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CHILDREN AT PSYCHIATRIC RISK AND THEIR FAMILIES IN BUCHAREST, IN THE CONTEXT OF 25 YEARS OF CHANGES AFTER DECEMBER 89' ROMANIAN REVOLUTION

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ABSTRACT

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Children at psychiatric risk and their families in Bucharest, in the context of 25 years of changes after December 89' Romanian Revolution

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The aim of the present dissertation was to capture a picture of child and adolescent mental health in Romania, in the context of almost 25 years of changes following the Romanian Revolution of December '89. A three-part study was carried out in order to provide consistent answers to the pre-defined objectives: to appraise the development of child and adolescent mental health services in Romania (Part I), to explore the characteristics of clinically-referred patients in a Romanian child and adolescent psychiatry department (Part II), to examine the children's mental health state and its connections with family functioning and associated risk factors (Part III).

A multi-method research approach was used, comprising one qualitative analysis and two quantitative research studies. Part I consisted of a comparative qualitative analysis of the answers given by 10 mental health professionals at a 12-questions open ended interview about the current situation in child and adolescent mental health in Romania, on three topics: changes, challenges, solutions. Part II involved a descriptive quantitative analysis of certain variables (e.g. age, gender, primary diagnosis, co-morbidities, time of hospitalization) conducted on the patients who had been admitted to the Child and Adolescent Psychiatry Department at "Prof. Dr. Alexandru Obregia" Psychiatry Hospital, Bucharest in 1991 and in 2013. Part III was conducted on 342 subjects enrolled in two clinical groups and one school group, this study being performed through a cross-sectional analysis on multi-informant child and adolescent mental health problems and competencies (CBCL, YSR, SDQ P, SDQ SR) and their interrelation with household information (HQ) and family functioning (FAD).

Outlining the results it can be stated that: 1) The CAMH System in Romania is definitely set on the path of reorganization, including a higher involvement of beneficiaries and of the community. 2) The characteristics of the admitted patients have changed significantly during the last almost 25 years since `89 December Revolution, under the influence of word wide trends in child psychiatry and of administrative aspects of the mental health network in Romania. 3) The rates of main diagnoses and co-morbidities confirm the reports in literature, with Autism Spectrum Disorder being the most frequent childhood psychiatric disorders in this study. 4) The children's mental health problems in the psychiatry group are comparable to those reported for other clinical populations. 5) Significant score differences were observed according to various household features and also meaningful associations between a child's clinical status and different aspects of family functioning.

The Romanian Child and Adolescent Psychiatry has started to adopt the norms and standards of the European Union. In the 25 years that have elapsed after the 1989 Revolution, many changes have occurred in Romanian CAMH, but many unresolved issues have also risen. Therefore, the major contribution of this thesis is that it provides a coherent and updated overview of the present-day situation from three different perspectives- those of mental healthcare professionals, the one observed in clinical patients and the one reported by children's families.

Keywords: child mental health, risk factors, services, development, Romania

TIIVISTELMÄ

Laura Mateescu

Psykiatrisessa riskissä olevat bukarestilaiset lapset ja heidän perheensä tarkasteltuna joulukuussa 1989 Romaniassa tapahtuneen vallankumouksen aiheuttamien muutosten valossa

Kliininen laitos, lastenpsykiatria, Turun yliopisto, Turku, Suomi
Lasten- ja nuorisopsykiatrian klinikka, ”Carol Davilan” lääketieteellinen yliopisto ja ”Prof. Dr. Alexandru Obregian” Psykiatrinen sairaala, Bukarest, Romania

Käsillä olevan tutkimuksen tarkoitus on selvittää bukarestilaisten lasten ja nuorten mielenterveyttä ja mielenterveyden muutoksia lähes 25 vuoden ajalta Romaniassa vuoden 1989 joulukuussa tapahtuneen vallankumouksen jälkeen. Kolmiosaisen tutkimuksen tutkimusongelmat ovat seuraavat: arvioidaan lasten ja nuorten mielenterveyspalvelujen kehitystä Romaniassa (Part I), selvitetään, miten romanialaisessa lasten- ja nuorisopsykiatrian klinikassa hoidettuja potilaita kuvaavat piirteet ovat muuttuneet (Part II), ja tutkitaan lasten mielenterveyden tilaa ja sen yhteyksiä perheen toimivuuteen ja perheeseen liittyviin riskitekijöihin (Part III).

Tutkimuksessa käytettiin useita tutkimusmenetelmiä, niin että tutkimuksessa on sekä laadullinen analyysi että kaksi määrällistä tutkimusta. Ensimmäisessä osatutkimuksessa vertaillaan laadullisesti vastauksia, joita 10 mielenterveyden ammattilaista antoi 12 kysymystä sisältävässä avoimessa haastattelussa. Haastattelun aiheena oli lasten ja nuorten mielenterveyden nykytila Romaniassa, ja siinä tiedusteltiin tätä koskevia muutoksia, haasteita ja ratkaisuja. Toinen osatutkimus koskee lasten- ja nuorisopsykiatrisia potilaita, jotka olivat olleet sairaalahoidossa Prof. Dr. Alexandru Obregia -nimisessä psykiatrisessa sairaalassa Bukarestissa vuona 1991 ja vuonna 2013. Osatutkimus sisältää eräiden potilaita kuvaavien muuttujien (esim. ikä, sukupuoli, päädiagnoosi, samanaikaissairastavuus, sairaalahoidon kesto) kuvailevan kvantitatiivisen analyysin. Kolmas osa sisältää analyysin, joka kohdistui 342 koehenkilöön. Nämä jakautuivat kahteen kliiniseen ryhmään, psykiatriseen ja neurologiseen, ja yksi ryhmä oli normaalipopulaatio, joka koostui koululaisista. Ryhmiä tutkittiin tekemällä poikkileikkausanalyysi lasten ja nuorten mielenterveyden ongelmista ja psyykkisestä kompetenssista (CBCL, YSR, SDQ P,SDQ SR) sekä niiden keskinäisistä suhteista perhettä koskeviin tietoihin (HQ) ja perheen toimintaan (FAD).

Tutkimuksen tulokset voidaan tiivistää seuraavasti: 1) Lasten ja nuorten mielenterveyden hoito on Romaniassa järjestetty selvästi uudella tavalla niin, että hoitoon otetaan aikaisempaa enemmän mukaan sekä hoidettavat että heidän perheensä. 2) Sairaalapotilaita kuvaavat piirteet ja ominaisuudet ovat muuttuneet merkittävästi viimeisen 25 vuoden aikana, mihin ovat vaikuttaneet sekä lastenpsykiatrian maailmanlaajuinen kehitys että Romaniassa tapahtunut mielenterveysasioiden hallinnollinen kehitys. 3) Tässä tutkimuksessa tärkeimmiksi havaitut diagnoosiryhmät ja samanaikaissairaudet vahvistavat aiempia tutkimustuloksia, joiden mukaan yleisimpiä lapsuusiän psykiatrisia häiriöitä ovat autistiset häiriöt. 4) Psykiatrisessa hoidossa olleiden lasten mielenterveysongelmat ovat verrattavissa ongelmiin, joita on raportoitu muissa vastaavissa potilasryhmissä. 5) Erilaisten perhettä kuvaavien muuttujien välillä havaittiin merkitseviä tilastollisia eroja, ja lapsen kliinisen tilan ja perheen toimivuuden välillä havaittiin merkittäviä yhteyksiä.

Lasten- ja nuortenpsykiatriaan on Romaniassa alettu omaksua Euroopan unionin normeja ja standardeja. Romaniassa 1989 tapahtuneen vallankumouksen jälkeen 25 vuoden aikana on Romanian lasten ja nuorten mielenterveystyössä tapahtunut monia muutoksia, mutta on ilmennyt myös uusia ongelmia. Tehdyn tutkimuksen merkittävin anti onkin olla yhtenäinen ja ajantasainen katsaus Romanian lasten- ja nuorisopsykiatrian nykytilaan katsausta kolmesta erilaisesta näkökulmasta – psykkisen terveydenhuollon ammattilaisten, psykiatrisen klinikan potilaiden ja lasten perheiden näkökulmasta.

Avainsanat: lasten mielenterveys, riskitekijät, palvelut, kehitys, Romania

CONTENTS

ABBREVIATIONS

ADHD	Attention deficit hyperactivity disorder
ADI	Autism Diagnostic Interview
ADOS	Autism Diagnostic Observation Schedule
ASD	Autism Spectrum Disorder
ASEBA	The Achenbach System of Empirically Based Assessment
CBCL	Child Behaviour Checklist
CAMH	Child and Adolescent Mental Health
DRG	Diagnosis-related group
DSM IIIR	Diagnostic and Statistical Manual of Mental Disorders III Revised
DSM IV	Diagnostic and Statistical Manual of Mental Disorders IV
EXT	Externalizing symptoms
FAD	Family Assessment Device
HQ	Household Questionnaire
ICD10	The International Statistical Classification of Diseases and Related Health Problems, 10th Revision
INT	Internalizing symptoms
INT (LRSM)	The Romanian League for Mental Health (Liga Romana pentru Sanatate Mintala)
IQR	Interquartile range
LOS	Lenght of hospital stay
NGO	Non-governmental organization
SDQ SR	Strengths and Difficulties Questionnaire
SDQ P	Strengths and Difficulties Questionnaire Parent
SES	Socio economic status
TRF	Teacher Report Form
TRF 11/2-5	Teacher Report Form 11/2-5
UK	Unites Kingdom
US	Unites States of America
WHO	World Health Organization
YSR	Youth Self Report

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1. INTRODUCTION

Worldwide, there is significant notable interest in epidemiological research intending to study the mental health of children and adolescents and the factors associated with it. A 10-year research update review on the epidemiology of child and adolescent psychiatric disorders *(Costello et al, 2005)* concluded that there is mounting evidence that many, if not most, lifetime psychiatric disorders first appear in childhood or adolescence. The WHO report from 2008 on child and adolescent mental health resources communicates that globally, currently up to 20% of children and adolescents suffer from a disabling mental disorder and that up to 50% of all adult mental disorders have their onset in adolescence.*(Belfer, 2008)*. A recent review article *(Merikangas et al, 2009)* presents that approximately one fourth of youth have experienced a mental disorder during the past year, and about one third will experience one during their lifetime. Every year, new studies around the world come to enrich the scientific evidence about the implication of GxE interaction in etiology of mental health disorders in children and adolescents.

For the mental health of children and adolescents in Romania, the 1989 Revolution represented a critical milestone. This political turning point for Romania, has gradually come to influence all levels of the society, which have undergone many changes. During the nearly 25 years since the December 1989, the key operating areas of Romanian society, including economic and social, have been transformed in comparison with the previous period. In this context, the child and adolescent mental health network has grown being influenced by the changes the society and the health service delivery system have undergone Also, the characteristics of child and adolescent mental health inpatients population suffered significant changes in comparison with the period before the December ’89 Revolution. The family , the factor described worldwide as having a major impact on child mental health, suffered significant changes under financial and social transformations of Romanian society over the last quarter century.

Which are the characteristics of child and adolescent mental health network and of child and adolescent mental health inpatients population in Romania, after December ’89 Revolution? And which are the family factors currently related with child and adolescent mental health in Romania?

These are the questions that started to grow in my mind after years of clinical and university activity in Child and Adolescent Psychiatry Department of “Carol Davila” University of Medicine and Pharmacy and “Prof. Dr. Alexandru Obregia” Hospital from Bucharest.

The volume of clinical work is searing high, with tens patients each month, evaluated in the context of an extremely small interdisciplinary team (psychologist and social worker). Following the assessment, intervention plans are also developed for these patients, and often, due to the absence of community mental health services, the intervention programmes are also provided.

This context, although it is a disadvantage for the clinical activity, represented the crucible for identifying the needs and for structuring the questions to be searched. Reviewing the national and international literature in order to get answers to these questions, only limited amount of information about child mental health in Romania could be identified.

2. AN OVERVIEW OF CHILDREN'S MENTAL HEALTH SYSTEMS IN ROMANIA THROUGH A HISTORICAL PERSPECTIVE

Romania is situated in the South East of Europe. It has a surface of 238.392 square km, with 42 counties, and the capital city is Bucharest. Each county has its main city, its capital from an administrative, economical, medical, cultural and educational perspective. (see Appendix I).

The most recent census (2011) collected the following population data on age and gender distribution. The total population of Romania is almost 20 million inhabitants, out of which 4.3 millions are children and adolescents (0-18 years old). 2.3 million persons, with almost 400 000 children (0-18 years old) live in Bucharest. (*National Institute of Statistics 2011*)

2.1. The period before World War II

Starting in the 19th century, the development of Romania as a modern state happened under the influences of western European countries, particularly France, Germany and Austria. Therefore, Romania is closely linked with the rest of Europe, through culture, economics and politics.

As in many other European countries, French , German and English language were compulsory subjects in medium-high social classes (bourgeoisie, aristocracy), being taught by native speakers who also conveyed complex cultural issues and current developments. The French literature and French translations of works in German and English were sometimes read more than books in Romanian.

The period between the second half of the 19th century and the beginning of the World War II was characterized by an effervescent cultural life and a scientific one. Many of the political and cultural Romanian personalities have completed their academic development abroad, in traditional cultural milieus and universities. Intense and free movement of people and ideas transformed Romania into one of the top representatives of European culture.

The need to promote cultural development, to stimulate the level of education, to increase the scientific level led to the establishment of universities (e.g. University of Bucharest), followed by their rapid development according to the Western European model.*(Sorel and Prelipceanu, 2004)*

In this context of cultural life patterns influenced by French, German and Austrian guidelines, the growth of psychiatry and psychology also began in Romania. In 1893, the psychiatry was taught at university level for the first time in Romania in Bucharest at Department of Psychiatry and Clinical Aspects of Mental Maladies of University of Bucharest, under Dr. Alexandru Sutzu, the founder of Romanian School of Psychiartry. *(Sorel and Prelipceanu, 2004).* Also, a milestone that deserves to be mentioned is the establishment of the first Psychology School of Romania, in 1921 in Cluj Napoca. This was the starting point for the Institute of Comparative and Applied Experimental Psychology.

In this high cultural level context accompanied by the desire to promote the development of Romania , the first book in Romanian (translated from French) about caring and treatment activities for children with deficiencies was published in 1860 (Eduard Seguin 1846 Traitement Moral, Hygiène et éducation des idiots et des autres enfants arriérés). In 1904, Th. D. Sperantia published "Psychology for all". Between 1924 and 1931, in Cluj, C. I. Urechia and S. Mihaiescu published the first important Romanian book about neuro-mental pathology ("The Treaty of

Neuro-mental Pathology"), with two chapters about pathology in childhood. In 1924- 1925, several books about training of the education personnel were published "Elemente de ortofonie pentru uzul tuturor educatorilor" (The Orthophony Elements For All Educators) " ,"Istoria educatiei, literaturii si legilor pentru copiii anormali.(The history of education, literature and law for abnormal children) by Gheorghe Crainiceanu, "Inteligenta copilului . Studiu critic si experimental (The Child Intelligence: A Critic and Experimental Study) by Petru Ilcus. *(Milea, 2003)*

Several scientific societies activating in the field of psychiatry and psychology were created. Some of them published scientific journals, such as: Society of Neurology and Psychiatry (1905, Bucharest, Alexandru Sutzu) with The Bulletin of Neurology and Psychiatry (1919 in Bucharest). The Institute of Comparative and Applied Experimental Psychology from Cluj published the Journal of Psychology (first edition in 1938) and they also published a significant number of books on child psychology and psychiatry , before the beginning of World War II. In Bucharest, in 1934 the Romanian Society of Psychological Research was founded, being led by Constantin Radulescu Motru. That same year the Annals of Psychology were published, with articles such as "The disorders of child behaviour and character, due to wrong inhibitions from family environment". In Sibiu, in 1933 The Society of Psychological Medicine and its Bulletin were established.

The history of psychiatric care in Romania can be drawn back to 1860 when the first psychiatric hospital was based in Bucharest: Marcuta Mental Hospital (near Marcuta monastery). This was the final shift of the mental health care system from the medieval type (monastic then isolational and detentional) to the medical secular one, especially under the ruling of Alexandru Sutzu (1867-1909). Also, as part of the broader picture of the history of child and adolescent psychiatry services, caring and treatment activities for children with deficiencies (deaf-mute, blind) first started in 1831 in Brasov. The first "Society for children caring" was founded in Iasi in 1910. Starting with the first years of the 20th century, schools for children with mental problems were founded in several places around the country (1900- Arad, 1921 Iasi and Bucuresti, by Gheorghe Marinescu). The very first institutions of service delivery system for children with mental disorders were also created during this period of time (1929, run by Florica Bagdazar), at Raul Vadului (near Sibiu in 1934). *(Milea 2003)*

The theoretical background of psychiatry and psychology of that time in Romania embraced some of the current trends in Europe. In early 1894, Alfred Binet presented his novel ideas in Bucharest. Between the two World Wars, the psychoanalytic current gained many adepts, out of which some important in Romania.

The legal framework of the caring system for children with mental health problems and their families was discussed for the first time in 1863, as part of the "Project for Organizing the Sanitary Police", published in Iasi (by Atanasie Fatu). The sanitary law of 1930 specified that "the treatment and care of psychiatric disorders must be done in specialized hospitals or health houses". In 1924, Chapter VI of the new law of primary education outlined the framework for schools and classes for children with mental retardation and conduct disorders. *(Milea 2003)*

Between the World Wars, an effervescent development of psychology and psychiatry took place in the country, under the influence of great European scientific currents. This happened on the level of education laws for mental health problem children, university structures, professional societies, literature in Romanian language (professional books and journals). At the beginning of the service development, specific child and adolescent psychiatry was limited to a small number

of caring facilities (inpatient and outpatient services) without a network, by a lack of specific trained professionals and by the absence of a specific education system for them.

It should be mentioned, the presence in Bucharest, in the interwar period of the psychologist and psychoanalist Egan Weigl, refugied in Romania from Nazist persecution, which has established "A counseling center for the education of children with behaviour disorder "(*Costiner, Dobrescu, 1990).*

2.2. The period from World War II until the 1989 Revolution

In this situation, after World War II, Romania entered under the influence of the communist regime of the Soviet Union. In 1947, the political regime of Romania changed from a monarchy to a people's republic. The entire medical assistance changed under this new political influence. During the 40 years that followed, general psychiatry, psychology and child psychiatry in Romania were confronted with the popular/socialist/ communist political orientation, thus following directions different to those in Western Europe *(Sorel and Prelipceanu, 1999)* .

During the first 30 years, 1948- 1980, the social regime of the state acted on good premises towards child and adolescent psychiatry development in Romania, both on university education of professionals and also on the service delivery system. But this development happened under the influence of the Soviet Union, grounded in its political ideology.

Psychiatric disorders did not suit the model of "the new communist man" *(Boia, 2001),* considered to be totally different from "the capitalist man" from the pre-communist period or from western capitalist countries; so people with mental problems were taken away and hidden from the public eye.

At the same time, the entire psychiatry society acted under the biological paradigm of mental disorder. This states that a person is only the product of the biological activity of one's brain and it excludes the influences of environmental and psychological risk factors, because "a good communist state doesn't have risk factors, only good to excellent conditions for its people".

In this context, because the only cause of mental health was the undivided neurobiology, the child psychiatry development was concentrated on creating medical facilities and on educating only medical personnel, and not all of the professionals needed by the intervention team (no psychologists, social workers, psychotherapists).

In science, western ideas, currents, research, discoveries and trends were rejected.

The movement of persons and ideas was extremely low, making the necessary continuous education of professionals very difficult. The Romanians' access to international scientific conferences, and training courses abroad was limited, and the visits of international scientific personalities in Romanian universities were almost non-existent. Access to international scientific literature was extremely restricted, permitted only to a limited number of people, and even for them, access was allowed only with very little information. The scientific books were not displayed in libraries in their original language, much less translated. The scientific journals did not reach Romanian professionals (*Costiner, Dobrescu, 1990*).

During the socialist regime, Romania's mental health intervention policy supported the development of therapeutic programs for children with mental health disorders outside the community, behind the walls and closed doors of hospitals and nursing homes for chronic severe and profound affections. And this happened so that the patients were treated in hospitals, without

the intervention of the family, school or community. Also, in the same inpatient or outpatient facilities, children were treated with two types of neurological and psychiatric pathologies, in accordance with the characteristics of the medical specialty in Romania in that period: infantile Neuropsychiatry.

In this framework, in 1948, in concordance with the sovietic model of medical specialities, Child and Adolescent Psychiatry was officially created for the first time in Romania as a medical field but not as a separate one, as a was part of Infantile Neuropsychiatry. Also in 1948, the curricula "Psychology of normal and pathologic child" was created as part of psychiatry and neurology discipline in all important universities throughout the country (in Bucharest- Dr. Florica Bagdazar, in Cluj Napoca- Conf. Dr. M. Muller, in Timisoara- Dr. Eduard Pamfil, in Iasi- Conf. Dr. L. Blumfeld). *(Milea, 2004)*

In 1946, in Bucharest, the first small Mental Health Centre for children was founded, by Dr. Florica Bagdasar, who made a specialization in United States and in France. After she was removed for political reasons, the place was transformed in "The central service for infantile neuropsychiatric consultations" and functioned until 1973*(Magureanu et al., 2013)*

The development of the child psychiatry (together with child neurology, as infantile neuropsychiatry) delivery system begins starting with 1949. The inpatient services/hospitals in connection with university activities started to be created throughout the country in university cities (Cluj, Iasi, Bucharest, Timisoara). Between 1949 and 1973, 4 university clinics were created with a total of 350 beds (with 50 to 100 beds for each clinic). During that time, because of the lack of community network development, the number of beds in these departments increased, at times doubled. Also, between 1954 and 1985, smaller inpatient services (10 to 60 beds) were created in 13 counties around Romania, each located in the capital of the county. But under the Soviet Union ideological influence, between 1950 and 1986, 17 big hospitals for child neuropsychiatry (with between 150 to 1200 beds each) were established in order to treat both neurology and psychiatry disorders. Also starting with 1950, the first outpatient services are developed as neuropsychiatric consultation cabinets in Bucharest, Timisoara, Targu Mures, and between 1960 and 1984, after the training of specialists, around 60 outpatient services are based in cities, all over the country. *(Milea, 2004)*

On political level, the Ministry of Health formulated programmes (1962-1972, 1972-1980, 1980-1990) for promoting and defending mental health, with chapters for infantile neuropsychiatry. Starting with 1972, according to the 2nd National Programme, the state orientation of the type of child mental health care should have changed from inpatient care to outpatient care, through the establishment of day care hospitals and the transformation of neuropsychiatric consultation cabinets in mental health laboratories. In reality, this never happened. *(Milea, 2004)*

Even more, the therapeutic team suffered from the lack of proper professionals (psychologists, speech therapists, social workers, other types of therapists, adequately trained psychiatric nurses). The university training of social workers was suspended in 1964, the Speech therapists faculty from Cluj was disbanded in 1976 and both the Faculty and Institute of Psychology in Bucharest were closed in 1979. Even more, from 1983 professional training was denied to child and adolescent psychiatrists. No teaching position (assistant, professor) was made available any longer, and doctoral programmes also came to an end *(Sorel and Prelipceanu, 2004)*.

Although not endorsed by state ideology and then banned as retrograde and harmful, with supporters sometimes punished, psychology and psychotherapy continued to exist in the mind and practice of many specialist in Romanian psychiatry.

Also, in 1968, according to the law, abortion was prohibited. *(Kilngman,1992)*. The illegal abortion manoeuvres multiplied, thus having as a consequence a higher frequency of neuropsychiatry sequels in children. At the same time, maternity leave after child birth was of only 3 months and although the number of daycares increased, the conditions given (the ratio number of children: number of caring persons and the limited level of training of the caring persons) were totally improper. In this context, the number of abandoned children increased, they were placed into large domestic orphanages "Orfelinate" where the physical care conditions, supporting somatic and cognitive development, and the stimulation of human interaction and of affective and social development were limited to non-existent.

By December 1989, some of these children were included in English and Romanian Adoptee (ERA) study and in Bucharest Early Intervention Project (BEIP). The ERA project was a longitudinal investigation of the development of children adopted into the UK from Romania in the early 1990's. The ERA study found that children who experienced extreme institutional deprivation will improve their in psychological functioning after adoption, but some of those adopted after the age of sixth months will continue to experience significant problems. *(Rutter 1998)*. The BEIP project was the first randomized, controlled trial of foster care as an intervention for institutionalized children. The results from the BEIP study confirmed and extended the findings on the negative sequela of early institutional care on mental health and also underscored the benefit of early family placement for children living in institutions. *(Boss et al., 2011)*

On the other hand, the classification of the deficiency degrees was exceeded, the terms 'partially recoverable' and 'irretrievable' being used for labelling children. As a consequence, the quality of caring in the special units for children with severe and profound needs was extremely poor.

