effects) and assessments of overall life satisfaction, is essential. In surveyed adults, hope, enthusiasm, gratitude, love, and curiosity are strongly associated with life satisfaction (Park, Peterson, & Seligman, 2004; Peterson, Ruch, Beerman, Park, & Seligman, 2007; Shimai, Otake, Park, Peterson, & Seligman, 2006), while the intellectual forces of creativity, judgment and love of learning (as well as humility and appreciation of beauty) show weaker correlations with life satisfaction (Park, 2004b).

### **1.3.4. Strengths of character and prosocial behavior**

Virtues refer to the expression of strengths of character valued in most cultures (Seligman, 2002; Peterson and Park, 2004). Virtues are moral self-schemes that include rational and emotional elements (Emde, 2016). They represent personality disposition (Emmons, 2008) associated with socially positive behavior in certain areas (Froh et al., 2009; Donovan and Priester, 2017). In particular, some authors emphasize the relevance of gratitude and forgiveness as interpersonal strengths associated with positive outcomes, including prosocial behavior (Yamhure-Thompson and Snyder, 2003; Kubačka et al., 2011; Gordon et al., 2012).

## **1.4. Strengths Development Programs in children and adolescents**

Research in recent years has shown that character strengths are of great importance not only for the positive academic performance of young people, but also for their realization in life and in the labor market (Heckman et al. 2006). Can strengths of character and moral virtues be learned in school?

The long-term evaluation of the Perry Preschool program (<https://highscope.org/perry-preschool-project/>) and other high-quality early childhood education programs shows that the positive long-term life outcomes of the respondents, including employment and income, have improved significantly, probably from a set of character skills or traits that are developed and developed through participation in high-quality preschool programs (Schweinhart et al. 2005). It is important to note that these skills and traits, developed in the first years of life, continue to have a positive effect on individuals into old age.

The Strengths Gym is a positive psychology intervention based on the entire VIA Strengths Classification and is aimed at students who perform age-appropriate strength-based exercises through classroom activities, open discussion, and homework activities. work in the real world where they can apply ideas and skills in their own lives.

## **CHAPTER TWO. Empirical research design**

### **2.1. Purpose of the empirical study**

The purpose of the empirical research in the present dissertation is to diagnose and develop the strengths of character in children aged 11–17.

In connection with the formulated goal, two main tasks are performed.

### **2.2. Tasks of empirical research**

- 1) To diagnose (measure and evaluate) the profile at the level of strengths in 11 – 17 year old children. To diagnose differentiations in the level of strengths depending on socio-demographic factors gender and age.
- 2) To create a program for the development of character strengths (development program) and to empirically test the model in children aged 11–13.

### **2.3. Hypotheses of empirical research**

Hypothesis 1:

It is assumed that statistically significant differences will be found in the level of the studied six criteria – Wisdom, Courage, Humanity, Justice, Temperance, Spirituality (W, C, H, J, T, S) depending on socio-demographic factors such as gender and age.

Hypothesis 2:

It is assumed that the strengths of adolescence can be developed (strengthened) through a specially organized development program, including adequate activities and tasks.

### **2.4. Object of empirical research**

Children and adolescents aged 11–17 from all over the country. The study consists of two parts:

Part 1 – Diagnosis of strengths of character among children and adolescents aged 11–17 years in Bulgaria;

Part 2 – Development of strengths of character through a formative quasi-experiment

Part 1 of the study involved 461 people aged between 11 and 17 years. They study in schools all over the country, including Sofia, large and small cities in the country. The subjects were selected at random. The demographic profile of the sample is outlined by grouping the respondents by gender and age. In part 2 of the research in the formative quasi-experiment participate students from two sixth grades of Sofia University “St. Paisii Hilendarski” in

the city of Plovdiv. One class is randomly assigned to control and the other to experimental. The control class consists of 13 students and the experimental class of 18. The children are aged 12–13.

## **2.5. Subject of empirical research**

The subject of this empirical study includes:

- The level of strengths of children and adolescents aged 11–17 years
- The opportunity to develop and strengthen these strengths through a Development Program

## **2.6. Empirical research design**

To test the hypotheses of the study, we built such an experimental study, which in the first phase to diagnose the current level of strengths of character of children aged 11–17 years in this sample, to compare the results by gender and age, and in the second phase to test an empirically specially developed Development Program for Strengths and to evaluate its effect on the subjects through a formative quasi-experiment.

After selecting the appropriate instrumentation, a pilot study was conducted in order to test the selected instrument. The main stage of the dissertation research, which took place in the period November 2020 – June 2021, consisted in recruiting respondents and providing them with the chosen instrument. Participation in the study is anonymous and voluntary, and individuals are informed in advance for the purposes of the study. Completing the psychological scale takes on average between 10–15 minutes. All respondents filled out the questionnaires through the online platform Google forms. For the first stage of the study, the final sum of valid forms for analysis is 461. In the second phase of the study – the formative experiment, a total of 31 children participated: 13 children from the control group and 18 children from the experimental group. At the beginning and at the end of the formative experiment, the diagnosis of both groups of children was performed. The evaluation at the beginning of the event is the so-called pretest, and at the end of the event – the so-called. posttest.

