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# CAREER COUNSELLING. PERSPECTIVES ON THE SOCIO-DYNAMIC APPROACH AND NARRATIVE METHODS

ΒY

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Abstract. The article presents an investigation concerning the applicability of the socio-dynamic counselling model for high school students. This type of counselling is based on narrative elements, on the use of creative and therapeutic stories and metaphors to meet the needs of adaptation, of personal and socioprofessional development of students. A challenge for high school counsellors is how to convey clear, appropriate, useful information about the world of work and career opportunities, and how to support the process of self-knowledge and capitalizing on one's potential. Traditionally, career counselling was focused on matching the person to a professional environment on the basis of objective, statistically validated etc. information. The presented approach analyses the idea that the socio-dynamic approach is perceived differently by those involved (students, counsellors). Starting from the premise that the preference for a certain style of work differs depending on the person, the results indicated the existence of gender differences, this type of counselling being preferred by female students. It was also found among the counsellors that there are differences in the preference for the practical use of the model. In their case, the subjective options for a certain way of working were supplemented with an objective factor, namely professional experience, which can be quantified in years of practice in the field.

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The article concludes the usefulness of the socio-dynamic approach and the need to develop skills in managing narrative methods by career counsellors.

**Keywords:** career counsellor; counselling beneficiary; gender differentiation; work experience level; career counselling.

# **1. Introduction**

V. Peavy (1997) proposes a model of approach to counselling that comprises three elements, namely a perspective on the contemporary social life and the delimitation of self-identity, secondly a philosophy of aid and thirdly a set of practices. Therefore, the socio dynamic counselling can be defined as a general method of life planning, especially used by the young population, and which consists of both individual and group counselling activities. It is an approach focused on cultural specificity and based on constructivist, sociocultural and narrative literature. This model of counselling has the following aims: to help people to develop their capacities so as to be able to achieve predetermined goals (the principle of personal freedom); to help individuals to achieve success on the social scale (the principle of power), to assist individuals in identifying or building the meaning of life (the principle of identifying the meaning of life). According to the author, the difference between the constructivist approach and the conventional approach does not reside in the efficiency of the methods employed. Furthermore, each counsellor has to customize his / her methods depending on the person he / she is advising and on the specifics of the problem that person is facing. Thus, each form of counselling is valuable to each person in particular.

In *Career Counseling*, M. Savickas (2011) demonstrates his narrative counselling method for helping clients with regard to their professional life. By fitting work into their lives, rather than fitting themselves to jobs, this approach looks at a client's life as a "novel being written". Savickas's method emphasizes recurring themes that reveal how the client uses work to advance his or her life projects. In psychological counselling and psychotherapy, the story is often used as a therapeutic metaphor, through which the adolescent expresses himself and knows himself. M. Badea (2019) emphasizes the role of the fairy tale as a guide for the separation and maturation of the young person and specifies the usefulness of man's relationship with the story in the process of confrontation with the environment and maturation.

Also, creative improvisation through literature is an innovative and highly expressive technique, which starts from writing therapeutic stories spontaneously, individually or in a personal development group, stories that later form the basis of the process of self-analysis and self-knowledge, outlined in an experiential manner. What differentiates this technique from the rest of the interventions through already existing therapeutic stories is the holistic, spontaneous and experiential character of its use. Concerns for the capitalization of narrative techniques in counselling are also identified in the Romanian cultural space. V. Constantin (2016) implemented a personal development program through literary improvisation in which participants create their own stories, and because of the technique's projective value, the students are both the authors and the characters of the stories, the epic thread symbolically evoking a significant event in life, a metaphorical description of one or more of their psychological characteristics or a non-invasive and secure evocation of an experiential blockage. By analysing the epic thread of the story, by repeating some events or adding corrections, a person has the chance to know himself better, to rediscover himself or to have a greater capacity for awareness, to live in the present, that is, here and now. This will lead to a greater acceptance of oneself and others, but also to the development of transversal skills, meant to open the way towards a dynamic, perpetual and, at the same time, constant and balanced social adaptation. Based on the above, the personal development program generated an increase in self-esteem, emotional intelligence and a decrease in anxiety using the technique of creative improvisation through literature.

# 2. Description of the Investigative Approach

The study aimed to identify the perceptions (Cosmovici, 1996) of the two participants in the counselling process with regard to the carried out activities according to the constructivist model (Joita, 2008). The perception of a pupil is determined by the image he / she has on the activity itself: how it should be done; which is its role in this process; contents of activities; short-, medium- or long-term goals. It is important to identify his/ her needs – what he/she thinks he / she needs to learn during the counselling activity, that he / she must learn to do, what he / she needs to be prepared for when he / she is to be employed, how he / she imagines his/ her success in the professional field. These needs will result in expectations, which will have to be met during the counselling process. At the same time, it is important to identify how the specialist responds in order to meet the needs and expectations of beneficiaries.

The perceptions of pupils / school counsellors on career counselling activities for pupils in the last year of high school were identified and analysed with the help of this investigative approach. The importance of counselling activities designed in a traditional / constructivist manner was also analysed.

Concerns to investigate the expectations of the beneficiaries towards the way of carrying out the counselling activity are found in the study *Career Counselling Services: Client Expectations and Provider Perceptions* (Lim, 2004). The author made a comparative analysis of the level of responsibility assumed by the counsellor and the beneficiary, in relation to the expectations of each. The results highlighted that it is relevant to know the expectations of the

beneficiaries regarding the proposed way of counselling, in order to be able to obtain positive results. Another study presents the role of career narrative counselling as a promoter of change in the beneficiary's life by causing him to initiate action even if it is only in the initial mental plane (Cardoso *et al.*, 2014).

M. Copăceanu (2021) presents the results of a questionnaire on school and career guidance applied to 567 young people. Carrying out this study during the pandemic highlighted a number of new aspects that were specific to this situation. The results are representative not only locally – in Romania – but also globally. The same author conducted a study that included over 1,200 young people to investigate the extent to which the pandemic affected their education, psycho-emotional balance, relationships and adaptive behaviours. In fact, these results, which reflect expectations of accessing counselling services, can be useful resources for caring for the emotional and social health of young people, but also strengthens the idea of proposing narrative methods, capitalizing the creative potential of young people. Thus, they can project themselves into a desired future, and the subsequent reflections will determine them to act in order to develop their career.

# **Research** hypotheses

Hypothesis 1: There exist significant differences between girls and boys referring to their perception on career counselling: the girls will give greater importance to constructivist counselling than the boys.

Hypothesis 2: There exist significant correlations between the pupils' perceptions on career counselling and those of the school counsellors' from the perspective of the importance given to conducting the activities.

Hypothesis 3: There exist significant differences between school counsellors regarding the dependent variable *perception on career counselling* depending on the independent variable *didactic degree*, meaning that the specialists with the second or first degree will consider activities specific to the constructivist counselling as more important the than the traditional ones, as compared to the beginner counsellors.

# Study variables

Dependent Variable: Perceptions of career counselling among school pupils / school counsellors on the importance of constructivist / traditional counselling.

# **Independent Variables**

For the group of pupils: female / male subjects.

For the group of school counsellors: the position held in the professional field by getting professional degrees (definitive degree - for those who have two years of experience and passed the certifying exam, didactic degree II - for those who have at least six years of experience and have passed the certifying exam, didactic degree I - for those who have at least 10 years of experience and passed the certifying exam).

The following tools were used: measuring / assessing the perceptions on the career counselling activities (pupils); scale of perception on the career counselling efficiency (school counsellors). To identify interindividual differences, the CCSES-Career Counselling Self-Efficacy Scale questionnaire was used (O'Brien *et al.*, 1997). The initial version included 54 items that presented actions specific to traditional or constructivist career counselling. The questionnaire was translated and adapted for the Romanian population, being pre-tested on a group of counsellors. For the final version, there are 24 activities left that describe the two types of career counselling. The deviation from the initial questionnaire is also represented by the introduction of a new dimension the *importance* given by students / school counsellors to these activities. The internal consistency (Alpha Cronbach) of the questionnaire was very good (0.712 in the questionnaire addressed to counsellors and 0.898 in the questionnaire for students), the questionnaire being applied in optimal conditions of validity and fidelity.

The investigation took place in the N-E region in collaboration with the local Centres for Psycho-pedagogical Assistance. Respondents were randomly selected. 257 students in 12th grade participated: 130 girls and 127 boys, of which 194 were from urban areas and 63 from rural areas (due to lack of balance, this dimension was not taken into consideration).

108 school counsellors participated: 7 men and 101 women (due to lack of gender balance, this dimension was not taken into account); 36 of them having the didactic degree II, 31 of them having the didactic degree I; 26 counsellors working only at gymnasium, 48 counsellors working only at high school, 34 counsellors working both at gymnasium and high school.

*Hypothesis 1*: To verify whether there is an effect of the variable *subject gender* on the variable *students' perception of career counselling*, the statistical method T-tests for independent samples was used.

a) Perception on the importance given to career counselling and the gender of the subjects: the result is p < 0.001, which indicates a significant difference (girls obtained higher scores on this variable).

b) Perception on the importance of traditional career counselling and the gender of the subjects: the result is p < 0.001, which indicates a significant difference (girls obtained higher scores on this variable).

c) Perception on the importance of constructivist career counselling in and the gender of the subjects: the result is p < 0.001, which indicates a significant difference (girls obtained higher scores on this variable).

*Hypothesis 1 is validated*: there is a significant effect of the biological gender of the subjects on perception, regarding the importance of career counselling activities.

*Hypothesis* 2: The Pearson Correlation statistical method was used for verification.

a) The perception of students and school counsellors on the importance given to traditional career counselling.

The analysis of the data revealed the following aspects:  $\mathbf{p} = 0.039 < 0.05$  (significant correlation between the two variables);  $\mathbf{r} = 0.199 < 0.30$ , indicating that the relationship between the variables is weak and the "+" sign shows us that it is directly proportional (the higher the scores of students for the variable *the importance of traditional counselling*, the higher those of school counsellors for the same variable);  $\mathbf{r}^2 = 0.039$  meaning that the correlation occurs in 39% of cases.

b) The perception of students and school counsellors on the importance given to constructivist career counselling.

From the data analysis we note:  $\mathbf{p} = 0.043 < 0.05$  (significant correlation between the two variables);  $\mathbf{r} = 0.195 < 0.30$  indicating that the relationship between the variables is weak and the "+" sign shows us that it is directly proportional (the higher the scores of students for the variable *the importance of constructivist counselling*, the higher those of school counsellors for the same variable );  $\mathbf{r}^2 = 0.038$  meaning that the correlation occurs in 38% of cases.

*Hypothesis 2 is validated*: there are significant correlations between the two assessments on the career counselling process.

*Hypothesis 3*: There are significant differences between school counsellors, in terms of the dependent variable *perception on career counselling* depending on the independent variable *didactic degree*, in the sense that those with teaching degree II or I will appreciate activities specific to constructivist counselling as more important than the traditional ones, compared to those who have a definitive degree.

a) The perception of school counsellors on the importance of traditional counselling and the didactic degree they hold in the field of education

The statistical analysis shows that there is a significant link between the two variables.

The Bonferroni test indicates the following: M1-M2 =  $3.910 / \mathbf{p} = 0.028 < 0.05$  shows a significant difference between beginner and second teaching degree school counsellors (the former place more importance on traditional counselling); M1-M3 =  $3.018 / \mathbf{p} = 0.158 > 0.05$  shows that there is no significant difference between school counsellors with final degree and counsellors with didactic degree I; M2-M3 =  $0.892 / \mathbf{p} = 1.000 > 0.05$  shows that there is no significant difference between school counsellors with didactic degree I; M2-M3 =  $0.892 / \mathbf{p} = 1.000 > 0.05$  shows that there is no significant difference between school counsellors with didactic degree I regarding the importance given to traditional counselling;

b) The perception of school counsellors on the importance of constructivist counselling and the didactic degree obtained in education

The results show a significant link between the two variables. The Bonferroni test indicates the following: M1-M2 = -7.802 /  $\mathbf{p} = 0.000 < 0.001$  reveals a significant difference between beginner school counsellors and those with didactic degree II (the latter place more importance on constructivist counselling); M1-M3 = -8.929 /  $\mathbf{p} = 0.000 < 0.001$  reveals a significant difference between graduate school counsellors and those with didactic degree I (the latter place more importance on constructivist counselling); M2-M3 = -1.126 /  $\mathbf{p} = 1.000 > 0.05$  shows that there is no significant difference between school counsellors with didactic degree II and didactic degree I regarding the importance given to constructivist counselling.

*Hypothesis 3* is validated: there are significant differences between school counsellors depending on the didactic degree regarding the importance given to constructivist career counselling.

# **Results analysis**

The effect of the biological gender on the perception of the pupils referring to the counselling process has been statistically demonstrated: the girls appreciate the counselling activities, both the traditional and the constructive ones as being more important, compared to the boys. Both the pupils (particularly the girls) and the school counsellors appreciate constructivist counselling as being very important.

The effect of the independent variable the didactic degree: the beginner school counsellors prefer the traditional counselling; their colleagues with the didactic degree II or I, consider the constructivist counselling activities as being more useful.

# **3.** Conclusions

Typically, counsellors who are at the debut of their activity rely on traditional counselling strategies, as these provide expected / anticipated outcomes from the beneficiaries. They have only the definitive degree, considered the first level of training in the education system. They are at a professional stage when they need to have trust in their work and in clear results. The unconventional counselling strategies, where the anticipated outcomes are not "concrete," can cause both the counsellor and the pupil to live in a state of uncertainty regarding the finalization of the whole process. If the counsellor is insecure, the feeling will be implicitly transmitted to the beneficiary of the counselling.

The other category of counsellors (those with the second didactic degree, obtained after approximately six years of activity and those with the first didactic degree, obtained after approximately ten years, respectively) have

a higher level of confidence in their professional skills, thanks to the experience they have acquired. This aspect is also evinced by their need to diversify the types of activities they perform. Consequently, in situations where they do not deem the conventional modalities comprehensive enough, the more experienced counsellors can resort to other models of counselling in order to meet the needs of the beneficiaries.

From another perspective, the results of gender differentiation support idea that the counselling specialist needs to adapt his / her activity and methods depending on the characteristics of the beneficiary and the specifics of the issue in question. Girls are more likely to engage in a conversation, to tell, to use metaphors in presenting their personal lives, in analysing important events, and in the exercise of designing the professional future as well.

V. Peavey iterates that a specific element of this model of counselling is the perspective offered on contemporary social life and self-identity. We can think that the narrative approach has multiple values for the counsellor, but also for the counselled person - especially in this context of the global events of today's society generated by the pandemic, changing perspectives on how to learn, work or live. In this context, the socio-dynamic counselling model can be highlighted. Narrative techniques can lead individuals to symbolically imagine how they could capitalize on the inner resources they have, but also how they could integrate into their present and future life what the social offers them. Thus, they can build their own life story or if they initially had one they will learn that it could be reconstructed in the light of the challenges of the present. The dynamics of the professions are more and more accelerated, the labour market is in a permanent reconfiguration, and these aspects will be reflected in the way of carrying out the counselling activities. McMahon & Watson (2012) drew attention to the strong impact of career narrative counselling many years ago, which also supports our view of valuing this way of working. Other authors (Taylor and Savickas, 2016) point out that this narrative technique causes the counsellor to identify multiple intentions about how he will want to build / live his professional life. Exploring creativity through the use of metaphors is also a way of working analysed by Arnundson (2008) which highlights the important role of the counsellor in approaching a flexible way of working, based on an overview, and this is supported by experience.

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# CONSILIEREA PENTRU CARIERĂ. PERSPECTIVE ASUPRA ABORDĂRII SOCIO-DINAMICE ȘI METODELOR NARATIVE

#### (Rezumat)

Articolul prezintă o investigație asupra aplicabilității modelului de consiliere socio-dinamică pentru elevii de liceu. Acest tip de consiliere se bazează pe elemente de natură narativă, pe utilizarea poveștilor și a metaforelor creative și terapeutice și pentru a veni în întâmpinarea nevoilor de adaptare, dezvoltare personală și socio-profesională a elevilor. O provocare pentru consilierii care lucrează în licee este cum să transmită informații clare, adecvate, utile despre lumea muncii și oportunităților profesionale și cum să sprijine procesul de autocunoaștere și valorificare a potențialului propriu. Tradițional, consilierea pentru carieră era centrată pe realizarea potrivirii persoanămediu profesional, bazată pe furnizarea de informații obiective, validate statistic etc. Demersul prezentat analizează ideea că această abordare socio-dinamică este percepută diferit de către cei implicați (elevi, consilieri). Pornind de la premisa că fiecare persoană are o preferintă pentru un anumit stil de lucru, s-a evidentiat faptul că există diferente de

gen, iar acest tip de consiliere este preferat de fete. Și în rândul consilierilor s-a constatat că există diferențieri privind preferința pentru utilizarea în practică a modelului. La aceștia, pe lângă opțiunile subiective pentru un anumit mod de lucru, apare și un factor obiectiv, respectiv experiența profesională, cuantificată în ani de practică în domeniu. Se concluzionează utilitatea abordării socio-dinamice și necesitatea dezvoltării abilităților de gestionare a metodelor narative de către specialiștii ce realizează consilierea pentru carieră.