Children with mental health problems were assessed in hospitals and in neuropsychiatry consultation cabinets, without an evaluation team, with improper assessment of family and school functioning, with limited connection with child paediatricians, family doctors and teachers. The intervention was performed mainly in the hospital, with limited therapeutic teams, with restricted involvement of the child's family, doctor and school.

On research level, only few results occurred. The only child and adolescent epidemiology national level study was the Centaur project (1981-1984) (*Grigoroiu- Serbanescu et al., 1999*) Several national conferences on neuropsychiatry were organized starting with 1968, but it was only in 1980 that they became annually. A number of professional books written in Romanian by Romanian authors were published (*Predescu 1979, Predescu 1989, Milea, 1986*).

This was the framework of child psychiatry in Romania at the moment of the Romanian Revolution in December 1989.

2.3. The period after the 1989 Revolution

2.3.1. Current CAMH policy

The common feature of child and adolescent psychiatry development after the December 1989 Revolution is fully due to the general trend of Romanian society: the reorientation towards the Western European civilization standards *(Boia, 2012*). To achieve this goal, during the last 20 years since the December '89 Revolution, the mental health network in Romania has been in a reorganizing process *(Mircea, 1999)*. This process started in 1996, when Paediatric Psychiatry and paediatric psychiatrists (this is the official name of the specialization and its professionals)

detached from Infantile Neuropsychiatry. The separation of neurology created a paradigm shift, a prerequisite for the understanding of mental disorders. The change was difficult and is still on-going in the context of variations in political, social and economic domains in Romania. Some issues have hampered the development of child mental health in Romania, despite the desire for change. Nonetheless, there were some socio-cultural aspects that promoted change.

Awareness, economic and political aspects are elements without which one cannot induce change. For certain categories, the major impediment on the way to progress still continues to be the awareness of the following: the general public (i.e. parents and grandparents, family, neighbours), the education system professionals, and the people engaged not only in the health system (paediatrics, family medicine), but also in the network of psychiatric professionals on particular aspects of mental health. Achieving a process of education takes time, money and political will. In order to create policies, people had to be educated, informed about the changes in Western European, so that they could determine the same changes in Romania. After restoring communication with western Europe and America**,** it took time for mental health professionals in Romania to learn about the new state of affairs in mental health. They acquired this information through scientific literature, through internships and courses organized abroad, or in Romania by foreign staff. The mentality of the politicians had to be changed through a gradual, difficult and expensive transition from post-communist into the democratic mentality. The first 10-15 years after the 1989 Revolution were extremely troublesome, because Romania went through a painful process of restructuring its economy from a socialist, centralized, and uncompetitive one into a capitalist one. In this process of economic restructuring, 2 million Romanian people left the country to work abroad. And this process is far from over.

On the other hand, the family structure in Romania has changed during the communist regime compared to the pre-World War II, and it still continues to be influenced by the traditional extended family (grandparents, great grandparents, uncles and aunts), with its practical and economical support offered to the central family. The level of communication and natural, spontaneous, unorganized support from the community is important. Also, a significant percentage of the population now turned to the orthodox church that intensively promotes Christian moral values and supports the emotional and economic needs, though rarely in a clearly structured manner. *(Boia, 2012).*

The information presented in the following evaluation was collected using the Country Profiles Questionnaire, the instrument used in EU Children and Adolescents Mental Health in Enlarged Europe Project (CAMHEE). The instrument was used for evaluating Infrastructure, Policies and Practices in Child and Adolescents' Mental Health in several European countries, one of them being Romania. This questionnaire is based on and adapted from IMHPA –HP source questionnaire for Prevention and Promotion in Mental Health and the Mental and Neurological Health Policy and Services Development Country Profiles Questionnaire. The author of the thesis was part of the Romanian team of CAMHEE Project.

General policies The change of the general policies related to child and adolescent mental health started in 1990, when Romania ratified the United Nations Convention on Children Rights. Now the situation of general policies related to child and adolescent mental health in Romania is evaluated through a process that meets European standards. (see Appendix II)

In 2004, the Romanian Ministry of Health elaborated the Mental Health Strategy – that was the first important step on inducing a change in mental health in Romania in general and also in child and adolescent mental health.

In 2005, another step was made, through the elaboration of the Action plan for the Mental Health Strategy of the Romanian Ministry of Health, which renowned personalities in the field joined during the Twining Program. The Application Norms of the Law of Mental Health and Protection of Individuals with Mental Disorders (2006) presented the objectives of the National Plan for Promoting and Defending Mental Health and Prevention, and Treatment of Psychiatric Disorder. This is the first time when the idea of community psychiatric assistance is displayed in Romania.

These norms discuss the change in the mental health type of care in Romania, switching from a hospital based type of care to a community based type of care. The development of the national mental health services network structure was initiated by designing psychiatry sectors throughout the country. A psychiatric sector represents a distinct territorial area with a population between 200-400,000 inhabitants. Each psychiatric sector should have provided the following aspects: facilities, services and a therapeutic team according to local needs and specificities. In each sector, the therapeutic team should have provided guidance for families, physicians for managing care and should have established connectivity protocols in order to ensure continuous care. Some of these goals have been achieved, others are still in progress.

Table 1. The psychiatric sector: facilities, services, therapeutic team.

Facilities	Services	Therapeutic team
• mental health centre • mobile unit • the crisis intervention centre • the inpatient daytime service • a psychiatric cabinet • structures with beds • cross-bedded structures • structures with beds for severe and persistent disabilities • liaison psychiatry departments • recovery and rehabilitation neuro-psychiatric centres • safety lodgement.	• outpatient psychiatric services mobile health services psychiatric daytime services: occupational therapy • individual and group psychotherapy, • special rehabilitation programmes • vocational rehabilitation programmes • psychiatric hospital services (in a psychiatric hospital, in a paediatric hospital, in general hospital) • home care services.	• psychiatrists • psychologists • social workers • psychiatric nurses • other categories necessary for each sector

In 2008, the next step taken was the National Strategy for Protecting and Promoting Children's Rights 2008-2013. This was the first strategy to address the rights of every child in Romania.

Specific policies and large scale programmes By comparison, the specific policies and large scale programmes for child and adolescent mental health in Romania are less developed. The available specific policies are mentioned in Appendix III.

The programmes for infants and toddlers are limited. The mandatory assessment programme for family doctors nationwide is presented in Table 2. However, the programme does not include screening of any pre or post partum emotional disorders (depression, etc.) of the mother, screening of psychosocial risk factors for affective disorders shown by the mother, or screening of psychosocial risk factors for emotional disorders in children.

Table 2. The mandatory assessment programme for toddlers made by family doctors nationwide.

• Assessment of somatic health of the pregnant woman
• Assessment of pregnancy development
• Screening for foetal congenital disorders
• Between 0-3 years, assessing somatic, neurological, cognitive, language and basic skills development without assessing emotional, behavioural, social and personal autonomy
• Between 0-3 years, autistic spectrum disorder screening

Promotion and prevention programmes and special mental health services. With few exceptions (Drug and alcohol abuse prevention), promotion and prevention programmes are inexistent in Romania. The situation is similar also for specially designated mental health services or promotion/preventive actions, tailored to the subgroup's unique needs which are not yet developed in Romania. Rroma mediators (about 200) exist either in poor rural communities or in urban areas and their role is to mediate the relationship between population and health care. Such mediators for Rroma population also work in the education system.

The institution of ombudsman for children's rights has not been created in Romania. The institution "Child Lawyer/ Advocate" is part of the "People's Lawyer/ Advocate". At each county level, the General Direction for Social Assistance and Child Protection is responsible for children's rights.

2.3.2. Current CAMH services.

The development of child psychiatry and mental health services in Romania after December 1989 Revolution began by splitting of infantile neuropsychiatry in child psychiatry and paediatric neurology, built in 1996. For a period, this separation was only on paper and not in reality, the two specialities continue to work with the same people (doctors with double competence: neuro-psychiatrists) and in the same places (hospitals, clinics, offices). After 1996, with the completion of residency training by the new generation of child psychiatrists, the mental health network in Romania entered into the restructuring process.

Today, the Romanian children and adolescent mental health network has both public and private structures.

The problem of the public health care system is the fact that it is oriented towards treatment, rather than prevention. It is focused mainly on the clinical diagnosis of high-severity problems, and, for this reason, moderate or mild problems often remain undetected. Even when such problems are identified, the concerned children and their parents have restricted access to children mental healthcare services, because these systems are very fragmented and under-funded. The system is excessively focused on tertiary care (hospital) at the expense of primary care and is vertical, without "horizontal" collaboration. Also the healthcare system itself is closed, having limited collaboration with the fields of educational systems and social assistance.

The structure

Immediately after 1990, the big hospitals of infantile neuropsychiatry organized after the Soviet model were eliminated, without creating new structures to replace them, nor developing the existing ones in the mental health network.. The changes began before joining the European Community (2007) - a process in which Romania was also monitored in regards to mental healthcare development.

In 2006, the Ministry of Public Health started the reform in psychiatric services. The Application Norms of Mental Health Law, from May 2006, proposed the creation of the National Centre for Mental Health. In addition, the norms established the grounds for a national network of mental health services, with a community basis, by designing the psychiatry sectors.

With few exceptions, each of the 42 counties of Romania has an **outpatient service** located mostly in the district capital. In 20 counties, the outpatient services are located in Mental Health Centres. The others are found in paediatric hospitals or in general county hospitals.

There are 27 **inpatient services for acute patients** throughout the country, three of them being university departments (Bucharest, Cluj Napoca, Timisoara), while 15 are situated in psychiatric hospitals, six in paediatric hospitals and the rest in clinic county hospitals (3). There is only one **hospital for long-term care**. At national level, there are 464 beds for child and adolescent psychiatry. There are 8.4 beds for 100,000 persons 0-18 years old. There are no child and adolescent psychiatry inpatient services in 16 out of 42 counties.

However, there are still some counties in which there is only one examination office, which does not have the structure and the functionality of a mental healthcare centre. Even more, in a limited number of counties, there are no outpatient, nor inpatient services. As a conclusion, even if many changes have occurred, the public mental healthcare system is still heavily unstructured.

The functioning

Psychiatry services improved their functionality during the last year, though only in a limited manner. The number of personnel increased, the categories of professionals diversified, the quality of assessment and intervention techniques increased. The clinical atmosphere changed because of the involvement of the psychologists, social workers and various therapies.

Still, in many situations, even when these inpatient and outpatient services exist, their activity is inadequate because of the inadequate development of the team (the improper number and categories of professionals involved in patients assessment and therapies), the lack of active and functional connections with the rest of the partners of the mental health network (family doctors, school, child protection services, the professionals from special education centres).

The availability of child and adolescent mental healthcare and treatment services is unevenly distributed around the country. Some health care units have a good distribution (child psychiatric appointments, pharmacological treatment, inpatient beds on children psychiatric ward, and social service appointments for children (e.g. child protection). The others have started to develop (outpatient treatment, psychologist appointments, psychotherapy, school counselling, and family counselling). Some areas are almost inexistent in terms of representativeness and accessibility nationwide (infant early intervention and adolescent- outpatient centres services, group therapy, behavioural cognitive psychotherapy, family therapy, psychosocial rehabilitation centres for adolescents). Along with building the network structure of child and adolescent mental health, its operation requires improving.

In the majority of cases, only a formal communication exists between general practitioners, outpatient units, inpatient units, education system (school) and child protection. Still, in many cases, the children identified by the general practitioner are referred directly to the psychiatric hospital due to the lack of a mental health care network in the county. In most cases, there is only one outpatient clinic and one inpatient department in each county. The community care is absent in many situations. There is only a formal communication between the general

practitioners, the paediatricians and the units with beds. Around the country, the continuity of healthcare management is still, in many cases, limited to a particular psychotropic medication.

However, in many situations, in county psychiatry offices, a child is assessed only by one person (child and adolescent psychiatry doctor), who establishes the intervention plan, being, at the same time the case manager and surveying the aims and compliance steps of plan intervention. In many cases, the continuity of treatments only refers to the continuity of psychotropic treatments.

The therapeutic team

Around the country, the mental healthcare network is facing an acute lack of personnel. The therapeutic team is, in many cases, extremely limited in outpatient and inpatient clinics: an insufficient number of professionals (child and adolescent psychiatrists, clinical psychologists with child and adolescent training, social workers, psychiatric nurses, therapists); in many situations - the absence of some essential professionals in the team (psychologists, therapists, social workers) - and the insufficient training in some specific forms of therapies. Therefore, the teamwork and the network activity - as it is structured around Europe - is not the reality of the Romanian child and adolescent mental healthcare system. In many outpatient centres, only one person, the child and adolescent psychiatrist, represents the team. This person does the evaluation, the intervention programme and the case monitoring. Each professional is overcrowded with patients. In many cases, one professional (the psychiatrist) is performing activities and other professional responsibilities (family, school teacher and social worker). In many cases, psychiatrists are performing counselling and psychotherapeutic interventions, as well as social worker activity. In many cases, there is not a real caring continuity between secondary and primary services; only a continuity of psychotropic treatments.

The network is facing the lack of proper educated specialists in the psychotherapies used in intervention programs of child and adolescent mental health problems in other European countries.

Child and adolescent psychiatrists work in the child and adolescent mental health system around the country. Half of them are concentrated in five university centres (Bucharest, Cluj, Timisoara, Iasi, Targu Mures). The rest are present with an average of two per county in the rest of the counties. During the last 5 years, the child and adolescent community has been facing an important emigration of young colleagues in other countries from Europe, but also across the seas, in USA, Canada, Australia and New Zeeland. The activity of child and adolescent psychiatrists takes place under the coordination of the Romanian College of Physicians. In Romania, in 2009, around 230 child and adolescent psychiatrists were registered.

Psychologists with clinical child and adolescent training/ speech therapists/ pedagogues/ psychologists specialized in other therapeutic techniques. The number of clinical psychologists with child and adolescent training is limited. In addition, the number of professionals in therapeutic techniques (Applied behavioural analysis ABA, behavioural cognitive therapy, psychodynamic therapy, family therapy, speech therapists) is narrow and inconsistently distributed around the network. The activity of psychologists takes place under the coordination of the Romanian College of Psychologists.

Psychiatric Nurses. The number of nurses specialized in psychiatric nursing is about 300, out of 12,000 nurses. The psychiatry nurses work under the coordination of the Romanian Order of Nurses.

Social workers. The number of social workers has increased in the past years. Still, their place in the child and adolescent mental health team is not yet properly developed, in comparison with the European level.

Psychotherapists. The Romanian Federation of Psychotherapy has affiliated 30 national associations and 900 certified psychotherapists, including 24 holders of the European Psychotherapist Certificate.

Family doctors and **Paediatricians.** In Romania the current contribution of these professionals, whose roles are well defined in many health systems worldwide to child and adolescent mental health is limited. Their role in screening and early identification of mental health disorders in children and in early screening of individual risk factors and socio-family development mental health disorders in children is still deficient. These services are not included on the list of services compensated by the National Health Insurance.

Child protection

The National Authority for the Protection of Family and Children's Rights is part of the Labour, Family and Social Protection Ministry, the General Directorates for Social Assistance, and Child Welfare subordinated to county councils, respectively to local councils in Bucharest, have been established in the counties. Since the creation of the child protection system, in 1997-2004, there were significant changes in the conditions offered by institutions. The shelters organized after the old principles were restructured. Most of the institutions larger than 150 places were closed (196 institutions). New family-oriented services have developed. The childcare professionals have been trained and mandatory minimum standards for most of the existing services have been established. The national and local campaigns regarding the situation of institutionalized children has had positive results in terms of awareness - all children need protection from adults to exercise their civil rights and liberties.

The closing of traditional institutions and the effort to keep children in the care of their families were supported by the creation, development and diversification of alternative services, with a special emphasis on community services.

Thus, at the end of 2006, there were 578 operating alternative services: 60 maternity centres, 99 day care centres, 47 health and support services for young people from orphanages, 59 counselling centres and parents support , 43 prevention services for preconception and monitoring services, assistance and support of pregnant women prone to child abandonment, 38 training centres of reintegration and integration of the child in the family, 90 day care centres and rehabilitation of children with disabilities, 20 guidance services that supervise and support the reintegration of delinquent children, 8 service centres and support for psychological rehabilitation of children with psychosocial problems, 11 services to support the child in the exercise of his/her rights, including the right to free expression of opinion, 35 services for street children, 44 counselling centres and support for neglected or abused children, including the victims of domestic violence and 24 other services. (National Strategy for child rights protection and promotion 2008-2013)

In 2001, 27 hotlines for reporting cases of abuse, neglect and exploitation of children were established, only nine of which are permanent. So far, 39 phone lines have been created for this purpose, 34 of which are permanent. The number of allegations of abuse and neglect in the period January to April 2005 was 1766, 504of which required special protective measures.

Funding
The funding offered by the state to the medical system, the education system and the social protection system is limited. The budget of the Ministry of Health was 5% of GDP in 2011, and 3.9% of GDP in 2010. The budget of the Ministry of Education was 3% of GDP in 2010. For the last 5 years, the national health programs have included a subprogram dedicated to prevention in mental health.

Each adult employee pays a portion of his income to the national health insurance.
For children, the right to health services is recognized by law, all children up to age 18 being provided with health insurance, without paying the contribution in the health insurance system. This entitles them to receive preventive and curative health care (including for mental health problems) under the normative acts regulating the field of social health insurance.

The private practice network has developed intensively all around the country. Many psychiatrists and psychologists were able to establish their individual practices in order to provide psychiatric evaluations, psychological assessments, individual and family psychotherapy programmes. In most cases, payment for these services is covered entirely by the client. There are situations in which, by signing a contract with the House of National Insurance, the payment for psychiatric (medical) and for a limited amount of psychological services (counseling, only if recommended by a psychiatrist) can be covered by the client's contribution to the national health system.

2.3.3. Current training of CAMH professionals

Within the very first decade (1990s) after the December 1989 Revolution, the training of all professionals in the field of child mental health (psychiatrists, psychologists, specialists in special education, social workers, psychotherapists) started again. Even if just barely, ideas of psychiatry, psychology and psychotherapy were kept alive for 40 years and it was only after the Revolution that they came back with more strength. Across the country, many various mental health professionals were able to participate in courses and trainings abroad. Many foreign guests were invited to lecture and to give structured courses in universities and hospitals in Romania. Participation in international scientific events was common among Romanian specialists. Even so, the training of the following professionals is not uniform between categories and around the counties.

Training in **child and adolescent psychiatry** restarted immediately after Revolution, in 1990, as grounding in infantile neuropsychiatry and since 1996, as child and adolescent psychiatry by splitting from paediatric neurology. The training is accomplished as part of the 5-year child and adolescent residency fellowship, held in 3 university centres: Bucharest, Timisoara, Cluj-Napoca. The curricula is congruent to European standards and includes training sessions in community and liaison psychiatry. The residency is organized by the Ministry of Public Health, and the title of child and adolescent psychiatry specialist is obtained after passing the final exam.

As part of their teaching programme, the residents in other medical specialties have a training in child and adolescent psychiatry with varied duration: psychiatry (6 months), pediatrics (3 months), neuro-paediatrics (3 months). For family physicians no training course in child psychiatry is provided during the Residency, only one short training during the Faculty of Medicine.

The **child and adolescent psychiatry research** is limited due to several reasons. First, there is a financial problem, because universities and hospitals are not able to offer funding for research. A different position in Romanian mental health research is occupied by the Faculty of Psychology

in Cluj, whose achievements include the translation and the validation in the Romanian population of some of the first screening and diagnosis instruments.

Access to the scientific information is one of the most important achievements of the period following December `89. Currently, mental health professionals have access to books written by foreign authors, in their original form or translated, to books by Romanian authors and to Romanian and foreign journals. However, the access to scientific journals is not free, and unfortunately, most state institutions in Romania cannot yet cover the fees.

Training as **child psychologists** takes 3 years of The Faculty of Psychology and Education Sciences, which is part of several state and private universities across the country (Bucharest, Arad, Cluj, Timisoara, Oradea, Sibiu, Iasi, Constanta, Brasov); the training ends with a 2-year master program. Further child and adolescent training is required. After graduation, the activity of psychologists takes place under the supervision of the College of Psychologists.

The training of **social workers** is held in around 20 faculties around the country (in Arad, Alba Iulia, Oradea, Brasov, Cluj, Constanta, Craiova, Timisoara, Bucharest, Iasi, Pitesti, Petrosani).

The first Romanian school that offers **psychiatric nursing training** was founded in Bucharest. It has a 20-year history. Since 2008, three more centres of psychiatric nursing training have been created, as part of the National Mental Health Program; each of them has modules of child and adolescent psychiatry.

Family doctors and **Paediatricians** The training of general practitioners and paediatricians is still deficient in screening and early identification of mental health disorders in children and in early screening of individual risk factors and socio-family development mental health disorders in children.

Also, it is necessary to improve the training of **medical students** - future general practitioners and paediatricians -in child mental health problems.

The training in several **psychotherapeutic techniques** can be performed by several professionals (psychologists, physicians, social workers, graduates in theology and philosophy) after graduating from university. The majority of these sessions are now organized by several private organizations, which are accredited by the Romanian Federation of Psychotherapy and by the College of Psychologists of Romania. The training costs are supported by each individual trainee. Initially, the Romanian psychotherapy schools (Psychoanalysis, Cognitive Behavioural Therapy, Family therapy, Applied Behavioural Analysis ABA, Transactional Analysis, Adlerian Therapy) developed through the training of EU, USA and Canada specialists. Some of these incipient courses were part of collaboration programmes between universities. The profession of „psychotherapist" is not yet recognized by the Romanian Occupations Classification. Psychotherapy is not included in the list of health services covered by the Institution of National Health Insurance. Counselling is covered by the Institution of National Health Insurance only if it is recommended in the treatment plan given by the psychiatrist.

The **education system professionals** (staff of day care, kindergarten, primary, secondary and high school) need to be continuously trained, thus they can help with early screening and intervention, as part of the therapeutic team.

2.3.4. Non governmental child and adolescent mental health organizations

Professional organizations

In 1990, the first national society of professionals in child psychiatry was created: The National Society of Neurology and Psychiatry of Child and Adolescent in Romania (SRNPCAR), which published its own journal (The Journal of The Society of Neurology and Psychiatry of Child and Adolescent in Romania). It represents the professional association of neuro-psychiatrists. It is affiliated to the European Society for Child and Adolescent Psychiatry (ESCAP).

In 2006, another professional association was founded for child and adolescent psychiatrists from Romania: The Romanian Association of Child and Adolescent Psychiatry and Allied Professions (RACAPAP). It is allied to the International Association of Child and Adolescent Psychiatry and Allied Professions (IACAPAP). Starting with 2008, it has published its own journal (The Journal of Romanian Association of Child and Adolescent Psychiatry and Allied Professions). Every year, despite financial difficulties, the RACAPAP organizes its annual national conference, gathering together many mental health team members across the country and from all professional categories**.** RACAPAP engaged in continuous education of children and adolescent psychiatrists, in mental health education of family physicians, paediatricians, psychologists, educators and teachers, social workers and psychiatric nurses and generalist nurses.

The NGO's

In the past 20 years, NGOs have played a major role in the development of child mental health in Romania. They have developed preventive programmes and national information campaigns, and they have organized training courses for professionals and parents across the country. The NGOs have had an important role in mental health care around the country, due to the lack of proper state structures. The parents of children with Autism Spectrum Disorder and ADHD, the areas in which state services are limited, have created organizations to promote public education and to stimulate the development of comprehensive services for children, parents, school.

Table 3: NGO Campaign in Romania.