## **2.7. Tools of empirical research**

For Stage 1: Children's Strengths Survey (CSS) developed by Katherine Dahlsgaard (Seligman, 2002)

For stage 2: The forming quasi-experiment, the so-called A development program consisting of 13 sessions with a set of activities and tasks aimed at developing (strengthening) the 24 strengths of the character of children and adolescents.

## **2.8. Presentation of the tools**

### **2.8.1. Questionnaire Children's character strengths**

Self-Reporting Scale Questionnaire Strengths of Children's Character (CSS), created by Catherine Dalsgaard. The scale is multidimensional, of the Likert type (from 1 – “does not apply to me at all”, to 5 – “totally applies to me”) and is focused on exploring 24 strengths of character of children aged 11–17 years. Two items have been developed for each strength. The total number of items in the questionnaire is 48.

#### **The 24 strengths are grouped into six subscales:**

- 1) Wisdom (12 items): covers the following six strengths of character: curiosity, learning, common sense, creativity, social intelligence and insight;
- 2) Courage (6 items): covers the following three strengths of character: courage, perseverance, integrity;
- 3) Humanity (4 items): covers the following two strengths of character: kindness and love;
- 4) Justice (6 items): covers the following three strengths of character: teamwork, impartiality, leadership;
- 5) Temperance (6 items): covers the following three strengths of character: self-control, prudence, humility;
- 6) Spirituality (14 items): covers the following seven strengths of character: love of beauty, gratitude, hope, faith, forgiveness, sense of humor, enthusiasm.

According to the key to interpreting the results, each of the 24 strengths of the character can receive a minimum of 2 points and a maximum of 10 points.

The results are calculated by inverting the raw scores for the reversed issues, then summing the scores for the individual items included in each subscale.

Steps have been taken to adapt the methodology in Bulgarian conditions. For the first time in Bulgaria, the children's version of Catherine Dalsgaard's translation of the questionnaire is being translated. The author of the dissertation sent an inquiry to Catherine Dalsgaard for permission to use the questionnaire in Bulgaria. Catherine Dalsgaard gave permission for the free use of the rock. Two sworn translators independently translated the questionnaire into Bulgarian. The author of the present dissertation made a reverse translation into English of the two Bulgarian translations made and chose the one that is closer to the original in English. A semantic correction of the items where necessary was made, and the coefficients of internal consistency and the descriptive characteristics of the individual scales are presented in Chapter III.

### 2.8.2. Development program

In the spring of 2021, several meetings and talks were held with the director of the Sofia University “St. Paisii Hilendarski” in Plovdiv as part of the preparation of the experiment. An official letter was sent on behalf of the research supervisor of the dissertation to the school principal in order to get acquainted with the needs of the research and obtain permission to conduct it.

Two VI classes were selected to conduct the formative quasi-experiment – one experimental with 18 students and one control with 13 students. The experiment was titled “Time for Character Strength Development.” After talks with the school principal and the class teachers of both classes, it was decided to conduct the experiment in June 2021. The class teachers collected declarations of consent for participation from the parents of the students.

Classes were held online in extracurricular activities. With the permission of the school management, an email account was created for the author of the dissertation and he was given the rights as a teacher of the experimental class. This provided a direct connection with the children from the whole class and the opportunity to conduct online lessons through a link to the class, as well as to set homework assignments, which were evaluated by the doctoral student. A total of 13 lessons were planned and conducted, each lasting 30 minutes with the experimental class.

The development program has the following goals when working with children:

- Getting acquainted with the 24 strengths of character and the 6 groups of virtues
- Building skills for recognizing one's own strengths
- Building skills for self-assessment of the impact of one's own strengths
- Build skills to recognize the strengths of other people
- Creating habits for daily use of strengths to achieve desired goals

Thematically, the sessions are planned and conducted according to the following schedule in Table 5:

*Table 5: Schedule of the development program*

<i>Lesson number</i>	<i>Date</i>	<i>Topic</i>	<i>Homework</i>
		Pretest	
1	27.05.2021	Getting to know the 24 strengths; Assessing one's own strengths;	Essay on “My 3 strengths and how they help me in life“
2	2.06.2021	Recognition of strengths in life situations – examples; Building habits for developing strengths;	Thanksgiving diary

<b><i>Lesson number</i></b>	<b><i>Date</i></b>	<b><i>Topic</i></b>	<b><i>Homework</i></b>
		Pretest	
3	3.06.2021	Recognition of strengths in life situations – examples; Good deeds;	Working in pairs to prepare a presentation on the 24 strengths
4	7.06.2021	Recognition of strengths in life situations – examples; Self-control, Prudence, Perseverance, Faith;	Watching videos on strengths and discussing
5	9.06.2021	1. Curiosity 2. Love of learning 3. Sound judgment 4. Creativity 5. Social intelligence 6. Wisdom	Presentation in pairs of strengths and discussion
6	10.06.2021	7. Courage 8. Persistence 9. Integrity 10. Kindness 11. Love 12. Team work	Presentation in pairs of strengths and discussion
7	14.06.2021	13. Impartiality 14. Leadership 15. Self-control 16. Prudence 17. Humility 18. Love of beauty	Presentation in pairs of strengths and discussion
8	16.06.2021	19. Gratitude 20. Hope 21. Faith 22. Forgiveness 23. Sense of humor 24. Enthusiasm	Presentation in pairs of strengths and discussion
9	17.06.2021	Assessing the strengths of children in the classroom, teachers and parents	Identify the strengths of your classmates, teachers and parents
10	21.06.2021	Present the results of the children's assessment of the strengths of their classmates	Discuss homework on the strengths of others
11	23.06.2021	Setting goals and involving strengths to achieve them	Essay on the topic: What do I want to achieve in the next 12 months and how will my strengths help me achieve it?
12	24.06.2021	What will I do when I grow up and how will my strengths help me? Discussion of strengths by professions	Essay reading and discussion
13	28.06.2021	Post test	Discussion of strengths and summary of lessons learned