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# THE INFLUENCE OF COVID-19 ON THE PHYSICAL CONDITION OF PRIMARY SCHOOL CHILDREN

BY

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**Abstract.** The COVID-19 pandemic and the measures and restrictions that were subsequently put in place to prevent the spread of the virus had a major impact on sports and physical activity, especially in collective sports and sports-educational activities organized in schools and at the level of sports clubs.

Through this study we try to highlight the impact of the COVID-19 pandemic on the physical condition of school-age children. Considering the fact that the discipline of physical education and sports became an activity that took place online, we tried to analyze what the evolution of the physical parameters of the primary school students was in this period.

The study conducted on the physical condition of children in primary school aimed to determine the level of performance of students in various specific tests, such as 25 m sprint / speed running, standing long jump, 20 sec sit-ups and 20 sec back extensions. The performances of the students included in this study, made at these specific tests, were influenced by the pandemic restrictions and had, from our point of view, an unsatisfactory evolution.

Keywords: pandemic; sports; exercise; restrictions; health.

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#### 1. Introduction

COVID-19 is an infectious disease caused by the most recently discovered coronavirus. This new virus and disease were not known before the outbreak in Wuhan, China, in December 2019.

The COVID-19 pandemic has led to the closure of schools in 20 countries and the closure of preschools in 19 countries in Europe and Central Asia. This affected a total of 49.8 million children, from preschoolers to high school students, who had a very disrupted last school semester (provided it even existed), which culminated in the closure of schools. The pandemic has profoundly affected education and exacerbated social inequities (UNICEF, 2020).

The COVID-19 pandemic and the measures and restrictions that were subsequently put in place to prevent the spread of the virus had a major impact on sports and physical activity, especially in collective sports and sportseducational activities organized in schools and at the level of sports clubs.

The conduct of physical education classes in schools, as well as training classes, in sports clubs, were deeply affected by the restrictions imposed due to the spread of COVID-19. The study on the influence of these restrictions on the physical condition of children was determined by the forced cessation of all physical activities, at the level of schools and school sports clubs (UNICEF, 2020).

Physical activities during physical education classes, as well as sports training lessons, were suspended during the second semester of the school year 2019 - 2020, this measure having a major impact on the school population at all levels, primary, secondary and high school.

# 2. Methods

The study was conducted on the physical condition of children in primary school and aimed to determine the level of performance of students in various specific tests, such as 25 m sprint / speed running, standing long jump, 20 sec situps and 20 sec back extensions (Scarlat and Scarlat, 2002).

#### 2.1. Participants

The study that was carried out on the physical condition of the children included a number of 110 participants, girls and boys. The performances made by them are at the level of the age of 9 - 10 years, corresponding to the third grade of primary school.

#### 2.2. Test Procedure

The control tests, necessary to determine and evaluate the physical condition of the children, were established according to the school curriculum at this level (Dragomir and Scarlat, 2004).

These are:

- > 25 m sprint / speed running with a standing start (SNEE, 1999):
  - it is executed in a straight line on flat ground;
  - the departure and arrival lines are drawn;
  - the stopwatch starts when the back leg moves;
  - the time achieved is recorded in seconds and fractions of a second.
- Standing long jump (SNEE, 1999):
  - from the back position of a line, the soles shoulder-width apart, raised by bending and extending the legs simultaneously with the swinging of the arms;
  - energetic impulse, long jump and landing on both legs;
  - the length of the jump from the line to the heel is measured.
- Lifting trunk from the back (sit-ups 20 seconds) (SNEE, 1999):
  - the performer adopts the supine position with the palms at the nape of the neck, the knees bent and the soles fixed to the ground by a partner;
  - lifting the torso until the elbows reach / touch the knees and returning to the initial position;
  - the number of repetitions is recorded.
- Trunk extensions from lying face down (back extensions 20 seconds) (SNEE, 1999):
  - the performer adopts the supine position with the palms at the nape of the neck, ankles held by a partner;
  - trunk extension with the head raised back to the initial position;
  - the number of repetitions is recorded.

The initial tests, necessary for the evaluation of the study participants, were performed between March 2-8, 2020, at the beginning of the second semester of the school year 2019 - 2020, while the final tests were performed between September 21 and 27, 2020, at the beginning of the first semester, school year 2020 - 2021.

#### 2.3. Statistical Analyses

In the statistical analysis of the results of the study, regarding the physical condition of the children from the primary cycle, we used the following statistical indicators:

- Average
- Standard deviation
- Coefficient of variability (Cârstea, 2000).

# 3. Results

It can be seen from the attached table that the difference between the initial and the final tests is not very large, which induces the idea that the students' performances stagnated during this period. The decrease in speed running performance is explicable because due to the restrictions, especially during the state of emergency, students were forced to stay at home and very few went out for outdoor sports even individually.

The other tests show a very slight improvement, which leads us to think that in fact a physical condition was managed during the pandemic. However, this is not encouraging because we do not have a positive evolution that we would normally have been able to achieve in the same period in which students would have actively participated in physical education and sports classes.

Maintaining fitness at the standing long jump, sit-ups and back extensions is explained by the fact that in physical education and sports classes conducted online the teachers designed and used programs that focused on targeted muscle (group) work.

No	Name	Class	Test 1: 25m sprint		Test 2: long jump		Test 3: sit-ups 20 sec		Test 4: back extensions 20 se	
110	rune	Cluss	2019	2020	2019	2020	2019	2020	2019	2020
1	A.E.I.	a III-a A	5.6	5.97	1.35	1.1	10	8	31	29
2	A.T.	a III-a A	5.1	5.3	1.45	1.2	11	10	28	28
3	A.I.S.	a III-a A	5.1	5.36	1.45	1.3	9	7	27	25
4	B.M.S.	a III-a A	5.1	5.35	1.4	1.3	9	9	23	23
5	B.R.G.	a III-a A	5.7	5.6	1.2	1.1	9	10	28	29
6	B.M.	a III-a A	5.2	5.58	1.4	1.2	7	8	31	30
7	B.M.	a III-a A	5.1	5.2	1.45	1.35	12	12	27	24
8	B.A.M.	a III-a A	5.2	5.05	1.3	1.35	10	9	24	23
9	C.M.C.	a III-a A	5	5.63	1.6	1.2	11	11	28	31

Table 1

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10         C.A.         a III-a A         4.7         4.65         1.7         1.7         9         8         30         30           11         C.G.         a III-a A         6.2         6.31         1.35         1.3         8         8         27         23           12         C.A.M.         a III-a A         5.3         5.5         1.3         1.2         7         8         21         18           13         D.D.M         a III-a A         6.1         6.28         1.2         1.15         11         10         27         26           14         G.A.I.         a III-a A         5         5.12         1.5         1.35         11         10         27         26           16         I.R.         a III-a A         5.6         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         5.75         5.1         1.3         1.3         7         8         23         21 <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>											
12         C.A.M.         a III-a A         5.3         5.5         1.3         1.2         7         8         21         18           13         D.D.M.         a III-a A         4.9         5.89         1.65         1.55         9         9         21         23           14         G.A.I.         a III-a A         6.1         6.28         1.2         1.15         11         12         28         29           15         H.S.M.         a III-a A         5         5.12         1.5         1.35         11         10         27         26           16         I.R.         a III-a A         5.36         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           20         L.A.C.         a III-a A         5.39         5.1         1.3         1.3         7         8         23         21	10	C.A.	a III-a A	4.7	4.65	1.7	1.7	9	8	30	30
13         D.D.M         a III-a A         4.9         5.89         1.65         1.55         9         9         21         23           14         G.A.I.         a III-a A         6.1         6.28         1.2         1.15         11         12         28         29           15         H.S.M.         a III-a A         5         5.12         1.5         1.35         11         10         27         26           16         I.R.         a III-a A         6.28         6.1         1.15         1.2         14         13         28         24           17         I.C.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V         a III-a A         5.95         5.1         1.25         1.5         12         11         29         31	11	C.G.	a III-a A	6.2	6.31	1.35	1.3	8	8	27	23
14         G.A.I.         a III-a A         6.1         6.28         1.2         1.15         11         12         28         29           15         H.S.M.         a III-a A         5         5.12         1.5         1.35         11         10         27         26           16         I.R.         a III-a A         6.28         6.1         1.15         1.2         14         13         28         24           17         I.C.         a III-a A         5.36         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         6.1         5.7         1.35         1.4         9         10         24         26           20         L.A.C.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V         a III-a A         5.25         5.1         1.25         1.5         12         111         29         31 <t< td=""><td>12</td><td>C.A.M.</td><td>a III-a A</td><td>5.3</td><td>5.5</td><td>1.3</td><td>1.2</td><td>7</td><td>8</td><td>21</td><td>18</td></t<>	12	C.A.M.	a III-a A	5.3	5.5	1.3	1.2	7	8	21	18
15         H.S.M.         a III-a A         5         5.12         1.5         1.35         11         10         27         26           16         I.R.         a III-a A         6.28         6.1         1.15         1.2         14         13         28         24           17         I.C.         a III-a A         5.36         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         6.1         5.7         1.35         1.4         9         10         24         26           20         L.A.C.         a III-a A         5.75         5.1         1.3         1.3         7         8         23         21           22         M.B.M         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28	13	D.D.M	a III-a A	4.9	5.89	1.65	1.55	9	9	21	23
16         I.R.         a III-a A         6.28         6.1         1.15         1.2         14         13         28         24           17         I.C.         a III-a A         5.36         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         6.1         5.7         1.35         1.4         9         10         24         26           20         L.A.C.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V.         a III-a A         5.39         5.1         1.3         1.3         7         8         23         21           22         M.B.M.         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M.         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28	14	G.A.I.	a III-a A	6.1	6.28	1.2	1.15	11	12	28	29
17         I.C.         a III-a A         5.36         5.2         1.2         1.35         11         10         29         30           18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         6.1         5.7         1.35         1.4         9         10         24         26           20         L.A.C.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V         a III-a A         5.39         5.1         1.3         1.3         7         8         23         21           22         M.B.M         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28           25         N.S.E.         a III-a A         5.43         4.8         1.2         1.3         10         12         28         29	15	H.S.M.	a III-a A	5	5.12	1.5	1.35	11	10	27	26
18         K.D.B.         a III-a A         5.36         5.7         1.2         1.4         12         14         29         31           19         L.G.R.         a III-a A         6.1         5.7         1.35         1.4         9         10         24         26           20         L.A.C.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V         a III-a A         5.39         5.1         1.3         1.3         7         8         23         21           22         M.B.M         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28           25         N.S.E.         a III-a A         5.43         4.8         1.2         1.3         10         12         28         29	16	I.R.	a III-a A	6.28	6.1	1.15	1.2	14	13	28	24
19       L.G.R.       a III-a A       6.1       5.7       1.35       1.4       9       10       24       26         20       L.A.C.       a III-a A       5.75       5.1       1.3       1.35       11       9       25       25         21       M.G.V       a III-a A       5.39       5.1       1.3       1.3       7       8       23       21         22       M.B.M       a III-a A       5.25       5.1       1.25       1.5       12       11       29       31         23       M.A.M       a III-a A       5.43       5.1       1.5       1.4       1.45       10       8       25       27         24       N.B.M.       a III-a A       5.43       5.1       1.5       1.4       11       8       28       28         25       N.S.E.       a III-a A       5.43       4.8       1.2       1.3       10       12       28       29         26       O.R.M.       a III-a A       5.55       5.35       1.45       1.5       9       9       25       25         27       P.I.M.       a III-a A       5.55       5.6       1.1       1.2	17	I.C.	a III-a A	5.36	5.2	1.2	1.35	11	10	29	30
20         L.A.C.         a III-a A         5.75         5.1         1.3         1.35         11         9         25         25           21         M.G.V         a III-a A         5.39         5.1         1.3         1.3         7         8         23         21           22         M.B.M         a III-a A         5.25         5.1         1.25         1.5         12         11         29         31           23         M.A.M         a III-a A         4.99         4.85         1.4         1.45         10         8         25         27           24         N.B.M.         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28           25         N.S.E.         a III-a A         5.43         4.8         1.2         1.3         10         12         28         29           26         O.R.M.         a III-a A         5.55         5.35         1.45         1.5         9         9         26         24           28         S.T.A.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26	18	K.D.B.	a III-a A	5.36	5.7	1.2	1.4	12	14	29	31
21       M.G.V.       a III-a A       5.39       5.1       1.3       1.3       7       8       23       21         22       M.B.M.       a III-a A       5.25       5.1       1.25       1.5       12       11       29       31         23       M.A.M.       a III-a A       4.99       4.85       1.4       1.45       10       8       25       27         24       N.B.M.       a III-a A       5.43       5.1       1.5       1.4       11       8       28       28         25       N.S.E.       a III-a A       5.43       4.8       1.2       1.3       10       12       28       29         26       O.R.M.       a III-a A       5.55       5.35       1.45       1.5       9       9       25       25         27       P.I.M.       a III-a A       5.55       5.3       1.3       1.3       10       10       25       25         29       S.I.S.       a III-a A       5.75       5.6       1.1       1.2       8       11       26       26         30       S.V.       a III-a A       5.78       5       1.3       1.45       13	19	L.G.R.	a III-a A	6.1	5.7	1.35	1.4	9	10	24	26
22       M.B.M       a III-a A       5.25       5.1       1.25       1.5       12       11       29       31         23       M.A.M       a III-a A       4.99       4.85       1.4       1.45       10       8       25       27         24       N.B.M.       a III-a A       5.43       5.1       1.5       1.4       11       8       28       28         25       N.S.E.       a III-a A       5.43       4.8       1.2       1.3       10       12       28       29         26       O.R.M.       a III-a A       5.55       5.35       1.45       1.5       9       9       25       25         27       P.I.M.       a III-a A       5.55       5.3       1.45       1.5       9       9       26       24         28       S.T.A.       a III-a A       5.55       5.6       1.1       1.2       8       11       26       26         29       S.I.S.       a III-a A       5.75       5.6       1.1       1.2       11       28       29         31       S.I.D.       a III-a A       5.76       1.3       1.45       13       14       26	20	L.A.C.	a III-a A	5.75	5.1	1.3	1.35	11	9	25	25
23       M.A.M       a III-a A       4.99       4.85       1.4       1.45       10       8       25       27         24       N.B.M.       a III-a A       5.43       5.1       1.5       1.4       11       8       28       28         25       N.S.E.       a III-a A       5.43       4.8       1.2       1.3       10       12       28       29         26       O.R.M.       a III-a A       5.55       5.35       1.45       1.5       9       9       25       25         27       P.I.M.       a III-a A       5.55       4.8       1.6       1.55       10       9       26       24         28       S.T.A.       a III-a A       5.52       5.3       1.3       1.3       10       10       25       25         29       S.I.S.       a III-a A       5.75       5.6       1.1       1.2       8       11       26       26         30       S.V.       a III-a A       5.78       5       1.3       1.45       12       11       28       29         31       S.I.D.       a III-a A       5.4       5.6       1.35       1.45       13	21	M.G.V	a III-a A	5.39	5.1	1.3	1.3	7	8	23	21
24         N.B.M.         a III-a A         5.43         5.1         1.5         1.4         11         8         28         28           25         N.S.E.         a III-a A         5.43         4.8         1.2         1.3         10         12         28         29           26         O.R.M.         a III-a A         5.55         5.35         1.45         1.5         9         9         25         25           27         P.I.M.         a III-a A         5.55         4.8         1.6         1.55         10         9         26         24           28         S.T.A.         a III-a A         5.55         5.3         1.3         1.3         10         10         25         25           29         S.I.S.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26           30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30	22	M.B.M	a III-a A	5.25	5.1	1.25	1.5	12	11	29	31
25         N.S.E.         a III-a A         5.43         4.8         1.2         1.3         10         12         28         29           26         O.R.M.         a III-a A         5.55         5.35         1.45         1.5         9         9         25         25           27         P.I.M.         a III-a A         5.55         4.8         1.6         1.55         10         9         26         24           28         S.T.A.         a III-a A         5.52         5.3         1.3         1.3         10         10         25         25           29         S.I.S.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26           30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         6.53         6.9         1.05         1.1         11         12         30         31	23	M.A.M	a III-a A	4.99	4.85	1.4	1.45	10	8	25	27
26         O.R.M.         a III-a A         5.55         5.35         1.45         1.5         9         9         25         25           27         P.I.M.         a III-a A         5.55         4.8         1.6         1.55         10         9         26         24           28         S.T.A.         a III-a A         5.55         5.3         1.3         1.3         10         10         25         25           29         S.I.S.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26           30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	24	N.B.M.	a III-a A	5.43	5.1	1.5	1.4	11	8	28	28
27       P.I.M.       a III-a A       5.55       4.8       1.6       1.55       10       9       26       24         28       S.T.A.       a III-a A       5.52       5.3       1.3       1.3       10       10       25       25         29       S.I.S.       a III-a A       5.75       5.6       1.1       1.2       8       11       26       26         30       S.V.       a III-a A       5.78       5       1.3       1.45       12       11       28       29         31       S.I.D.       a III-a A       5.4       5.6       1.35       1.45       13       14       26       30         32       S.A.       a III-a A       6.53       6.9       1.05       1.1       11       12       30       31         33       T.M.G.       a III-a A       5.05       4.6       1.6       1.7       13       11       29       28	25	N.S.E.	a III-a A	5.43	4.8	1.2	1.3	10	12	28	29
28         S.T.A.         a III-a A         5.52         5.3         1.3         1.3         10         10         25         25           29         S.I.S.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26           30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	26	O.R.M.	a III-a A	5.55	5.35	1.45	1.5	9	9	25	25
29         S.I.S.         a III-a A         5.75         5.6         1.1         1.2         8         11         26         26           30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         6.53         6.9         1.05         1.1         11         12         30         31           33         T.M.G.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	27	P.I.M.	a III-a A	5.55	4.8	1.6	1.55	10	9	26	24
30         S.V.         a III-a A         5.78         5         1.3         1.45         12         11         28         29           31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         6.53         6.9         1.05         1.1         11         12         30         31           33         T.M.G.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	28	S.T.A.	a III-a A	5.52	5.3	1.3	1.3	10	10	25	25
31         S.I.D.         a III-a A         5.4         5.6         1.35         1.45         13         14         26         30           32         S.A.         a III-a A         6.53         6.9         1.05         1.1         11         12         30         31           33         T.M.G.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	29	S.I.S.	a III-a A	5.75	5.6	1.1	1.2	8	11	26	26
32         S.A.         a III-a A         6.53         6.9         1.05         1.1         11         12         30         31           33         T.M.G.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	30	S.V.	a III-a A	5.78	5	1.3	1.45	12	11	28	29
33         T.M.G.         a III-a A         5.05         4.6         1.6         1.7         13         11         29         28	31	S.I.D.	a III-a A	5.4	5.6	1.35	1.45	13	14	26	30
	32	S.A.	a III-a A	6.53	6.9	1.05	1.1	11	12	30	31
34         T.M.A.         a III-a A         5.18         5         1.3         1.5         11         8         27         24	33	T.M.G.	a III-a A	5.05	4.6	1.6	1.7	13	11	29	28
	34	T.M.A.	a III-a A	5.18	5	1.3	1.5	11	8	27	24
35         U.M.I.         a III-a A         5.27         5.05         1.2         1.5         12         10         28         29	35	U.M.I.	a III-a A	5.27	5.05	1.2	1.5	12	10	28	29
36         V.A.A.         a III-a A         6         5.4         1.15         1.4         9         9         22         23	36	V.A.A.	a III-a A	6	5.4	1.15	1.4	9	9	22	23
37         B.O.         a III-a B         4.8         4.6         1.55         1.6         11         12         29         30	37	B.O.	a III-a B	4.8	4.6	1.55	1.6	11	12	29	30
38         B.B.         a III-a B         5.5         5.2         1.4         1.45         11         10         31         31	38	B.B.	a III-a B	5.5	5.2	1.4	1.45	11	10	31	31
39         C.D.M.         a III-a B         5.6         5.35         1.25         1.35         10         11         25         28	39	C.D.M.	a III-a B	5.6	5.35	1.25	1.35	10	11	25	28
40         C.M.T.         a III-a B         5.9         5.97         1.3         1.25         11         13         28         29	40	C.M.T.	a III-a B	5.9	5.97	1.3	1.25	11	13	28	29
41         C.A.G.         a III-a B         5.6         5.91         1.3         1.3         12         13         28         28	41	C.A.G.	a III-a B	5.6	5.91	1.3	1.3	12	13	28	28
42         C.A.M.         a III-a B         5.15         5.33         1.35         1.2         12         11         28         27	42	C.A.M.	a III-a B	5.15	5.33	1.35	1.2	12	11	28	27
43         D.C.A.         a III-a B         5.25         5.41         1.4         1.35         11         11         30         29	43	D.C.A.	a III-a B	5.25	5.41	1.4	1.35	11	11	30	29
44 HDA alla B 56 545 135 12 9 10 26 24	44	H.D.A.	a III-a B	5.6	5.45	1.35	1.2	9	10	26	24
++ IIDII allab 5.0 5.45 1.55 1.2 7 10 20 24	45	J.A.A.	a III-a B	6.5	5.75	1.2	1.1	12	14	25	25