Campaign	NGO	Year
„What do you know about autism"	The Association for Therapeutic Intervention in Autism	2013
I am autistic. Autism in kindergartners"	The Association for Therapeutic Intervention in Autism	2012
„The Individual Behind Autism"	National Association of Children and Adults with Autism in Romania & Houston NPA	2011
Give me a chance" (awareness campaign on autism)	Romanian Angel Appeal and Romanian Government	2011
"Together we can defeat autism"	Romanian Angel Appeal, Vodafone Foundation, Foundation for Civil Society Development	2008
Be united! Help children with ADHD"	The Association of Students and Alumni in Social Assistance	2011
"ADHD is real. Alternatives exist"	Romanian Society of Neurology And Psychiatry For Children And Adolescents & Eli Lilly	2006
The sea: our sole addiction" (drugs awareness campaign)	National Drug Agency and „Salvati Copiii" Foundation	2006

2.3.5. General public awareness

Being aware of the fundamentals of children's mental health can be considered one of the "responsibilities" of the population in general, and of parents in particular. We speak of the population in general, thinking that one of the most important implications of adequate public awareness is the prevention component, especially keeping in mind that it is well known that without early intervention, children mental health problems might cause overwhelming economic and social effects. We speak of parents in particular, because it is only when knowing about a child's mental health potential problems, can families seek the help of specialized services and authorities' support in order to attenuate their child's suffering and to improve their outcome.

There is an enormous increase of mental health awareness campaigns worldwide, with the purpose of spreading information to parents, schools, organizations, governments and communities. If, from the variety of these campaigns' objectives, we should choose the ones with high priority, which would meet the present need of the Romanian CAMH system, then these would be the following:

- The Development of Information Programs – teaching individuals about the early symptoms, treatment and outcome of children's mental health disorders and providing them with supporting information on existing facilities and services in their communities.

- Implementation of interventions against stigma – reducing misinformation and misperceptions about mental disorders and psychiatric care units and discouraging the discrimination and social exclusion attached to mental health illnesses

- Improving the knowledge, mindset and behaviour of the general population around mental health through media channels (television, radio, newspapers, internet)

Although many aspects have changed since 1989, in Romania, there is still a negative public image of mental illnesses, of these patients and their families, of care facilities (especially hospitals, where parents and adolescents are still reluctant to come) and even of mental health professionals. The general public still has a limited level of information and poor education in child and adolescent mental health.

Even though public awareness campaigns have started to emerge all across the country, there is an urgent need for continuous educational programmes addressed to the entire Romanian population. A few examples from the effective campaigns held until now in our country are listed below, with hope that many are yet to come.

3. REVIEW OF CHILD AND ADOLESCENT MENTAL HEALTH EPIDEMIOLOGY LITERATURE

3.1. Child and adolescent mental health epidemiology - 25-year development of studies

The child psychiatric epidemiology started in the mid-1960s with the British Isle of Wight surveys 1964-1974 (*Rutter et al. 1970, 1976*). These surveys had key design characteristics that provided a model for other surveys in the following years. The two-phase design included a systematic screening questionnaire used on a large sample, followed by in-depth assessments of selected sub-samples, according to their positive and negative results in the screening-phase. Multiple informants were interviewed in both phases, including parents, teachers and children. Questionnaires and diagnostic interviews of known reliability and validity were used to collect data. Caseness was defined according to both recognizable behavioural patterns and evidence of impairment in the child functioning. Moreover, the survey adopted longitudinal approaches to prospectively measure risk factors and to chart the natural history of disorders. .

This "prototype" study was followed by a period of great concern in the field of epidemiology, with a reciprocal influence on the augmentation of child mental health awareness. In the last 25 years, the child psychiatric epidemiology has had an evolving trajectory, a variety of investigation methods being used in order to increase the strength and the consistency of the results. Some of the representative steps in the 25-year development of studies are listed below and are also discussed in the present section:

- Extension of the studies, both in terms of their number and in terms of geographic diversity;
- Enlarging the sample size ;
- Improving the existing screening tools and developing new instruments;
- Performing long-term follow-up studies, with important inferences in the research of both the subjects' outcome and the determinants of mental disorders;
- Enhancing the cross-cultural approach;
- Addition of new research directions in child psychiatric epidemiology (e.g. lifetime prevalence and age-of-onset distribution of disorders)

Beginning with the mid '80s, the tradition that had started in the UK showed an **exponential spreading**. Child epidemiological studies first disseminated overseas, in Canada (*Offord et al. 1987, Breton et al., 1999*), New Zeeland (*Anderson et al.,1987, Fergusson et al, 1993*), Japan (*Morita et al., 1990*) and USA (*Bird et al, 1988, Lewinsohn et al., 1993, Costello et al., 1997, Simonoff et al., 1997*). Western Europe soon developed its interest in child epidemiological surveys and though only a few studies were conducted before the 90's (*Verhulst et al. 1986, 1989, 1991* in the Netherland*; Vikan 1985,* in Norway), the trend was immediately adopted in this geographical area as well. In the following years, some of Europe's most representative studies were developed in several countries, such as Iceland (*Hannesdottir, 1995*), France (*Fombonne 1994*), the Netherland (*Verhulst et al., 1997*), Finland (*Puura et al., 1998, Almqvist et al., 1999*), Switzerland (*Steinhausen et al., 1998*), Germany and Sweden (*Larsson et al., 1999*).

In the 21st century, an impressive number of studies have already been performed, reaching more continent, including Asia, Latin America and Africa. A list, that covers the main national surveys and which outlines the geographical extension of child psychiatric epidemiology after 2000's, might include the following studies presented in Table 4.

Table 4: Recent epidemiological national surveys.

Geographical area	Studies (country, authors, year)
Western Europe	UK (*Meltzer et al., 2000; Goodman et al., 2003*) Austria (*Van Roy et al., 2006*) Germany (*Ravens-Sieberer et al., 2008*) Italy (*Frigerio et al., 2009*)
Central and Eastern Europe	Russia (*Goodman et al., 2005; Slobodskaya, 2007*) Croatia(*Rudan et al., 2002*)
Middle East	Turkey (*Erol et al., 2005; Demir et al., 2011*) Iran (*Amiri, 2010)*
Southern and Eastern Asia	Taiwan (*Yang et al., 2000*), China (*Liu et al., 2001 ; Xiaoli et al.,2014*) Korea (Park et al., 2014) Bangladesh (*Mullick and Goodman, 2005*) India (*Malhotra and Patra, 2014*) Singapore (*Woo et al., 2007*)
USA	*Angold et al., 2002* *Canino et al., 2004* *Merikangas et al., 2010*
Central and South America	Mexico (*Benjet et al., 2009*) Brazil (*Fleitlich-Bilyk and Goodman 2004*)

An essential achievement in the development of child psychiatric epidemiology was the **sample size enlargement**, with its consequences in the ability to perform statistically based generalizations. If until 2000s, the number of participants recruited for these studies was, with few exceptions, lower than 2000, now most of the researches are conducted in larger samples, with 2,000 up to 30,000 subjects. Two examples of large population-based surveys are the Van Roy's study on Self-reported strengths and difficulties, conducted on 29,631 Norwegians, aged 10 to 19 (*Van Roy et al., 2006*) and the Goodman's study on the prevalence of DSM-IV disorders on a sample of 10,438 British children and adolescents (*Goodman et al., 2003*). Along with increasing the sample size, other improvements in the design parameters of the studies occurred, with regards to internal validity and reliability, or to sample representativeness.

Another feature of the evolving child psychiatric epidemiology is represented by the **diversity of screening and diagnostic instruments** that have been used in the data collecting phases. In spite of the efforts made to standardize the assessment methods, the usage of this large amount of screening tools might represent a contributing factor to the wide variation in reported prevalence rates. In the last 25 years, a great number of child psychiatric scales, questionnaires and, structured and semi-structured interviews have been developed, concomitant with the development of diagnostic criteria. The list below presents the main instruments and diagnostic criteria that have been used, together with a selection of study examples and their results.

Table 5: List of Diagnostic Tools and Criteria.

Diagn. Instruments	Results	Area	Author
DSM-III diagnostic criteria	prevalence rate of 17.6% for mental disorders in 792 subjects aged 11, from the general population	*New Zeeland*	*Anderson et al., 1987*
DISC-C/ DISC-P	prevalence rate of 7.9% for DSM-III-R diagnoses in 780 13- to 18-year-old Dutch adolescents	*The Netherlands*	*Verhulst et al., 1997*
Rutter Scales and CDI	prevalence rate of 14.9% for psychiatric disturbances in 3,397 children from Southern Finland, aged 8 or 9	*Finland*	*Puura et al., 1998*
ASEBA	prevalence rates of 23.1% (CBCL) and 19.2% (TRF) for behavioural and emotional problems, in 1,694 Chinese adolescents aged 12 to 16	*China,*	*Liu et al., 2001*
DSM-IV diagnostic criteria	prevalence rates of 20.5% (African Americans) and 21.9% (white Americans) for psychiatric disorders, in 4500 youth aged 9 to 1	*USA*	*Angold et al., 2002*
DISC-IV	prevalence rates of DSM-IV disorders (6% for attention-deficit/hyperactivity disorder, 3.7% for mood disorders, 2.1% for conduct disorder, 0.7% for panic disorder or generalized anxiety disorder, and 0.1% for eating disorders) in 3,042 children aged 8 to 15		Merikangas et al., 2010
DAWBA	prevalence rate of 9.5% for DSM-IV diagnoses in 10,438 British children and adolescents	*UK,*	*Goodman et al., 2003*
SDQ (parent and self-reported versions)	prevalence rate of 15-20% for psychiatric disorders in 1,864 Russian children	*Russia,*	*Slobodskaya , 2007*

However, for more accurate results, the majority of the studies have been carried out either with both parent/teacher and self-reported versions of the same screening tool or with two or more assessment instruments, such as SDQ and DWABA (*Russia, Goodman et al., 2005*) or CBCL and DWABA (*Italy, Frigerio et al., 2009*). Furthermore, there are studies aiming at identifying specific psychiatric conditions, that have been conducted with precise scales (e.g. CDI and K-SADS for the assessment of depressive disorders, *Demir et al., 2011, Turkey*).

Enhancing the cross-cultural approach is probably the most prominent trend in psychiatry research nowadays. This pervasive interest in comparative population studies might be linked to both the evolving research on etiology and risk factors, and to a more utopian goal of having an international psychiatric epidemiology with worldwide prevalence rates.

Results of multicentre and cross-cultural studies have outlined the importance of cultural, educational and religious factors in differentiating between mental illnesses, according to social or national contexts. For instance, *Weisz et al.,* in 1989 and 1993, reported higher rates on behavioural/ emotional problems for Thai than for American children aged 6 to 11 and, respectively, greater rates on overcontrolled problems for Thai adolescents aged 12 to 16. In 2003, the same authors evaluated the frequency of child psychiatric problems in a comparative sample aged 11 to 15 of Embu, Thai, African American and Caucasian American children.

Cross-national epidemiological studies, comparing psychiatric problems in different countries, showed an expected wide range of prevalence rates. One example is the European KIDSCREEN study (*Ravens-Sieberer et al, 2008*), examining emotional well-being and behaviour on national representative samples of 22,000 children and adolescents aged 8 to 18, from 12 European countries (Germany, Spain, Netherland, Austria, UK, France, Switzerland, Hungary , Greece, Czech Republic, Poland, Sweden). The results indicate a variation in the rate of children and adolescents with mental health problems (SDQ scores) across countries and socio-demographic and socio-economic subgroups, and also an impaired health-related quality of life in children with

psychiatric conditions (KIDSCREEN-10). The highest prevalence rates were described in the UK and Hungary and the lowest in Germany and Sweden. *Crijnen et al., 1999; Verhulst et al., 2003* made an extensive presentation of cross-national studies results.

Furthermore, reviews of epidemiological studies were performed, trying to evaluate child mental disorders and their rates from a worldwide perspective. In 1998, *Roberts et al.* reviewed 52 studies that had been carried out in over 20 countries, with sample sizes ranging from 58 to 8,462 and subjects' ages from 1 to 18 years of age. The average of reported prevalence rates was 15.8%, with results varying between 1% and 51% (mean= 15.8%). Analysing epidemiological studies of psychiatric disorders in preschoolers, *McDonnell and Glod* indicated in 2003 a prevalence rate varying between 0.1% and 26.4%. In 2008, after conducting a review of 44 papers, *Richter et al.* concluded that child and adolescent psychiatric disorders didn't present an increasing trend, as it had been assumed.

Several **follow-up epidemiological studies** offer data about the longitudinal course of child and adolescent mental health problems. Hofstra and colleagues performed a 14-year follow-up of 1,578 Dutch children and adolescents and highlighted that high levels of childhood behavioural and emotional problems are related to DSM-IV diagnoses in adulthood, with childhood rule-breaking behaviour being the strongest predictor (*Hofstra et al., 2002*). A 10-year research of Costello and others showed a 12% median prevalence of functionally impairing child and adolescent psychiatric disorders (*Costello et al., 2005*). A complex set of studies was conducted in the Netherlands by Tick and others, as an attempt of examining time trends in Dutch children's mental health. Results include: evidence for small increases in parent-reported problems of children aged 6 to 16, in three different time points (i.e 1983, 1993 and 2003); few changes over time for 2- and 3- year old children, with small decreases in parent-reported problems (i.e. Anxious/Depressed, Total Problems, Internalizing, and DSM-oriented attention-deficit/hyperactivity problems scales); decreases from 1993 to 2003 in 11- to 18- year old boys' self-reported Social Problems, Externalizing, Aggressive Behaviour, and Rule-Breaking Behaviour; increases in drunkenness and drug use in both boys and girls. (*Tick et al., 2005; Tick et al., 2007; Tick et al., 2008*)

A more recent research direction in psychiatric epidemiology is the **lifetime prevalence and age of onset distribution** of mental disorders. In 2005, Kessler and colleagues presented the results of a national survey, conducted with 9,282 USA respondents, reporting the following lifetime prevalence: anxiety disorders – 28.8%, impulse-control disorders – 24.8%, mood disorders – 20.8%, substance use disorders – 14.6%, any disorder – 46.4%. Disorder onset was usually in childhood and adolescence (half of the cases start by the age of 14 and three fourths by the of age 24)(*Kessler et al., 2005*). In a review article published by *Merikangas et al.* in 2009, it is stated that approximately one fourth of youth have experienced a mental disability in the past year and almost one third will experience one during their lifetime, with anxiety disorders being the most frequent, followed by behavioural disorders, mood disorders and substance use disorders. The WHO report highlights that up to 20% of children and adolescents suffer from a disabling mental illness, and that up to 50% of all adult psychiatric disorders have their onset in adolescence and that suicide is the third leading cause of death among adolescents (*Belfer, 2008*).

There is an increasing effort in the entire scientific world, to estimate the occurrence frequency of child mental disorders, with a dramatic and negative impact on families and society. A recent analysis showed that the number of child and adolescent mental health studies has doubled after 2000. The last Romanian child and adolescent psychiatric epidemiological survey was undertaken during 1981-1984, on a national sample of 14,825 children, aged between 10 months and 16

years. The results indicated an overall prevalence rate of DSM-III disorders of 11.67%. *(Grigoroiu- Serbanescuet et el., 1999) (*see Appendix IV*)*

Nevertheless, there are still many challenges in child psychiatric epidemiology, including the development and the standardization of assessment tools, the enhancement of analytical studies in order to refine the determinants of mental diseases or the correlation of more cross-national data, challenges that may all emphasize the essential role of future research in this field.

3.2. The risk and protective factors associated with child mental health problems

The current opinion in child and adolescent psychiatry focuses on the constant and emergent evidence of a dynamic etiological interplay between genes and the environment (GxE) (*Rutter, 2008*). In this framework, beyond genetic influences, the following individual correlates of psychopathology are considered: age and sex, chronic health problems, brain disorders, temperament, IQ. The environmental correlates of psychopathology comprise chronic adversities, negative life events and acute life stresses. The following environmental correlates of psychopathology or psychosocial adversity are discussed in the present section:

- Family factors (marital discord, interparental conflict, family dysfunction, poor parenting), residential and foster care, adoption, bereavement
- Poverty and social class (low income level of the family, low level of parent education, deprived neighbourhoods, high unemployment rates, overcrowded public housing, below-standard housing conditions, crime and violence, inadequate schools, social isolation)
- Parental psychopathology and chronic somatic illness
- Violence exposure as witness or victim (maltreatment, neglect, psychological, physical and sexual abuse, refuge, asylum-seeking)

3.2.1. Individual characteristics

Age and sex. The prevalence of each particular disorder is related to both age and sex. In the Ontario Child Health Study (OCHS) (*Offord, Boyle, Szatmari et al, 1987*), a community prevalence survey of psychiatric disorders in children 4-16 years of age in the country-side, the prevalence of one or more disorders was significantly related to both age and sex. The prevalence for children 4-11 years old was higher among boys (19.5%) than girls (13,5%), while the reverse was true among children aged 12 to16. (18.8% for boys, versus 21.8% for girls).

Chronic Health Problems. Children with chronic health problems have increased rates of mental health and adjustment problems when compared to their healthy peers (*Breslau, 1985*). The results of the OCHS indicate that the elevated rates of psychiatric disorders in children with chronic health problems refer to disorders in general, and not to a specific type of disorder. In comparison with their healthy peers, children with chronic medical conditions, with or without disabilities, have a threefold, respectively a twofold higher association to social adjustment problems and an increased risk of psychiatric disorders.

Brain disorders. Children with brain disorders have a greater risk for experiencing a psychiatric condition. Children with epilepsy, cerebral palsy and other neurological disorders have five times higher rates of mental health problems (*The Isle of Wright study, Rutter 1977*). The brain damage

puts children at risk for psychiatric disorders in general, rather than to a specific type of disturbance (*Brown et al., 1981; Rutter, 1977, 1981c*). Still, in the Isle of Wright study, children with epilepsy and cerebral palsy had associated hyperactivity in a significant proportion (*Rutter, Tizard and Whitemore, 1970*). The rates of psychiatric disorders in children having uncomplicated epilepsy only, structural brain damage only, and both illnesses are 29%, 44% and 58% respectively.

Intelligence Quotient (IQ) and Learning Disorders. Children with poor school performance due to low IQ or to a specific learning disorder have an increased risk for developing psychiatric disorders such as conduct disorders (*Offord and Waters, 1983*; *Rutter, Tizard and Whitemore, 1970*), hyperactivity (*Frick et al., 1991; Hinshaw, 1992*), depressive symptoms in preadolescents (*Weinberg et al., 1989*; *Wright- Strawderman and Watson, 1992*; *Fristad et al, 1992*) and in adolescence (*Fleming et al., 1989*; *Emslie et al., 1987*), anxiety disorders (*Costello et al., 1988*; *Velez et al., 1989*).

3.2.2. Psychosocial factors

Parental Psychopathology

In 1984, Rutter and Quinton stated that parental psychopathology plays an essential role in the increased rates of emotional and behavioural problems in children. (*Rutter & Quinton, 1984*).

The occurrence frequency of psychiatric disorder in children with alcoholic parents is higher than in children with non-alcoholic parents, at overall disorder level and in specific behavioural disorders, such as conduct, oppositional and attention deficit disorder (*Earls et al., 1988*). Moreover, children with alcoholic parents have demonstrated heavier drinking (*Colder et al., 1987*), more behavioural problems (*Martin et al, 1994*), and more emotional difficulties (*Roosa et al., 1988*).

Parental criminality and antisocial personality disorder are related to more mental health problems and antisocial behaviour in children (*Factor & Wolfe 1990*; *Patterson &Capaldi 1991; Guzder et al,. 1999)*, conduct problems (*Loebler & Dishion, 1983*; *Christ et al. 1990*), attention deficit hyperactivity disorder (*Frick et al., 1992*).

Other studies have highlighted that the offsprings (age 6-23) of depressed parents have significantly higher rates of major depression, of substance abuse, and of overall psychiatric diagnoses, psychiatric treatment, poor social functioning and school problems, compared to the offspring of healthy parents. (*Weissman et al., 1987*; *Beardslree et al., 1998*). Merikangas and colleagues, identified maternal depression as the strongest predictor of major depression in children (*Merikangas et al., 1988*). Maternal depressive symptoms in a child's first year of life predict developmental delays at 1 year of age (*Field 1995*) and child behavioural problems at 28 and 36 months (*Leadbeater et al., 1996*). Maternal depression is also longitudinally correlated with children's social withdrawal and anxious behaviour at age 5 (*Rubin et al., 1991*) and with a lower child popularity and higher levels of internalizing and externalizing problems in later childhood (*Goodman et al., 1993*).

The offspring of parents with panic disorders have more than a threefold increased risk of separation anxiety disorder. Children of parents with agoraphobia or obsessive- compulsive disorder experience significantly more anxiety disorders (*Turner et al., 1987*)

Several studies highlighted that children with both parents having schizophrenia or bipolar disorder are more likely to develop these illnesses (27% for schizophrenia, 25% for bipolar

disorder) or other mental disorders.. In contrast, children with only one parent having a psychiatric condition are much less likely to develop mental disorders. Out of all the children having a parent with schizophrenia or bipolar disorder, only 7% and respectively 4% may develop the disease (*Gottesman et al. 2010*).

Family Factors

Evidence shows that certain family factors can influence children's mental health (*Perales 2013*; *Dobrescu, 2010*). A number of more severe family risk factors for children are discussed in the following paragraphs: family climate and children's perception of adversities, parental education, family structure, strict or harsh parenting, early deprivation and institutionalization.

Some of the most widespread adversities for children are the experience of parental marital discord, family dysfunction, poor parenting, separation and divorce (USA 20.9% in 1990; UK 13.3% in 1991; Denmark 12.3% in 1991; Italy 2.1% in 1995). In 2008, Wille et al., outlined the role of the **adverse family climate** as a negative contributor to children's mental health and also stated that a simultaneous occurrence of different psychosocial risk factors would definitely impact the prevalence of mental health problems. (*Wille et al., 2008*).

Two meta-analyses have found that marital conflict is related to child and adolescent behaviour problems, including aggression with peers, poor psychological well-being and inadequate social functioning (*Reid & Crisafulli 1990*; *Depner et al., 1992*). Inter-parental conflict is related to high levels of emotional disturbances, disruptive behaviours and adjustment problems for children and adolescents of all ages (*Cummings et al., 1994*; *Davies and Cummings, 1998*; *Shaw et al., 1999*; *Lorenz et al., 1995*). In 1997, Davies and Windle, found that effects of inter-parental discord can predict both boys' and girls' psychological problems lasting up to 6 months onwards (e.g. depressive symptoms, delinquency and alcohol problems in girls) (*Davies & Windle, 1997*).

In 1997, in a comparative study of American Indian and white American children, Costello and colleagues concluded that in spite of the fact that American Indian children's higher rates of poverty, family adversity (e.g., parental unemployment, welfare dependency) and family deviance (parental violence, substance abuse, and crime), the rate of family mental illnesses was lower (*Costello et al., 1997*).

In 2006, du Prel and colleagues found a strong association between health indicators and **parental education**, in preschool children from East and West Germany (*du Prel et al., 2006*). Another research on the influence of parental education for the child's mental health, in a representative sample of Spanish children, concluded that the number of reported child psychiatric disturbances increases as parental educational level decreases (*Sonego et al., 2012*).

Studying the connection between emotional or behavioural symptoms and **family structure**, on a sample of 5,813 8-9-year-old children in Finland, Luoma et al., indicated: a lower prevalence rate of emotional and behavioural symptoms in children living with both their biological parents and a higher one among children living outside their original home; more frequent problems at home but less at school in children living with a parent and a stepparent than in children living with a single parent; more externalizing, school-related problems in children living with a single father and more internalizing, home-related problems in children living with a stepfather; less problems at school in children having younger siblings (*Luoma et al., 1999*). Another study published by Taanila et al. in 2004 showed that boys living in families other than two-parent families are at risk for psychiatric disturbances and behavioural problems and that girls living in the same circumstances are at risk for emotional problems (*Taanila et al., 2004*).

Harsh and inconsistent parenting (*Farrington and West, 1981*), coercive interchanges between parent and child (*Earls and Jung, 1987*; *Emery and O'Leary, 1982*; *Rutter, 1981b*) are all associated with antisocial behaviour in children, especially in boys.

Scientific evidence has shown that **institutionalization and early deprivation** crucially impact the child's mental health development. Analysing a sample of adopted British children, 165 from Romania and 52 children (the English and Romanian Adoption Study), it has been demonstrated that severe institutional deprivation in early years of life correlates with disinhibited attachment, autistic-like behaviour and inattention/ overactivity (*Rutter et al., 2001*; *Rutter et al., 2007*; *Dobrescu I, 2010; Stevens et al., 2008*). Further results of the same study indicated that adverse effects of the institutionalization can persist at age 11 for children who are over 6 months on arrival, that there is a partial catch-up in children aged 6 to 11 years and that there is a notable heterogeneity of children's outcomes unrelated to the educational background of their adoptive families (*Beckett et al., 2006*).