## 2.9. Experimental research through a formative quasi-experiment; Mathematical and statistical methods for processing the results

Statistical methods used: Mann-Whitney U-test (Kalinov, 2001; Kentawitz et al., 2011; Ganeva, 2016); Criterion of z signs and Wilcoxon sign-rank test (Kalinov, 2001; Kentawitz et al., 2011; Piryov and Tsanev, 1973; Ganeva, 2016).

The Mann-Whitney U-test was chosen to compare independent samples. This is a non-parametric statistical test to compare data obtained from two samples compiled by different subjects (Kentawitz et al., 2011). We apply the results of the Mann-Whitney U-test in summary tables.

By conducting a test and post-test of a group (experimental or control) subjects, we expect to identify changes from the beginning to the end of the experiment as a result of our impact.

For this purpose it is necessary to make an intragroup comparison, ie. comparison of related samples (Kentawitz et al., 2011) or paired groups (Piryov and Tsanev, 1973). In such cases, for greater reliability of the results obtained in practice, it is accepted to use a combination of two statistical tests, which have a common premise. These are the z-sign criterion and the Wilcoxon's Signed Rank Test (WSRT). These tests are applied when we have an experimental plan of related measurements – the results of the subjects are combined with each other (in our case it is a test and a post-test for each person). “Wilcoxon's criterion is used under the same conditions as the sign criterion – in a pairwise comparison of two groups or in the same group studied twice. When there is an insignificant difference in the comparison with the criterion of signs, Wilcoxon's criterion is applied.” (Piryov and Tsanev, 1973) tables.

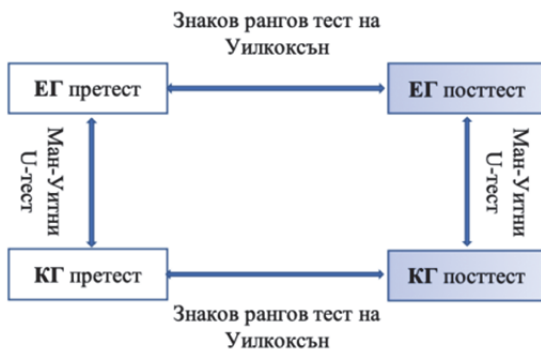


FIG. 1. Scheme of the performed statistical analyzes for verification of the hypotheses from the Forming Quasi-Experiment

## CHAPTER THREE. Analysis and interpretation of results from empirical research

The analysis of the results of the empirical research was conducted in several stages – derivation of descriptive statistics, psychometric processing of the applied tools and verification of their reliability; study of the influence of socio-demographic factors on the levels of the studied constructs through a series of one-way analysis of variance and t-test, Mann-Whitney U-test, sign test (z sign criterion) and Wilcoxon sign rank test ( $T\Delta$  criterion).

### 3.1. Analysis of the results of the Children’s Strengths Questionnaire, CSS

#### 3.1.1. Psychometric characteristics of the questionnaire – Reliability according to the Cronbach's Alpha coefficient

As can be seen from Table 7. Cronbach's alpha for the whole questionnaire is equal to 0.875, which proves a very good reliability of the scale.

The present study also shows good internal coherence for the Spirituality ( $\alpha = 0.758$ ) and Justice ( $\alpha = 0.657$ ) subscales. Lower results were obtained when calculating the coefficient of consistency for the scales Wisdom ( $\alpha = 0.59$ ), Humanity ( $\alpha = 0.444$ ), Courage ( $\alpha = 0.352$ ) and Restraint ( $\alpha = 0.196$ ).

*Table 7. Internal coherence of the Questionnaire  
Children's Character Strengths and its subscales.*

SCALES	Cronbach's Alpha	N = 461
<i>Strengths of children – total</i>	$\alpha$	0,875
1. Wisdom	$\alpha$	0,59
2. Courage	$\alpha$	0,352
3. Humanity	$\alpha$	0,444
4. Justice	$\alpha$	0,657
5. Temperance	$\alpha$	0,196
6. Transcendence	$\alpha$	0,758

Of the components of the strengths, the most consistent is Spirituality ( $\alpha = 0.758$ ), and the lowest value of Alpha is calculated on the subscale Restraint ( $\alpha = 0.196$ ).