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46	L.A.S.	a III-a B	5.9	6.53	1.25	1.05	13	11	25	24
47	L.E.	a III-a B	5.7	6.17	1.45	1.4	10	12	30	29
48	L.S.M.	a III-a B	5.2	5.25	1.35	1.35	12	11	31	30
49	M.I.A.	a III-a B	5.27	5.13	1.3	1.2	7	9	27	23
50	M.A.E.	a III-a B	5.9	5.8	1.1	1.1	12	14	29	31
51	M.E.I.	a III-a B	5.95	6.34	1.5	1.35	11	11	26	27
52	M.R.A.	a III-a B	5.15	5.45	1.5	1.35	9	10	26	26
53	M.D.G	a III-a B	5.7	5.74	1.15	1.1	8	10	26	26
54	M.A.	a III-a B	5.4	6.2	1.35	1.35	10	12	29	29
55	N.I.G.	a III-a B	4.9	5.82	1.6	1.45	11	11	26	28
56	N.O.D.	a III-a B	5.05	5.12	1.5	1.45	7	9	26	24
57	P.M.L.M.	a III-a B	4.85	5.09	1.6	1.45	9	8	25	24
58	S.A.T.	a III-a B	5	4.98	1.4	1.3	11	11	30	28
59	S.E.C.	a III-a B	5.85	5.94	1.45	1.5	11	10	24	27
60	T.T.G.	a III-a B	5.3	6	1.3	1.2	11	12	27	29
61	T.S.S.	a III-a B	5.5	5.82	1.45	1.43	12	11	31	30
62	A.D.A.	a III-a C	4.61	4.8	1.6	1.65	9	11	30	28
63	B.G.	a III-a C	5.28	5.2	1.25	1.3	10	12	29	29
64	B.C.A.	a III-a C	5.65	5.8	1.1	1.1	10	10	24	26
65	C.A.	a III-a C	5.22	5	1.55	1.7	12	11	25	26
66	C.T.	a III-a C	5.19	5.2	1.25	1.4	13	13	26	30
67	C.A.E.	a III-a C	5.81	5.5	1.1	1.35	10	12	29	29
68	C.M.I.	a III-a C	5.88	6.2	1.42	1.3	12	12	29	28
69	C.C.K.	a III-a C	5.75	6.27	1.3	1.4	12	11	31	30
70	C.M.E.	a III-a C	6.8	6.5	1	1.05	13	11	28	29
71	D.T.I.	a III-a C	4.84	5.13	1.5	1.7	12	14	29	31
72	D.C.D.	a III-a C	5.97	6.4	1.1	1.3	10	9	27	26
73	F.F.S.	a III-a C	4.78	4.4	1.6	1.7	11	11	27	25
74	G.D.S.	a III-a C	5.34	5.2	1.3	1.45	11	12	26	25
75	I.S.M.	a III-a C	5.94	5.61	1.2	1.3	11	13	29	28
76	I.S.	a III-a C	5.65	6.11	1.4	1.37	13	11	26	29
77	I.A.A.	a III-a C	5.5	5	1.4	1.5	9	10	26	24
78	L.D.T.	a III-a C	6.1	6.34	1	1.2	11	10	26	25
79	M.C.A.	a III-a C	5.43	5	1.3	1.4	12	13	26	27
80	M.E.I.	a III-a C	5.91	5.62	1.25	1.45	9	9	24	24
81	M.M.	a III-a C	5.34	5.19	1.4	1.6	7	8	25	21

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82	N.E.I.	a III-a C	5.22	5.1	1.4	1.45	11	13	25	25
83	P.I.	a III-a C	5.1	5	1.25	1.45	11	12	27	26
84	P.S.A.	a III-a C	5.35	5.1	1.4	1.35	10	9	29	24
85	R.E.M.	a III-a C	5.65	5.17	1.1	1.35	9	11	21	24
86	S.A.D.	a III-a C	5.64	5.2	1.5	1.6	12	13	22	25
87	T.T.	a III-a C	5.53	5.56	1.2	1.2	12	11	25	26
88	T.T.	a III-a C	5.81	5.88	1.05	1.1	9	11	27	24
89	T.T.C.	a III-a C	5.75	5.3	1.3	1.45	11	14	26	25
90	V.D.M	a III-a C	5.3	5.53	1.4	1.2	10	8	27	25
91	V.B.B.	a III-a C	5.3	5.41	1.55	1.4	12	11	26	26
92	V.S.A.	a III-a C	5.93	5.87	1.3	1.2	13	11	25	26
93	Z.S.I.	a III-a C	5.55	5.65	1.1	1	9	10	25	24
94	T.L.	a III-a D	5.63	5.39	1.49	1.43	11	11	25	26
95	R.D.	a III-a D	4.49	5.05	1.79	1.78	11	12	25	27
96	E.S.	a III-a D	7.01	6.68	1.44	1.39	13	11	29	27
97	A.P.	a III-a D	4.83	5.11	1.61	1.7	8	10	29	26
98	V.D.	a III-a D	4.71	5.1	1.78	1.61	8	8	24	22
99	H.S.	a III-a D	4.49	4.39	1.78	1.9	10	9	24	23
100	G.S.	a III-a D	4.75	5.69	1.41	1.62	11	14	27	31
101	A.M.	a III-a D	4.93	4.39	1.71	1.81	11	12	31	30
102	S.V.	a III-a D	5.34	5.17	1.25	1.07	13	10	30	27
103	S.M.	a III-a D	4.95	5.05	1.54	1.59	11	11	29	25
104	A.G.	a III-a D	5.02	5.18	1.51	1.48	10	11	24	24
105	R.D.	a III-a D	5.21	5.84	1.49	1.47	12	12	23	26
106	G.L.	a III-a D	5.32	5.71	1.24	1.11	13	11	26	25
107	B.A.	a III-a D	5.71	6.37	1.01	1.1	11	12	26	24
108	V.P.	a III-a D	6.6	6.75	1.14	1.04	9	10	24	24
109	E.M.	a III-a D	7.1	7.28	1.13	1.2	11	11	28	27
110	R.E.	a III-a D	5.85	5.76	1.6	1.57	12	13	28	28
Average			5.470909	5.496727	1.358091	1.366545	10.56364	10.70909	26.8	26.59091
Standard	deviation		0.499465	0.554068	0.178837	0.187844	1.600042	1.688305	2.384199	2.682924
Coeffic	eient of var	iability	0.091295	0.1008	0.131682	0.137459	0.151467	0.157652	0.088963	0.100896

# 4. Conclusions

The COVID-19 pandemic, the measures and restrictions that were subsequently put in place to prevent the spread of the virus had a major impact

on physical activity, especially in collective sports and sports activities organized in sports clubs.

The study on the physical condition of primary school children highlighted the negative impact of the pandemic and the restrictions imposed on the level of physical development of students.

As we could observe during the experiment, the activity during the pandemic was very limited to quite varied lessons with the main objective of maintaining and developing strength.

We emphasize that sport and physical activity represent more than a recreational activity for each individual, due to their positive effects, and even in these periods there should be a public interest in promoting sport and physical activity among all social categories, children and adults in hygienic-sanitary conditions.

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# INFLUENȚA COVID-19 ASUPRA STĂRII FIZICE A COPIILOR DIN CICLUL PRIMAR

#### (Rezumat)

Pandemia de COVID-19 și măsurile și restricțiile care au fost instituite ulterior pentru a preveni răspândirea virusului au avut un impact major asupra practicării sporturilor și a activității fizice, în special în ceea ce privește sporturile colective și activitățile sportiv-educative organizate în școli și la nivelul cluburilor sportive.

Prin acest studiu încercăm să evidențiem impactul pandemiei COVID-19 asupra stării fizice a copiilor de vârstă școlară. Având în vedere faptul că disciplina educație fizică și sport a devenit o activitate care s-a desfășurat online am încercat să analizăm care a fost în această perioadă evoluția parametrilor fizici ai elevilor de la ciclul primar.

Studiul realizat asupra stării fizice a copiilor din ciclul primar a urmărit determinarea nivelului de performanță al elevilor, în diferite probe specifice, precum alergare de viteză pe 25 m, săritura în lungime de pe loc, abdomene 20 sec și extensii spate 20 sec. Performanțele elevilor incluși în acest studiu, realizate la aceste probe specifice, au fost influențate de restricțiile pandemice și au avut, din punctul nostru de vedere, o evoluție nesatisfăcătoare.

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# **VOLLEYBALL FROM THE MOUNTAINS TO THE BEACH**

ΒY

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Abstract. Volleyball is once again in the attention of world performance sports. The International Volleyball Federation (FIVB) has been working for some time on a project that aims to create a new sport, snow volleyball. This sport is currently developing worldwide and in 2018 it was a demonstration discipline at the Olympic Games held in PyeongChang, South Korea. In 2022 it should have been included at the Winter Olympics, but due to the pandemic this did not happen. In 2026 at the Winter Olympics it will be again publicized and presented as a demonstration discipline and an official statement of the representatives of the International Olympic Committee is pending. Therefore, volleyball could become the only sport present at both editions of the Olympic Games, both in summer and in winter, taking place in the hall (indoor), on the beach or on the snow (in the mountains).

Keywords: Olympic Games; beach volleyball; snow volleyball; indoor; performance.

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#### **1. Introduction**

Volleyball has managed to have itself identified in the world's eyes as a sport that is youthful, athletic, universal and democratic, a sport that has in its spectacularly telegenic nature and in its clean-cut heroes, a new model that can be unhesitatingly recommended to the youth of the world today. The image, behaviour, athletic capability and above all drug-free performance is of the highest class and is the winning tool needed to perpetuate the Olympic spirit in the twenty-first century.

Volleyball officially became a part of the Olympic programme in 1964 – critics voicing that this happened later than it should have. But, if there was an initial delay, it may have been due to an intent to establish a wide base of active players before turning the sport into a real competitive sport. Today, we can see that in the last 20 years no other sport has made as much progress as volleyball has – a progress evidenced by the importance given by worldwide TV networks to blocks and spikes in the Olympic programme and by the official entry of Beach Volleyball on the calendar for Atlanta 1996 and Snow Volleyball on the Milano/Cortina d'Ampezzo in 2026.

Beach volleyball appeared in 1920, most reporting that it appeared in Santa Monica, California, the first court being installed near the beach. In 1927, beach volleyball became the main sport on a nudist campus in France, founded in Francoville (a suburb northwest of Paris).

In 1930, the first two-a-side beach volleyball match took place in Santa Monica, California and in the same year it spread to other locations – Palavas, Lacanau and Royan (France), then to Sofia (Bulgaria), Prague (Czechoslovakia) and Riga (Lithuania).

In the U.S., people wanting to escape the stress and congestion in the cities went to the beach, took the game of volleyball with them and turned it into beach volleyball, where they started playing 4 to 4 and 3 to 3.

The first official beach volleyball tournament was held in 1947 in California, at State Beach. The following year, this tournament started receiving sponsorship from private companies.

At present, beach volleyball is a sport practiced by two teams of 2, 3 or 4 players, mixed, with no age limit, the competitions taking place on a sandy (beach) field, from the children's category from 12 years to the category of oldboys.

# 2. Beach Volleyball Characteristics

Like the game of volleyball, beach volleyball is characterized by the presence of cyclic and acyclic movements, by stresses and effects from a morphofunctional and motor point of view and by an intense psychic participation. Due to these characteristics, the game positively influences physical development. The game of beach volleyball influences the development of motor skills, both in their general and specific aspect. Remarkable is the development, especially of skill, to which is added speed, strength and endurance (Mureşan, 2002).