In The Bucharest Early Intervention Project (BEIP), the first randomized and controlled trial of foster care as an intervention for institutionalized children, it has been affirmed that children with a history of institutional rearing have a higher rate of psychiatric disorders (symptoms of attention-deficit/hyperactivity disorder, anxiety, depression, and disruptive behaviour disorders) than other children (53.2% versus 22.0%) (*McLaughlin et al. 2010*). Furthermore, it has been stated that children who are placed in foster families, are less likely to experience internalizing problems than children who continue with institutional care and that boys have no decrease of psychiatric symptoms when placed in a foster family. (*Zeanah et al., 2009)*

Poverty

Economical poverty is officially defined by the income necessary for basic support of food, clothing and shelter. But beyond this, poverty is associated with parents with a low level of education, living in single motherhood households, living in neighbourhoods characterized by overcrowding, substandard housing conditions, high rates of unemployment, inadequate schools and high level of crime (*Coley, Baker 2013; Brooks-Gunn et al., 1997b*).

Poverty is related to poorer physical, cognitive and social outcome for children and adolescents (*Duncan and Brooks-Gunn, 1997*), and it is strongly and consistently related to behavioural, emotional and cognitive problems in children and youth with psychiatric disorders (*Offord et al., 1990*). In OCHS, the following figures of psychiatric disorders in children were found in social assisted families in comparison to the non –assisted ones: 31,2% versus 13,8%. Family poverty is linked to more behavioural problems and poorer cognitive functioning during early and middle childhood (*Dodge et al., 1994; Duncan et al., 1994; Bolger et al., 1995; Chase Lansdale et al., 1997, 1999*).

The neighbourhood poverty is associated with cognitive delay, antisocial behaviour and emotional disturbances (*Guerra et al., 1995, Chase-Landsdale&Gordon, 1996; Brooks-Gunn et al., 1997a*). In adolescents, poverty predicts school behaviour problems, poor achievement, as well as both emotional difficulties, and disruptive behaviour problems (*Hanson et al., 1997*). The type of parental occupation (seen also as occupational prestige in concordance to a social ranking of occupations, by Siegel 1971, or as social class, by Rutter, 2006) is related to psychiatric disorders in preschool children (*Earls, 1980*) and school-age children (*Achenbach and Edelbrock, 1981*), and to specific disorders: hyperactivity (*Boscoe and Robin, 1980*), autism (*Wing, 1980*), delinquency (*Hindelang et al., 1981*).

Violence exposure as witness or victim (maltreatment, neglect, psychological, physical and sexual abuse, refugee, asylum -seeking)

In children, both chronic and acute exposures to violence can lead to psychiatric disturbances. When a child experiences an acute violence, either directly as a victim, or indirectly as a witness, physical and emotional harm is induced. A chronic exposure to violence has long-term effects on child development, including poor school performances, behavioural issues in adolescence, emotional problems in adolescence and adulthood (*Romano et al., 2014*).

A series of articles in this field, have demonstrated that persistent violence exposure is associated with high rates of internalizing and externalizing behaviour problems in early/ middle age children and in adolescents (*Osofsky et al., 1993; Friedman, 1999; Fitzpatrick, 1993*).

Being witness to domestic violence, has been found as a risk factor for psychiatric disorders, in a 448 7-14 years old Russian children, together with the presence of alcoholism in the family and maternal anxiety or depression (*Goodman et al., 2005*). Another cross-sectional analysis, in a representative school-based survey of 1,112 Brazilian children, reported harsh physical punishment, parental stress, non-traditional family etc., as risk factors for poor child mental health. (*Goodman et al., 2007*)

Childhood bullying behaviour has been a scientific domain of interest in several recent studies. A Finnish nationwide prospective study, in 2011, showed that bullying behaviour in childhood can be considered an early indicator of illicit drug use later in life but have no association with frequent drunkenness and that being a victim of bullying predisposes to subsequent smoking (*Niemela et al., 2011*). In 2011Lehti and colleagues also stated that in girls, both bullies and victims are at risk to become teenage mothers, independent from other family-related contributing risk factors. (*Lehti et al., 2011*). In boys aged 8, bullying behaviours indicate an increased risk of adult criminality (*Sourander et al., 2011*). Another study on this topic showed that: frequent victimization-only status predicts later anxiety disorders, frequent bullying-only status predicts antisocial personality disorder, frequent bullying-victimization is a risk factor for both anxiety disorders and antisocial personality disorder and 28% of those with a psychiatric disorder have experienced bullying/victimization within 10-15 years before the onset. (*Sourander et al., 2007*).

In 2008, Kaslow and Thompson analysed the impact of child maltreatment and intimate partner violence (IPV) on the psychological adjustment of low-SES (socioeconomic status) African American children, assessing a sample of 152 mother-child dyads. The research revealed that these children are at particularly high risk for psychological distress but child maltreatment is associated with internalizing/ externalizing problems and traumatic stress symptoms only when mothers report a high level of physical IPV *(Kaslow and Thompson, 2008*). In a review published by Sellström and Bremberg, the neighbourhood socioeconomic status and the social climate have been associated with small to moderate effects on child health and wellbeing (i.e. behavioural problems, child maltreatment, injuries, birth weight). These determinants were found to explain only 10% of the variation in health outcomes, after controlling for individual and family variables. (*Sellström and Bremberg, 2006*)

Several studies have tried a different approach, seeing this topic from a reverse perspective and starting not from what violence exposure could induce, but from the problems that could predict further child behavioural problems (e.g. drug use, aggression, delinquency, criminal offenses). One example are the Sourander's studies that have reported the following: children with combined conduct and internalizing problems at the age of 8 are at high risk for subsequent psychiatric disorders, criminal offenses and self-reported problems; boys who frequently bully

and also have an increased number of psychiatric symptoms are at risk for later criminality; conduct problems at the age of 8 independently predict substance abuse, antisocial personality and psychotic disorders in early adulthood; self-reported depressive symptoms, poor school performances, and living in a non-intact family have independent predictive association with antisocial personality and depressive disorders; about one third of those who use services at the age of 8 have a psychiatric disorder in early adulthood; low parental education level and parent/ teacher reports of conduct problems independently predict violence, property, traffic, and drunk driving offenses; teacher reports of hyperkinetic problems independently predict all types of criminal offenses except drunk driving. (*Sourander, 2005; Sourander, 2006; Sourander, 2007*).

Another example is the Finnish "from a Boy to a Man" Study that evaluated some contributing factors for psychopathology in a sample of 2,946 8-year-old boys. Childhood hyperactivity and self-reported depressive symptoms correlated with moderate and heavy smoking at age 18, conduct problems with heavy daily smoking, and the association between childhood depressive symptoms and father's low level of education with an increased risk of daily smoking (*Niemelä et al., 2009*). The same author stated in 2008 that having a psychiatric diagnosis (i.e. conduct and hyperactive problems) at the age of 8 is potentially associated with both self-reported use and drug offending in early adulthood (*Niemelä et al., 2008*).

3.2.3. Protective factors

Garmezy in 1987, as cited by Lewis in 1998,suggested that child mental health protective factors can be classified into three categories: child-related factors, family-related factors and community-related factors.

Child-related protective factors are the following: female gender before adolescence, male gender after adolescence, above average IQ, easy temperament, considerable self-understanding.

Some family-related protective factors are a high degree of cohesiveness within the family, a good relationship with one parent, living in a two-parent family and being the oldest in the sibling series. Living in a very large family seems to be a protective factor against behavioural problems among boys but not among girls. Very large family size, if not connected to social disadvantages, does not seem to be a risk factor for children's behaviour. (*Taanila et al., 2004*) The wider community-related protective factors (e.g. excellent schools, skills development courses, recreational programmes) have been found to enhance good experiences outside the home.

All these factors are contributing together to a proper development of the child's mental health and, as Furniss and colleagues have stated, the cumulative effect of multiple life events, having either a positive or a negative impact, are much more important than the effect of specific single life events. (*Furniss et al., 2009*)

4. AIMS OF THE STUDY

The aims of the present study are:

1. To describe the development of child and adolescent mental health services in Romania (Development of Child and Adolescent Mental Health Services study, CAMH Services Development study)
    - to analyse the changes of child and adolescent mental health services in Romania between two time point (before 1989 December Revolution and present time)
    - to explore the challenges for future development of child and adolescent mental health services in Romania
    - to present the solutions for future development of child and adolescent mental health services in Romania
2. To explore the development of characteristics of child and adolescent psychiatry patients at „Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, Bucharest between 1991 and 2013 (Hospitalized Psychiatric Patients study)
    - to analyse the differences in the age at admission and gender of patients in 1991 and 2013
    - to explore the frequencies of primary and comorbid diagnoses of patients between 1991 and 2013
    - to describe and compare the length of hospital stay of patients between 1991 and 2013
3. To examine problems and competencies of mental health among children and adolescents in three groups – psychiatry and neurology patients and school population. More specifically, to evaluate mental health in relation to family functioning and other associated factors (Child and Adolescent Mental Health study, CAMH study)
    - to explore the family factors and family functioning in psychiatry and neurology groups
    - to analyse parent reported child and adolescent mental health problems in psychiatry and neurology groups and related family factors and functioning
    - to examine self- reported adolescent mental health problems in psychiatry, neurology and school groups and related family factors and functioning
    - to present parent- and self-reported child mental health competencies and related family factors and functioning

5. MATERIAL AND METHODS

5.1. Study design

This study was conducted against a background of profound changes in Romanian society throughout the 25 years that followed the 1989 revolution. The study consists of three parts. The first part deals with a qualitative analysis of the development of child mental health services in Romania. The second part represents a comparative analysis of the development of the characteristics of psychiatric patients at „Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, Bucharest. The comparison in made between year 1991 and year 2013. The third part is a quantitative, cross-sectional study, which investigates the child and adolescent mental health and related factors within three groups - psychiatry and neurology patients and school population. The child and adolescent mental health, both in what problems and competences are concerned, were evaluated from the parents' perspective, as well as from the child's. Several associated factors were investigated, with emphasis on family functioning.

The reason this study was carried out was the lack of, or incomplete information on the previously mentioned aspects of child mental health in Romania and the need to obtain evidence based data for future design of research, prevention and intervention measures.

5.2. Qualitative study - CAMH Services Development study

5.2.1. Informants

The participants to this study were professionals in child and adolescent mental health in Romania. One inclusion criteria was the informants' ability to conduct a compared evaluation of the state of child and adolescent mental health in Romania before and after the December 1989 Revolution, taking into account the fact that, in Romania, changes in this field began after the Revolution and progressed slowly. Therefore, for a long period of time, the situation was similar to that before 1989. On the other hand, some of the informants, even if they started working after 1989, were involved in a significant way in the development of national policies and in the coordination of activity in child and adolescent mental health in Romania.

Another inclusion criteria was the distribution throughout the country: the informants were selected from four different parts of Romania. Ten (10) informants were included.

Table 6: Informants participated in the CAMH Services Development study.

	Participant	Place of activity	Profession	Working in CAMH in Romania since
1.	Professor Stefan Milea	Bucharest	Neuro- Psychiatrist	1962
2.	Professor Constantin Oancea	Bucharest	Neuro-Psychiatrist Psychotherapist	1967
3.	Professor Voica Foisoreanu	Targu Mures	Neuro-Psychiatrist	1970
4.	Professor Violeta Stan	Timisoara	Neuro-Psychiatrist Psychotherapist	1980
5.	Professor Iuliana Dobrescu	Bucharest	Neuro-Psychiatrist Psychotherapist	1982
6.	Professor Tiberiu Mircea	Timisoara	Neuro-Psychiatrist psychotherapist	1990
7.	Lecturer Luminita Mihai	Bucharest	Neuro-Psychiatrist Psychotherapist	1990
8.	Associate Professor Viorel Lupu	Cluj Napoca	Neuro-Pychiatrist Psychotherapist	1991
9.	Raluca Nica	Bucharest	Psychologist	1995
10.	Domnica Petrovai	Bucharest and Cluj Napoca	Psychologist Psychotherapist	2000

5.2.2. Methods used in data collection and data analysis

The ten informants participating in the study accepted to participate in the interview concerning the past and current situation regarding child and adolescent mental health in Romania. The informants were contacted by email and by telephone, were informed about the interview and they gave their consent related to being interviewed. Then, the interviews were conducted using written forms sent by email and took place between March- April 2013.

The interview consisted of three parts. The first one referred to the most important changes in the field of child and adolescent mental health in Romania, the second referred to the most important challenges and the third, to solutions to these challenges. The following questions were given to the informants.

Table 7: research questions used in the CAMH Services Development study.

1.What do you think are the most important changes after '89 in child and adolescent mental health in Romania (do not only mention "positive" changes or only "negative" ones, but both if you consider that these have led to significant changes in the status of child and adolescent mental health in Romania):
Note and discuss the changes in the following areas: • The way professionals think about child mental health • The theoretical background which determines the treatment (empirical, experimental, based on scientific information) • Clinical practice (professionals' attitude) • Patients • Services available • Patient assessment • Treatments available • The general public perspective about child mental health • Policies on child mental health • Any other matters you feel have suffered changes
2. What do you think are currently the most important challenges in child and adolescent mental health in Romania?
3. Which are, in your opinion, the ways to address these challenges?

The grounded theory principles (first described by Glasser and Strauss in 1967) were used in the analysis of each aforementioned responses offered by the 10 informants. Setting the Child mental health in Romania after the December '89 Revolution as the major area of interest, and seeking for *core concepts* through a continuing comparison process represented the starting point for

interpreting the qualitative data collected in this part. It was not the classical approach of developing a theory through a Grounded theory process, but its key phases and steps (Pandit 1996) that guided the way the answers were conceptualized. As literature review was previously allocated its own chapter in the main body of the thesis, the results presented in this part follow, though not exactly, the other four analytic phases of the process (i.e. research design, data collection, data ordering and data analysis phases) focusing on the following topics of child mental health in Romania after the December '89 Revolution: changes, challenges and solutions.

After collecting all the interviews, the answers of individual respondents on each topic were grouped. Then, for each topic, some formulations (verbatim answers) were extracted and followed across all answers. In the results part, there were presented only the formulations that could be tracked across the answers of individual respondents. The formulations were presented in the Results part depending on the frequency of apparition in the respondents' answers.

The list of verbatim answers of the respondents:

- The way professionals think about child mental health: "the thinking to child mental health ideas existed before", "but without network"/"in a rigid system"/ " with no resources", "access to information"," contact with professionals from other countries", " team" "team work", " collaboration between professionals", "family involvement" ," community psychiatry", "extramuros therapy", " education activities for teachers, parents"
- Theoretical background:" Before 1989, seclusion in the communist system", "ICD", "DSM" "DRG system", "access to information", " continuous medical education system", " congresses", "journal", "books", "courses", "evidence based therapeutic methods", " emigration of professionals"
- Clinical practice: " preventive component ","community assistance", "training programs", "psychopharmacology", "psychotherapy techniques" , "self-esteem", "confidence", "quality', "patient satisfaction"
- Patients: "number of patients using health-care service", "characteristics of pathologies", "awareness campaigns", "information on services", "stigma", " involved as partners"
- Available services: "diversification of services", "needs", "preventive", "intervention", "state" hospital, Mental Health Centres, "private", NGO,"overcrowding"
- Patient assessment: "DSM IV", "ICD 10", "scientific standardized instruments", "population-based validated", "number"," distribution", "psychologists", "social workers"
- Treatments available: "psychopharmacology", "drugs", "availability", "psychotherapy"
- General public : "do not realize", "mistaken perception", "stigma", "rights awareness", "tolerance", "compassion"
- Policies: "in theory", "in practice", "few", "resource"
- Challenges: "enthusiasm", "emigration of professionals", "mental health education", "national strategy","social problems", "financial aspects"
- Solutions: "legislative framework", "education of the general public", " involvement of parents associations", "church"

5.3. Quantitative study

5.3.1. Subjects

Hospitalized Psychiatric Patients study.
The participants in this study were chosen from the Child and Adolescent Psychiatry Department of the "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, Bucharest, Romania. All the patients hospitalized in 1991 and in 2013 were included in the study. 1879 patients were hospitalized in 1991, and 2204 patients in 2013.

Because, in 1991, the department offered inpatient clinical service with double specialization, infantile neuropsychiatry, the hospitalized patients had both psychiatric and neurological disorders. Out of the 1879 patients admitted, 897 (47.7%) had a psychiatric diagnosis, 749 (38.8%) had a neurology diagnosis and 233 (12.4%) showed no diagnosis.

Tabel 8: Study groups in the Hospitalized Psychiatric Patients study.

	Year 1991	Year 2013
Total	1879 (100%)	2204 (100%)
Psychiatry patients	897 (47.7%)	2204 (100%)
Neurology patients	749 (38.8%)	0%
No diagnosis patients	233 (12.4%)	0%

Child and Adolescent Mental Health study.
The participants in this study were recruited in Bucharest, Romania. Three study groups were created.

A psychiatry group - children and adolescents with psychiatric disorder, from the Child and Adolescent Psychiatry Department of the "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, hospitalized between 1st April 2008 and 31st March 2009. The initial plan was to have a systematic collection procedure which meant that each first patient hospitalised every morning and who met the inclusion criteria was included in the sample. The actual conditions allowed only the patients for whom the thesis's author (L.M.) was the current psychiatrist to be included in the group. During the data collection period, 2074 patients were hospitalized in the Child and Adolescent Psychiatry Department and 165 patients (7,9 %) fulfilled the inclusion criteria. All of them were invited to fill in the questionnaires and 144 answered (6,9 %, 87,3 % respectively). Data on the drop-out group (12,7 %) are not available.

A neurology group - children and adolescents with an acute neurological disorder (epilepsy), from the Neuropaediatry Department of "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, hospitalized between May 2010 and April 2011. During the data collection period, 2375 patients were hospitalized in the Neuropaediatry Department and 315 (13.3%) patients met the inclusion criteria and were invited to fill in the questionnaires and 85 answered (3,6 %, 27.0 % respectively). Data on the drop-out group 230 (73.0 %) are not available.

In the psychiatry and neurology department, before starting the process of filling in the questionnaires, a person from the research team gave the parents and the adolescents the instruments and the instructions on how to select the proper answers to the questions. After giving the general rules, the respondents were requested to ask the collecting team any question, for fear they should make mistakes in filling in the questionnaires.

A school sample - adolescents from a normal school were selected in June 2007. The school was randomly selected from a list of 163 secondary schools in Bucharest (list provided by the Ministry of Education. Pupils from 5th, 6th and 7th years (11-14 years old children) were included in the sample. The 8th grade children (14-15 years old) were not included due to their final exam period in June. Two classes per each academic year were randomly selected (6 classes out of 12 classes, in years 5-7). Overall, in all 12 classes there were 337 subjects, with 157 children in the 6 classes selected. The children were all invited to fill in the questionnaires. Out of the total number of selected children,113 answered (73.0 %). Data on the drop-out group 44 (27.0 %), are not available.

The author of the thesis and one more person from the research team were in charge of the questionnaires, in class, in the presence of the class responsible teacher, during a special designated period. They informed the children about data confidentiality, and explained to them about the filling in process and assisted them during completion time.

The common inclusion criteria were:
- children 4-18 years old
- children living in Bucharest
- children with normal intelligence level or mild mental retardation
- fluency in Romanian language of parents and adolescents

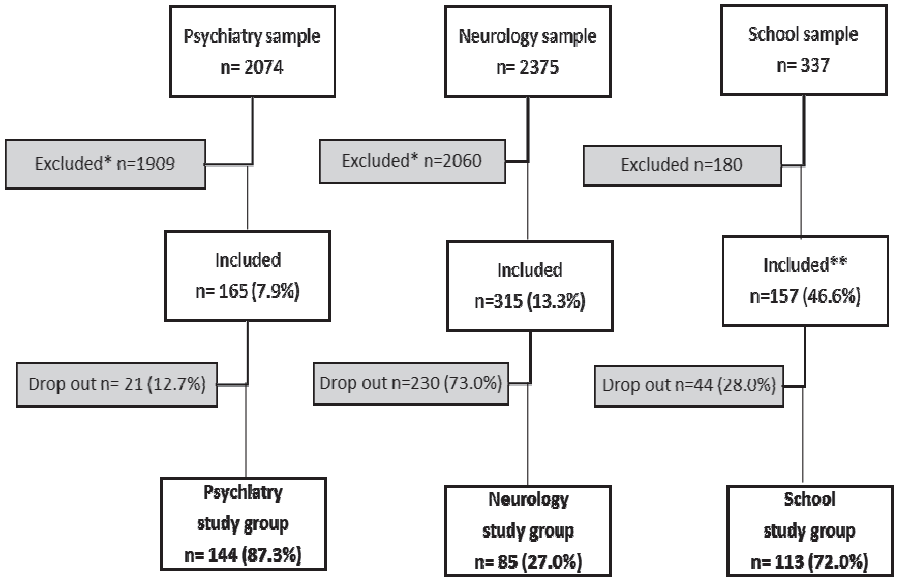
The inclusion criteria characteristic for Psychiatry sample were:
- children at first hospitalization in the psychiatry clinic
- children without acute or chronic psychotic disorder
- children without psychiatric disorders due to acute or chronic organic causes
- children meeting the addressability criteria: the author of the thesis was the patient's psychiatrist

The inclusion criteria characteristic for Neurology sample were:
- children at first diagnosis of epilepsy
- children neurologically healthy except epilepsy
- children somatically healthy prior to the epilepsy diagnosis
- children without psychiatric diagnosis prior to the epilepsy diagnosis

The inclusion criteria characteristic for School sample were:
- pupils from the fifth, sixth and seventh years

Table 9: Study groups in the Child and Adolescent Mental Health study.

	Psychiatry group	**Neurology group**	**School group**
Basic group	2074	2375	337
Study sample (fulfilling inclusion criteria and invited to fill in)	165 (7.9 %)	315 (13.3 %)	157 (46,6 %)
Study group	144 (87.3 %)	85 (27.0 %)	113 (72.0 %)
Attrition group	21 (12.7 %)	230 (73.0 %)	44 (28.0 %)



* not meeting the inclusion criteria
* * randomly selected

Figure 1: Study groups in the Child and Adolescent Mental Health study.

The psychiatry group consisted of 144 subjects (43 girls and 101 boys), the neurology group - 85 subjects (36 girls and 49 boys) and the school group - 113 subjects (51 girls and 62 boys). Frequency distribution of genders within age intervals and descriptive statistics of age are provided for each of the three groups.

Table 10: Age of the psychiatry, neurology and school subjects.

	Psychiatry group			**Neurology group**			**School group**		
	n	age		n	age		n	age	
		Mean	SD		Mean	SD		Mean	SD
>11 years	74	14.4	2.1	18	13.5	3.2	113	13.6	0.9
girls	26	14.2	2.4	12	13.3	3.8	51	13.8	0.9
boys	48	14.6	1.9	6	14.0	1.7	62	13.5	0.9
<11 years	70			67					
girls	17	7.4	2.1	24	7.4	2.5			
boys	53	8.0	2.2	43	7.4	2.0			

5.3.2. Methods used in data collection

Hospitalized Psychiatric Patients study

The research data used in this study were provided by the Department of Statistics, of "Prof. Dr. Al. Obregia" Clinical Psychiatric Hospital. Relevant information about the patients admitted in 2013 were exported from the Hospital Information System ("Medical CM") and the data obtained were then stored and transformed into variables using a statistical software. As no computerized software was available in 1991, data about the patients admitted in that period only exists in handwritten reports, stored in the Archives of the hospital. Therefore, an electronic database with

relevant information was created for the patients admitted in 1991, which was further exported to the statistical software.

Child and Adolescent Mental Health study
In order to reach the set objectives, the following quantitative methods were used.

The mental health status of children and adolescents was evaluated using The Child Behaviour Checklist 4-18, The Youth Self Report and The Strengths and Difficulties Questionnaire, parent and self-report versions.

The Child Behaviour Checklist 4-18 (CBCL4-18, *Achenbach, 1991*) is a 120 items questionnaire which has 2 separate versions: for 4-6 years old and for 6-18 years old. This questionnaire provides descriptions of child or adolescent behaviour and emotions and was designed to collect information about a large variety of behaviours that are of clinical concern. The instrument was created to collect information about the problems and competencies of the child or adolescent as they are seen by the parents and refers to the last 6 months of the child's life.