#### **The contribution of each item to the reliability of the scale. Cronbach's alpha when removing the corresponding item**

The values of Alpha in the last column of Table 2 (“Cronbach's Alpha if an item is removed”) show that all items have almost the same contribution



to the reliability of the scale. The values of the “Alpha for the whole scale if the corresponding item is removed” are approximately equal, which means that it is not necessary to remove the item, as the reliability will not change significantly.

*Table 8. Statistics of the Children's Strengths Questionnaire*

<b>Items</b>	<b>Average on the scale if the item is removed</b>	<b>Dispersion of the scale if the item is removed</b>	<b>Corrected correlation with the total score</b>	<b>Cronbach's alpha, if the item is removed</b>
Item 1	167.77	493.845	.198	.875
Item 2	167.32	483.458	.394	.871
Item 3	167.36	477.778	.531	.869
Item 4	168.39	516.374	-.186	.882
Item 5	167.13	502.341	.059	.876
Item 6	168.72	514.672	-.164	.881
Item 7	167.33	478.883	.492	.870
Item 8	167.68	487.586	.317	.873
Item 9	167.56	481.720	.433	.871
Item 10	167.19	481.697	.450	.870
Item 11	167.38	481.350	.456	.870
Item 12	167.14	481.302	.485	.870
Item 13	167.22	486.079	.382	.872
Item 14	167.07	480.195	.506	.870
Item 15	167.79	474.119	.545	.869
Item 16	167.15	478.146	.557	.869
Item 17	167.43	486.846	.251	.874
Item 18	168.27	520.447	-.250	.883
Item 19	167.09	481.879	.444	.871
Item 20	166.76	486.614	.442	.871
Item 21	167.34	486.989	.294	.873
Item 22	166.48	490.954	.370	.872
Item 23	167.81	477.178	.441	.870
Item 24	167.27	480.622	.476	.870
Item 25	167.42	480.679	.470	.870
Item 26	167.24	480.368	.471	.870
Item 27	168.18	486.393	.336	.872
Item 28	167.54	478.549	.483	.870
Item 29	167.50	477.755	.445	.870
Item 30	168.53	519.663	-.233	.883
Item 31	167.14	483.600	.412	.871
Item 32	167.44	476.603	.567	.869
Item 33	167.20	487.146	.378	.872
Item 34	168.97	509.191	-.072	.879

Item 35	167.44	491.590	.237	.874
Item 36	168.10	483.013	.334	.872
Item 37	166.92	480.455	.553	.869
Item 38	168.88	520.412	-.241	.883
Item 39	167.23	473.084	.564	.868
Item 40	167.02	484.254	.446	.871
Item 41	166.90	480.832	.527	.870
Item 42	168.17	482.366	.357	.872
Item 43	167.13	486.272	.400	.871
Item 44	167.69	482.110	.387	.871
Item 45	167.04	486.190	.429	.871
Item 46	166.77	484.806	.497	.870
Item 47	166.86	480.271	.552	.869
Item 48	167.57	472.232	.581	.868

### 3.1.2. Descriptive statistics

The present analysis of the results presents the frequency distributions of the raw scores and the basic statistical indicators of each subscale and its items.

- Distribution of results on the Wisdom subscale not normal by the Kolmogorov-Smirnov method (statistical = 0.081, sig. = 0.005 < 0.05).
- Distribution of results on the Courage subscale not normal by the Kolmogorov-Smirnov method (statistic = 0.106, sig. = 0.000 < 0.05)
- Distribution of results on the Humanity subscale not normal by the Kolmogorov-Smirnov method (statistical = 0.120, sig. = 0.000 < 0.05).
- Distribution of results on the Justice sub-scale is normal by the Kolmogorov-Smirnov method (statistical = 0.057, sig. = 0.103 > 0.05).
- Distribution of results on the Restraint subscale not normal by the Kolmogorov-Smirnov method (statistical = 0.092, sig. = 0.001 < 0.05).
- The distribution of the results on the subscale “Spirituality” is not normal according to the Kolmogorov-Smirnov method (statistical = 0.072, sig. = 0.017 < 0.05).

### 3.1.3. Item statistics

The lowest values are item 34  $\bar{x} = 2.08$  (“People describe me as a child who stands out.”) And item 6  $\bar{x} = 2.34$  (“My parents always tell me that my judgment is bad”). Item 34 refers to the Restraint subscale and Item 6 refers to the Wisdom subscale. Both items have been reversed, so that low values here indicate a greater degree of development of the respective strengths. The highest rated item is item 22  $\bar{x} = 4.57$  (“Even if I argue a lot with my brother, my sister or my cousins, I care about them”),

which refers to the “Humanity” subscale and means that this question is almost always answered “completely applies to me” or “applies to me”.

### 3.2. Influence of socio-demographic factors gender and age on the levels of the studied constructs

A series of analyzes were performed to study the influence of socio-demographic factors on gender and age. They show statistically significant differences in the levels of the studied constructs according to the set independent variables sex and age. The analysis was performed sequentially for each of the components (subscales) of the applied tool.

### Questionnaire Children’s Character Strengths

#### 3.2.1. Independent factor gender

The task is to check whether the gender factor affects the distribution of data on each of the subscales. For this purpose, statistical hypotheses for gender differences (2 independent samples) were tested by applying non-parametric statistical tests.