Regarding the mental qualities, the game of beach volleyball brings its contribution, so necessary to the development and formation of the multilateral personality of man through: development of team spirit, social integration of the young man, refereeing, tactical discipline and training.

Playing beach volleyball is considered a fun recreational activity, usually during the holidays (in the mountains and at the sea). The presence of sun, sand, volleyball, net and other factors such as wind, water, sea waves, have effects on the body, being at the same time factors of hardening and relaxation. By playing the game outdoors, the effect of hardening with hot air at temperatures of 20-30 degrees occurs. The presence of the sun has positive effects on the body, but due to the rather long time allocated to a beach volleyball match, it is necessary to protect the head with caps and the eyes with sunglasses. These accessories are even provided by the regulations to come to the aid of the players. Even after an extended phase of the game, the players are allowed to use a towel to wipe off sweat, to change their glasses, their equipment, to put on their hat, without being sanctioned for delaying the game (Stirbu and Braharu, 2002).

Taking place on the sand, the use of shoes is not required (except for the referee's authorization to wear appropriate shoes or socks), therefore beach volleyball can be practiced barefoot, creating a state of freedom, relaxation and pleasure. However, beach volleyball can also be practiced in the water, in the sea, the water reaching to the knees, but then it no longer has the character of a competition and turns into a means of relaxation and recreation.

Appearing as an alternative to indoor volleyball, beach volleyball is easier to practice. It can be practiced by men and women, children and young people, adults or the elderly, its accessibility consisting in the fact that:

- it requires only a ball and a net;

- the size of the field and the composition of the teams can be variable;

- it can be practiced on sand or in water;

- it does not require knowledge of hard-to-reach procedures.

Beach volleyball has special influences on the mental state, it creates a good mood, it does not necessitate a large effort on the part of the practitioner and therefore playing it for pleasure does not require a special physical training, only a liking for it.

The game of beach volleyball is a game with great appeal to the public, through the emotional content it offers, through the large amount of energy consumed, through the chaining of the game phases and the show offered by the spectators.

	Table 1
	Short History of Beach Volleyball
Year	Event(s)
1950	Tour in California - takes place on five beaches: Santa Monica, States,
	Corona Del Mar, Laguna, San Diego.
	The first tour in Brazil is sponsored by Newspaper Publishing.
1960	Tour in California - takes place on eight beaches: Tahoe, Santa Cruz,
	Santa Barbara, States, Manhattan, Corona Del Mar, Laguna, San
	Diego.
	In the tournaments in France, the winners of the three-on-three game
	receive 30,000 francs.
10.55	The first Manhattan Beach Open.
1965	CBVA (California Beach Volley Association) is founded.
1974	The first sponsored tournament is the San Diego Open.
	This tournament is sponsored by Winston Cigarettes, with prizes worth \$ 1500.
	The tournament was won by Dennis Hare and Fred Zuelich.
1975	Olympic Beach Volleyball Championship.
1975	The winner of the tournament receives \$ 5,000.
	Winners of the Menges / Lee tournament.
	Spectators 30,000.
1980	Cash winnings from seven tournaments reach \$ 52,000:
1900	<ul> <li>San Diego, Santa Barbara, Laguna (\$ 5000)</li> </ul>
	<ul> <li>Manhattan (\$ 10,000)</li> </ul>
	<ul> <li>King of Beach (\$ 12,000)</li> </ul>
	<ul> <li>World Championships (\$ 15,000).</li> </ul>
1983	AVP (The Association of Volleyball Professionals) is founded on July
	21st.
1986	AVP - Pro Beach Volley is broadcast on cable TV.
	Women's Professional Volleyball is established.
1987	There are 28 tournaments in which the total winnings amount to
	approximately \$ 4.5 million.
1988	FIVB organizes the first Men's World Beach Volleyball
	Championship in Ipanema, Brazil.
1992	The first women's tournament takes place in Almeria, Spain between
1002	August 12th-15th.
1993	FIVB organizes the first Women's World Beach Volleyball
	Championship. In the AVP there are 27 tournaments.
	NBS broadcasts 10 of the tournaments, the events being watched live
	by 600,000 viewers and spectators.
	On September 21st, the International Olympic Committee grants the
	status of Olympic medal in beach volleyball.
1994	AVP organizes 27 tournaments.
1771	Evian sponsors the Madison Square Garden indoor tour.
1	T at a to the second se

	Nestle sponsors 4 tournaments, and NBC broadcasts 10 tournaments - approximately 21 hours of broadcasts for each of the tournaments. Cash prizes reach \$ 40,000.
1995	AVP organizes 29 tournaments. Evian sponsors four more tournaments (Washington, Boston, Minneapolis, New York).
1996	Beach volleyball is included in the Atlanta Olympics program, where 24 men's and 16 women's teams compete for the first Olympic title in the history of beach volleyball.

(FIVB, Beach Volleyball)

#### 3. Snow Volleyball

Snow volleyball is a new discipline organized by the International Volleyball Federation (FIVB). The participating teams are each composed of three players, plus a reserve. The dimensions of the court are similar to those of the beach volleyball court (8 m x 16 m). Snow volleyball aims to offer spectators the best experience, a vibrant, fun and at the same time competitive atmosphere. (FIVB and CEV, *Snow Volleyball Rules of the Game*)

The 2019 World Snow Volleyball Tour in Austria and Italy marked the world debut of snow volleyball competitions. In the coming years, FIVB proposes a whole series of annual snow volleyball events, at all levels, for both men's and women's teams. The 2018/2019 season featured 3 events while the 2019/2020 FIVB snow volleyball calendar foresaw at least five World Tour events, sanctioned by the FIVB and organised by a National Federation and / or a promoter. The World Ranking for this sport promoted by FIVB, snow volleyball started with the 2018/2019 competition season.

Demonstration volleyball matches in the snow will be able to be organized with FIVB approval.

Year	Event(s)
2009	The first amateur tournament in Austria
2011	Official recognition of the sport by the Austrian Volleyball Federation
2012	The first official tournament organized under the auspices of the Austrian Volleyball Federation
2013	6 European stages organized with national federations
2016	The first CEV European Tour in 3 countries
2018	The first National Championship of Austria at Zell am See
2019	The first FIVB Snow Volleyball World Tour in Austria
2021	FIVB World Championship

Table 2Short History of Snow Volleyball

As shown in Fig. 1, the data on the rating and media impact of snow volleyball indicate an 870 million reach through international online media coverage, a 26 million reach through social media, a 13.7 million EUR advertising value and a number of 20000 spectators.

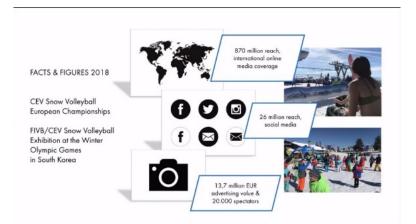


Fig. 1 – Snow volleyball facts and figures.

Snow volleyball is the newest branch of the game of volleyball. International forums and the media are expected to have a steady and continuous growth in the coming years, which could mean its inclusion in the program of the Winter Olympics, thus having a road similar to that of beach volleyball in the early 1990s (FIVB, *Snow Volleyball*).

Snow volleyball could become a popular, competitive, entertaining and recreational sport in a large number of countries that have popular ski resorts. Snow volleyball is unique, fast, exciting, and the action on the field is explosive. However, the new sport of volleyball includes several overlapping common elements whose complementary interactions make it unique and very spectacular (FIVB, *Beach Volleyball*).

# 4. Snow Volleyball Characteristics

Snow Volleyball is a sport played by two teams on a snow court divided by a net.

The object of the game is to send the ball over the net in order to ground it on the opponent's court, and to prevent the same effort by the opponent. The team has three hits for returning the ball (in addition to the block touch), (FIVB and CEV, *Snow Volleyball Rules of the Game*).

The ball is put in play with a service: hit by the server over the net to the opponents. The rally continues until the ball is grounded on the playing court, goes "out" or a team fails to return it properly.

In Snow Volleyball, the team winning a rally scores a point (Rally Point System). When the receiving team wins a rally, it gains a point and the right to serve. The serving player must be alternated every time this occurs (FIVB and CEV, *Snow Volleyball Rules of the Game*).

Five continents participated in the first ever 2019 FIVB Snow World Tour (Europe, North America, South America, Africa and Asia).

More than 50 nations actively participate in snow volleyball events around the world. The results of their participation include Argentina winning its first Winter Sports Medal at the 2019 FIVB World Tour, Cameroon and Brazil finishing 5th at the 2019 FIVB World Tour Event in Austria and Turkey winning its first Winter Sports Medal at the 2018 CEV European Championship.

# 5. Conclusions

Today, Beach Volleyball is not only an exciting Olympic discipline, it is a widespread phenomenon that evokes an intriguing new style of life, one that is both unisex and alternative, and one whose proselytes all over the world are new social life types easily recognized by their bermudas, tank tops, and sunglasses. It is the beach volleyball style - an unmistakable signature.

Snow volleyball is the new challenge set by those who manage to keep this sport at such a high level of attractiveness, it is an alternative for the professionals of this sport. International forums and television have become interested in promoting snow volleyball, and its acceptance at the new edition of the 2026 Olympic Games means that it has grown in popularity and, at the same time, has a growing number of professional players. Certainly, snow volleyball will have its own signature and this phenomenon will become a new lifestyle.

The FIVB is currently developing snow volleyball by teaming up with existing sports events to build awareness of the discipline and create a global movement, built on what has been put in place already on the European Tour.

Volleyball, beach volleyball and snow volleyball demonstrate the fun, passion and universality of the sport of volleyball, which is now accessible all year round, from the summer to the winter, from the beach to the mountains, indoor and outdoor. The aim is to make volleyball available any time, any place, anywhere (FIVB, *Snow Volleyball*).

Through its three variants, namely beach volleyball, indoor volleyball and snow volleyball, volleyball will eventually be the only sport present at both editions of the Olympics – summer and winter.

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#### VOLEIUL DE LA MUNTE PÂNĂ LA PLAJĂ

### (Rezumat)

Voleiul este din nou în atenția forurilor internaționale. Federația Internațională de Volei (FIVB) lucrează de ceva vreme la un proiect prin care se urmărește apariția unui nou sport, voleiul pe zăpadă. Acest sport se dezvoltă la nivel mondial, fiind deja inclus ca disciplină demonstrativă în 2018 la Jocurile Olimpice desfășurate la PyeongChang, Corea de Sud. În 2022 ar fi trebuit sa fie inclus la Jocurile Olimpice de iarnă, dar datorită pandemiei acest lucru nu s-a întâmplat. În 2026 la Jocurile Olimpice de iarnă va fi din nou mediatizat și prezentat ca disciplina demonstrativă, în acest moment așteptându-se o declarație oficială a reprezentanților din Comitetul Internațional Olimpic. Așadar, voleiul ar putea deveni singurul sport prezent la ambele ediții ale Jocurilor Olimpice, atât vara, cât și iarna, desfășurându-se în sală (indoor), pe plajă sau pe zăpadă (la munte).

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# MOBILITY TESTING AMONG CHILDREN WHO PRACTICE SWIMMING AND ATHLETICS IN IAȘI

ΒY

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**Abstract.** In this research, a comparative study was performed on the mobility of different joints (shoulder, coxo-femoral and ankle) in children who practice swimming compared to children who practice athletics (running).

The subjects of the research come from private athletics and swimming clubs in Iaşi. The research lasted five months.

The premise from which we started in this study is that swimmers have better mobility in the shoulder and ankle and athletes/runners have better mobility in the coxo-femoral joint.

The aim of the research is to show that the development of mobility is important in preventing injuries and increasing the capacity for effort.

Keywords: mobility; tests; swimming; athletics; children.

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#### **1. Introduction**

An important factor of physical activity is the stage of preparation of the body for effort, called generic warming up.

This stage is very important and with considerable effects in the process of training performance athletes.

However, studies on the effects of warming up in swimming are few, possibly due to the pool environment, its high temperature and humidity, and the complexity of warm-up procedures in swimming (Neiva *et al.*, 2014).

Stretching is generally seen as an activity that performs the dual role of promoting better performances and decreasing the number of injuries. For this reason, stretching exercises are regularly included in warm-up and cooling-down exercises (Witvrouw *et al.*, 2004).

The stretching technique and the methods used to incorporate the stretching exercises into a conditioning program are critical to the development of a safe, effective stretching program. Selecting and applying the best means necessary to develop a good warm-up program is essential for those who prepare children for performance sports (Beaulieu, 1981).

The guidelines for preparing a safe stretching program can be summarized in the following steps: firstly, prefacing the stretching exercises with a mild warm-up; secondly, using static stretching; thirdly, stretching before and after a workout; fourthly, starting with mild exercises before proceeding to moderate ones; fifthly, alternating exercises for muscle groups; sixthly, stretching gently and slowly until tightness, not pain, is felt; and finally, holding the position for 30 to 60 seconds (Beaulieu, 1981).

# 2. Methodology

# 2.1. Variable

The human ability to make the most of the anatomical potential of locomotion in a certain joint or in the whole of the joints of the body, resulting in the performance of movements with high amplitude. The maximum amplitude is the mobility standard, which is measured by degrees (angles) or centimeters (Mackenzie, 2005).

Any human movement involves the musculoskeletal system consisting of muscles and bones. The motor acts in sport are based on the action of agonist, antagonistic, synergistic and fixative muscles.

In order for athletes to learn and use correctly the technical elements specific to the sport they practice, they need a good level of muscle elasticity and joint mobility (Witvrouw *et al.*, 2003).

## 2.2. Participants in Research

The subjects of this research are 40 children aged between 10 and 14 who practice swimming and athletics at private clubs in Iaşi. There are 20 children swimmers (11 girls and 9 boys) and 20 track and field children (8 girls and 12 boys), all of them running tests (those from jumping and throwing were not selected).

The research took place between March - September 2021.

The mobility tests were performed in the Athletics Hall in Iași for the group that practices athletics and at the Zenity Pool for the group that practices swimming.

### 2.3. Mobility Control Tests

The research subjects performed three control tests to check the level of joint mobility and muscle elasticity.

1) Modified Sit & Reach Test (Mackenzie, 2005, p. 74)

This test aims to measure the mobility of the coxo-femoral belt and the flexibility of the torso in children who practice swimming and athletics. *Test description* 

1. Sit on the floor with the back and head against a wall, legs fully extended with the bottom of the feet against the sit-and-reach box;

2. Place the hands on top of each other, stretching the arms forward while keeping the head and back against the wall;

3. Measure the distance from the finger tips to the box edge with a ruler. This becomes the zero or starting point.

Movement:

4. Slowly bend and reach forward as far as possible sliding the fingers along the ruler;

5. Hold the final position for two seconds;

6. Repeat the test three times and note the best distance.

2) Static Flexibility Test – Ankle (Mackenzie, 2005, p. 79)

This test aims to measure the mobility of the ankle joint and the flexibility of the calf muscles in children who practice swimming and athletics.

Test description

1. Stand facing a wall;

2. Feet flat on the ground, toes touching the wall;

3. Lean into the wall.

4. Slowly slide the feet back from the wall as far as possible;

5. Keep the feet flat on the ground, body and knees fully extended and the chest

in contact with the wall;

6. Measure the distance between the toe line and the wall;

7. Repeat the test three times and record the best distance.

3) Static Flexibility Test – Shoulder (Mackenzie, 2005, p. 83)

This test aims to measure the mobility of the shoulder joint (scapulo-humeral) and the flexibility of the upper limbs in children who practice swimming and athletics.

Test description

1. Grasp one end of the rope with the left hand;

2. Ten cm away grasp the rope with the right hand.

3. Extend both arms in front of the chest and rotate the arms overhead and behind the neck until the rope touches the back;

4. As resistance occurs allow the right hand to slide along the rope;

5. Measure the distance between the two thumbs;

6. Measure shoulder width from deltoid to deltoid;

7. Subtract the shoulder width distance from the thumb distance;

8. Repeat the test three times and record the best distance.

For all control samples the unit of measurement is expressed in centimeters (cm).

## 2.4. Research Hypotheses

The study aims to compare joint mobility and muscle elasticity in children who practice swimming and those who practice athletics in Iaşi.

The following hypotheses were derived from the proposed purpose: 1) Children who practice swimming have better mobility in the shoulder and ankle compared to those who practice athletics/runners;

2) Conversely, children who practice athletics have better mobility in the coxofemoral belt compared to children who practice swimming.

## **2.5. Research Results**

The results obtained by the research subjects at the control tests are presented in the table below (Table 1).

For all control samples the unit of measurement is expressed in centimeters (cm).