Some items gather information about the child's social competences: sport and non-sport activities, social relations, school function. Other items describe the behavioural and emotional problems of the child or adolescent. Further, the parents offer information about the child's relationships with other children, with siblings, with the parents and about individual activities. The items are rated on a 3-point scale ranging from 0 = never, 1 = often, to 2 = very often. Besides describing children in terms of many specific items, the CBCL is also designed to identify syndromes of problems that lead to one factor. It displays the following first-order syndrome scales: Withdrawn, Somatic complains, Anxious/Depressed, Social problems, Thought problems, Attention problems, Delinquent behaviour and Aggressive behaviour.

Using factor analyses for these eight scales, the authors also created the so-called second-order scales, with the syndrome scales designated as Withdrawn, Somatic complains and Anxious/Depressed grouped under the heading Internalizing Problems and the syndrome scales designated as Delinquent behaviour and Aggressive behaviour grouped under the heading Externalizing Problems (*Achenbach, 1991*). Moreover, a total problem score can be built by summing up all items. For all scales, higher scores stand for a higher degree of problems. The cut-off values for Total problems score, Internalizing and Externalizing scales described by Achenbach(1991) were used (T-scores 60-63 borderline range, above 63 clinical range). The cut off values for Total competence score were used (T scores 37-40 borderline range, above 40 normal range) and also cut off scores for Activities, Social and School (T scores 30-35 borderline range, above 35 normal range).

The Youth Self Report (YSR, *Achenbach, 1991*) is a 112 items corresponding self-report version of the CBCL. It is designed to be completed by 11 to 18 year-old children having a mental age of at least 10 years. Besides enabling youths to describe themselves in terms of many specific items, the YSR is designed to identify syndromes of problems that tend to occur together. The YSR includes 112 items referring to symptomatic behaviours and feelings that individuals rate on a 3-point scale as "not true," "somewhat or sometimes true," or "very true or often true" in relation to themselves. By adding the respective symptom items, eight syndrome scales can be determined (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behaviour, and aggressive behaviour). By adding the respective syndrome scales, two spectrum scales and a total score can be obtained (internalizing, externalizing, total problems). The cut-off values described by Achenbach (1991) were used (T-scores 60-63 borderline range, above 63 clinical range). The cut off values for Total competence score were

used (T scores 37-40 borderline range, above 40 normal range) as well as cut off score for Activities and Social problems (T scores 30-35 borderline range, above 35 normal range).

The Child Behaviour Checklist 4-18 and the Youth Self report was validated into Romanian language under the coordination of Anca Dobrean from the Psychology Department of " Babes Bolyai" University of Cluj Napoca, during 2003-2004 and 2007 (www.rtscluij.ro). The results were published as part of a multicentre study research by Ivanova et al. (2007). Romania still does not have norms (cut off points) for clinical population, therefore, T-scores provided by Achenbach & Edelbrock (1991) were used for clinical and borderline assignment.

The Strengths and Difficulties Questionnaire (SDQ, *Goodman 1997, 1998, 1999*) is a brief behavioural screening questionnaire for 3-16 year old children and adolescents. It has been developed in several versions: parent and teacher version for 3-4 years old, parent and teacher version for 4-16 years old (*Goodman, 1997*), adolescent self version for 11-16 years old (*Goodman, 1999*). Each version includes between one and three of the following components: 25 items on psychological attributes, an impact supplement (*Goodman, 1999*) and a follow-up questions part. All versions of the SDQ ask about 25 attributes, some positive and others negative. These 25 items are divided between 5 scales. The following four scales added together generate a totaldifficulties score (based on 20 items): emotional symptoms (5 items), conduct problems (5 items) hyperactivity/inattention (5 items) peer relationship problems (5 items). The fifth scale asks about prosocial behaviour (5 items). The versions for parents and teachers for 4-16 year olds include the same 25 items. Adolescent self version asks about the same 25 traits as does the questionnaire for parents or teachers of 4-16 year olds, but the wording is slightly different. The informant-rated version for the parents or nursery teachers of 3 (and 4) year olds is slightly modified. 22 items are identical, the item on reflectiveness is softened, and 2 items on antisocial behaviour are replaced by items on oppositionality. The cutt-off provided by the authors was used interpreting the SDQ subscales and total scores. For Total Difficulties scores, the cutt-off scores are 17-40 (abnormal), 14-16 (borderline) si 0-13 (normal) for SDQ parent version and 20-40 (abnormal), 15-19 (borderline) si 0-15 (normal) for SDQ self report version (*Goodman et al., 1997*).

The Strength and Difficulties Questionnaire (all versions, impact supplement and follow up questions) was translated into Romanian and translated back into English by a team consisting of one child and adolescent psychiatrist, three psychologists, and one licensed English language translator (all Romanian language native professionals), and one native Dutch psychologist. First, in different moments during 2004-2006 time frame, four independent translation drafts were done, in four different towns of Romania, at the University of Timisoara (by Ana Muntean and Zolthan Boghaty), at the Psychology Department of "Babes Bolyai" University of Cluj Napoca Cluj (by Anca Dobrean), at University of Brasov and at the Child and Adolescent Psychiatry Department of "Carol Davila" University of Medicine and Pharmacy of Bucharest (by Laura Mateescu). Afterwards, in 2006, all these drafts were compared during a long process in collaboration with the English language translator (Liliana Coposescu), and under the supervision of the author of the questionnaire. After this process, the final version was obtained (*Mateescu L., Dobrean A., Coposescu L., Hofman M., Muntean A., Bogathy Z.*, www.sdqinfo.com).

The factors present in the child's life, and associated by scientific literature with mental health status of children and adolescents, were evaluated using Household questionnaire and Family Assessment Device.

Family factors (Background information and demographic data)

Household interview (*Goodman, 2005*) is a questionnaire used for gathering the background information about children or adolescents, parents and families. The interview is structured in 2

parts: Socio-demographic factors and Social capital factors. Socio-demographic factors collect personal details about the child (name, date of births, gender), family household information (information on family structure: two-parent family or single-parent family and information on family complexity: nuclear family composed by only parents and children living under the same roof or extended family composed by parents, children and other relatives living under the same roof), child school details, information on the father and on the mother (health problems, alcohol use, education level, employement status), information about living and socio-economic conditions (expousure to verbal and/or physical violence as victim and witness, parenting style: authoritative, authoritarian or not specified, family income).

According to *Baumrind (1971),* the parenting style is classified as authoritative (combining high warmth with high control), authoritarian (combining low warmth with high control) and not specified.

The questionnaire was translated and adapted into Romanian in the Child and Adolescent Psychiatry Department of "Carol Davila" University of Medicine and Pharmacy for this study by the author and the study team (2006).

Family functioning measure

Family Assessment Device (FAD) by *Epstein, Baldwin and Bishop (1983)* is a questionnaire for evaluating the way the family functions as a whole. The FAD, which is based on the widely known McMasters Model of Family Functioning (Epstein, Bishop & Levine, 1978), contains a total of 60 items. Higher scores on the FAD indicate a greater degree of family dysfunction. Besides a General functioning scale comprising of 12 items, six sub-dimensions of family functioning are differentiated. The dimension "Problem Solving" (PS, 6 items) measures a family's capacity to resolve problems. "Communication" (CM, 9 items) assesses the degree to which verbal communication among family members is clear in content and direction, where 'clear in direction' means that the person spoken to is the person for whom the message is intended. The dimension "Roles" (RL, 11 items) measures repetitive patterns of behaviour by which individuals full fill their parts in the management of family life.

The degree to which tasks are clearly assigned to individuals is also considered. "Affective Responsiveness" (AR, 6 items) refers to family members' ability to respond to each other with the appropriate emotion. "Affective Involvement" (AI, 7 items) assesses the level of interest and value that family members have in each other's activities. "Behaviour control" (BC, 9 items) encompasses the methods used in a family for expressing and maintaining rules. Differential profiles of family dysfunction based on these sub dimensions may inform goal-directed family interventions. The FAD items can be answered on a 4- point Likert scale from 1 = "strongly agree" to 4 = "strongly disagree". Participants aged 11 and older were asked to rate the extent to which they think general statements on how families may function match their own family. For each scale, answers for unhealthy coded items are reversed. As suggested by the authors of the scale (*Miller, Epstein, Bishop, Keitner* 1985) cut-off scores greater than 2 were assigned for all the 7 dimensions of family functioning, in order to discern between "healthy" and "unhealthy" functioning.

The questionnaire was translated and adapted into Romanian during the participation of the Child and Adolescent Psychiatry Department of "Carol Davila" University of Medicine and Pharmacy in COSIP Project (Children of Somatically Ill Persons)(2002-2005), by Marius Federiga and Anca Ciudoescu.

Children aged between 6 and 10 did not answer any questionnaire. However, their parents filled in the Household questionnaire, CBCL, SDQ parent form and FAD. Adolescents, older than 11

years old, answered the SDQ SR and YSR. The parents of adolescents filled in Household questionnaire, CBCL, SDQ parent form, FAD.

In the psychiatry and neurology department, before starting the filling in process, a person from the research team gave the parents and the adolescents the instruments and the instructions on how to select the proper answers to the questions. After giving the general rules, the respondents were requested to ask the research team any question, in case they might fill in the questionnaires wrong.

Table 11: Number of completely answered questionnaires

	Study groups				
	Psychiatry group		Neurology group		School group
	Parent-report	Self-report	Parent- report	Self-report	Self-report
CBCL	105		75		
SDQ P	110		78		
YSR		47		11	113
SDQ SR		55		29	113
FAD	84		80		
HQ	105		84		

5.3.3. Methods used in data analyses

Hospitalized Psychiatric Patients study

Statistical analysis of the data in the Hospitalized Psychiatric Patients study was carried out using the Statistical Package for the Social Sciences (SPSS), version 17 for Windows. Similar data were analysed for the patients admitted in 1991 and 2013 including the child's age at admission, gender, main psychiatric diagnoses, comorbid psychiatric and somatic diagnoses, and hospital length of stay (LOS) (Table 12).

Diagnoses in 2013, either noted as principal or as comorbid ones, were provided in the exported files from the Hospital Information System as ICD 10 codes. In this analysis, the psychiatric diagnosis (main or comorbid) was coded as a nominal variable, representing one of 25 categories of mental and behavioural disorders (Table 13). These categories consist of either an entire ICD 10 class of disorders (e.g. Mood disorders – ICD 10 F30-F39), or a specific ICD 10 subclass (e.g.: Hyperkinetic disorders – ICD 10 F90), and in several cases of a combination of related ICD 10 subclasses (e.g. Dissociative [conversion] and Somatoform disorders- ICD 10 F44, F45). In addition to this variable representing the psychiatric diagnosis, several other variables were used to describe whether the subject was having an associated neurological disorder, a somatic condition and/or a problem related to socioeconomic or psychosocial circumstances, or not.

As no generally accepted diagnostic criteria or common taxonomy was used in 1991 in the Romanian Mental Health System, the way the patients were diagnosed and the diagnoses themselves were unstandardized, flexible and profoundly dependent on the training and subjectivity of each of the psychiatrists. But for an analysis to be possible, the author of the thesis together with the supervisor Prof. Iuliana Dobrescu, converted the diagnoses into the most appropriate ICD 10 diagnostic categories (due to the large amount of data, the entire converting process is presented in Appendix V., with only the algorithm for Autism Spectrum Disorders and Hyperkinetic disorders- Figure 2 being displayed below). In some cases, it was possible to identify several diagnoses, definitely delineated from the main ones, which were thus analysed as comorbid diagnoses. A next step of the analysis, after recoding the diagnoses, was to exclude from the study group all the subjects admitted only for a neurological condition or having this as

their main diagnosis, considering the fact that, back then, the clinic was functioning as a paediatric neuropsychiatric one. Further, the new psychiatric diagnoses were grouped into the same 25 abovementioned categories of mental and behavioural disorders, following a similar procedure to the one carried out in 2013. Whenever possible, associated neurological disorders, somatic conditions and problems related to socioeconomic and psychosocial circumstances were also identified, coded and analysed.

The basic features of the 1991 and 2013 study groups were depicted using descriptive statistics on age and gender, as well as sex ratios on different age intervals. The frequency distribution of males and females at different ages was represented using histogram charts within each group.

Within each of the studied years, frequencies of different psychiatric diagnoses were described in the total group and on genders and age intervals. The five most frequent diagnoses, both in 1991 and 2013, were analysed across genders and age intervals using Chi-square tests of independence within contingency tables. The frequency of comorbid diagnoses was described for both years and further analysis focused on the comorbidities of the five most frequent diagnoses in 2013. For each of these five diagnoses, the comorbid conditions that exceeded a threshold of 5% were noted and comparisons across genders were performed (Chi-square tests).

The median LOS was provided for the total number subjects in the 1991 and 2013 groups as well as for different age intervals or genders. Analysing non-normally distributed data (as assessed with Shapiro-Wilk's test), nonparametric unpaired tests (Mann-Whitney U-tests) were performed in order to determine if there are any statistically significant differences between different subgroups (males and females or subjects within different age intervals).

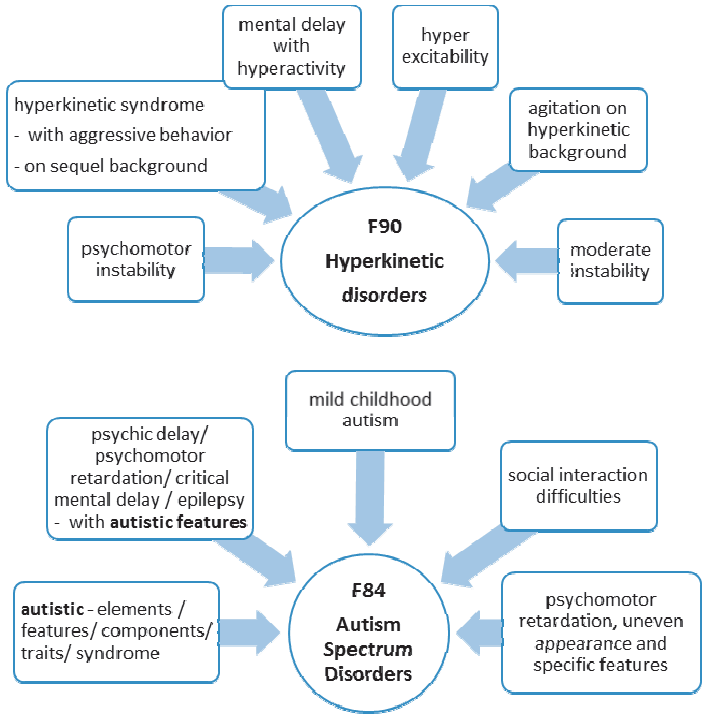


Figure 2: Correspondence between 1991 psychiatric diagnoses and ICD 10 categories (ASD and Hyperkinetic disorders).

Table 12: Description of the variables used in Hospitalized Psychiatric Patients study.

Variable	**Type**	
Gender	nominal	male/female
Age	continuous / categorical	< 1 / 1-5 / 6-11 / 12-18 years intervals
principal diagnosis	nominal	25 categories
Comorbid diagnosis		
comorbid psychiatric diagnosis	nominal	25 categories
neurological disorder	nominal	yes / no
somatic condition	nominal	yes / no
problem related to socioeconomic or psychosocial circumstances	nominal	yes / no
length of stay (LOS)	continuous / categorical	1-4 / 5-8 / 9-15 / >15 days intervals

Table 13: Diagnostic categories.

ICD 10 code	**Diagnostic categories**
F18, F19	Substance use
F20-29	Schizophrenia, schizotypal and delusional disorders
F30-39	Mood disorders
F40, F41, F42	Anxiety disorders, OCD
F43	Stress related disorders
F44, F45	Dissociative [conversion] and Somatoform disorders
F50	Anorexia nervosa
F51	Sleep terrors
F60, F62	Personality disorders
F63.3, F63.8	Impulse control
F70-79	Mental retardation
F80	Specific developmental disorders of speech and language
F81	Specific developmental disorders of scholastic skills
F83, F84, F89	Mixed specific developmental disorders
F84	Autism Spectrum Disorder
F90	Hyperkinetic disorders
F91	Conduct disorder
F92	Mixed emotional and behavioural disorders
F93	Emotional disorders with onset specific to childhood
F94	Disorders of social functioning
F95	Tics
F98.0, F98.1	Elimination disorders
F98.2, F98.3	Feeding, pica
F98.5, F98.6	Stuttering
Z 55-65	Problems related to socioeconomic and psychosocial circumstances
	Other psychiatric diagnoses
N	Neurology disorder
S	Somatic disorders

Child and Adolescent Mental Health study

Data analysis for this study was also carried out using the Statistical Package for the Social Sciences (SPSS), version 17 for Windows. Data obtained from the CBCL, SDQ P, FAD and HQ were analyzed for the psychiatry and neurology groups. Data from the YSR and SDQ SR were analyzed for the psychiatry, neurology and school groups. Only fully completed questionnaires were included in the analysis.

Descriptive statistics and frequency distributions were performed for all the variables within the HQ, the CBCL and YSR syndrome scales and competence scales, the SDQ and SDQ-SR scales and the FAD scales (Table 14). Description and further analysis of the data obtained using these instruments were mostly carried out using raw data. Moreover, T-scores for CBCL and YSR Internalizing, Externalizing, Total problems score and Competence scores were used in order to categorize the results in normal, borderline and clinical ranges. Data from the SDQ and SDQ-SR Emotional symptoms, Conduct problems and Total difficulties score was also assigned into normal, borderline and abnormal categories using cut-off points. In order to discern between a healthy or unhealthy family functioning, data obtained within all the FAD scales was compared with predetermined cut-off points.

Family factors and family functioning (psychiatry and neurology groups)
The household characteristics were described within each of the two groups (psychiatry and neurology) and Chi-square tests were used in analyzing the variables. The FAD scores were described within the two groups, both as raw data and categorized in healthy and unhealthy functioning. Independent-samples t-tests were used to determine if there is a difference between the mean FAD scores of the psychiatry and neurology groups. If the data were non-normally distributed (as assessed by Shapiro-Wilk's tests), the Mann-Whitney U-tests were preferred. Further analysis was carried out in order to identify if there are any significant differences in FAD scores with regards to different household characteristics, multiple Independent-samples t-tests and Mann-Whitney U-tests being performed within each group.

Parent reported child and adolescent mental health problems (psychiatry and neurology groups)
The CBCL Externalizing, Internalizing and Total problems score and SDQ Emotional Symptoms, Conduct problems and Total Difficulties scores were first categorized in three ranges of severity (normal, borderline and clinical for CBCL scores and normal, borderline and abnormal for SDQ scores). These scores were compared between psychiatry and neurology groups using cross-tabulations and Chi-square tests.

A separate analysis within each of the two groups was carried out, according to the child's age and gender. Using raw scores throughout the analysis, Independent-samples t-test and Mann-Whitney tests were performed to determine if there are any significant differences in the scores of CBCL Syndrome scales and of SDQ, between males and females and between 6-11 years old children and 12-18 years old children.

Further, a series of comparisons between psychiatry and neurology groups with regard to the CBCL and SDQ scores were conducted. First, the mean scores of all the CBCL Syndrome Scales as well as the scores of SDQ scales were compared between the two groups. Moreover, the scores were compared between the psychiatry and neurology groups according to the child's age and gender. The statistical test was chosen according to the distribution of data, after testing for normality using the Shapiro-Wilk test.

In the end, the analysis on the CBCL and SDQ focused on the differences between the scores obtained from families having different household characteristics and on possible correlations with FAD scores. Independent-samples t-test, Mann-Whitney tests, one-way ANOVA and Kruskal- Wallis tests were used in order identify significant differences, based on the number of categories of the independent variable and on the distribution of data. Tukey HSD post-hoc analysis was included in pairwise comparisons. Pearson correlation analysis was performed between the scores obtained within all the FAD subscales and CBCL / SDQ scores in order to define a possible relationship.

Self- reported adolescent mental health problems (psychiatry, neurology and school groups)
Procedures similar to those carried out for the parent-reported CBCL and SDQ were used in the analysis of the self-reported versions (e.g. YSR and SDQ-SR). The normal, borderline and clinical assignment based on the YSR and SDQ scores was now performed for the subjects included in psychiatry, neurology and school groups, and Chi-square tests were used to analyze these categorized variables. The raw data were used to determine if there are significant differences in YSR or SDQ scores between all the three groups (one-way ANOVA or Kruskal-Wallis tests) and pairwise comparisons using post-hoc analysis were carried out if any significant differences were observed. Further, the analysis of YSR and SDQ scores within each group and between the groups was separated according to the child's gender.

After having the parent- and the self-version analysed, the parent–youth agreement was studied within psychiatry and neurology groups. Raw scores for both dyads of CBCL-YSR and SDQ-SDQ SR were compared using Paired-samples t-tests to determine if there are any significant differences between the mean scores of parents and youths. Furthermore, a cross-informant Pearson correlation analysis was carried to determine the strength and the direction of the relationship.

The same analysis as the one described in the previous section of parent reported data, was performed to determine any significant differences in YSR and SDQ scores by various household characteristics (Independent-samples t-test, Mann-Whitney U-tests, one-way ANOVA and Kruskal- Wallis) and to explore the relationship between these scores and FAD results (Pearson correlation analysis). A stepwise regression – forward selection approach was also conducted to determine the specific combination of factors (of all the HQ and FAD items) which may represent statistical predictors of child mental health disorders.

Child and adolescent mental health competencies (psychiatry, neurology and school groups)
The parent –reported CBCL Activities, Social, School and Total competence scores and the SDQ Prosocial behavior score have been included in the analysis of competencies. First these scores were assigned in three categories of severity and analyzed using Chi-Square tests. Further, the mean raw scores were compared between psychiatry and neurology groups using Independent-samples t-tests since the data was normally distributed. Separate analysis of the competence scores was carried out by age (6-11/ 12-18 years) and by gender with multiple comparisons within subjects of each of the two groups and across the groups. The same procedure was used for self-reported YSR Activities, Social, School and Total Competence scores and for the SDQ SR Prosocial behavior scores within the psychiatry, neurology and school groups (Kruskal-Wallis tests between the three groups and Mann -Withney U-tests for pairwise comparisons). Finally, the analysis tried to establish if there are any significant differences in CBCL/ YSR competence score and SDQ/ SDQ SR Prosocial behaviour score with regard to different household characteristics (Independent-samples t-test, Mann-Whitney U-tests, one-way ANOVA and Kruskal- Wallis) and to bring out a potential relationship between these competence scores and FAD results.

Table 14: Description of the variables used in Child and Adolescent Mintal Health Study.

Variable	Type	
Gender	nominal	male/female
Age	categorical	6-11 / 12-18 years intervals
Household Questionnaire		
family structure	nominal	two-parent / single-parent family
family complexity	nominal	nuclear / extended
mother's health problems father's health problems	nominal	absent / mental / somatic
mother's alcohol use father's alcohol use	nominal	absent / present
mother's education level father's education level	ordinal	absent / primary school / high-school / university
mother's employment status father's employment status	ordinal	absent / present
family income status	ordinal	low / medium / high
victim of verbal violence victim of physical violence witness of verbal violence witness of physical violence	nominal	no / yes
parenting style	nominal	authoritative / authoritarian not specified
Family Assessment Device		
Problem solving Communication Roles Affective Responsiveness Affective Involvement Behaviour Control General functioning	continous / categorical	score healthy / unhealthy
Child Behaviour Checklist Youth Self Report		
Syndrome scales (withdrawn, somatic complains anxious/depressed, social problems, thought problems, attention problems, rule breaking behaviour, aggressive behaviour)	continous	raw score
Internalizing Externalizing Total problems	continous / categorical	raw score normal / borderline / clinical
Competence scales (activities, school, social, total competence score)	continous / categorical	raw scores normal / borderline / clinical
Strengths and Difficulties Questionnaire Parent – and Self - Report		
Emotional symptoms Conduct problems Hyperactivity / Inattention Peer relationship problems Prosopcial behaviour Total difficulties score	continous / categorical	score normal / borderline / clinical

5.4. Ethical considerations

The study was approved by the Committee of the Scientific Department of "Carol Davila" University of Medicine and Pharmacy, Bucharest.

The study was endorsed by the Department of Child and Adolescent Psychiatry and by the Department of Neuropaediatry of "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry and by the ruling committees of the schools.

At the time of admission to the clinic, the parent of each patient had to sign an informed consent, allowing the use of data from the child observation charts for scientific purposes under the personal data confidentiality condition.

This informed consent was signed by each parent in the Department of Child and Adolescent Psychiatry and in the Department of Neuropaediatry of "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry

6. RESULTS

6.1. Part I – Qualitative study: The development of child and adolescent mental health services in Romania (Child and Adolescent Mental Health Services Development study, CAMH Services Development study)

The professionals surveyed in this study discussed about the changes in the field of child and adolescent mental health in Romania, in the period after 1989, about the current challenges and about solutions to these challenges.