Each of the six subscales of the Children's Character Strengths Questionnaire – Wisdom, Courage, Humanity, Justice, Temperance, Transcendence is a variable that is measured on an interval scale, while gender is a variable that is measured by nominal scale.

Table 33. Presentation of gender results by Man-Whitney U test

Factor / Subscale	Gender (groups)	N	Average ranks	U	p	r
Wisdom	male	207	231.29	26228.5	0.966	0.00
	female	254	230.76			
Courage	male	207	240.15	24394.5	0.181	-0.06
	female	254	223.54			
Humanity	male	207	218.82	23768.5	0.074	-0.08
	female	254	240.92			
Temperance	male	207	227.32	25526.5	0.59	-0.03
	female	254	234			
Transcendence	male	207	225.85	25222	0.453	-0.03
	female	254	235.2			

**Notes:** N – sample size for the respective group; U varies in the range [0; 52578], with the mid-range being 26289; p – level of statistical significance; r – magnitude of the effect. Where there is a statistically significant difference at  $p < 0.05$ , a sign (\*) is placed next to the corresponding factor / subscale.

Table 34. Presentation of Student's T-test results for independent gender samples

Factor / Subscale	Gender (groups)	N	M	SD	t	p
Justice	male	207	21.26	4.519	1.678	0.094
	female	254	20.54	4.596		

**Notes:** N – sample size for the respective group; M – arithmetic mean value for the respective group; SD – standard deviation; *t* – empirical value of Student's t-test; *p* – level of significance of the Student's t-test; There is a statistically significant difference at  $p < 0.05$ .

Table 35. Confirmed hypotheses by gender of the surveyed persons

Subscale/Factor	Confirmed hypothesis by gender
Wisdom	H0
Courage	H0
Humanity	H0
Justice	H0
Temperance	H0
Transcendence	H0

The main hypotheses that are tested in this case are the following:

**H0:** There is no statistically significant difference in the distribution of the values for the variables of the factors between the group of boys and the group of girls.

**H1:** There is a statistically significant difference in the distribution of the values for the variables of the factors between the group of boys and the group of girls.

According to hypothesis 1 in the second chapter, we can draw the following conclusions:

From the calculations made, it is evident that for each of the six subscales / factors, there are no statistically significant differences in gender within the current sample.

### 3.2.2. Independent factor age

The task is to check whether there is a statistically significant difference between each of the subscales of the questionnaire and the age of the participants. Statistical hypotheses by age were tested for non-parametric criteria (independent samples).

Each of the five subscales of the Children's Character Strengths Questionnaire – Wisdom, Courage, Humanity, Justice, Temperance, Transcendence is a variable that is measurable on a strong scale – interval, while age is a variable that is measured on a weak scale – nominal. The age of the respondents is 11–17 years. For the purposes of the study, the

age was made in two age stages minors 11–13 years and juvenile 14–17 years.

The main hypotheses that are tested in this case are the following:

H0: There is no statistically significant difference in the distribution of the value of the variable factors between the group of minors and the group of juveniles.

H1: There is a statistically significant difference in the distribution of the variable factors between the group of minors and the group of juveniles.

The Mann – Whitney Test (U-test) was used to determine the age of age statistical significance of the difference between respondents and wisdom, as the distribution on the scales is not normal.

*Table 46. Summary of Mann-Whitney U test results by age of the subjects*

Factor / Subscale	Age (groups)	N	Average Ranks	U	p	r
Wisdom	minors	197	225.31	24884	0.428	-0.04
	juveniles	264	235.24			
Courage	minors	197	235.54	25109.5	0.526	-0.03
	juveniles	264	227.61			
Humanity	minors	197	239.14	24400.5	0.253	-0.05
	juveniles	264	224.93			
Temperance	minors	197	239.92	24246	0.212	-0.06
	juveniles	264	224.34			
Trancescendence*	minors	197	261.24	20046.5	0	-0.20
	juveniles	264	208.43			

**Notes:** N – sample size for the respective group; U varies in the range [0; 52008], with the midpoint of the range being 26004; *p* – level of statistical significance; *r* – magnitude of the effect. Where there is a statistically significant difference at *p* < 0.05, a sign (\*) is placed next to the level of statistical significance.

*Table 47. Presentation of Student's T-test results for independent age samples*

Factor / Subscale	Age (groups)	N	M	SD	t	p
Justice*	minors	197	21.5	4.965	2.619	0.007
	juveniles	264	20.38	4.2		

**Notes:** N – sample size for the respective group; M – arithmetic mean value for the respective group; SD – standard deviation; t empirical value of Student's t-test; *p* – level of significance of the Student's t-test; Where there is a statistically significant difference at *p* < 0.05, a sign (\*) is placed next to the level of statistical significance.

Table 48. Confirmed hypotheses by age

Subscale/Factor	Confirmed hypotheses by age
Wisdom	H0
Courage	H0
Humanity	H0
Justice	H1
Temperance	H0
Transcendence	H1

There are no statistically significant differences in age in the subscales / factors Wisdom, Courage, Humanity and Temperance, and statistically significant differences in age are observed in the subscales / factors Justice and Transcendence.. In both factors Justice and Spirituality, minors aged 11–13 have higher levels than juveniles aged 14–17.