Arithmetic Mean at Control Samples						
		Sit & Reach	Static Flexibility	Static Flexibility		
Subjects	N	Test	Test – Ankle	Test – Shoulder		
		- mean -	- mean -	- mean -		
Swimmers	20	13.2	34.1	8.5		
	(11 F; 9 M)	15.2	54.1	8.3		
Athletes/	20	15.9	33.8	11.2		
runners	(8 F; 12 M)	15.9	55.6	11.3		

 Table 1

 Arithmetic Mean at Control Sample.

Hypothesis testing

Research hypotheses were tested using the t-Test for independent samples (SPSS 20). This test is used when the two sets of scores/values come from two different samples of people (swimmers and athletes/runners).

Testing Hypothesis 1: *Children who swim have better mobility in the shoulder and ankle compared to those who do athletics/runners.* 

The arithmetic mean in the "Static Flexibility - Shoulder Test" for swimmers children (M = 8.5; SD =  $\pm$  0.35) is significantly lower (t = -1.83; DF = 38; p = 0.03 - the significance threshold is less than 0.05) than the average of children who practice athletics (M = 11.3; SD =  $\pm$  0.59).

The arithmetic mean in the "Static Flexibility - Ankle Test" for swimming children (M = 34.1; SD =  $\pm$  0.46) is higher, but statistically insignificant (t = 1.27; DF = 38; p = 0.24 - significance threshold is greater than 0.05) than the average of children who practice athletics (M = 33.8; SD =  $\pm$  0.78).

Therefore, this difference cannot be taken into account statistically.

These statistical calculations lead to the conclusion that hypothesis 1 of this research is partially validated. The mobility of the swimmers is better at the level of the shoulder and ankle joint, but statistically significant only at the shoulder.

Testing Hypothesis 2: *Children who practice athletics have better mobility in the coxo-femoral belt compared to children who practice swimming.* 

The arithmetic mean of the "Sit & Reach Test" for children who practice athletics (M = 15.9; SD =  $\pm$  0.67) is significantly higher (t = 1.95; DF = 38; p = 0.01 - threshold of significance is less than 0.05) than the average of swimming children (M = 13.2; SD =  $\pm$  0.33).

These statistical calculations lead to the conclusion that hypothesis 2 of this research is validated. The mobility of the athletics/runners is better at the level of the coxo-femural joint compared with the mobility of the swimmers.

Research Results (Mean, Standard Deviation, t-Test for independent samples)						
Subjects/	Sw	immers	Ath	letes/		
control tests			runners			
	M = 8.5	$SD = \pm 0.35$	M = 11.3	$SD = \pm 0.59$		
Sit & Reach Test	t = -1.83; DF = 38; p = 0.03					
	M = 34.1	$SD = \pm 0.46$	M = 33.8	$SD=\pm \ 0.78$		
Static Flexibility Test – Ankle	t = 1.27; DF = 38; p = 0.24					
	M = 13.2	$SD = \pm 0.33$	M = 15.9	$SD = \pm 0.67$		
Static Flexibility Test – Shoulder	t = 1.05; DE = 28; p = 0.01					

Table 2
 Research Results (Mean. Standard Deviation. t-Test for independent samples

## 3. Conclusions

Mobility in the shoulder joint is better and statistically significant (p<0.05) in children who swim, compared to children who practice athletics.

Mobility in the ankle joint is better, but statistically insignificant (p>0.05) in children who swim, compared to children who practice athletics.

Mobility in the coxo-femoral joint is better and statistically significant (p<0.05) in children who practice athletics, compared to children swimmers.

Increased mobility may decrease the incidence of musculotendinous injuries, minimize and alleviate muscle soreness and contribute to improved athletic performance. Developing a safe and effective stretching program requires careful planning. The young who practice athletics and swimming should use static stretching exercises, the safest method. Proper execution and placement of the static stretching exercises in the training program are important in the development of a safe, effective program, because injuries may occur if the exercises are done improperly (Beaulieu, 1981).

Acknowledgements. All authors had an equal contribution.

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## TESTAREA MOBILITĂȚII LA COPIII CARE PRACTICĂ ÎNOTUL ȘI ATLETISMUL ÎN IAȘI

### (Rezumat)

În cadrul acestei cercetări a fost realizat un studiu comparativ asupra mobilității diferitelor articulații (umăr, coxo-femural și gleznă) la copiii care practică înotul față de copiii care practică atletism (alergare).

Subiectele cercetării provin de la cluburi private de atletism și înot din Iași. Cercetarea a durat cinci luni. Premisa de la care am plecat în acest studiu este că înotătorii au o mobilitate mai bună la nivelul umărului și gleznei, iar sportivii/alergătorii au o mobilitate mai bună în articulația coxo-femurală.

Scopul cercetării este de a arăta că dezvoltarea mobilității este importantă în prevenirea accidentărilor și creșterea capacității de efort.

BULETINUL INSTITUTULUI POLITEHNIC DIN IAȘI Publicat de Universitatea Tehnică "Gheorghe Asachi" din Iași Volumul 67 (71), Numărul 3-4, 2021 Secția ȘTIINȚE SOCIO-UMANE

# THE IMPORTANCE OF KINETOTHERAPY IN PREVENTING PREGNANCY OBESITY

ΒY

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**Abstract.** Physical therapy during pregnancy is very important for the body of the expectant mother because it involves performing exercises specially created for this period, which have the role of improving the physical and mental condition of the pregnant woman. A well-trained body will more easily overcome the inherent health problems that a pregnancy brings.

Prenatal physiotherapy can be one of preparation, prevention and maintenance. As a specialist in motor recovery, the physiotherapist is part of a multidisciplinary team for the prevention of obesity during pregnancy.

The main objectives of the recovery program were maintaining good tone on all muscle groups, preventing lordosis, preventing flatulence, achieving muscle and mental relaxation.

Our study was conducted on six pregnant women in the second trimester who attended the Nova Vita Clinic from Târgu Mureş. Three received physiotherapy treatment and three did not receive kinetic treatment. Subjects were evaluated two times: an initial evaluation and a final evaluation using the body mass index method.

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The results were compared with grids and weight gain recommendations according to nutritional status.

Keywords: women; health; kinesiotherapy; obesity; pregnancy.

# **1. Introduction**

Pregnancy is a unique time in a woman's life that gives her the opportunity to be the center of attention, to be pampered and loved more than usual.

Obesity is a metabolic nutritional disorder that is very common in modern times, being characterized by an excess of adipose tissue, which exceeds by more than 20% the ideal weight. Statistics show that in adults: 35% of men and 27% of women exceed the ideal weight, and their number is unfortunately increasing (Marcu and Dan, 2007).

It is important to know that in order to have a pregnancy without problems, you need a healthy body. That is why the precautions of a pregnant woman include attending a physiotherapy room, both before, during pregnancy and postpartum. Physical therapy during pregnancy is very important for the body of the expectant mother because it involves performing exercises specially created for this period, which have the role of improving the physical and mental condition of the pregnant woman. A well-trained body will more easily overcome the inherent health problems that a pregnancy brings. Prenatal physiotherapy can be one of preparation, prevention and maintenance (Căpraru and Căpraru, 2018).

Weight gain indicators during pregnancy are the result of prepregnancy body mass index (BMI) and gestational weight gain (GWG) (Papazian *et al.*, 2017).

Obesity in pregnant women is even more current as it is estimated that 50% of women in the fertile period suffer from overweight or obesity. Statistics show that 1 in 5 women is obese, *i.e.* has a body mass index (BMI) greater than 30. It is also estimated that 1 in 5 women with a weight considered healthy before the first pregnancy will be overweight or obese at the second.

## 2. Material and Methods

In order to conduct the study, we formulated the following hypothesis: The physiotherapy program applied in our study will bring an improvement in the well-being of the pregnant woman's body (physical and mental relaxation) and the prevention of excess weight. The study took place between January 14 and June 20, 2021 at the RheumCare Foundation in Târgu Mureş in the special recovery room. The study was performed on six patients in the second trimester of pregnancy who did not experience any ailments. They came to the RheumCare clinic in Târgu Mureş to maintain their ideal weight during pregnancy. Three subjects also exercised before becoming pregnant and during

pregnancy, benefiting from physiotherapy treatment and three did not exercise at all with a sedentary lifestyle. The six pregnant women gave their consent to participate in our study, specifying that they will be presented non-nominally.

Presentation of the Subjects - Personal Data about the Mother						
Subject	Age	Studies	Profession	Harmful		
	(years)			factors		
1	31	high	accountant	smoking		
		school				
2	26	university	photographer	No		
3	24	university	teacher	No		
4	29	high	seller	No		
		school				
5	25	university	engineer	No		
6	29	university	Sweet	No		
			confectioner			

,	Table 1		
Presentation of the Subjects	s - Personal	Data abou	t the Mother

1703	<i>chianon</i> c	j ine subjects	Obsicilicu	і тасл ан	i I umonogi	cui misioi	y
Subjects	Age (years)	Previous pregnancies	Children born	Height	Weight	T.A	Pulse
1	31	1	1	160	56	120/70	80
2	26	0	0	160	49	100/60	70
3	24	0	0	160	45	100/50	75
4	29	1	1	162	90	120/70	90
5	25	0	0	159	79	100/60	80
6	29	0	0	165	81	100/70	79

 Table 2

 Presentation of the Subjects – Obstetrical Index and Pathological History

The aim of this study is to highlight the importance of physical therapy during pregnancy, to prevent the problems caused by obesity, to maintain the ideal weight of the pregnant woman and to achieve both physical and mental relaxation. The objectives of the kinetic program were:

- maintaining a good tone on all muscle groups,
- maintaining the mobility of all joints,
- prevention of lumbar lordosis,
- obtaining the well-being of the organism,
- achieving muscle relaxation,
- maintaining proper breathing,
- prevention of plant flattening.

To implement the physiotherapy program we used a bright, spacious and well-ventilated room, equipped with a bed, elastic band, mattress and Bobath ball.

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### 2.1. The Kinetic Intervention Program

The kinetic treatment was based on physical exercises specially performed for the second and third trimesters of pregnancy and implemented through the means of physical therapy. All exercises were performed at a frequency of 3x per week with a duration of 30-40 minutes, and the dosage was 2x10 repetitions of each physiotherapeutic means. Physiotherapy is not recommended in the first trimester of pregnancy because the fetus is not implanted in the uterus and the mother may have a miscarriage (Hagiu, 2008).

The main feature in the second trimester of pregnancy is that the fetus is well implanted in the uterus and the neurovegetative phenomena disappear. Thus, by changing the center of gravity, there is an accentuation of the lumbar lordosis through the retroversion of the pelvis, and if there have been changes in the structure of the vertebral bone material or misalignments of the spine, a dorsal kyphosis or lumbar hernia L5-S1 may form over time. Abdominal muscle hypotonia can cause constipation (Hagiu, 2008).

In the third trimester of pregnancy, the fetus develops more, which requires the pregnant woman's cardiovascular and respiratory systems. Thus, the body must also provide the necessary oxygen to the fetus. Due to oxygenation difficulties, the effort cannot be sustained for a long time. For these reasons, the physiotherapy program in the third trimester of pregnancy must be adapted to the new physiological conditions, but also to the particularity of the patient.

## 2.2. Recommended Exercises for the Second Trimester

*Exercise 1*: INITIAL POSITION: Lying on the back, upper limbs in the extension of the body flexing at the knees, soles on the ground

Time 1 basin extension

Time 2 return to starting position



Fig. 1 – Exercise 1 – basin extension.

*Exercise 2*: INITIAL POSITION: lying on your back, upper limbs in the extension of the body flexing at the knees, feet on the ground

Time 1, abduction of the right upper limb and extension of the left lower limb at the same time

Time 2, 4 return to starting position

Time 3 abduction of the left upper limb and extension of the right lower limb

*Exercise 3*: INITIAL POSITION: Lying on your back, the knees are bent, sole on the ground, upper limbs grip the tip of the right leg

Time 1 extension of right leg from the knee

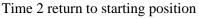




Fig. 2 – Exercise 3 – extension of right leg.

*Exercise 4*: INITIAL POSITION: Lying on the back, arms next to the body, knees bent, feet close to the ground

Time 1 abduction of the knee

Time 2 return at starting position



Fig. 3 – Exercise 4 – extension of right leg.

### 2.3. Recommended Exercises for the Third Trimester

*Exercise 5:* INITIAL POSITION: Sitting on the Bobath ball, upper limbs in adduction and extension, lower limbs in abduction and bent at the knees, soles on the ground

Time 1 lateral flexion of the torso to the right

Time 2, 4 - return to starting position

Time 3lateral flexion of the trunk to the left

*Exercise 6:* INITIAL POSITION: Sitting on the Bobath ball, upper limbs abducted at 90 degrees and flexed at the elbow, hands on forearms, lower limbs abducted and bent at the knees, soles on the ground

Time 1 twisting the torso to the right

Time 2, 4 return to starting position

Time 3 twisting the torso to the left



Fig. 4 – Exercise 5 – lateral flexion at the torso.



Fig. 5 – Exercise 6 – lateral flexion at the torso.

*Exercise* 7: INITIAL POSITION: Sitting on the Bobath ball, upper limbs abducted at 90 degrees and flexed at the elbow, hands on forearms, lower limbs abducted and bent at the knees, soles on the ground

Time 1 Slightly swing in a circle with the ball to the right

Time 2, 4 return to starting position

Time 3 swing in a circle with the ball to the left

### 3. Results

The subjects were tested in two moments: an initial test (in the second trimester of pregnancy) and a final one (at third trimester of pregnancy), focusing on the method of evaluating the body mass index, the data being provided by the specialist doctor. The results for the subject who benefited the kinetic program are presented in Table 3.

Table 3           The Results of the Subjects Who Benefited from the Kinetic Program									
	TERM I			TERM II			TERM III		
Indicators	<b>S</b> 1	S2	<b>S</b> 3	S1	S2	S3	S1	S2	S3
Age (years)	31	26	24	31	26	24	31	26	24
Height (cm)	160	160	160	160	160	160	160	160	160
Weight (kg)	57	51	48	60	56	53	65	62	57
Kggain/term	1	2	3	3,5	4	5	5	5	4
BMI	22.27	19.92	18.75	23.44	21.88	20.70	25.39	24.22	22.27
		Total K	Kg gaine	d			9.5	11	12

The results for the subject who did NOT benefit from the kinetic program are presented in Table 4.

The Results of the Subjects who Dia NOT Benefit from the Rinetic Program									
In diastana	TERM I		TERM II			TERM III			
Indicators	S4	S5	S6	S4	S5	S6	S4	S5	S6
Age (years)	25	29	29	25	29	29	25	29	29
Height (cm)	159	165	162	159	165	162	159	165	162
Weight (kg)	83	85	91	60	92	101	65	98	105
Kggain/term	4	4	3	5	7	8	4	6	4
BMI	32.83	31.22	35.44	34.81	33.79	38.48	36.39	36	40.01
		Total K	Kg gaine	d			13	17	15

 Table 4

 The Results of the Subjects Who Did NOT Benefit from the Kinetic Program

To classify our subjects we compared our results with the chart of interpretation the nutritional status BMI (Table 5), which is an expression of body weight for height used for children and adults and is calculated by formula  $BMI = Weight (kg)/Height^2 (m^2)$ .

Reporting the BMI of our subjects to the reference data we notice that initially the subjects with a healthy lifestyle and who had a kinetic program during pregnancy had a normal nutritional status, instead the subjects who had a sedentary life were view of nutritional status in the category of grade II obesity (S4 and S5) and even grade III obesity (S6).

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7	Table 5           The Interpretation of BMI - Nutritional Status				
	BMI	Weight status			
	Below 18.5	Underweight			
	18.5 – 24.9	Normal weight			
	25.0 - 29.9	Overweight			
	30.0 - 34.9	Obesity class I			
	35.0 - 39.9	Obesity class II			
	Above 40	Obesity class III			

Table 6				
Recommended Weight Gain in Pregnancy				
The BMI before pregnancy	Recommended weigh			
	gain in pregnancy			
Underweight (IMC < 18.5)	13-18 kg			
ormal weight (IMC 18.5-24.9)	11-16 kg			

7-11 kg

5-9 kg

#### 4. Discussions

Overweight (IMC 25-29.9)

Obesity (IMC >/= 30)

Obesity among women of reproductive age is increasing in prevalence worldwide (Poston *et al.*, 2016). Maternal overweight and obesity are also associated with increased risks of more common pregnancy complications, such as gestational hypertensive disorders, gestational diabetes, preterm birth and large size for gestational age at birth (Cnattingius *et al.*, 2013; Marchi *et al.*, 2015; Villamor and Cnattingius, 2006).

Exercise during pregnancy should be encouraged for all women who do not have known contraindications (Paisley *et al.*, 2003).