6.1.1. Changes

The way of thinking of professionals. Regarding the way of thinking of professionals, the first change specified by the informants refers to the official use of the concept of mental health in Romania. Immediately after the 1989 revolution, in 1990, the Romanian League for Mental Health (Liga Romana pentru Sanatate Mintala LRSM) was founded, confirming the fact that the idea of mental health had survived the communist period, and that it was present in the minds of a few professionals, without having any practical application.

The formalization of the term "mental health" by the state policy in Romania occurred in 2002 with the publication of the Mental Health Law. After 2003, the idea of children's mental health began to rise in the minds of the health-care professionals in the network, leading to the first congress and the publication of the first national treaty in this field.

The informants explained that open access to information on current ideas of European and American child psychiatry and the contact with professionals from other countries (as 4 of the informants have declared) led to the acquisition of various foreign models even if, more often than not, these were early-stage ideas, projects and laws (formulated, rated, published but not enforced). All these concepts were designed to stimulate the emergence of other types of mental health professionals, non-existent before 1989; to increase collaboration between professionals in the idea of multidisciplinary teamwork and respect for each profession; to support the use of psychological therapies; to involve the families as cotherapists.

The professionals became more interested in the mental health education of the general public, parents, teachers, primary care professionals and, to this purpose, started to engage in several NGOs projects and international projects with European partners.

Theoretical background. After 1989 a significant change occurred in the theoretical reference system. Before 1947, the Romanian school of psychiatry was tributary to the French school, an influence which was later tried to be replaced with dialectical materialism by the socialist system. After 1989, as a consequence of the opening of physical and informational "borders", the reference system started to be theoretically represented by the Anglo-Saxon school. The informants concluded that this change had an important role in the impressive number of psychiatrists who have emigrated to Europe, USA and other countries of the world in the last 5 years.

By comparison with the period before 1989, when due to seclusion in the communist camp system the access to scientific information was limited, now increasingly more professionals are applying scientifically validated methods. Three informants highlighted the improvement in using evidence-based therapeutic methods.

Nowadays, access to information regarding methods of scientific evidence based treatment is available through a continuous medical education system maintained by the national professional

society through symposia, congresses, postgraduate courses; through symposia on the development of psychopharmacological treatments and current affairs items in psychobiological research organized by drug companies; through attending European and international professional courses; through participation in clinical and pharmacological trials; through validation of various research tools; through the psychotherapeutic training. Scientific journals, monographs and treaties are now published in Romanian. Professionals have access to international journals and databases (even if still very limited). Books can be purchased online or accessed through virtual libraries.

But according to some informants, the nationwide dissemination of the scientific information among professionals still needs improvement.

Clinical practice. The professionals are not trained to handle the mental health preventive component, as three informants have mentioned. In fact, between the two periods of time, few changes occurred in preventive practice. The most important are the disappearance of the irrecoverable children's services, the cancellation of orphanages and the appearance of family placement.

The free movement of people and ideas, the access to scientific information about various therapeutic possibilities (i.e. psychopharmacological, psychotherapeutic) have provided more confidence to professionals, that much-needed sense of intellectual solidarity, communion and mutual respect. The increase in self-esteem and confidence through training programmes is reflected now in a greater efficiency in clinical practice. Five informants highlighted the valuable clinical aspect of an augmented access to scientific information and to more therapeutic options. Nowadays, professionals are more concerned about the quality of clinical interventions and pay more attention to patient satisfaction.

Patients. Following worthless epidemiological assessments in network services, all the informants considered that there were significant changes in terms of the number of patients using health-care services and in terms of the characteristics of pathologies. Four informants mentioned the diversification in pathology.

The informants explained that the number of patients increases due to awareness campaigns on mental health disorders, due to better information about existing services and due to reasonable access to information on the Internet. Three informants identified the awareness campaign as a contributing factor. The families of the patients are now better informed, helping to increase awareness and addressability. Also, the diagnostic possibilities are more accurate and standardized. At the same time, the difficult socioeconomic situation has a role in increasing the number of patients, but also in the change of pathologies and the emergence of new entities: consumption of psychoactive substances, abandoned children in the care of grandparents or other relatives by immigrant parents, conduct disorders of children from rich families, children presenting specific institutionalization pathology (orphanage children in group homes or in the care of foster parents).

The stigma is still very important and represents a contributing factor related to patients' late presentation to a psychiatrist, as 2 informants mentioned. Considering the diversification of mental health services, the patients sometimes initially bypass the medical system and address psychologists in private practice, which may delay an appropriate identification and treatment of psychiatric disorders.

One informant said that the patients and their families are now more involved as partners in the treatment decision-making process and also that they are now more aware of their rights.

Available services. The first change to be mentioned is the continuous interest of all the mental heath care professionals in the persistent need for diversification of services in the Romanian

child and adolescent mental health network. All the informants pointed out that mental health services still need to develop.

It is in this context, since 1989, that the private mental health network for children has developed, both in terms of health-care and psychological services. The associations of parents with mentally diseased children emerged remarkably strong. Furthermore, two informants mentioned that the number of NGOs developed services of recovery / therapy / educational programmes in child mental health (especially for children with ASD and developmental disorders, ADHD) have increased. These organizations are playing an important role in satisfying the needs for different types of services, through the implementation of programmes tailored to local situations. They are also promoting the preventive component of health-care, having started specific projects in certain areas.

In the state health-care system, even if there have been changes, a coherent network of child and adolescent mental health is still lacking. Large hospitals for cases that require long-term assistance, which had operated before 1989, were closed and the health assistance of these children was decentralized. Hospitals for acute cases are distributed in university cities and at county level, but their functioning is overcrowded, despite programming, because many professional job positions are "blocked" for economic reasons.

Improvements have also occurred in the interim public assistance, through the establishment of several Mental Health Centres, but their number is still smaller than necessary. Four informants mentioned the small number of community outpatient care units. In many cases, their activity is improper or they function with a scanty staff consisting of a single psychiatrist, or a psychiatrist and one or two psychologists. The activity of these centres should include tasks like screening out new cases, long-term follow-up for chronic cases and prevention programmes conducted in the educational and social systems. On the other hand, day centres do not exist or are very few, as is the case of age-specific centres and residential centres for chronic pathologies. Preventive services and early intervention are still lacking.

Some of the practitioners in the state health-care system have established private offices, performing medical activity in agreement with the state insurance system. There is an acute need for these categories of mental health professionals: psychologists, social workers, psychiatric nurses, and psychiatrists, in order to reduce the work rhythm of those in the state health-care system and to streamline the services.

Patients' assessment. Five informants mentioned the major changes occurred in the process of clinical evaluation, due to the use of international diagnostic manuals, DSM IV and ICD 10 and of scientific standardized instruments which are population-based validated. Also, the reopening of the Psychology and Social Work Faculties has had important consequences in terms of increasing the number of trained professionals.

Even with these changes, the patients' evaluation in Romania's state health-care system is often done with superhuman efforts from some parts of professionals. The assessment is uneven and unstandardized across different counties and different structures of the system, and sometimes it is only partial. In the state hospital system, in contrast to international recommendations and due to administrative standards, most of the evaluation is still performed (now, as before 1989) by the psychiatrist and only rarely it is completed by using psychological and social assessments. In the interim public assistance, the situation is even more difficult, because here, in many cases, the psychologists and social workers are completely missing. The same situation is encountered in the child protection institutions. The number of psychologists and social workers is limited, as well as that of psychiatric nurses. Most psychologists are employed in private structures, difficult

to access for families with limited financial resources. Moreover, the screening for mental health disorders in Romanian children was insignificantly performed.

Treatments available. Almost the entire range of psychopharmacological and psychotherapeutic interventions recognized at European and world-wide level are now available in Romania. The psychopharmacological treatments are currently available in Romania at European level (as six of the informants have declared), the pharmaceutical companies having performed a consistent informative activity in the professional network and influenced the administrative and decision making structures. The availability is equal across the country, even if there are hiatuses in constant supply due to competition between firms producing original or generic drugs, or due to state budget financial problems.

A radical change, compared to the period up to 1989, which occurred in psychotherapeutic treatment was mentioned by all informants. In Romania, professionals are now trained in many therapeutic methods used worldwide (psychoanalytic, cognitive behavioural, systemic, etc.). Their representation is uneven across the country, suitable in university centres but limited in several counties, where it only consists of psycho-pedagogical and speech therapies. Moreover, psychotherapeutic interventions are not covered by the Health Insurance House.

Psychotherapeutic treatment is now available both in the private sector and in the state health-care system, through collaboration between partners and state universities or between private partners and NGOs, and in many cases, through voluntary work.

The general public still does not realize the role of mental health in children and the role of prevention in mental health. Mental health has a mistaken perception in the field of child psychiatry. Until now, no opinion trend on child and adolescent mental health has been generated by the general public.

The informants told that the general public has a greater acceptance of mental disorders which leads to lower level of stigma associated with psychiatric services. Three of the informants have indicated the existence of public tolerance.

There is documented evidence of tolerance and compassion for children, and especially for sick children. However, there are difficulties in the educational system, in school integration of children with atypical development (ADHD, ASD, Mental Retardation) due to financial difficulties of the educational system, such as: overcrowded classes, one class teacher, small number of hours.

Policies on child and adolescent mental health. Even the international recognized child and adolescent mental health ideas are accepted as valuable, at theoretical level, these concepts are mentioned in the few written policies in the field of child and adolescent mental health (National Strategy for Child and Adolescent Mental Health in Romania). Three informants have mentioned the small number of existing policies. Unfortunately, even fewer of these policies are implemented in practice. Failure to apply these policies is due to limited financial resources allocated to the mental health system: limited staff (psychiatrists, psychologists, psychotherapists, psychologists, speech therapists) not enough for a proper structuring of network teams, a high number of patients per professional team member, very low salaries. Two informants have emphasised on the influence financial resources have upon the scarcity of policies.

6.1.2. Challenges

The professionals, who participated in the survey, identified the following challenges related to child and adolescent mental health in Romania. In terms of general attitude, one informant

mentioned the decline of enthusiasm in Romania and the problem of emigration of capable professionals. Three informants mentioned the poor mental health education of the general public, parents, education professionals, health-care professionals; the misunderstanding of the concept of mental health; the lack of information. The absence of a national mental health strategy involving all the health-care actors and both the private and public services (four informants) and the deficit of the wide system coordination and collaboration between all levels of intervention, between the medical and the education systems or between other structures such as the welfare system, NGOs, etc..(two informants) represent another challenge. Social problems (the underdevelopment of community services and the lack of well-organized social services) were mentioned by two of the informants as being difficulties of current mental health system as well. Financial aspects: system deficiencies regarding the number of the following professionals: physicians, psychologists, social workers, speech therapists; insignificant and inadequate remuneration of professionals and improper budget allocation for health-care, considering the corresponding needs for mental health were mentioned by all informants.

6.1.3. Solutions

As solutions to the previous challenges, and in order to improve the current situation in child and adolescent mental health in Romania, the surveyed professionals mentioned the creation of an appropriate legislative framework for the child mental health (two informants) system , the continuous funding resources independent of any governmental political ideology or economic interests (four informants). Also, one of the solutions was mental health education of the general public, the change in mentality through relevant and accurate information provided by specialists in the field, the creation of a favourable current of opinion on mental health and national campaigns to popularize it (two informants). The involvement of parents' associations (three informants) and of the church (one informant) were considered as complementary to the previous one. The organizational (better cooperation between all the institutions involved in child's mental health, mentioned by two informants) and economical (financial motivation of the specialists) solutions were also discussed.

6.2. Part II – Quantitative study: The change of the characteristics of child and adolescent psychiatry patients at „Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, Bucharest between 1991 and 2013 (Hospitalized Psychiatric Patients study)

6.2.1. Gender and Age

In 1991, 897 patients (480 boys and 417 girls) were hospitalized with a psychiatric condition as their main diagnosis. Aged between 0 and 18 years, they had a median age at admission of 12 (IQR 8 to 15). In the entire group, the sex-ratio was almost equal (1.15:1), but male-biased (1.43:1) in patients younger than 11. Overall boys had a lower age at admission.

In 2013, altogether 2204 patients (1442 boys and 762 girls) were hospitalized, aged between 1 and 18 years, with a median age of 9 (IQR 6 to 13). In boys, the median age at admission was 8 (IQR 5 to 12) and in girls 11 (IQR 6 to 15). As the age at admission increases, the boy- to-girl sex ratio decreases.(2.58:1 in 1-5 years group vs 1.08:1 in 12-18 years group).

Table 15: Males and females distribution by age intervals.

Age group	Boys				Girls			
	1991		2013		1991		2013	
	n	%	N	%	n	%	n	%
< 1 yr	5	1.0			3	0.7		
1-5 yrs	83	17.3	395	27.4	58	13.9	153	20.1
6-11 yrs	164	34.2	662	45.9	115	27.6	254	33.3
12-18 yrs	222	46.3	385	26.7	232	55.6	355	46.6
missing	6	1.3			9	2.2		
Total	**480**	**100.0**	**1442**	**100.0**	**417**	**100.0**	**762**	**100.0**

Table 16: Patient distribution and sex ratio by age intervals.

Age group	1991		2013		Male to female ratio	
	N	%	n	%	1991	2013
< 1 yr	8	0.9			-	
1-5 yrs	141	15.7	548	24.9	1.43:1	2.58:1
6-11 yrs	279	31.1	916	41.6	1.43:1	2.60:1
12-18 yrs	454	50.6	740	33.6	0.96:1	1.08:1
missing	15	1.7			-	
Total	**897**	**100.0**	**2204**	**100.0**	**1.15:1**	**1.89:1**

The age at admission among boys is lower in 2013 than it was in 1991. In 2013 the distribution of males is skewed to the right, toward higher ages, while in 1991 the highest percentages of males are found in patients aged between 11 and 16 years (Figure 3).

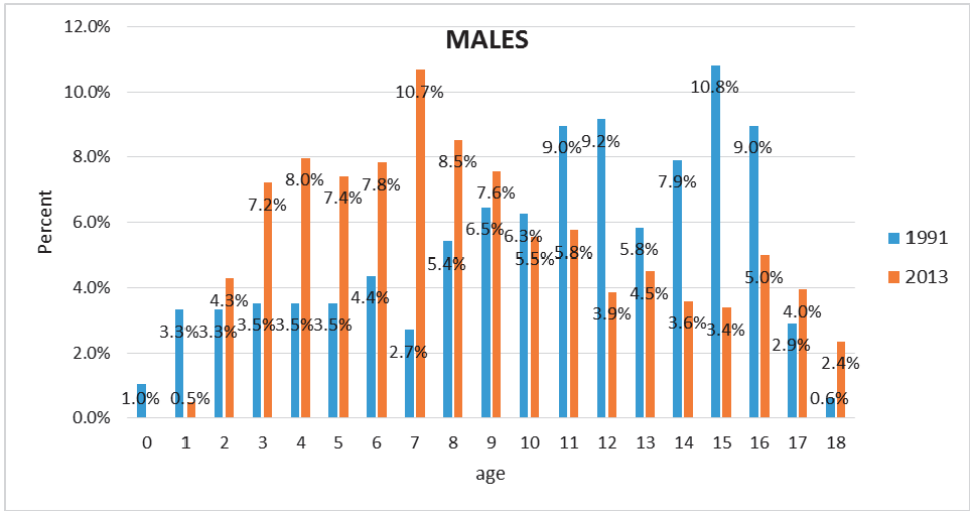


Figure 3: The distribution of males by age in 1991 and 2013.

In 1991 the distribution of females is similar to the one of males, while in 2013 the distribution is bimodal having a pick between the ages 6 and 8 and another one between 15 and 17 years (Figure 4).

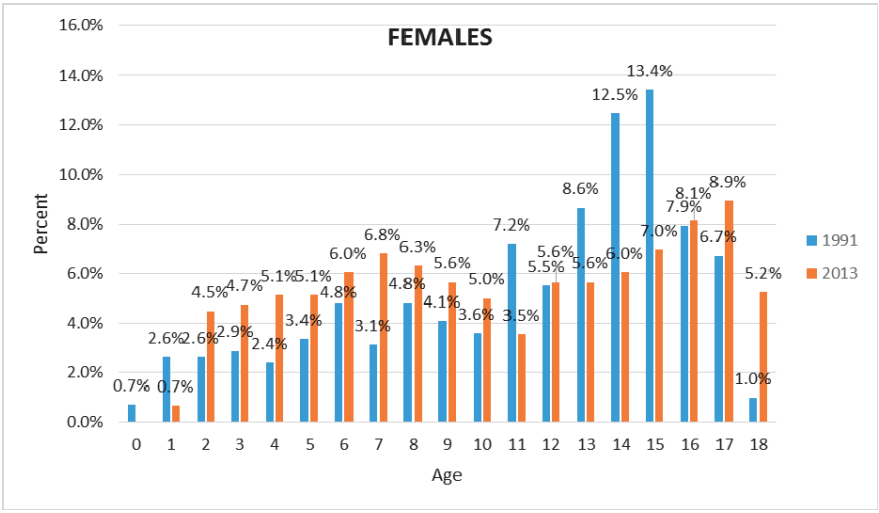


Figure 4: The distribution of females by age in 1991 and 2013.

6.2.2. Primary Diagnoses

In 1991, the Dissociative and Somatoform disorders were most frequently diagnosed, exceeding 20% of the entire group, followed by Mental retardation and Conduct disorders, with a rate falling between 10 and 20 %. The rest of diagnostic categories had rates lower than 10 %, starting with Hyperkinetic disorders, Anxiety disorders, Schizophrenia schizotypal and delusional disorders and Mood disorders In 2013 two diagnostic categories, ASD and Hyperkinetic disorders, gathered together close to two thirds of the entire group (44.2% and 22.0%). Conduct disorders were diagnosed in 5.6% of the subjects, Mood disorders in 5.3% and Emotional Disorders with onset in childhood in 3.9%. The rest of diagnostic categories had rates lower than 3.5%.

Table 17: Principal diagnoses.

ICD 10		1991		2013	
		N	%	n	%
F44, F45	Dissociative and Somatoform disorders	195	21.7	34	1.5
F70-79	Mental retardation	142	15.8	-	-
F91	Conduct disorder	112	12.4	123	5.6
F90	Hyperkinetic disorders	58	6.4	485	22.0
F40, F41, F42	Anxiety disorders, Obsessive Compulsive disorder	53	5.9	77	3.5
F20-29	Schizophrenia, schizotypal and delusional disorders	51	5.6	53	2.4
F30- F39	Mood disorders	48	5.3	117	5.3
F84	ASD	38	4.2	974	44.2
F98.0, F98.1	Elimination disorders	38	4.2	11	0.5
F43	Stress related disorders	31	3.4	50	2.2
F95	Tics	19	2.1	12	0.5
F48.0	Neurasthenia	18	2.0		
F51	Nonorganic sleep disorders	18	2.0	2	0.1
F60	Personality disorders	17	1.9	-	-
F80	Specific develop. disorders of speech and language	11	1.2	74	3.3
F92	Mixed emotional and behavioural disorders	6	0.6	12	0.5
F98.5	Stuttering	6	0.6		
F81	Specific develop. disorders of scholastic skills	3	0.3	13	0.6
F50	Eating disorders	2	0.2	21	0.9
F93	Emotional disorders with onset specific to childhood	-	-	85	3.8
F94	Disorders of social functioning	-	-	19	0.9
F83, F89	Mixed specific developmental disorders	-	-	9	0.4
F10-19	Substance use			5	0.2
F98.2, F98.3	Feeding, pica	-	-	4	0.2
R45.1	Restlessness and agitation	10	1.1		
	Other psychiatric disorders	21	2.3	24	1.1
	TOTAL	897	100.0	2204	100.0

In both years the diagnostic distribution was gender-dependent. Thus, in 1991, the five most frequent diagnoses in boys were: Mental retardation (17.1%), Conduct disorders (15.8%), Dissociative and Somatoform disorders (14.4%), Hyperkinetic disorders (9.6%) and Anxiety disorders (8.3%), while in girls the Dissociative and Somatoform disorders were most frequently diagnosed (30.2%) followed at great distance by Mental retardation (14.4%), Conduct disorders (8.6%), Mood disorders (7.9%) and Schizophrenia schizotypal and delusional disorders (5.5%). The Dissociative and Somatoform disorders ($\chi2(1)= 32.91$, $p<0.01$) and Mood disorders ($\chi2(1)= 10.10$, $p<0.01$) had significantly higher rates among girls, while Conduct disorders ($\chi2(1)= 10.58$, $p<0.01$), Hyperkinetic disorders ($\chi2(1)= 16.59$, $p<0.01$) and Anxiety disorders ($\chi2(1)= 10.91$, $p<0.01$) were significantly more frequently diagnosed in boys. No statistically significant differences across genders have been found in the rates of Mental Retardation or Schizophrenia schizotypal and delusional disorders.

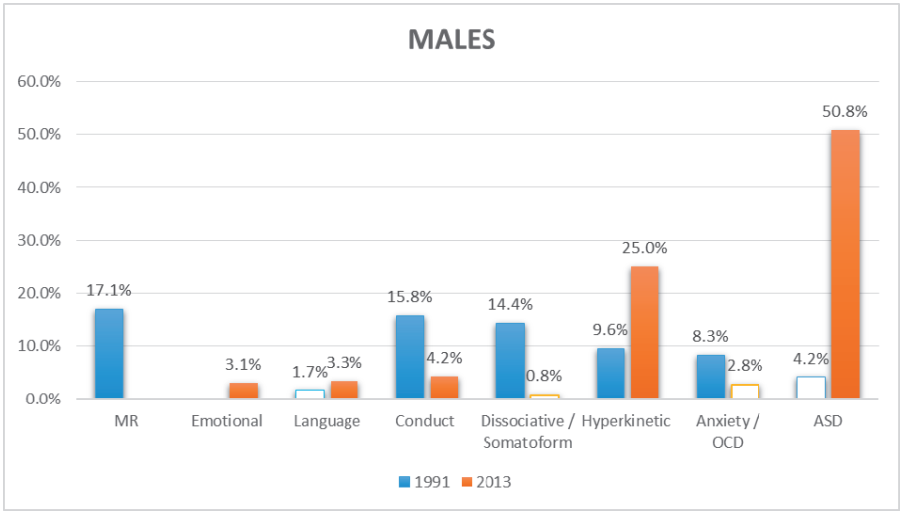


Figure 5: The five most frequent diagnoses among males in 1991 and 2013.

In 2013 among boys, the five most frequent psychiatric diagnoses were: Autism Spectrum Disorders 50.8%, Hyperkinetic disorders 25.0%, Conduct disorders 4.2%, Specific Developmental disorders of speech and language 3.3%, Emotional disorders with onset specific to childhood 3.1% and the rest had values lower than 3%. Among girls', the five most frequent diagnoses found were: Autism Spectrum Disorders 31.8%, Hyperkinetic disorders 16.3%, Mood disorders 10.8%, Conduct disorders 8.1%, Emotional disorders with onset specific to childhood 5.4%, and the rest had values lower than 5%. Statistically significant differences were found between genders, with boys having higher frequencies of ASD ($\chi^2(1)= 36.58$, $p<0.01$) and Hyperkinetic disorders ($\chi^2(1)= 22.29$, $p<0.01$). Girls were diagnosed more frequently with Mood disorders ($\chi^2(1)= 68.76$, $p<0.01$), Eating disorders ($\chi^2(1)= 29.29$, $p<0.01$), Conduct disorders ($\chi^2(1)= 14.43$, $p<0.01$), Dissociative and Somatoform disorders ($\chi^2(1)= 12.86$, $p<0.01$), Schizophrenia ($\chi^2(1)= 11.65$, $p<0.01$, Stress Related Disorders ($\chi2(1)= 8.53$, $p<0.01$), Emotional disorders with onset specific in adolescence ($\chi^2(1)= 7.29$, $p<0.01$),) and Anxiety disorders ($\chi^2(1)= 6.40$, $p<0.05$).