### **3.3. Influence of the development program on the level of strengths of character in children and adolescents**

A special formative quasi-experiment was conducted to track the relative contribution of the development program to the level of strengths of character in children and adolescents. It was attended by two groups of children, students from two sixth grades in high school in Plovdiv: one experimental group (EG) of 18 children and one control group (CG) of 13 children. 13 extracurricular activities from the program for development of strengths of character were held with the children from EG, and the children from KG continued to study in their regular program at school.

The selection of the two groups was made by random distribution, as the respondents are of the same age and study in the same school in the sixth grade of the 2020/2021 school year.

Before conducting the developmental activities with the experimental group of children, we reported for all participants in the experiment from the experimental and control groups, the level of development of strengths of character. For this purpose we used the Questionnaire for children's strengths of character with its six subscales Wisdom, Courage, Humanity, Justice, Restraint, Spirituality. We called this first stage a protest. Conducting a test is mandatory because it gives us the assurance that the participants in the study come from the same population or in other words, there are no statistically significant differences between the groups before the

experimental impact. After conducting the experimental impact, we conducted a process similar to the test of re-filling the Questionnaire for strengths of the character of the children from both groups. We called this second stage a post-test, through which we reported the effects of the development program. Statistically, we prepared both intergroup and intragroup comparisons of the experimental and control groups.

The obtained data for comparison between the experimental group (EG) and the control group (CG) from the tests and post-tests, as well as intragroup comparisons will be presented through quantitative and qualitative analysis of key indicators: Wisdom, Courage, Humanity, Justice, Restraint, Spirituality.

An analysis of the results of testing hypotheses for differences in the level of Wisdom, Courage, Humanity, Justice, Temperance and Transcendence the pretest and posttest of the experimental and control groups.

### **3.3.1. A check of the hypotheses from the forming quasi-experiment for differences between the Experimental Group (EG) and the Control Group (CG) – Pretest**

**Pretest: Experimental group (EG) compared to Control group (CG)**

**Posttest: Experimental group (EG) compared to Control group (CG)**

For this purpose, we will test the following pairs of hypotheses at the input level test and at the output level posttest:

H0: The experimental and control groups of children did not differ statistically in terms of the respective factor (Wisdom, Courage, Humanity, Justice, Temperance, Transcendence).

H1: The experimental and control groups of children differ statistically with respect to the respective factor (Wisdom, Courage, Humanity, Justice, Temperance, Transcendence).

#### **3.3.1.1. Analysis of the results between the groups before conducting developmental classes (Pretest)**

In this part we will present a comparative analysis of the test of the experimental and control groups. The obtained data are presented in Table 61. and Fig. 21.

Table 61. Summary Pretest: Comparison of EG and CG

Factor/Subscale	Groups (Pretest)	N	Average Ranks	U	p	r
Wisdom	EG	18	14.97	98.5	0.465	-0.13
	CG	13	17.42			
Courage	EG	18	17.08	97.5	0.441	-0.14
	CG	13	14.5			
Humanity	EG	18	17.56	89	0.275	-0.20
	CG	13	13.85			
Justice	EG	18	17.17	96	0.417	-0.15
	CG	13	14.38			
Temperance	EG	18	17.03	98.5	0.465	-0.14
	CG	13	14.58			
Transcendence	EG	18	17.06	98	0.465	-0.14
	CG	13	14.54			

*Notes:* N – sample size for the respective group; U varies in the range [0; 234], with the midpoint of the range being 117; p – level of statistical significance; r – magnitude of the effect. Where there is a statistically significant difference at  $p < 0.05$ , a sign (\*) is placed next to the level of statistical significance.

Table 62. Summarized results by Pretest factors – hypotheses

EG-CG pretest	Confirmed hypothesis with Man-Whitney U test
1.1. Wisdom	H0 – The experimental and control groups of children did not differ statistically with respect to the Wisdom factor.
1.2. Courage	H0 – The experimental and control groups of children did not differ statistically with respect to the Courage factor.
1.3. Humanity	H0 – The experimental and control groups of children did not differ statistically with respect to the Humanity factor.
1.4. Justice	H0 – The experimental and control groups of children did not differ statistically with respect to the Justice factor.
1.5. Temperance	H0 – The experimental and control groups of children did not differ statistically with respect to the Temperance factor.
1.6. Transcendence	H0 – The experimental and control groups of children did not differ statistically with respect to the Transcendence factor.

### 3.3.2. A check of the hypotheses from the forming quasi-experiment for differences between the Experimental group (EG) and Control group (CG) – Posttest

For this purpose we will test the following pairs of hypotheses U experimental and control group at baseline – posttest:

H0: The experimental and control groups of children did not differ statistically in terms of the respective factor (Wisdom, Courage, Humanity, Justice, Restraint, Spirituality).



H1: The experimental and control groups of children differ statistically with respect to the respective factor (Wisdom, Courage, Humanity, Justice, Restraint, Spirituality).