A certain weight gain in pregnant women with unifetal pregnancy is recommended depending on the body mass index (BMI) at the beginning of pregnancy. Thus, for a normal BMI at conception (18.5-24.9 kg / m<sup>2</sup>), a weight gain of 11.5-16 kg is recommended, a gain in which complications during pregnancy are minimal (Santos *et al.*, 2019). In contrast, in pregnant women with a higher BMI, the weight gain should be inversely proportional to the BMI. Thus, for pregnant women with BMI < 18.5 kg / m<sup>2</sup>, the recommended weight gain is 12.5-18 kg, for those with BMI = 25-29.9 kg / m<sup>2</sup>, overweight, a weight gain of 7-11.5 kg is recommended, and for obese people with a BMI > 30 kg / m<sup>2</sup>, the weight gain should be 5-9 kg. In pregnant women with multiple pregnancies and normal BMI, the weight gain should be 17-25 kg, for overweight 14-23 kg, and for obese 11-19 kg (IOM, 2009).

### 5. Conclusions

It is important for pregnant women to have as active a life as possible in order to avoid the complications that obesity brings. Exercise reverses insulin resistance in the third trimester of pregnancy, which reduces the risk of older children of gestational age by improving glucose tolerance and reducing fat deposits. For this reason, the kinetic program is part of the lifestyle of pregnant women with gestational diabetes. Exercise decreases the risk of depression and anxiety of the future mother, with a favorable influence of the postpartum mental state, thus maintaining the mental tone of the woman during this period. It also reduces the risk of postpartum urinary incontinence.

Pregnant women with a normal pregnancy and a good prognosis established by the doctor benefit from some recommendations regarding the safety of exercise during pregnancy. The applied kinetic program allowed to regain the neutral position of the pelvis by restoring the physiological balance of forces between the abdominal muscles - buttocks and lumbar muscles - psoas iliac; the plant was flattened, re-educated and maintained proper breathing.

Therefore, the physical therapy program proves to have a very important role in preventing obesity during pregnancy and, combined with a balanced nutritional diet, leads to maintaining an optimal physical and mental condition for the pregnant woman.

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## IMPORTANȚA KINETOTERAPIEI ÎN PREVENIREA OBEZITĂȚII DIN TIMPUL SARCINII

### (Rezumat)

Kinetoterapia în timpul sarcinii este foarte importantă pentru organismul viitoarei mămici deoarece presupune efectuarea de exerciții special create pentru această perioadă, care au rolul de a îmbunătăți starea fizică și psihică a gravidei. Un corp bine antrenat va depăși mai ușor problemele de sănătate inerente pe care le aduce o sarcină.

Kinetoterapia prenatală poate fi una de pregătire, prevenire și întreținere. Specialist în recuperare motrică, kinetoterapeutul face parte dintr-o echipă multidisciplinară de prevenire a obezității în timpul sarcinii.

Principalele obiective ale programului de recuperare au fost menținerea tonusului bun pe toate grupele musculare, prevenirea lordozei, prevenirea flatulenței, obținerea relaxării musculare și psihice.

La studiul nostru au participat șase gravide în al doilea trimestru de sarcină care s-au prezentat la Clinica Nova Vita din Târgu Mureș. Trei au primit tratament de kinetoterapie și trei nu au primit tratament kinetic. Subiecții au fost evaluați de două ori: o evaluare inițială și o evaluare finală folosind metoda indicelui de masă corporală.

Rezultatele obținute au fost comparate cu grilele și cu recomandările creșterii în greutate în funcție de statusul nutrițional.

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# THE MOST COMMON WRONG BODY POSTURES AMONG STUDENTS AND SOME METHODS TO COMBAT THEM – KYPHOSIS, SCOLIOSIS AND LORDOSIS

ΒY

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**Abstract.** The posture of our body is closely linked to our state of health and the proper functioning of the body depends to a large extent on the normal development of our internal organs, a normal development that would not be possible with major posture deficiencies.

Keywords: body posture; kyphosis; scoliosis; lordosis.

## **1. Introduction**

The main component of the human skeleton, which makes possible every capacity of the human body to move, is the vertebral column. It consists of 34 vertebrae, held together by cartilaginous intervertebral disks that give it flexibility, which makes the human body movement possible. These bones are divided into six regions: cervical, thoracic, lumbar, sacrum, and coccyx. A healthy spine describes a natural curve, as its shape resembles in profile angle a

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slightly curved S. This allows movement and the ability to absorb shocks and bear the weight. In some cases, a person may have a deformity that causes a variation of the normal curve of the spine.

Postural deficits can be identified as deformities in one or two vertical planes by Cartesian system that can affect one or more backbone regions (Sbenghe, 1999).

# 2. Kyphosis

Kyphosis is the more accentuated than normal forward curvature of the spine, the most common being in the upper part of the body normally influences the thoracic curvature of the spine and is also called "hunchback." Three forms of kyphosis can be distinguished: post-traumatic kyphosis, kyphosis in the elderly and Scheuremann's kyphosis. Depending on the diagnosis of the type of kyphosis, specific treatment programs and schemes can be established. Posttraumatic kyphosis is located in the middle to the lower back of the affected patient; this type of kyphosis is found in case of vertebral fracture following trauma. Kyphosis found in the elderly occurs as a result of ageing, lack of muscle tone and degenerative diseases of the vertebral discs. Scheuremann's kyphosis is found in adolescents that can advance into adulthood resulting in stiffness of the spine.

The basic symptoms manifest through very prominent back and shoulders, curvature associated with pain and stiffness in the upper back that are followed by pain or stiffness in the shoulders or upper back. One of the most correctable forms of kyphosis is the Scheuremann's kyphosis. This type of deformity causes the back to become stiff and grows with age. In these people, the front of the vertebrae developed more slowly than the back. The observation of the kyphosis can be performed very well from the side, in a forward bending position of the trunk, where an abnormal, sharp kyphosis is highlighted.

The prevention of such spinal affection lies in the capacity of every person to monitor his posture in everyday life. However, for the purpose of physical treatment, we can name two examples of exercises (Drăgan and Pădure, 2014), detailed below.

The YTWL complex is a set of exercises composed of 4 movements Y, T, W, L. When the Y-shaped body position is performed, the arms are up, in the extension of the lower trapezius. Then, to perform the T-movement correctly, the patient must try bringing shoulders and shoulder blades positioned close to the spine. The movement in W derives its name from the shape of the arms as seen from above. To perform the exercise more effectively, the patient tries to rotate his palms outward. The last movement is in L; the arms are fixed at 90 degrees to the trunk, they rotate outwards so that the arms reach the inside just like the trunk. Such an action in the YTWL complex mobilizes the muscles

responsible for the external rotation of the arms (posterior deltoid, infraspinatus and teres minor).

A second category of exercises are those in the arms, posteriorly and above or below the horizontal, free or with portable objects. The arm exercises amplify the trunk movements and correct the deficiencies of the scapular belt.

## 3. Scoliosis

Scoliosis is an abnormal deviation of the spine from one side to the other; it is found in children, adolescents and adults. There are three types of scoliosis: congenital, neuromuscular and idiopathic scoliosis (https://www.medlife.ro/articole-medicale/scolioza-cauze-si-tratament.html).

Congenital scoliosis is caused by a bone abnormality, present at birth. Neuromuscular scoliosis is a result of abnormal muscles and nerves and it is usually present in people with spina bifida or cerebral palsy. Idiopathic scoliosis is the most common type of scoliosis. It has no specific cause and although there are several theories, none have been proven conclusive. However, most research shows that idiopathic scoliosis is genetic, but it can occur over time through long ranges of time in which the patient sits, lies or stands in unusual positions, that after a while become comfortable, as the body maintains the gesture in lighter forms.

Developed scoliosis cannot necessarily be recognized from a superficial look. The most obvious signs are the deformation of the straight frontal of the spinal line with various dimensioned curvatures. Also, scoliosis can be recognized by the asymmetry of the shoulders or the hips. Manifestations can be seen depending on when it begins and how sharp the curvature is; incorrect posture, sitting imbalance, breathing problems are observed in infants and young children. In adolescents, the causes may be pelvic imbalance, shoulder height or a rounding of the ribs.

Surgery is recommended for severe back pain, sciatica, weakness, or numb feet (https://www.kinetoterapierecuperaremedicala.ro/cifoza/).

The right exercises for scoliosis depend on the location of the scoliosis curve. People with lumbar scoliosis should focus on exercises appropriate to the lumbar area, while people with thoracic scoliosis should do specific shoulder exercises. In the following, the paper will give two examples of exercises and stretches recommended by doctors for people with scoliosis.

The first example is the pelvic tilt. A pelvic tilt helps stretch the contracted muscles and the lumbar area. To make a pelvic tilt, the performer should lie on his back, with his feet flat on the floor and his knees bent. It should tighten the abdominal muscles as you flatten your back to the floor. The position should be maintained for 5 seconds, while breathing is normal,

followed by relaxation. This exercise is recommended to be done in two sets of 10 repetitions (https://www.kinetoterapierecuperaremedicala.ro/lordoza/).

Another correction posture is called Cat-Camel, being a posture also used in Hatha yoga. It can help keep the spine flexible and painless. To perform the Cat-Camel posture, start on the hands and knees, the performer being perfectly assured that the back is aligned and the head and neck are relaxed. The individual takes a deep breath and then pulls his abdominal muscles up, loading his back. At the end, exhale and release the abdominal muscles, arching your back, letting your belly fall and raising your head to the ceiling. For efficiency, the exercise is done in two sets of 10 repetitions.

### 4. Lordosis

Lordosis refers to the existence of a natural lordotic curvature, which is both functional and considered normal. If this curvature is excessively inward, it is also called lordosis and can affect the lower back and neck. Excessive pressure causes pain and discomfort and can affect the functional capacity of the spine and occurs in circumstances such as adolescents, post-traumatic, secondary to sarco-coccygeal imbalances, by slipping of the vertebrae. Static lordosis can also occur in pathological cases and is particularly difficult. It can also be found in ordinary women who constantly wear high-heeled shoes. Dynamic lordosis has pathological, neurological, and dystrophic etiology (Antonescu *et al.*, 2020).

Lordosis can take many forms. Inclination, or static lordosis, occurs in kyphotic or in patients with posterior pelvic tilt. Fixed lordosis occurs after trauma or because of a post-inflammatory fibrous retraction. Dynamic synergy lordosis is a result of the imbalance between the flexors and extensors of the trunk (abdominal atony in rickets, tumors). It can occur due to rickets, digestive disorders, tumors (abdominal), physiological causes (pregnancy).

This condition, lordosis, can set in at any age. The risk of developing lordosis is influenced by factors such as spondylolisthesis, achondroplasia (which is congenital) and osteosarcoma or obesity.

The inward curves of the spine are found in the lumbar and cervical parts. In the cervical area we have a range of 20-35 degrees and in the lumbar area a range of 40-60 degrees. Hyperlordosis occurs when the curvature exceeds these values, and if the values are lower, the phenomenon of flattening of the spine occurs.

Muscle pain is the main symptom of lordosis because the muscles are pulled in various directions causing spasms. In the case of cervical lordosis, restricted movements of the neck and back may occur. A check test could be lying on a flat surface and observing the curves. Because the mobility of the spine is limited, especially in the lordotic area, the flexibility of the spine can be increased by the Cotrel technique, the most used today. It requires lying prone, with the lower limbs as widely as possible, the upper limbs stretched near the ears. The whole body is then stretched, then gradually the arms are extended, the body is lorded, the lower limbs are extended from the hips (arched as far as possible). One upper limb then goes back to the hip, which extends and the other upper limb remains near the ear (Pădure *et al.*, 2008).

## 5. Conclusions

The most urgent detection of diseases related to the spine, the initiation with the help of specialists of a medical recovery program, can only favour and speed up the improvement of the quality of life and the entry of patients into a more normal life.

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## CELE MAI FRECVENTE POZIȚII GREȘITE ALE CORPULUI ÎN RÂNDUL ELEVILOR ȘI CÂTEVA METODE DE COMBATERE A ACESTORA – CIFOZA, SCOLIOZA ȘI LORDOZA

#### (Rezumat)

Postura corpului nostru este strâns legată de starea noastră de sănătate, iar buna funcționare a corpului depinde în mare măsură de dezvoltarea normală a organelor noastre interne, dezvoltare normală care nu ar fi posibilă în cazul unor deficiențe majore de postură.

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# IMPROVING THE BODY'S IMMUNITY WITH THE HELP OF NATURAL CALMING FACTORS, DIET AND EXERCISE

ΒY

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**Abstract.** Our body's immunity can be improved through a healthy lifestyle, by paying special attention to nutrition, physical activity, and natural calming factors. Education in this regard must start from childhood, the most useful method being the power of example.

Keywords: movement; healthy eating; body warming.

### **1. Introduction**

Immunity is the body's ability to defend itself against pathogens – viruses, bacteria, parasites and toxins. The immune system is a complex system of cells and (antibodies) whose purpose is to provide protection against all factors that disturb the body. Our immune system detects pathogens, destroys them and, very importantly, stores the antigen so that it can react promptly the next time it encounters it.

The immune system differs from one person to another, each individual is born with his own immune "baggage", some may be more robust and others weaker from this point of view. The immune system does not change, it

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provides long-term protection of the body, being able to recognize certain disturbing factors of the body.

The so-called adaptive immunity has the role of protecting against harmful factors in view of the fact that the body has gone through this experience before, based on the unpleasant situation we went through.

The adaptive immune system protects us based on past 'experiences'. Because of this, once we have faced something and we have got better, we are no longer (at least for a certain period) exposed to going through the same unpleasant experience (Mihăescu and Chifiriuc, 2021). This involves remembering and recognizing the triggering factor through already existing antibodies. Passive immunity is temporary immunity, also called "borrowed immunity". An eloquent example may be that of a newborn who manages to 'acquire' temporary immunity from the mother through breast milk.

Artificially acquired active immunity – we can become immune to something, for example, from a vaccine. The period for which we acquire protection differs depending on the agents that are targeted.

The main solution to these problems is to adopt a healthy, active and well-balanced lifestyle, both dietary and active. Doctors recommend that we exercise daily, at least 10 minutes after each meal, and try doing as much sport as possible, to reduce the chances of developing diseases, but also to maintain the well-being generated by the presence of sport in our lives.

Specialists' recommendations show that during this period it is advisable to exercise at moderate intensity, outdoors in parks and meadows, respecting the rules of social distance.

The evolution and the degree of recovery of the body after contacting the SarsCov-2 virus are closely related to the immunity of each person, immunity that can be acquired during life through a combination of factors, factors that act directly on the body with major influences on lifestyle and here we are talking about warming the body with the help of natural factors, healthy diet and exercise regularly.

## 2. Warming up the Body

Warming the body with natural factors refers to the moderate and gradual use of three important factors: water, air and sun (Şiclovan, 1977). Water is the most important means of cleansing and can also be used as a calming process. The temperature of the water used for heating can be hot over 40°C; warm 30-40°C; hot 20-30°C; cool 16-24°C; cold 10-16°C; freezing: snow.

The physiological mechanism by which heating occurs is different depending on the temperature of the water used in this process. Thus, in the case of cold water, peripheral vasoconstriction occurs, a mechanism triggered to limit heat loss from the body. The water is used to accommodate the peripheral

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vasodilatation phenomenon by mobilizing the blood reserves in the deposits (spleen, liver), and the installation of the sensation of thermal comfort. In warm water procedures, peripheral vasodilation is established from the beginning to equalize body temperature with that of water. Due to the large amount of additional circulating blood, the heart is overloaded.

If water is used hygienically, it will be between 35 and 38°C, since higher values above this lead to an overload of the heart, and sweating removes mineral salts. The duration of the bath should not exceed 20 minutes and at the end of the bath, a shower with warm to cold water should be taken.

Air is another way of warming the body, steam baths are performed at temperatures of 20-30°C and are classified as warm air baths, warm 14-20°C and cold 0-14°C.

The ways of warming up with air are air baths, sleeping with open windows, outdoor exercise, invigorating gymnastics, game maintenance, running, skating, skiing, sledding.

The sun is another natural warming factor, in which exposure should be gradual, at certain times of the day, using sun protection creams, sunglasses and covering the head to avoid sunstroke.

## 3. Nutrition

In terms of nutrition, ensuring good quality nutrients, ensuring the intake of vitamins and minerals adapted to the age of the individual, all these lead to an increase of the body's immunity.

Quality foods are of increasing importance for nourishing the body and protecting against inflammatory processes and oxidative stress.

The nutrients needed by the body for proper functioning fall into two categories: macro and micronutrients. Macronutrients are needed in larger quantities as carbohydrates, proteins and fats. Micronutrients are needed in smaller quantities and are minerals and vitamins.

The correlation between these two types of nutrients ensures that the body functions properly, as macronutrients provide the energy the body needs and micronutrients help the body to stay healthy.