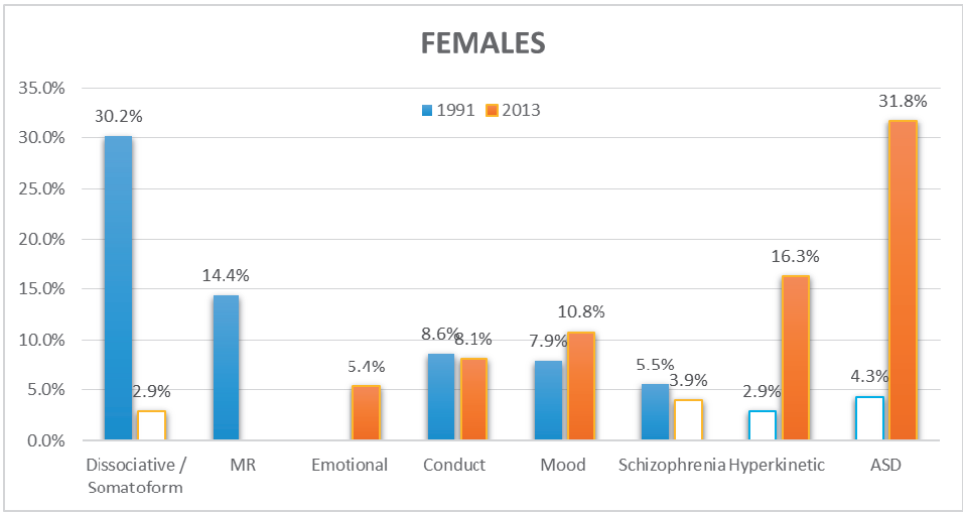


Figure 6: The five most frequent diagnoses among females in 1991 and 2013.

In 1991, within the 1-5 years age group, the most common diagnosis was Mental Retardation (43.6%), followed by Hyperkinetic disorders (16.1%) and ASD (13.4%). In 2013, within the 1-5 years age group, the most common diagnosis was ASD (69.0%), followed at great distance by Hyperkinetic disorders (11.1%), Specific developmental disorders of speech and language (7.5%) Conduct/ oppositional disorders (3.3%) and Emotional disorders with onset specific to childhood (3.1%).

In 1991 the children aged between 6 and 11 were most frequently diagnosed with Dissociative and somatoform disorders (25.0%), Mental Retardation (14.7%), Hyperkinetic disorders (11.4%) and Conduct disorders (10.4%). Within the 6-11 years age group, in 2013, ASD was most frequently diagnosed (50.1%) followed by Hyperkinetic disorders (29.9%), Emotional disorders with onset specific to childhood (3.7%), Specific developmental disorders of speech and language (2.9%) and Conduct/oppositional disorders (2.5%).

In 1991, within the 12-18 years age group, the most common diagnoses were Dissociative and somatoform disorders (26.0%), Conduct disorders (17.9%) and Schizophrenia schizotypal and delusional disorders (10.3%). In 2013, the most common diagnoses in this age range were Hyperkinetic disorders and ASD (20.3% and 18.4%), followed closely by Mood disorders (15.3%), Conduct disorders (11.1%), Schizophrenia (6.9%) and Anxiety disorders (6.6%).

The Dissociative and somatoform disorders, the most common diagnosis in 1991, had the highest frequency rate in the 12-18 year range with a peak prevalence at the age of 15. The most cases of Mental Retardation were found in the 0-5 year age range, with a continuous decrease from the age of 6 onwards. The Conduct disorders have been diagnosed starting at the age of 8, with the highest number of cases being seen in the 12-18 year age range and having two peak prevalence at the age of 12 and 15. There were only few cases of Hyperkinetic disorders after the age of 11, this diagnosis being found mostly in the 6-11 year age range with a peak prevalence at 6 years. Both in males and females the most cases of Anxiety disorders were found in the 12-18 year age and only a few number under the age of 11.

The analysis on age and genders of the five most frequently psychiatric conditions diagnosed in 2013 revealed the following: The majority of ASD cases were found in the 6-11 year age range,

with two peak prevalence at the ages of 3 and 7, and a pronounced decrease from the age of 10 onwards. In both genders, the number of cases diagnosed with ASD differed significantly by age group (F χ2(2)= 192.60, p=.00; M χ^2(2)= 121.27, p=.00); The most cases of Hyperkinetic disorders were seen in 6-11 year age range, with the highest number at 7 years, a lower number before the age of 5 and a marked decrease after the age of 13. Both in males and females, the number of Hyperkinetic disorders cases varied significantly by age range (F χ^2(2)= 26.52, p= .00; M χ^2(2)= 55.42, p= .00). Both in males and females, the most cases of Conduct disorders were seen in 12-18 year age range, with the highest number at 18 years in girls and at 16 in boys, and a lower number of cases before the age of 12. (F χ^2(2)= 14.06, p=.00; M χ^2(2)= 45.89, p= .00); There were only few cases of Mood disorders before the age of 11, this diagnosis being found mostly in the 12-18 year age range with a peak prevalence at 17 years. (F χ^2(2)= 100.60, p=.00; M χ^2(2)= 77.01, p=.00); Emotional disorders with onset specific to childhood were equally distributed, with no statistically significant differences across age groups. (F χ^2(2)= 1.07, p=.58; M χ^2(2)= 5.69, p=.06).

6.2.3. Comorbid diagnoses

In 2013, there were 2,192 comorbid psychiatric diagnoses, the patients having up to four secondary diagnoses. There were also 270 associated ICD 10 Z codes (Problems related to socioeconomic and psychosocial circumstances), 162 neurological disorders and 266 somatic disorders. Analysis of diagnoses in 1991 was able to identify only 249 psychiatric commorbide diagnosis precisely delineated from the main disorders and reported below as comorbid disorders.

The most common psychiatric comorbidity in both studied years was Mental retardation (34.1% in 2013 and 18.8% in 1991) followed in 2013 by Hyperkinetic disorders (19.9%) and Conduct disorders (13.5%) and in 1991 by Personality disorders and Dissociative and Somatoform disorders, but with rates lower than 3 %.

Table 18: Comorbid diagnoses.

ICD 10 code		1991		2013	
		n	%	n	%
F70-79	Mental retardation	169	18.9	840	38.1
F60-62	Personality disorders	25	2.8	84	3.9
F44, F45	Dissociative and Somatoform disorders	18	2.0	31	1.4
F90	Hyperkinetic disorders	7	0.8	440	20.0
F98.0, F98.1	Elimination disorders	7	0.8	37	1.7
F95	Tic disorders	4	0.5	38	1.8
F30-39	Mood disorders	3	0.3	26	1.2
F91	Conduct disorders	3	0.3	298	13.6
F40, F41, F42	Anxiety disorders, OCD	3	0.3	85	3.9
F43	Stress related disorders	2	0.2	30	1.4
F81	Specific develop. disorders of scholastic skills	2	0.2	24	1.1
F48.0	Neurasthenia	2	0.2	-	-
F80	Specific develop. disorders of speech and language	1	0.1	76	3.5
F98.5	Stuttering	1	0.1	5	0.2
F84	ASD	-	-	55	2.5
F94	Disorders of social functioning	-	-	37	1.7
F93	Emotional disorders with onset specific to childhood	-	-	27	1.2
F51	Nonorganic sleep disorders	-	-	17	0.8
F10-19	Substance use	-	-	7	0.3
F63	Impulse control disorders	-	-	7	0.3
F50	Eating disorders	-	-	3	0.1
F92	Mixed emotional and behavioural disorders	-	-	2	0.1
F98.2, F98.3	Feeding disorder, pica	-	-	2	0.1
F20-29	Schizophrenia, schizotypal and delusional disorders	-	-	1	0.1

In both genders the three most frequent psychiatric comorbidities in 2013 were Mental retardation (38.6% and 37.3%), Hyperkinetic disorders (23.9% and 12.5%) and Conduct disorders (15.0% and 10.6%) followed by Specific developmental disorders of speech and language (3.8%) and Anxiety disorders (3.7%) in boys and by Personality disorders (7.1%) and Anxiety disorders (4.2%) in girls.

Given the increased rate of psychiatric comorbidities in 2013, a separate analysis of these secondary diagnoses has been performed for each main diagnosis. The comorbid conditions that exceeded a threshold of 5%, as well as a simultaneous analysis of gender differences for the five most frequent primary diagnoses are listed below.

ASD was highly comorbid with Mental retardation and Hyperkinetic disorders, each of these two comorbidities reaching a rate of 40%. The comorbidity between ASD and Hyperkinetic disorders was significantly more frequent in boys.

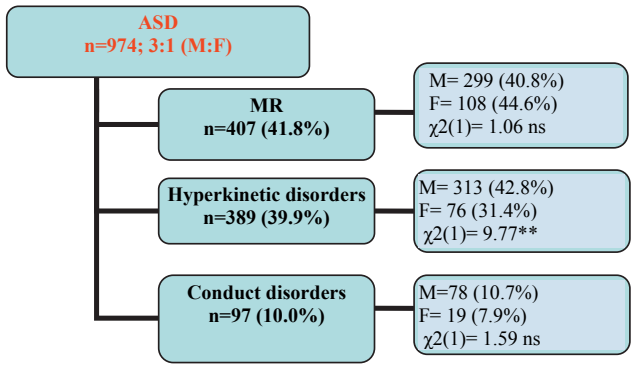


Figure 7: Comorbidities in ASD.

Mental retardation, Conduct disorders and Specific developmental disorders of speech and language were common among children diagnosed with a Hyperkinetic disorder.

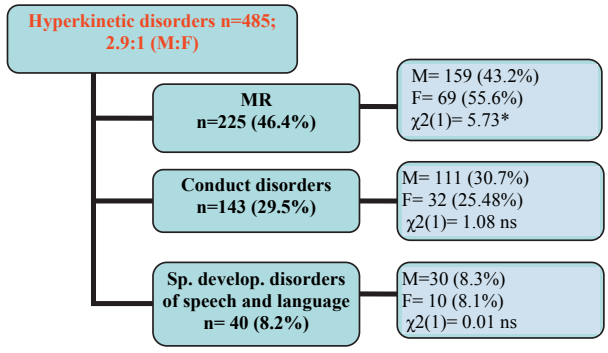


Figure 8: Comorbidities in Hyperkinetic disorders.

More than 40% of children diagnosed with a Conduct disorder had a secondary diagnosis of Mental retardation with no gender differences and almost 20% met the criteria for a Personality disorder.

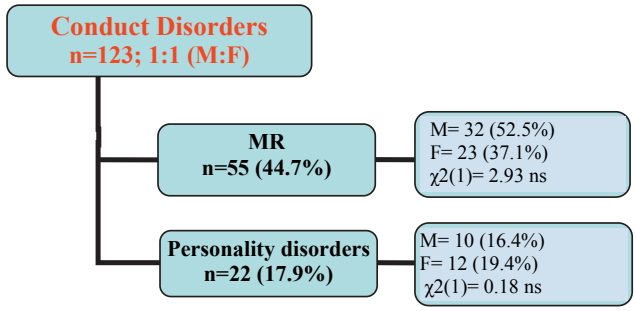


Figure 9: Comorbidities in Conduct disorders.

Mood disorders were the diagnostic category with the broadest range of comorbid conditions, one-third of these subjects having also a Personality disorder, almost one fourth a Mental retardation, and more than 10% being also diagnosed with an Anxiety disorder, a Hyperkinetic disorder or with a Dissociative or Somatoform Disorder.

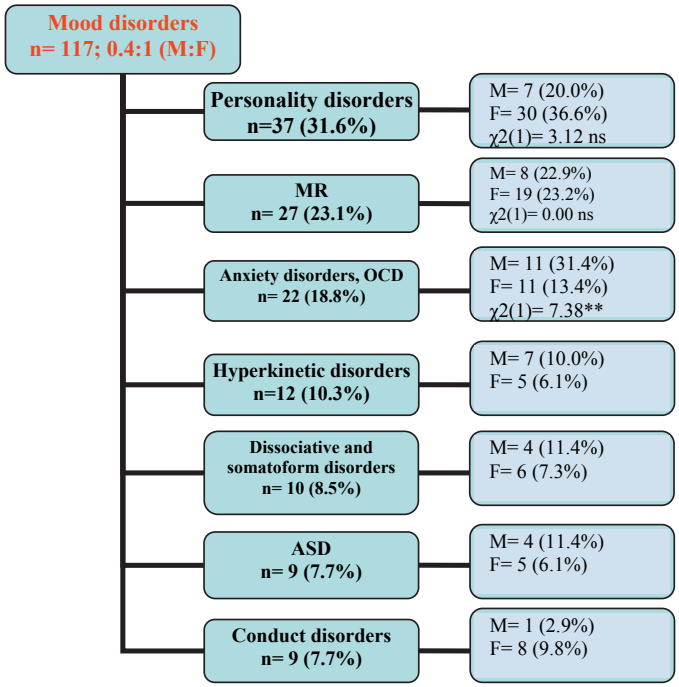


Figure 10: Comorbidities in Mood disorders.

Mental retardation and conduct disorders were the only two comorbid conditions that exceeded a threshold of 5% in case of Emotional disorders with onset specific to childhood, with no significant differences between males and females.

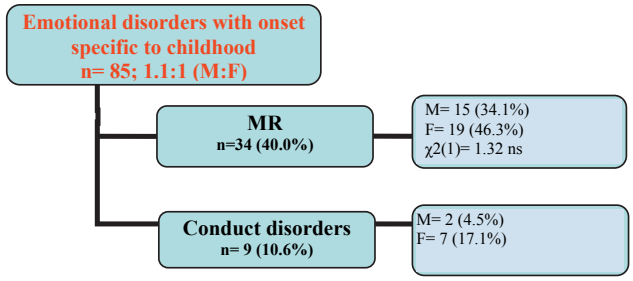


Figure 11: Comorbidities in Emotional disorders with onset specific to childhood.

6.2.4. The length of hospital stay

In 1991, 318 children (35.4%) had the length of hospital stay (LOS) of more than 15 days, 296 (33.0%) had a 9-15 days hospitalization, 204 (22.7%) a 5-8 days hospitalization and 66 (7.3%) a 1-4 days LOS. There were also 13 children with no data regarding their length of stay. The median LOS in the entire group was 12 (8,19) with a minimum of 1 and a maximum of 274

In 2013 the LOS was as follows: 947 children (43.0%) had 5-8 days hospitalization, 767 (34.8%) had 9-15 days hospitalization, 392 (17.8%) had a length of stay of 1-4 days and for 88 children (4.0%) the hospitalization lasted more than 15 days. The median LOS in the entire group was 6 days (IQR 4 to 8) with a minimum of 2 and a maximum of 39 days.

In 2013, within all three age groups, similar proportions of children were found to have a 5-8 days LOS (about 40%). But, as the children were getting older, the number of cases with an 1-4 days hospitalization decreases and of those with 9-15/ >15 days hospitalization increases. Thereby the more the age of subjects increases the higher becomes the LOS (mdn $_{0\text{-}5\ yrs}$=5 [IQR 4 to7]; mdn $_{6\text{-}11\ yrs}$=5 [IQR 4 to8]; mdn $_{12\text{-}18\ yrs}$=7 [IQR 5 to10]). This trend of a greater LOS as the age of children increases could be seen in 1991 also (mdn $_{0\text{-}5\ yrs}$=9 [IQR 6 to12]; mdn $_{6\text{-}11\ yrs}$=11 [IQR 7 to16]; mdn $_{12\text{-}18\ yrs}$= 15 [IQR 9 to23]).

Within the 0-5 years age range, in 1991, one third of children had a 9-15 days LOS and more than 10% of them a LOS greater than 15 days, while in 2013, 90% of the inpatients had a LOS under 8 days (Figure 12)

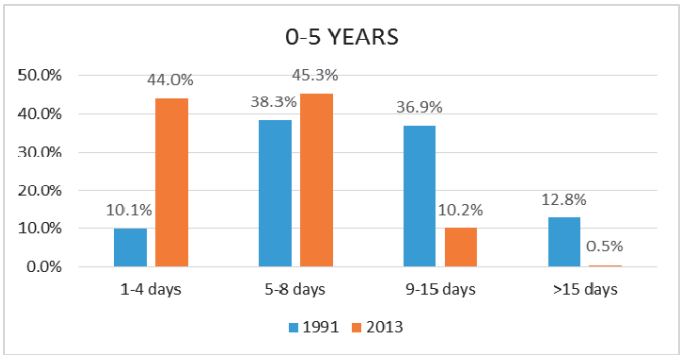


Figure 12: LOS in 0-5 year age group - 1991 and 2013.

Among children aged between 6 and 11 years, hospitalizations of 5-8/9-15/ >15 days had almost similar proportions in 1991, whereas in 2013, 40% of the subjects had a 1-4 days LOS.

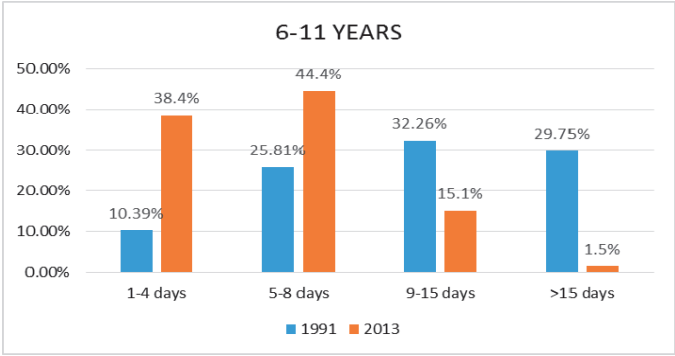


Figure 13: LOS in 6-11 year age group - 1991 and 2013.

In 1991, almost half of the subjects older than 12 years stayed in hospital more than 15 days, while in 2013 only 10% of the children within this age group had a similar LOS.

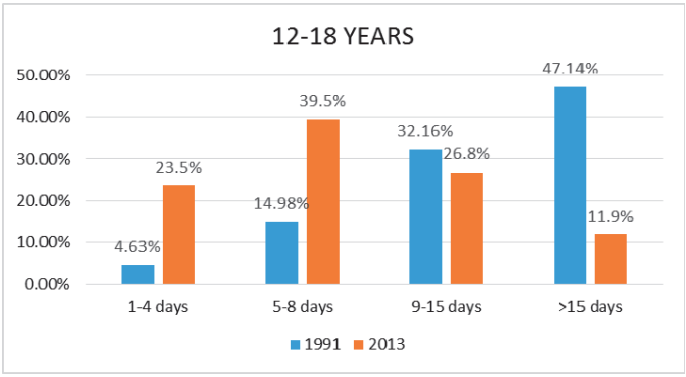


Figure 14: LOS in 12-18 year age group - 1991 and 2013.

In 2013, the LOS distribution remains the same across genders. Among the subjects with a rather short LOS, the sex-ratio tends to be much more skewed toward the males than the one observed in the entire group (M:F Total group= 1.89:1; 1-4 days group= 2.3:1; 5-8 days group= 2.1:1). As the LOS increases, the number of subjects begins to equalize , and further the ratio becomes skewed toward females among the subjects with higher LOS (M:F >15 days group= 0.6:1). A male-biased sex ratio was also found in 1991 among the subjects with an 1-4 days LOS (1.54:1) and equal proportions of males and females were found among the subjects with a length of stay longer than 15 days (1.03:1)

Furthermore, a separate length-of-stay analysis for each diagnosis was performed. In 1991 the majority of diagnostic categories had a median LOS falling into the 9-15 days range, four pathologies had LOSs greater than 15 days (mdn LOS Conduct disorders= 16, mdn LOS Personality disorders= 18, mdn LOS Mood disorders= 19, mdn LOS Schizophrenia, schizotypal and delusional disorders= 20) and only the subjects with ASDs had a median length of stay falling into the 5-8 days range (Table 19).

Table 19: Length of Stay (LOS) for the five most frequent diagnoses in 1991.

LOS	Dissociative and Somatoform disorders n=195 %	Mental retardation n= 142 %	Conduct disorders n= 112 %	Hyperkinetic disorders n= 58 %	Anxiety disorders, OCD n= 53 %
1-4 days	7.7	9.9	0.9	10.3	11.3
5-8 days	22.6	38.0	7.1	36.2	13.2
9-15 days	32.8	35.9	35.7	36.2	34.0
>15 days	35.4	12.7	54.5	17.2	41.5
missing data	1.5	3.5	1.8	0.0	0.0

In 2013, the vast majority of pathologies had an a median LOS falling into the 5-8 days interval (Table 20). Still, there were four diagnostic categories (i.e. Mood disorders, Schizophrenia and related disorders, Dissociative and Somatoform disorders, Eating disorders) with a median LOS greater than 8 days. There were no significant differences between the sexes.

Table 20: Length of Stay (LOS) for the five most frequent diagnoses in 2013

LOS	ASD n=974 %	Hyperkinetic disorders n= 485 %	Conduct disorder n= 123 %	Mood disorder n= 117 %	Emotional disorder n= 85 %
1-4 days	42.1	33.0	30.9	6.0	44.7
5-8 days	46.6	43.9	35.0	41.0	37.6
9-15 days	10.0	19.0	31.7	35.9	16.5
>15 days	1.0	3.1	1.6	17.1	1.2
missing data	0.3	1.0	0.8	0.0	0.0

6.3. Part III – Quantitative study: Child and adolescent mental health and related factors in three groups – psychiatry, neurology and school groups (Child and Adolescent Mental Health study, CAMH study)

6.3.1. Family factors and family functioning (psychiatry and neurology groups)

Family factors (household information) HQ

As far as family structure and family complexity are concerned, in both groups, more than 80% of subjects came from two-parent families and one third from extended families, but without statistical significant differences (Table 21).

In both groups, over 80% of parents, both mothers and fathers had no health problems. The only difference that needs to be mentioned, without a statistical significance, is a higher percentage of mothers presenting a mental health problem in psychiatry group (4.4%) versus the neurology group (0.0%).

Concerning the alcohol consumption, in both groups over 97,6% of mothers reported no alcohol consumption, while the fathers, 26.9% and 38.6% in psychiatry versus neurology group presented alcohol use.

Table 21: The family characteristics of the subjects from the psychiatry and neurology groups.

Family characteristics		Groups			
		Psychiatry n=105		Neurology n=84	
		n	%	n	%
Gender of the subject	male	29	29.9	33	42.3
	female	68	70.1	45	57.7
Family Complexity	extended	31	34.8	26	34.7
	nnuclear	58	65.2	49	65.3
Family Structure	single-parent family	13	14.1	14	17.3
	two-parent family	79	85.9	67	82.7
Mother Health Problems	absent	56	82.4	52	81.3
	mental	3	4.4	0	0
	somatic	7	10.3	11	17.2
	mental+somatic	2	2.9	1	1.6
Father Health Problems	absent	60	88.2	59	88.1
	mental	2	2.9	1	1.5
	somatic	5	7.4	7	10.4
	mental+somatic	1	1.5	0	0
Mother Alcohol Use	absent	81	97.6	72	98.6
	present	2	2.4	1	1.4
Father Alcohol Use	absent	57	73.1	43	61.4
	present	21	26.9	27	38.6
Mother Education Level	primary	17	21.5	31	50.0
	highschool	37	46.8	25	40.3
	university	25	31.6	6	9.7
Father Education Level	primary	13	22.8	18	56.3
	highschool	26	45.6	9	28.1
	university	18	31.6	5	15.6
Mother Employment Status	absent	5	6.4	7	10.9
	present	73	93.6	57	89.1
Father Employment Status	absent	0	0	5	6.8
	present	84	100	68	93.2
Family income	low	1	1.1	0	0
	medium	6	6.5	27	33.8
	high	85	92.4	53	66.3
Victim of verbal violence	no	32	44.4	42	66.7
	yes	40	55.6	21	33.3
Victim physical violence	no	28	77.8	21	75
	yes	8	22.2	7	25
Witness of verbal violence	no	16	30.8	14	30.4
	yes	36	69.2	32	69.2
Witness of physical violence	no	28	77.8	21	75
	yes	8	22.2	7	25
Parenting style	authoritarian	58	71.6	47	64.4
	authoritative	10	12.3	15	20.5
	not specified	13	16.0	11	15.1

As for the the parents' educational level, there were significant differences between the two groups in both mothers and fathers as follows: a double number of parents with primary education (both parents) in the neurology group, a significantly higher number of mothers with higher education in the psychiatry group; a significantly higher number of fathers with secondary and university education in the psychiatry group.

The parents in the neurology group had higher percentages of unemployment. Regarding family income, there were significant differences between the two groups. Over 90% of families in psychiatric group had a high family income, while in the neurology group, one-third of families had average income and two-thirds had a high income.

55% of the children include in the psychiatric group were victims of verbal violence, a rate significantly higher compared to neurology. 70% of children in both groups had witnessed verbal

violence. Regarding physical violence, 25% of children with no differences between groups were both victims and witnesses.

A third of parents of both groups, with no significant differences, were found to be practicing an authoritarian parental style.