Table 75. Summary Posttest: Comparison of EG and CG

Factor/Subscale	Groups (Posttest)	N	Average Ranks	U	p	r
Wisdom	EG	18	15.17	102	0.567	-0.11
	CG	13	17.15			
Courage	EG	18	15.42	106.5	0.679	-0.08
	CG	13	16.81			
Humanity	EG	18	18.00	81	0.157	-0.26
	CG	13	13.23			
Justice	EG	18	18.25	76	0.106	-0.29
	CG	13	12.88			
Temperance	EG	18	17.94	82	0.17	-0.25
	CG	13	13.31			
Transcendence	EG	18	18.47	72.5	0.075	-0.32
	CG	13	12.58			

*Notes:* N – sample size for the respective group; U varies in the range [0; 234], with the midpoint of the range being 117; *p* – level of statistical significance; *r* – magnitude of the effect. Where there is a statistically significant difference at  $p < 0.05$ , a sign (\*) is placed next to the level of statistical significance.

Table 76. Summarized results by factors Posttest – hypotheses

Pretest EG-CG	Confirmed hypothesis with Man-Whitney U test
1.1. Wisdom	H0 – The experimental and control groups of children did not differ statistically with respect to the Wisdom factor.
1.2. Courage	H0 – The experimental and control groups of children did not differ statistically with respect to the Courage factor.
1.3. Humanity	H0 – The experimental and control groups of children did not differ statistically with respect to the Humanity factor.
1.4. Justice	H0 – The experimental and control groups of children did not differ statistically with respect to the Justice factor.
1.5. Temperance	H0 – The experimental and control groups of children did not differ statistically with respect to the Temperance factor.
1.6. Transcendence	H0 – The experimental and control groups of children did not differ statistically with respect to the Transcendence factor.

### 3.3.3. Test of the hypotheses from the forming quasi-experiment for differences in the Experimental group – Pretest-Posttest

A comparative analysis of the change in the level of strengths within the experimental and control group was performed after conducting the Sign test and the Wilcoxon Signed Ranked Test.

In this case we make an intra-group comparison of the samples before and after the implementation of the Development Program. Experimentally, these are 2 comparisons:

- ✓ Experimental group pretest compared to Experimental group posttest;
- ✓ Control group pretest compared to Control group posttest;

For this purpose we will test the following hypotheses:

H0: There was no statistical difference between the pretest and the post-test of the experimental (or control) group with respect to the respective factor Wisdom, Courage, Humanity, Justice, Temperance, Transcendence.

H1: Between the pretest and the posttest of the experimental (or control) group, there is a statistical difference with respect to the respective factor Wisdom, Courage, Humanity, Justice, Temperance, Transcendence.

Table 89. Presentation of test results of Wilcoxon EG: Pretest-Posttest

EG Pretest EG Posttest (N = 18)	Negative Ranks		Positive Ranks		Test Statistics			
	n	Average Ranks	n	Average Ranks	Equal	Z	p	r
Wisdom*	18	9.5	0	0	0	-3.74	<b>0</b>	-0.88
Courage*	17	9	0	0	1	-3.67	<b>0</b>	-0.87
Humanity	4	4.25	2	2	12	-1.38	0.167	-0.33
Justice*	8	7.13	3	3	7	-2.17	<b>0.03</b>	-0.51
Temperance*	18	9.5	0	0	0	-3.76	<b>0</b>	-0.89
Transcendence*	15	8	0	0	3	-3.42	<b>0.001</b>	-0.81

**Remarks:** Z – standardized normal approximation of the statistical test Z. Note whether Z is based on negative ranks with upper index (a) or on positive ranks with upper index (b). p – level of statistical significance; r – magnitude of the effect. Where there is a statistically significant difference at  $p < 0.05$ , a sign (\*) is placed next to the factor / subscale name.

Table 90. Experimental group (EG) hypotheses confirmed Pretest-Posttest by factors

Factors	EG Pretest-Posttest Confirmed hypothesis
Wisdom	H1: There was a statistical difference in wisdom between the pretest and the posttest of the experimental group of children.
Courage	H1: There was a statistical difference in courage between the pretest and the posttest of the experimental group of children.
Humanity	H0: There was no statistical difference in humanity between the pretest and the posttest of the experimental group of children.
Justice	H1: There was a statistical difference in justice between the pretest and the posttest of the experimental group of children.
Temperance	H1: There was a statistical difference in temperance between the pretest and the posttest of the experimental group of children.
Transcendence	H1: There was a statistical difference in transcendence between the pretest and the posttest of the experimental group of children.

### 3.3.4. A check of the hypotheses from the forming quasi-experiment for differences in the Control group – Pretest-Posttest

For this purpose we will test the following hypotheses:

H0: There is no statistical difference between the pretest and the posttest of the control group with respect to the respective factor Wisdom, Courage, Humanity, Justice, Temperance, Transcendence.

H1: There is a statistical difference between the pretest and the posttest of the control group with respect to the respective factor Wisdom, Courage, Humanity, Justice, Temperance, Transcendence.