## 4. Physical Exercise

As far as exercise is concerned, the benefits of exercise for the human body are already known. There are many medical hypotheses (Hagiu, 2020) that provide new information about the SarsCov-2 virus, including the hypothesis that this virus attacks mitochondria. Studies show that moderate-intensity, endurance exercise contributes to the proper functioning of mitochondria, organelles that extract energy from nutrients and fat stores and produce ATP, adenosine triphosphate, which is a building block in DNA and RNA and is the main source of energy for our cells.

But the number and performance of mitochondria depend on the systematic physical exercise we should all do. Mitochondria, our body's energy powerhouses, are present in almost all our cells. The proper functioning of mitochondria depends to a large extent on physical exercise and the fight against the SarsCov-2 virus.

The situation in countries such as Germany, where each individual grows and develops throughout life with this cult of movement, of exercise, the rate of SarsCov-2 infection is much lower than in countries where sedentary lifestyles predominate. The awareness of the phenomenon of sedentary lifestyles among people of all ages is imperative, and the long-term consequences of physical inactivity and lack of exercise in our daily routine should be presented through media activities, the creation of age-specific exercise programs, the printing of brochures and materials that can be handed out personally.

In addition to daily activities that help burn calories, they ensure proper muscle tone and a healthy state of mind. The first step in starting an exercise program is to establish your health by visiting your doctor to see what limits your body should not exceed. Exercise can be safe for anyone's health. However, certain limitations may be imposed on people with chronic conditions such as arthritis, heart disease, hypertension, diabetes, osteoporosis, and certain lung conditions, among others.

Access to information in the online system allows any person to discover various exercises that they can perform independently at home or at the gym, the important thing is to know how to perform these exercises correctly, how many repetitions they should do, how to respect the principle of accessibility from easy to hard, from simple to complex.

According to the Physical Activity Guidelines (U.S. Department of Health and Human Services, 2018), preschool children aged 3-5 years should be active throughout the day to promote the body's harmonious growth and development, being encouraged and involved by parents in various movement games and various activities.

Children aged 6-17 years should do 60 minutes of moderate to high intensity physical effort daily with an emphasis on aerobic effort at least 3 times a week. Muscle and bone strengthening activities are recommended as part of the 60 minutes or more at least 3 times a week.

The same recommendations for adult physical activity are to exercise as often as possible, the benefits of which are listed above.

For multiple health benefits, adults should do at least 150 minutes to 300 minutes per week of moderate-intensity exercise or 75 minutes to 150 minutes of

high-intensity aerobic physical activity or a combination of aerobic and anaerobic physical activity. All these activities should be dosed over a week.

As regards physical activity for older adults, specialists' indications are directed toward physical activities that include several components, namely, balance, coordination, muscle toning. All these activities must be carried out considering the age, existing chronic diseases. The dosage of effort is also carried out according to the weight of each older adult to understand to what extent physical activity can affect their possible diseases. The advice given by specialists is to perform at least 150 minutes of aerobic effort per week; if this cannot be done due to various diseases, physical activities are recommended according to the abilities of each person.

The instructions given for pregnant women and after childbirth is to perform 150 minutes of moderate intensity aerobic exercise per week (https://www.cdt-babes.ro/articole/exercitii-fizice.php). The recommendation for pregnant women who are exercising is to consult their doctor on an ongoing basis in view of the evolution of their pregnancy and the need to adjust their program of exercise. For adults with chronic conditions or disabilities who are able, the suggestions are to perform 150 min to 300 min of moderate intensity aerobic exercise per week, with an emphasis on muscle toning exercises that add to health. People with chronic conditions should be referred to a specialist who can provide information about the impact of exercise on their existing condition and create a personalized program exercise.

The key guidelines for safe physical activity are based primarily on the safety of the activity space, appropriate sports equipment, the use of light clothing and sports footwear, and hydration throughout the physical activity. Choosing the optimal exercises to achieve the objectives, carefully selecting the exercises because some can harm rather than do good, always respecting the principle of accessibility, starting from easy to hard, from simple to complex; programs and recommendations for practicing physical activities and exercises by age categories play an important role in the training of any athlete or person who exercises. (Cârstea, 2000).

In the case of children aged 3-5 years, movement and physical activity should be spontaneous, involving children in physical activities in the form of play. We recommend water sports, sports dance, simple elements of gymnastics, as well as games that can be played outdoors, always respecting the current rules, i.e., distance and hygiene.

Childhood games (Drosescu, 1993), which for people over 30 years of age were the only way to relax and spend leisure time during the communist period, can be passed on to our children through the power of example, games that have contributed over time to improve our immunity, to be creative, to find solutions in various situations.

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For adults we recommend cardio, strength and stretching exercises. If these exercises cannot be done in an organized way, under the guidance of the instructor, they can be done at home or outdoors, respecting the correctness of the execution and the recommended dosage.

### **5.** Conclusions

The body's immunity can be improved both with the practice of physical exercise in an organized way, physical activities to combat sedentary lifestyles, a healthy diet, and with the contribution of natural calming factors.

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## ÎMBUNĂTĂȚIREA IMUNITĂȚII ORGANISMULUI CU AJUTORUL FACTORILOR NATURALI DE CĂLIRE, AL ALIMENTAȚIEI ȘI AL EXERCIȚIULUI FIZIC

### (Rezumat)

Imunitatea organismului nostru poate fi îmbunătățită printr-un stil de viață sănătos, acordând o atenție deosebită alimentației, activității fizice și factorilor naturali de calmare. Educația în acest sens trebuie să înceapă încă din copilărie, cea mai utilă metodă fiind puterea exemplului. BULETINUL INSTITUTULUI POLITEHNIC DIN IAȘI Publicat de Universitatea Tehnică "Gheorghe Asachi" din Iași Volumul 67 (71), Numărul 3-4, 2021 Secția ȘTIINȚE SOCIO-UMANE

# LES DEUX ROMANS DE LILIANA LAZAR

ΒY

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Abstract. Liliana Lazar is a small-village Romanian writer from Iaşi county. She leaves Romania after graduating from university, but her homeland still greatly impacts her writing. This paper aims to review and analyse the events taking place in the two novels she has published so far. In so doing, we hope to be able to decide if the image of Romania and the Romanian people, as depicted in her work, is positive or negative, and whether the data is historically accurate. Also, the paper tries to establish the author's sources of inspiration and see the extent to which she borrows symbols and signs from, among others, Mircea Eliade.

Keywords: collectivisation; communism; superstitions; orphan; murder.

## **1. Introduction**

*Terre des affranchis*, traduit en roumain sous le titre de *Pământul* oamenilor liberi, et *Enfants du diable*, ce sont deux textes qui appartiennent à Liliana Lazar : une romancière roumaine qui a choisi de quitter son pays d'origine, après avoir conclu ses études à la Faculté des Lettres, de l'Université « Alexandru Ioan Cuza » de Iași.

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Ces aspects semblent, à première vue, dépourvus d'importance et pourtant, rien qu'en ouvrant son premier roman, nous retrouvons un toponyme : *Slobozia*. Il s'agit d'un village du département de Iași où la narratrice a passé son enfance et qu'elle a utilisé pour y déployer tout un univers pas comme les autres, pour les lecteurs étrangers, un peu trop primitif, à notre avis. La Moldavie roumaine est au cœur de l'écriture de Lazar dans son second roman aussi : une autre localité, Prigor, et le même imaginaire, typiquement roumain. Les aspects que l'écrivaine évoque ébauchent une image de la Roumanie et permettent aux lecteurs francophones de se faire une idée sur notre pays.

Il reste à voir comment les événements sont perçus, aussi bien du côté du lecteur que de l'auteur et, pour ce faire, il convient de jeter un coup d'œil sur les textes proprement-dits.

## 2. Terre des affranchis

Paru chez Gaïa, le roman de Liliana Lazar, Terre des affranchis, a joui d'une double reconnaissance de la part du public français et francophone. D'un côté, la romancière roumaine a remporté le Prix des cinq continents de la francophonie, en 2010, et d'un autre, Jean-Marie Gustave Le Clézio a fait paraître, la même année, un article dans Le Point. Ce que le prix Nobel de littérature de 2008 considère comme « un des romans les plus originaux de ces dernières années » (Le Clézio, 2010) et comme un roman fantastique et classique à la fois renvoie à l'histoire des Luca et des habitants d'un village où les superstitions, les pratiques occultes et la religiosité coexistent. La dimension fantastique du texte repose sur des indices spatio-temporels, sur l'attribution des faits inexplicables aux esprits des morts appelés moroï et sur des rituels du sorcier Ismaïl le Tzigane. Celui-ci est chargé de l'exhumation d'Ana Luca, soupçonnée d'incarner le mal et d'être à l'origine de tous les malheurs des habitants de Slobozia ; il la déterre et lui arrache le cœur pour que le village soit purifié à jamais de tout esprit mauvais. De même, la nouvelle institutrice, désireuse de se marier, et le nouveau prêtre, qui espère pouvoir procréer, recourent aux services du soi-disant « sorcier ». Malheureusement, ils ne parviennent pas à leurs fins parce que la jeune femme est violée et tuée et l'épouse du prêtre ne parvient pas à accoucher d'un bébé. Le personnage central du roman est pourtant quelqu'un d'autre qui se place plutôt du côté du mal, malgré ses tentatives d'échapper aux forces maléfiques qui le dominent.

Slobozia est, d'une part, un village traditionnel où les gens vont à l'église le dimanche, lors d'une fête ou d'un enterrement et, de l'autre, un espace dominé par la forêt et la Fosse aux Lions, un marécage dont tout le monde a peur. Tout le monde, excepté Victor Luca qui s'en sent protégé parce qu'il sait « que *La Fosse* ne lui fer[a] aucun mal, car elle [a] besoin de lui, tout comme lui qui [peut] compter sur elle pour effacer ses erreurs » (Lazar, 2009, p. 126). Les différents crimes qu'il commet s'étalent sur un quart de siècle, ce qui

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coïncide avec les événements historiques qui succèdent l'époque de la mort de Gheorghe Gheorghiu Dej, le premier président du Parti Communiste Roumain, et s'arrêtent à l'hiver 1990. La mise à mort des époux Ceauşescu « le jour même de Noël [...] sommairement exécutés par leurs anciens complices » (Ibidem, p. 95) n'est non plus passée sous silence.

La romancière roumaine parle pourtant d'hommes libres qui travaillent leurs terres en pleine époque communiste, alors que le processus de collectivisation est depuis 1962 accompli (Chivu, 2012). Elle s'apprête à rendre une image négative de l'Eglise, malgré la mise en place des figures de Daniel et du père Ilie Mitran. Cependant la fin inattendue du livre parvient à changer complètement les repères narratifs, suite au fait que la romancière offre une clé inattendue à cette histoire on ne peut plus allégorique (Burcea, 2011). En évoquant apparemment des situations enregistrées après la chute du communisme, Liliana Lazar ne fait que discréditer les religieux roumains et contribue à la constitution d'une image négative de la Roumanie.

A son tour, lorsque Jean-Marie Gustave Le Clézio écrit que *Terre des affranchis* offre « une vue intérieure sur l'un des événements historiques les moins connus des lecteurs occidentaux » (Le Clézio, 2010) et que c'est de « ce monde de la Transylvanie et des Carpates d'où est issue une bonne partie des mythes lycanthropiques de la culture occidentale » (Ibidem), il paraît embrasser des éléments qui frôlent l'imagologie. Celui-ci s'avère être un bon connaisseur de Mircea Eliade, des mythes, des symboles et voire des superstitions que le philosophe roumain théorise dans ses textes. De son côté, Liliana Lazar utilise dans ce texte le symbole de la grotte (Eliade, 2013 [1957], p. 211) qui protège Daniel et qui protégera Victor Luca aussi. Victor en est protégé, tout d'abord, après son premier crime. Ensuite, lorsque Daniel décide de lui céder sa place, pour qu'il commence une nouvelle vie, le jeune homme jouit d'une protection maternelle de la part de la même grotte. A la protection maternelle s'ajoute une autre paternelle, par l'intermédiaire de Daniel qui prend sur lui les faits de Victor.

Il semble que les plantes soient au centre de toutes sortes de croyances populaires et des superstitions. Un bon exemple de ce type nous renvoie à la mandragore. Celle-ci fait partie d'un rituel impliquant les forces vitales de l'être humain ou de la nature, en ce sens qu'elle peut aider les jeunes filles à trouver leur amour, à se marier. Si elles ont déjà pris un mari, la mandragore les aide à procréer (Eliade, 1995, p. 215-232). L'institutrice se déshabille, frotte son corps avec de la mandragore et, de ce fait, Victor Luca, dominé par les besoins fondamentaux, la viole et la tue. Quant au prêtre de la communauté, lui, il espère pouvoir avoir des enfants avec sa femme et, après de longues prières adressées à la divinité, il recourt à celui qui passe pour un sorcier œuvrant avec les forces maléfiques.

Quand Liliana Lazar décide de « sauver » un criminel, remet sa punition à plus tard et lui permet de se cacher dans un monastère, le mal semble l'emporter sur le bien. La mise à mort de nombreuses gens n'a aucune importance parce qu'elle n'apporte pas la résolution des problèmes, surtout lorsque les morts font partie du commun des mortels.

## 3. Enfants du diable

Dans son second roman, Liliana Lazar conserve le cadre champêtre d'un village moldave, car c'est Prigor qui reçoit Elena Cosma et son « enfant de Dieu », un enfant qu'elle a décidé d'enlever pour avoir son fils à elle. Pour le reste, tous les autres enfants sont des êtres indésirables, des bouches à nourrir dont on se débarrasse après les avoir mis au monde, puisqu'ils sont des « enfants du diable ». En d'autres mots, des êtres qui devaient leur naissance au régime de l'époque – Nicolae Ceauşescu avait signé le décret qui interdisait l'avortement. A cette époque-là, les grossesses se sont multipliées, les orphelinats aussi et c'est à l'écrivaine roumaine de nous en parler. Pour ce faire, elle recourt à ses souvenirs d'enfant, à des histoires dont elle a été témoin ou qu'on lui a racontées (Lazar, 2016b) et à des sources documentaires qui ont décidé du sujet du livre (Beraru, 2017).

*Enfants du diable* suit plusieurs destinées, à commencer par celle d'Elena Cosma qui se réfugie à Prigor pour échapper à la mère de l'enfant. Elle invente sa propre histoire : mère célibataire à cause de la mort de son mari qui est venue travailler dans un endroit où il n'y avait pas de sage-femme. En réalité, elle veut échapper à la mère du garçon qui devient trop sentimentale et tente de reprendre son fils.

En même temps, Ronna Ferman, une jeune femme d'une beauté à couper le souffle, mène une vie misérable, après avoir été violée par le maire du village, un certain Ivanov. Quand elle veut se débarrasser de l'enfant résulté du viol, elle finit par perdre sa vie et laisse ses deux autres enfants seuls au monde. Son mari, Ghiorghi, est tué par le maire Ivanov et enfermé dans un tonneau. Les gamins des deux époux sont ainsi enfermés dans un orphelinat. Autrement dit, dans une institution d'Etat censée les protéger, mais, où il arrive toutes sortes d'atrocités, la fillette, Laura, étant sur le point d'être violée. La vie des orphelins du village est poursuivie jusqu'au début des années 90, ce qui fait que la misère, la pauvreté et l'ignorance des Roumains et de la Roumanie ressortent de toute évidence, sans qu'il y ait vraiment de choses positives à remarquer.

Lorsque la sage-femme Elena Cosma, essayant apparemment d'apaiser les maux des souffre-douleurs pratique sur eux des micro-transfusions qui supposent le prélèvement « du sang sur les enfants en bonne santé et de l'injecter aux plus faibles » (Lazar, 2016a, p. 168), ceux-ci tombent malades. Laura Ferman fait partie d'eux, de ces enfants infectés à VIH, et ne peut pas être accueillie par des personnes venues d'autres pays, en vue d'adopter des enfants roumains.

Parmi ceux qui arrivent à Prigor, pour le « projet de SOR (Sauvons les Orphelins de Roumanie), il y a même des pédophiles, comme un certain Henri, qui vaquent à leurs affaires louches sans que personne s'en soucie. Ce personnage prolonge le drame des enfants abandonnés qui avaient déjà vécu une situation similaire à cause de Vlad surnommé « l'Empaleur », un ancien enfant abandonné qui travaille dans l'orphelinat du village. L'association que l'auteur fait entre ce personnage et le prince régnant roumain est ahurissante, mais réalisable grâce au trait qu'ils partagent : la cruauté. Il paraît que le prince roumain ait été abusé sexuellement pendant son enfance par le sultan. Une fois arrivé au pouvoir, il a décidé d'empaler les violateurs et les prisonniers ottomans (Mazilu, 2006). Quant à l'employé de l'orphelinat du roman Enfants *du diable*, celui-ci se conduit exactement comme ses bourreaux, jusqu'à la mort de Lucian, le frère de Laura. Comme Lucian s'est suicidé pour mettre fin aux abus de Vlad, ce dernier est renvoyé et la vie reprend son cours ; les orphelins continuent d'être affamés et mal vêtus, en dépit de l'aide extérieure dont ils semblent jouir.