Table 103. Presentation of the results of the Wilcoxon KG test: Pretest-Posttest

CG Pretest CG Posttest (N = 18)	Negative Ranks		Positive Ranks		Test Statistics			
	n	Average Ranks	n	Average Ranks	Equal	Z	p	r
Wisdom	8	7.63	5	6	0	-1.08	0.278	-0.30
Courage	9	6.78	3	5.67	1	-1.73	0.084	-0.48
Humanity	5	5.6	4	4.25	4	-0.65	0.514	-0.18
Justice	5	6.5	6	5.58	2	-0.05	0.964	-0.01
Temperance	10	6.2	2	8	1	-1.81	0.071	-0.50
Transcendence	6	8.08	7	6.07	0	-0.21	0.834	-0.06

**Remarks:** Z – standardized normal approximation of the statistical test Z. Note whether Z is based on negative ranks with upper index (a) or on positive ranks with upper index (b). p – level of statistical significance; r – magnitude of the effect.

*Table 104. Confirmed hypotheses of the Control Group (CG)  
Pretest-Posttest by factors*

<b>Factors</b>	<b>CG Pretest – Posttest Confirmed hypothesis</b>
Wisdom	H0: There was no statistical difference in Wisdom between the pretest and the posttest of the control group of children.
Courage	H0: There was no statistical difference in Courage between the pretest and the posttest of the control group of children.
Humanity	H0: There was no statistical difference in Humanity between the pretest and the posttest of the control group of children.
Justice	H0: There was no statistical difference in Justice between the pretest and the posttest of the control group of children.
Temperance	H0: There was no statistical difference in Temperance between the pretest and the posttest of the control group of children.
Transcendence	H0: There was no statistical difference in Transcendence between the pretest and the posttest of the control group of children.

#### **4. Conclusions from the dissertation research**

Theoretically, modern scientific discussions on the strengths of character and their essential characteristics are analyzed and systematized. Different ideas about the specifics of children and adolescents aged 11–17 and the main developmental tasks at this stage of the life cycle are interpreted.

- The primary adaptation of a new for the Bulgarian conditions questionnaire for assessment of the strengths of the character of children has been carried out, and its reliability has been partially established. This allows its use as a tool in future psychological research practice.
- The socio-demographic factor gender does not affect the levels of the studied constructs – wisdom, courage, humanity, justice, restraint, spirituality.
- The socio-demographic factor age influences the levels of two of the studied constructs – restraint and spirituality. In juveniles aged 11 – 13 years the levels are higher than those of minors surveyed children aged 14 – 17 years, and the differences between them are statistically significant.

## **5. Conclusion**

The conducted research on the level and the possibility for the development of the strengths of the character in childhood and adolescence shows important results for the practice. The analysis and comparison of the results reveals that the strengths of children's character tend to decrease with age. The positive impact on children with the so-called. developing a program of activities and tasks related to the strengths of character would lead to the development and strengthening of these countries. The facts of the formative experiment for the development of strengths show that after the impact on children there is a positive change. They increase their knowledge of the strengths of character, name them, discover them in themselves and in others.

The development program within one month has a positive impact on the development of children's strengths. Although the identified differences in the level of strengths are not statistically significant, there has been progress and positive change. Probably more activities with children are needed, longer sessions, more opportunities for independent work for a significant change to take place, which is statistically significant. This circumstance once again emphasizes the need for children to be educated in the development of virtues and strengths of character as part not only in a family environment, but also as part of their activities at school.

The obtained results are of great importance for the practice of raising children. The developmental program for strengths of character can be used in different cases: to teach children in extracurricular activities at school, to teach children in a family environment to develop strengths of character, to teach children with problematic behavior.

## **6. Contributions**

### **Theoretical**

1. A thorough, precise and purposeful theoretical overview of theories on the strengths of character has been developed. Basic classical and modern models and approaches related to the strengths of character have been conceptualized and scientifically consistently interpreted.
2. A Bulgarian version of a tool for researching the strengths of children's character has been created and tested.
3. At the empirical level, specific features in the development of the strengths of the character of children by sex and age have been studied and established.
4. A development program has been created and tested to strengthen the strengths of character through a formative experiment.
5. The impact of a developmental program on children aged 11–13 is outlined.

### **Practical**

1. Materials for the development of children's strengths can be used in children in early adolescence.
2. A practical program with children in early adolescence has been developed and tested, based on activities and tasks for the development of strengths of character.
3. The results obtained may be useful for psychologists, pediatricians, pedagogues, social workers and administrators working in the field of education, psychology and child and adolescent development.
4. The developed program of practical classes can be used as corrective classes for children with problem behavior, in which by strengthening the strengths of character to positively influence the problem behavior.

## **List of publications on the topic of the dissertation**

1. Ilieva, T. (2020). Sternberg's model of wisdom: Theoretical ideas and practical applications. – Proceedings of the XI National School for Doctoral Students and Young Researchers in Social Sciences, “Social Processes as a Challenge for the Individual and Communities”, INIC, BAS, Sofia, ISSN 2683-0868 (Online) Volume 1, (pp. 154 – 160) .
2. Ilieva, T. (2021). Theories of wisdom. Proceedings of the X Student Scientific Forum, Faculty of Pedagogy, Paisii Hilendarski University of Plovdiv, ISSN 2738-8859, (pp. 144 – 152).
3. Ilieva, T. (2021). Reliability and accuracy of the Children’s strengths survey for adolescents aged 11-17 in Bulgaria. Collection: Mental well-being and development of strengths during the life cycle – first part, ed. Paisii Hilendarski University Publishing House ISBN 978-619-7663-05-1, (5 – 31).
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