# 4. Conclusion

Aussi bien *Terre des affranchis* qu'*Enfants du diable* semblent crayonner une image plutôt négative de la Roumanie. Toutefois, il faut bien se garder de mettre un signe d'égalité entre le pays dont les deux romans parlent et la situation actuelle. Liliana Lazar critique un pays qu'elle n'habite plus depuis une vingtaine d'années et l'image qu'elle en ébauche n'a rien de positif. C'est probablement la raison pour laquelle la Roumanie passe pour un pays rongé par la pauvreté, la faim, la misère, l'inculture et la corruption. On y reconnaît bien l'absence de l'éducation, la présence des superstitions qui se mêlent aux dogmes religieux et aux décisions politiques plutôt défavorables au peuple.

Au-delà du manque d'intérêt des critiques roumains pour les textes de Liliana Lazar (Lazar, 2016b), nous pouvons finalement avancer l'idée que l'originalité et le caractère de nouveauté de son œuvre ne ressortent malheureusement pas de toute évidence, comme l'avait suggéré J.-M. G. Le Clézio, dans l'article déjà cité. A notre avis, ces deux aspects ne sauraient s'appuyer sur des clichés, sur des croyances populaires et sur des superstitions découlant d'anciens mythes déchus (Eliade, 1959 [1948], p. 367-368). A chacun de décider, après la lecture de ces deux livres, de sa position vis-à-vis des faits qu'ils racontent et – pourquoi pas ? – d'en imaginer une autre fin ...

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### CELE DOUĂ ROMANE ALE LILIANEI LAZAR

### (Rezumat)

Liliana Lazar este o scriitoare originară dintr-un sat din județul Iași și, chiar dacă părăsește România după ce își termină studiile universitare, în momentul în care se apucă de scris, pare că acest lucru contează. Prin textul pe care îl propunem ne dorim ca evenimentele din cele două romane pe care scriitoarea le-a publicat până acum să fie trecute în revistă și, pe alocuri, analizate, astfel încât să stabilim dacă imaginea României și a românilor este una pozitivă sau negativă, dacă ele coincid cu realitatea istorică. Totodată, vom încerca să stabilim care sunt sursele de inspirație ale romancierei și în ce măsură aceasta împrumută semnificații și simboluri de la Mircea Eliade, printre alții. BULETINUL INSTITUTULUI POLITEHNIC DIN IAȘI Publicat de Universitatea Tehnică "Gheorghe Asachi" din Iași Volumul 67 (71), Numărul 3-4, 2021 Secția ȘTIINȚE SOCIO-UMANE

# **RENDERING THE IMAGE OF THE MOTHER FROM ION CREANGĂ'S** *MEMORIES OF MY BOYHOOD* INTO ENGLISH

ΒY

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Abstract. As a central figure in Ion Creangă's memoir *Memories of My Boyhood*, the image of the mother appears in a plurality of differing ways – determined to provide an education for her son, tired of daily work, gentler or stricter towards her children depending on the situation, firm in sending her son to study in Iaşi etc. – which beyond their universality, also reflect the specific reality of the Moldavian village in the nineteenth century. The article examines the transposition of the mother figure into another linguistic universe, specifically the English one, starting from the 1978 translation by Ana Cartianu and R. C. Johnston.

Keywords: translation; translation studies; culture; maternal figure; Ion Creangă.

# **1. Introduction**

A key literary work in the Romanian canon, *Memories of My Boyhood* was published as a full volume in 1892, collecting the three parts that Ion Creangă had published separately in the literary magazine *Convorbiri Literare*, together with a fourth, unfinished, part. As the book focuses on the childhood

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and teenage years of the protagonist, the figure of the mother emerges as a foundational pillar in his life and experiences. From the beginning she insists on providing an education for her son, despite initial disagreements with her husband and eventually despite her teenaged son's reluctance as well; she is involved in the daily rearing of her children, teaching life lessons between household chores; from the perspective of the child, she is in possession of nearly magical qualities, while still being human enough to lose her patience after a whirlwind of pranks from her children.

Ion Creangă as an author has been frequently republished in Romanian (both his individual works and edited complete works) as well as translated into other languages. In the case of *Amintiri din copilărie*, there exist two full English translations, namely *Recollections from Childhood*, translated by A.L. Lloyd, published in 1956 and *Memories of My Boyhood*, *Stories and Tales*, translated by Ana Cartianu and R. C. Johnston, published in 1978. Of the two, the latter is the more circulated version, a fact further confirmed by being used for a bilingual reprint of the book in both Romanian and English in 1995.

A not uncommon topic of investigation in translation studies due to the many linguistic features of the source text that pose particular challenges for the translator and thus making it a worthwhile case study, Cartianu and Johnston's translation has been analyzed among others with a focus on (cultural) identity (Aciobăniței, 2012; Mureșanu, 2021), cultural and historical elements (Cenac, 2014), and stylistic features (Mureșanu, 2019).

When analyzing Creangă's style, Mureșanu emphasizes the way in which the writer employs the vernacular, underlining that the originality of Creangă's work resides in recreating the folk language and "pour[ing] it into the pattern of an individual narrative" (Mureșanu, 2019, p. 31).

In their *Translators' Foreword*, Cartianu and Johnston acknowledge the lexical and syntactic features of the text as translation difficulties (Creangă, 1978, p. 9). Their self-professed strategy was to find an English-language equivalent, on occasion purposefully employing an archaism or dialectal word; in situations where this was not possible, native terms were also occasionally used as such and explained in footnotes, e.g. *sorocoveți, husași* (coins that were in use at the time in Moldavia) or *hora* (traditional Romanian country dance). A similar strategy of finding equivalents was employed for proverbs and sayings, except the "typically local" ones, where they wanted to preserve their "freshness" (Creangă, 1978, p. 9).

Cartianu and Johnston indicate their intention of preserving the spirit of the source text, focusing on rendering "the rhythm of Creangă's oral speech, the tone of a story sedate and nostalgic or spritely and full of fun" (Creangă, 1978, p. 9).

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### 2. Analysis

As the first part of *Memories of My Boyhood* focuses on the early schooling adventures of the protagonist, Ion (often called Nică) in Humulești, his native village, and in Broșteni, the mentions of the mother are primarily in connection with these educational pursuits. From the beginning she supports his learning, the narrator emphasizing her happiness with his progress: "greatly rejoiced", "with joy".

Her aim throughout the book can be summarized in one sentence she utters: "vreau să-mi fac băiatul popă" / "I want my boy to be a priest"; her drive is clearly displayed and obvious: "ahotnică pentru mine" / "passionately wrapped up in my future".

She is also happy to receive guests and "break bread with them", highlighting her hospitality, a typically traditional Romanian trait.

The second part mentions the mother quite frequently, as she learns – or not – of her son's pranks and misbehaviours.

She is described from a child's viewpoint as "vestită pentru năzdrăvăniile sale" / "well-known for her spells and cantrips", "plină de minunății" / "full of strange and wonderful practices". The words used, both in the source text and the target text, create an aura of quasi-magical fascination.

In the third part, which focuses on the protagonist's studies in Tîrgu Neamţ and Fălticeni, the mother is only mentioned incidentally, but still with a focus on her continued support of her child's education, as well as her determination to see him become a priest. The segment is notable from the point of view of the translation analysis as the phrase "după câtă minte avea" is left untranslated. Thus, contrasting the two segments, the Romanian version has a slightly critical nuance that does not appear in the translated version.

In the fourth part, the mother decides that the protagonist should continue his studies even further from home, in Iaşi. In a conversation with him (and her husband) on the topic she speaks "cu asprime" / "in deadly earnest", "cu nepăsare" / "quite unmoved", "hotărâtor" / "firmly". In order to be convincing, she appears very strict in this passage, confirming the impression of the decisive mother who pushes her son to succeed in life by furthering his studies.

The image of the mother is thus primarily built with the help of descriptive vocabulary, actions and interactions with the other characters, which merit a further analysis at a textual level.

On a general lexical level, the word most often used to refer to Nică's female parent is "mama", the corresponding word "mother" being used for it in the translated text. However, there are also three instances of "mămucă(i)", a diminutive for mother which is rendered twice as "mother" and once as "mummy".

On her part, Smaranda addresses her son by name, but also as "dragul mamei" (approx. 'my dear boy') three times throughout the book. Of the three instances in the source text, the translations are once "my boy" and twice "my darling".

The phrase "biata mama", highlighting the perspective of the adult recounting childhood pranks (used twice when describing the children's failure to fall asleep at night and once in the swimming story), is rendered as "mother, poor dear"; "my poor mother"; "poor mother". The same adjective is employed, while also taking advantage of resources English has for expressing the notion.

Within the family, during conversations that Nică is privy to and that often concern him, Smaranda addresses her husband as "bărbate" / "husband" once and "omule" three times, for which the translation is once "my man" and left untranslated in the other two cases, the word "you" deemed to be sufficient. During arguments the appellatives she uses change to "sărmane omule" / "you poor fool" and "Măi omule, măi!" / "Listen, my man". In the latter situation the Romanian phrasing conveys a level of exasperation and anger that is difficult to render into English.

Conversely, Ștefan addresses Smaranda as "măi femeie", translated as "woman" or "good woman" and "măi nevastă", translated as "wife". The "măi", a mark of folk speech, is not translated, as the closest correspondent in English is the general "you".

Appellatives such as "mămucă", "omule", "femeie" and "măi" are characteristic of folk speech and convey the characters' milieu effectively in the source text.

As mentioned previously, cultural terms represent one of the important challenges throughout the book. In this analysis, those that stand out as related to the image of the mother related to the household (*sobă / stove, vatra focului / hearth, talanca de la oi / sheep-bell, căruță / cart*), food and food preparation (*a pune lapte la prins / to curdle the milk, a smântâni oalele / to skim the cream, alivenci și plăcinte cu poalele-n brâu / cheese cakes and cheese pies*), household activities and work (*furcă / distaff, stative / loom, sumani / cloth; coats, a nividi / to warp, a țese / weave, pieptănuși / wool combs, canură toarsă / coarse thread, bătătură / weft*).

The culture-specific terms as employed by Creangă help create an image of the rural house and village where the characters lead their lives.

In a few cases, the specific vocabulary is rendered using more general terms, e.g. as "culeşer" (a stirring pole) as "stick", "ocniţă" (small alcove in a peasant house) as "behind the chimney". On the one hand, this helps decrease the comprehension difficulty of the text, while on the other it which may distance the reader from the vivid picture Creangă paints in the original version. As Mureşanu (2021, p. 45) concludes, the translator of culture-specific items needs a combination of strategies and special considerations.

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On a grammatical level, the differences between the more permissive Romanian language and English become visible as in the source text, the narrator frequently lapses into using present tense in an otherwise past tense narration, thereby adding vividness ("mă trezește", "mă scol", "mă și trimite", "aud", "vine", "se ia la ciondănit", "cheamă [...] și-i zice" etc.). However, in the target text all these are rendered as past tense verbs ("woke me up", "I got up", "sent me off", "heard", "came", "started quarrelling", "asked [...] and said" etc.) Grammatically, then, we note the difference in verb tenses as the translators avoid using the historical present. In keeping with the decision to utilize the past tense throughout the narrative, a term such as "now" in "citea acum la ceaslov" / "she was reading the prayer-book" is left untranslated.

The choice made by the translators is fitting for a stricter language such as English, yet it results in a degree of translation loss when considering the effect of the storytelling, which lacks the immediate feel the source text possesses.

From the perspective of stylistics, an important aspect given the folk language employed by the author, an already analyzed element is the use of the appellative "măi", which appears fairly frequently.

Even more common is the use of narrative "şi" ('and'), used in Romanian not (only) in its sequential meaning, but also as a mark indicating storytelling. Two primary strategies are used for it in translation: eliminating it, "Şi mama" being thus translated to "Mother" in most cases or connecting the two sentences in the source text to create a single sentence in the target text: "Şi mama avea un chin cu mine" to "[...], and mother had an awful time with me"; "Şi tot cihăia mama pe tata" to "[...], and she was constantly nagging father".

In one particular instance, namely the concluding paragraph of the first part, which is comprised of three separate sentences in the source language, the translation changes it to one long narrative sentence in the target language: "[...] acasă la Humulești. Și în ziua de Paști [...]. Și mamei îi venea [...]." "[...] home to Humulești, and on Easter Day [...], and mother felt like [...]."

Other possibilities are to render it as such ("Și vremea" / "And the weather") or to translate it as "while" ("Și când învățam eu la școală" / "While I was learning at school").

The conjunction "dar" ('but') can also trigger a similar strategy: "[...]. Dar tata spunea [...]" to "[...]; but father said [...]". Conversely, "[...], încât" becomes "[...]. As a result of all this".

These instances involve both stylistics and syntax, leading to sentence structure changes. The choices made by the translators match their goal of rendering the author's oral speech, as described in the previous section of this article.

Further stylistic elements include phrases such as "Pare-mi-se că știi tu moarea mea" / "You know by now the way I am", "să te dezmierd" / "put it

across you", "să-și caute de drum" / "get himself ready for his journey", where a level of the richness of the language the mother uses is lost.

There are situations characterized by an even higher degree of stylistic loss: "Mămucăi, iacată-mă-s!" / "Mother, I've come home." In this situation there are multiple cultural markers such as the appellative, the folk form of the interjection "iacă" which indicates someone's appearance and the syntactical order that also indicates folk language, all of which are lost in the translation process. Similarly, the sentence "Când a mai auzit mama și asta, s-a făcut foc" / "When mother heard that, she blew up" lacks the impact of the elements "mai" and "și", which in the source text emphasize the build-up of the narrative and the emotional impact on the character.

Other situations with a stylistic impact are the instances where elements of the text are left untranslated, such as "ia acuş" in "Să nu mă faci, ia acuş, să iau" / "Don't drive me too hard or I'll fetch", a choice which subtracts from the vivacity of the text and thus of the character. Conversely, there are situations when elements of the text are translated in more detail, helping to compensate: "ca să-și ia nădejdea" / "so that he'll stop wishing we'll change our minds", "mai în grabă" / "if she was in much of a hurry for that".

## 3. Conclusions

The lexical choices, the verbs tenses, the sentence structures and the stylistic choices as analyzed above show the richness of the author's language, which in turn helps create the character of the mother in this text. The refracted text of the English translation creates a different effect on occasion, in addition to the existence of a certain degree of loss in the translation, an inextricable part of the nature of the process itself. Operating in this difficult to navigate space, defined by the moving coordinates of faithfulness to the source culture and comprehensibility in the target culture, the translators paint a picture of the 19<sup>th</sup> century Moldavian village and its inhabitants.

Even when fully aware of the challenges a translator faces and armed with a translation strategy, as is the case here, translation, especially one rich in culture-specific items, remains a difficult endeavour. The translators themselves saw Creanga's *Memories of My Boyhood* as "a human and social document of the ways of thinking and the life of a Romanian village in the nineteenth century" (Creangă, 1978, p. 8) and strove to translate it accordingly.

The character of the mother, as depicted in the four parts of *Memories* of *My Boyhood*, is shown as determined, kind, proud, disappointed, angry and wise in turn. In their essence, these situations are common to motherhood. Nevertheless, the details of the context, such as the setting, the activities, the interactions create the nuances of the narrative and individualize her as Smaranda from Humuleşti, the wife of Ştefan a Petrei Ciubotarul and mother of Nică.

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## TRANSPUNEREA ÎN ENGLEZĂ A FIGURII MAMEI DIN *AMINTIRI DIN COPILĂRIE* DE ION CREANGĂ

## (Rezumat)

Imaginea mamei din *Amintiri din copilărie*, figură centrală în lucrarea memorialistică a lui Ion Creangă, apare în numeroase ipostaze (hotărâtă să-i asigure o educație fiului său, obosită de munca zilnică, mai blândă sau mai severă față de copii în funcție de situație, fermă în a-și trimite fiul la studii în Iași etc.) care dincolo de universalitatea lor, reflectă și realitatea specifică a satului moldovenesc din secolul al XIX-lea. Articolul analizează transpunerea figurii materne într-un alt univers lingvistic, anume cel englez, pornind de la traducerea realizată de Ana Cartianu și R. C. Johnston, apărută în 1978.