Family functioning FAD

The patterns of family functioning are similar in psychiatry and neurology groups, with no significant differences between the groups reffering to the percentages of subjects passing the cut-off score for each subscale in order to discern between "healthy" and "unhealthy" functioning (Figure 15). Almost two-thirds of parents in both groups (psychiatry 67.5%; neurology 56.0%) indicated an unhealthy General functioning, exceeding the cut-off of 2.0. Comparable proportions of parents in both groups identified the Behaviour Control as the dimension with the most unhealthy functioning (more than 70% in both groups) and the Problem Solving as the one with the healthiest patterns (10% in both groups).

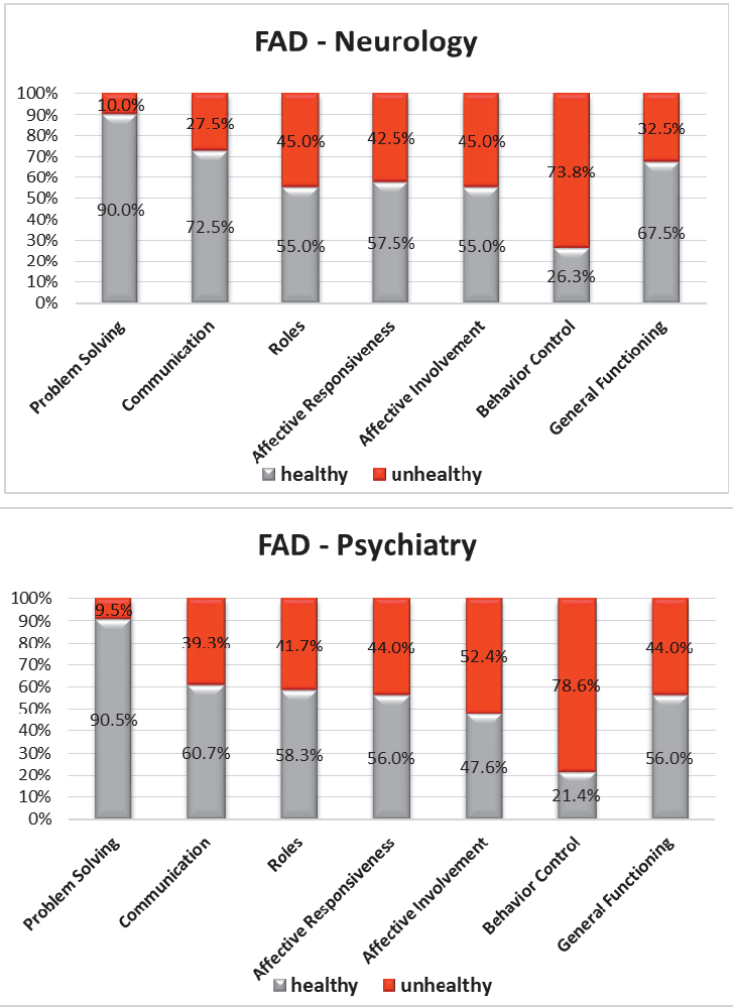


Figure 15: Patterns of Family functioning – healthy/unhealthy assignment.

Moreover there were no statistically significant differences between the mean scores within psychiatry and neurology groups (Table 22).

Table 22: Mean FAD scores - comparison between psychiatry and neurology groups.

	Groups		
FAD	**Psychiatry n = 84 mean (SD)/ median**	**Neurology n = 80 mean (SD)/ median**	**p value**
Problem Solving	1.74 (0.47)	1.67 (0.52)	0.38[1]
Communication	2.00 (0.48)	1.90 (0.43)	0.15[1]
Roles	2.14 (0.45)	2.24 (0.38)	0.11[1]
Affective responsiveness	2.12 (0.63)	2.15 (0.52)	0.69[1]
Affective involvement	2.14	2.00	0.13[2]
Behavior control	2.22	2.22	0.36[2]
General functioning	1.89 (0.55)	1.76 (0.52)	0.14[1]

[1] Independent-samples t-test , [2] Mann-Whithey

Family factors and family functioning FAD-HQ

Significant differences in FAD scores have been found among families with different characteristics (Table 23). In the psychiatry group, the analysis brought out differences in multiple FAD scales, related to the family complexity, the presence or the absence of physical violence in the family, the father's alcohol use and the mother's employment status. Subjects experiencing psysical violence in their families had signifincatly higher FAD scores, with regards to General Functioning and also to specific subscales (i.e. Communication, Roles, Affective Responsiveness).

In the neurology group, the significant differences in FAD scores were related to the family structure, the father's alcohol use, mother's and father's employment status and the presence of verbal violence in the family. Subjects from families dealing with father's alcohol use had significantly higher FAD scores, in terms of General Functioning, Communication and Affective Involvement

There also were household factors for which the analysis could not reveal any significant differences in FAD scores. For instance, families with parents having or not health problems, having different levels of income and using different styles of parenting had similar results on FAD scales. Moreover, the family's ability to solve problems (FAD Problem Solving) was similarly among families having different household characteristics.

Table 23: FAD scores among families with different household characteristics (see Appendix VI).

FAD	Psychiatry		Neurology	
	mean (SD) / median	p-values	mean (SD) / median	p-values
Communication				
Family Complexity				
Extended	16.50 (4.53)	.027[1]		
Nuclear	18.93 (4.19)			
Father Alcohol Use				
Absent			16.26 (4.03)	.041[1]
Present			18.24 (3.13)	
Witness of physical violence				
No	17.45 (3.53)	.000[1]		
Yes	23.14 (2.96)			
Roles				
Father Employment Status				
Absent			19.00 (6.55)	.021[1]
present			24.83 (4.09)	
Witness of physical violence				
No	23.00 (3.94)	.000[1]		
Yes	29.00 (1.41)			
Affective Responsiveness				
Family Complexity				
extended	11.19 (3.33)	.037[1]		
nuclear	13.20 (4.07)			
Father Alcohol Use				
absent			11.78 (2.97)	.000[1]
present			14.52 (2.90)	
Witness of physical violence				
No	12.30 (3.27)	.015[1]		
Yes	16.14 (3.67)			
Affective Involvement				
Family Structure				
single-parent			16.38 (3.70)	.009[1]
two-parent			13.42 (3.62)	
Father Alcohol Use				
absent	14.11 (2.44)	.038[1]		
present	15.64 (2.80)			
Behaviour Control				
Mother Employment Status				
absent	22.00	.011[2]	15.33 (2.65)	.003[1]
present	19.00		20.70 (4.16)	
General Functioning				
Family Complexity				
extended	20.46 (5.73)	.048[1]		
nuclear	23.86 (7.36)			
Father Alcohol Use				
absent			19.41 (5.91)	.021[1]
present			22.92 (5.74)	
Mother Employment Status				
absent			15.00	.036[2]
present			22.00	
Witness of verbal violence				
No			19.42 (6.61)	.042[1]
Yes			24.00 (6.87)	
Witness of physical violence				
No	23.10 (4.85)	.003[1]		
Yes	30.57 (6.34)			

[1] Independent-samples t-test; [2] Mann-Whitney test

6.3.2. Parent reported child and adolescent mental health problems (psychiatry and neurology groups)

Child and adolescent mental health problems CBCL, SDQP

The clinical status of children and adolescents in psychiatry and neurology groups was assessed using both parent informant reports and self-ratings. This section describes the parent results of CBCL (6-11/12-18) and SDQ through a comparative analysis between the two groups. The CBCL syndrome scales, as well as the broadband Internalizing and Externalizing scores and the Total Problems scores (both raw -and T- scores) were examined.

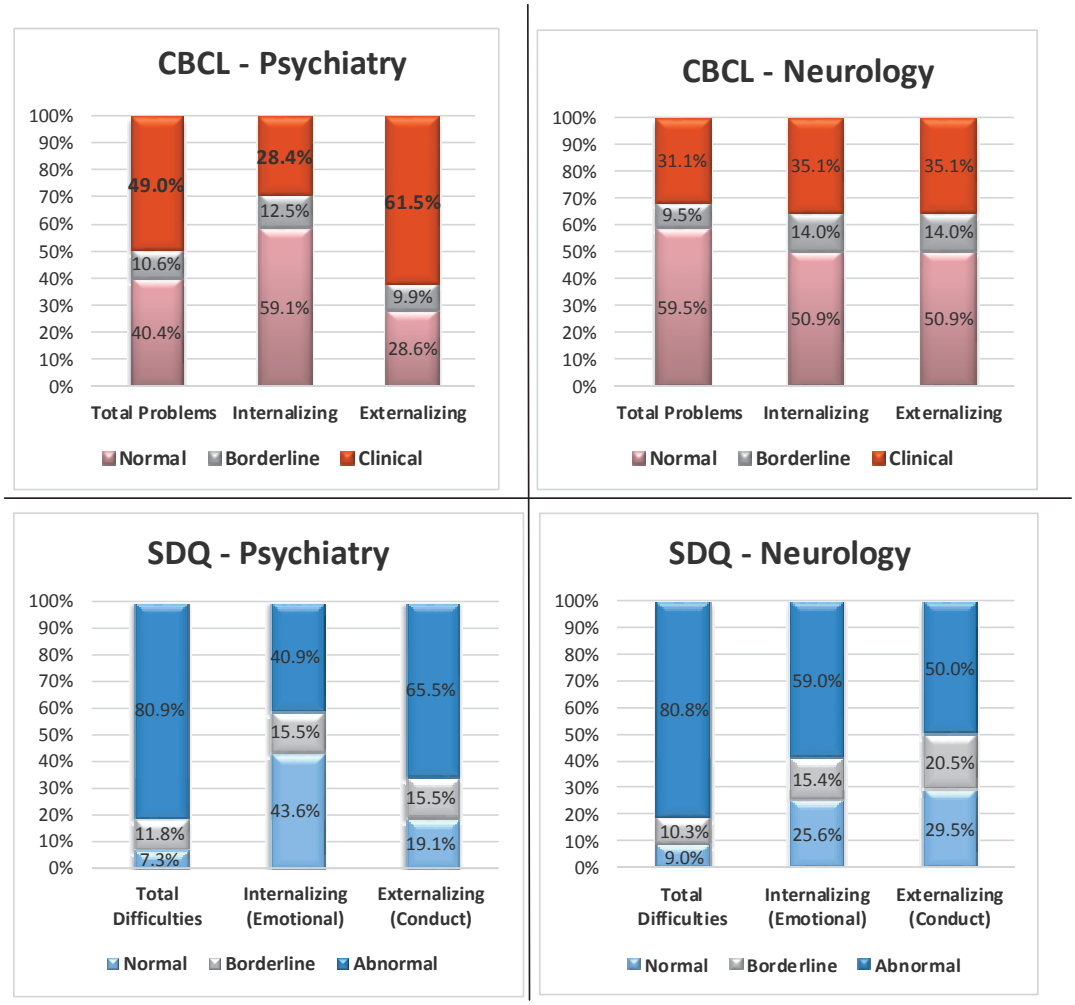


Figure 16: CBCL and SDQ – Normal/ Borderline/ Clinical or Abnormal assignment.

Figure 16 displays the clinical status of children and adolescents in both the psychiatry and neurology groups, distributed in three ranges of severity (normal/borderline/clinical **ranges**). The CBCL results indicated higher rates of mental health problems (Total problems – clinical range) across the psychiatric subjects ($\chi^2[1,N=180]=6.29$; $p=0.01$), but the SDQ scores classification didn't reveal any differences in Total Difficulties results, with similar percentages of children in the clinical range.

Internalizing problems (CBCL) and Emotional Symptoms (SDQ) in the clinical range are more frequent in the neurology group (χ^2 CBCL ns; χ^2 SDQ [1,N=188]=5.96, p=0.01) while the Externalizing problems (CBCL) and Conduct Problems (SDQ) are more frequent in the psychiatric group (χ^2 CBCL [1,N=180]=11.73, p=0.00; χ^2 SDQ [1,N=188]=4.50, p=0.03).

Tables 24 and 25 present the scores of CBCL and SDQ main subsclaes, as well as the CBCL Total Problems score and SDQ Total Difficulties score, in both age groups. The comparison across genders revealed limited differences, in both psychiatry and neurology groups. Boys in psychiatry group had higher scores than girls on Total problems (on CBCL 53.7 vs 37.4 p 0.043) and Peer scales (on SDQ 5.8 vs 4.8 p 0.007). The 6-11-year-old boys had higher scores than girls on Peer scale (SDQ 5.5 vs 4.6 p 0.046). The 12-18-year-old boys had higher scores than girls on Total problems (SDQ 22.5 vs 18.3 p 0.046) and Somatic complaints scales (CBCL 4.7 vs 3.3 p 0.045).

The boys in neurology group had higher scores than girls on Total problems (CBCL 50.8 vs 34.5 p 0.035), Externalizing scale and Aggressive Behaviour scale (CBCL 17.4 vs 10.9 p 0.026 and 13.2 vs 8.00 p 0.027). The 12-18-year-old boys had significantly higher scores than girls on Conduct scale (4.4 vs 2.7 p 0.036).

Table 24: The psychiatry group scores (parent report).

	Total problems CBCL	**Total difficulties** SDQ	**Internalizing** CBCL	**Emotional** SDQ	**Externalizing** CBCL	**Conduct** SDQ
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Total group	55.5 (34.8),	21.8 (5.5)	14.9 (9.0)	4.2 (2.8).	20.7 (12.2).	4.5 (2.1)
6-11yrs	48.8 (28.7)		10.7 (6.5)		19.0 (10.3).	
12-18yrs	49.3 (39.8)		17.8 (9.1)		18.7 (13.2).	

Table 25: The neurology group scores (parent report).

	Total problems CBCL	**Total difficulties** SDQ	**Internalizing** CBCL	**Emotional** SDQ	**Externalizing** CBCL	**Conduct** SDQ
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Total group	42.8 (31.7)	21.3 (5.5)	14.4 (8.3)	4.9 (2.2)	14.2 (9.8)	3.7 (1.8)
6-11yrs	47.9 (32.1)		14.3(8.8)		15.8 (10.5).	
12-18 yrs	34.0 (29.8)		15.4 (8.1)		11.8 (8.0)	

The psychiatry group parents reported higher CBCLTotal problems, CBCL Externalizing/SDQ Conduct and SDQ Hyperactivity scores while the neurology group parents reported higher SDQEmotion score (Table 26, Tabel 27). The parents reported different scores on different age ranges (6-11 and 12-18). In 6-11-year-old children, the parents in psychiatry group reported higher scores on CBCL Rule Breaking Behaviour scale (5.3 vs 3.7 p 0.004), on SDQ Conduct scale (4.6 vs 3.8 p 0.035) and on SDQ Hyperactivity scale (7.8 vs 6.9 p 0.023).

The neurology group parents reported higher scores on CBCL Internalizing scale (14.3 vs 10.7 p 0.032), CBCL Withdrawn scale (4.1 vs 2.7 p 0.018) and on SDQ Emotion scale (4.6 vs 3.6 p 0.032) and SDQ Peer scale (6.3 vs 5.5 p 0.016) (Table 26, Tabel 27). In 12-18-year-old children, the psychiatry group parents reported higher but insignificant scores on all CBCL scales and on SDQ Conduct and Hyperactivity scales, while the neurology group parents reported higher, but insignificant, scores on SDQ Emotion and Peer scale.

Table 26: Parent-reported CBCL problems – in psychiatry and neurology groups.

	Groups		
	Psychiatry N=105	**Neurology N=75**	
Variables	mean (SD)/ median	mean (SD)/ median	**p-value**
Anxious	6.7 (4.0)	5.9 (3.9)	0.214[1]
Withdrawn	4.2 (3.5)	4.1 (3.2)	0.870[1]
Somatic Complaints	3.8 (3.4)	4.1 (3.6)	0.516[1]
Social Problems	7.9 (4.3)	7.1 (4.1)	0.265[1]
Thought Problems	5.3 (3.6)	4.1 (3.7)	0.056[1]
Attention Problems	9.3 (4.9)	8.1 (4.6)	0.173[1]
Rule Breaking Behaviour	5.0	4.0	0.000[2]
Aggressive Behaviour	14.4 (8.6)	10.5 (7.9)	0.007[1]
Internalizing	14.9 (9.0)	14.4 (8.4)	0.739[1]
Externalizing	21.0	14.0	0.000[2]
Total score	55.5 (34.8)	42.8 (31.2)	0.012[1]

[1] Independent-samples t-test [2] Mann-Whithey

Table 27: Parent–reported SDQ scores – in psychiatry and neurology groups.

	Groups		
	Psychiatry N =110	**Neurology N=78**	
Variables	mean (SD)/ median	mean(SD) / median	**p-value**
Emotion	4.0	5.0	0.023[2]
Conduct	4.5 **(**2.1**)**	3.7 **(**1.8**)**	0.004[1]
Hyperactivity	7.3 **(**1.9**)**	6.7 **(**1.9**)**	0.042[1]
Peer	5.7 **(**1.7**)**	6.1 **(**1.7**)**	0.150[1]
Total score	21.0	22.0	0.605[2]

[1] Independent-samples t-test [2]Mann-Whithey

The comparisons between genders in different groups (psychiatry vs. neurology) found significantly higher score (6.1 vs 4.2 p 0.028) on CBCL Rule Breaking Behaviour scale in psychiatry group boys and higher scores in neurology group girls on SDQ Emotion scale (5.0 vs 3.5 p 0.026) and on Peer scale (6.1 vs 4.8 p 0.002).

Furthermore, the comparison between both genders and age groups of children in different groups revealed the following results: the parents of 6-11-year-old boys in the neurology group reported higher scores on CBCL Internalizing (16.0 vs 11.1 p 0.028) and Withdrawn (4.6 vs 3.0 p 0.028); the parents of 6-11-year-old girls in the neurology group reported higher scores on SDQ Peer scale (6.3 vs 4.6 p 0.004); the parents of 12-18-year-old children (both girls and boys) in both clinical groups reported similar results on any of the CBCL and SDQ scales, without significant differences.

Parent reported child and adolescent mental health problems and family factors CBCL, SDQP-HQ

The parent reports in psychiatry group revealed that the CBCL and SDQ scores vary greatly according to the specific features of subjects' households (Table 28, Table 29). Subjects witnessing or directly experiencing verbal and physical violence in their families, had significantly higher scores on multiple CBCL and SDQ scales, including both internalizing and externalizing problems. The CBCL Total Problems and SDQ Total Difficulties scores, as well as CBCL Internalizing and SDQ Emotional were significantly higher among subjects from families with fathers having a low level of education.

Table 28: Parent-reported CBCL results by household characteristics in psychiatry group (see Appendix VI).

CBCL **psychiatry group**	mean (SD) / median	p-values
Anxious		
Witness of verbal violence		
No	4.00	.003[2]
Yes	8.00	
Withdrawn		
Father Education Level		
primary	7.00	[(a)].005[3]
highschool	3.00	
university	1.00	
Family Income		
Low	-	
medium	6.75 (5.43)	.046[4]
High	3.46 (2.99)	
Somatic Complaints		
Father Education Level		
primary	5.00	[(a)].003[3]
highschool	3.00	
university	1.00	
Witness of physical violence		
No	2.96 (3.14)	.002[1]
Yes	8.00 (5.03)	
Social Problems		
Witness of verbal violence		
No	4.00	.014[2]
Yes	7.00	
Witness of physical violence		
No	28.00	.001[2]
Yes	21.00	
Attention Problems		
Witness of verbal violence		
No	5.56 (3.50)	.021[1]
Yes	9.68 (4.71)	
Witness of physical violence		
No	7.84 (3.84)	.044[1]
Yes	11.83 (4.53)	
Rule Breaking Behaviour		
Victim of verbal violence		
No	4.56 (3.70)	.033[1]
Yes	6.94 (4.35)	
Aggressive Behaviour		
Witness of physical violence		
No	10.84 (4.99)	.004[1]
Yes	19.17 (7.36)	
Internalizing		
Father Education Level		
primary	20.78 (9.16)	[(b)].035[3]
highschool	13.53 (6.15)	[(a)].000[3]
university	9.12 (5.36)	
Witness of physical violence		
No	12.16 (6.84)	.006[1]
Yes	24.80 (13.02)	
Externalizing		
Family Structure		
single-parent	24.82 (11.04)	.040[1]
two-parent	17.21 (11.02)	

CBCL **psychiatry group**	mean (SD) / median	p-values
Victim of verbal violence		
No	15.28 (9.16)	.026[1]
Yes	21.22 (10.14)	
Victim physical violence		
No	15.97 (9.28)	.044[1]
Yes	21.48 (10.00)	
Witness of verbal violence		
No	12.78 (8.96)	.041[1]
Yes	20.61 (9.81)	
Witness of physical violence		
No	17.53 (8.47)	.021[1]
Yes	27.17 (7.83)	
Total score		
Gender		
Male	53.68 (31.03)	.043[1]
female	37.37 (37.50)	
Father Education Level		
primary	76.77 (17.76)	[(b)].009[3]
highschool	40.86 (34.41)	
university	48.23 (26.75)	
Witness of verbal violence		
No	23.80 (24.34)	.002[1]
Yes	57.21 (36.67)	
Witness of physical violence		
No	38.26 (29.03)	.043[1]
Yes	66.50 (44.91)	

[1] Independent-samples t-test; [2] Mann-Whitney test; [3] Tukey HSD; [4] ANOVA
[(a)]primary vs university [(b)]primary vs highschool

Table 29: Parent-reported SDQ results by household characteristics in psychiatry group (see Appendix VI).

SDQ **psychiatry group**	mean (SD) / median	p-values
Emotional		
Father Educational level		
primary	5.92 (2.67)	[(a)].037[2]
highschool	3.62 (2.48)	[(b)].022[2]
university	3.20 (2.54)	
Mother Employment Status		
absent	7.50 (3.11)	.009[1]
present	3.91 (2.59)	
Family Income		
medium	8.00	.038[2]
High	4.00	
Victim physical violence		
No	4.00 (2.52)	.034[1]
Yes	2.71 (1.83)	
Witness of verbal violence		
No	3.07 (2.81)	.044[1]
Yes	4.97 (2.90)	
Witness of physical violence		
No	4.10 (2.70)	.019[1]
Yes	6.50 (2.45)	
Conduct		
Victim physical violence		
no	3.89 (1.82)	.001[1]
yes	5.63 (2.20)	

SDQ psychiatry group	mean (SD) / median	p-values
Peer		
Gender		
male	5.81 (1.59)	.007[1]
female	4.80 (1.44)	
Family Complexity		
extended	5.00 (1.49)	.040[1]
nuclear	5.77 (1.62)	
Total score		
Father Educational level		
primary	25.25 (5.79)	[(a)].033[2]
highschool	20.83 (4.25)	[(b)].014[2]
university	19.71 (4.73)	
Family Income		
low	21.00	[(c)].016[2]
medium	28.00	
high	21.00	

[1] Independent-samples t-test ; [2] Tukey HSD;
[(a)]primary vs highschool; [(b)]primary vs university; [(c)]medium vs high;

The parent reports in the neurology group showed fewer differences in CBCL and SDQ scores acoording to their household characteristics, than those noticed in the psychiatric group. Parents of boys reported significantly higher scores than parents of girls on CBCL Externalizing (boys vs girls 17.4 vs 10.9 p 0.026) and its component subscales and also on Total Problems (boys vs girls 50.8 vs 34.5 p 0.035). Families experiencing physical or verbal violence had higher scores on CBCL Anxious and Social problems, and SDQ Conduct, Hyperactivity and Peer problems. Moreover, parents reported significantly higher CBCL-Total Problems scores when their children were victims of physical violence (present vs absent 55.1 vs 32.6 p 0.008) and SDQ Total Difficulties scores when their children were victims of verbal violence (present vs absent 55.1 vs 32.6 p 0.008). The children's Peer Problems had different scores depending on certain household characteristics, with higher problems in single-parent families, when having a father abusing alcohol or an employed mother, and when the child was a victim of physical violence (single parent vs two-parent families 7.4 vs 5.8 p 0.001; father alcohol use: present vs absent 6.6 vs 5.7 p 0.037; mother's employment status: present vs absent 6.1 vs 4.7 p 0.030; victim of physical violence: present vs absent 7.0 vs 5.6 p 0.001).

Correlation between parent-reported child and adolescent mental health problems and family functioning FAD-CBCL, FAD-SDQP

Parent reports in both psychiatry and neurology groups showed several significant correlations between the mental health problems of children and adolescents (CBCL, SDQ) and certain dimension of family functioning (FAD). The only aspect of family functioning that did not correlate with any type of mental problems was the FAD-Behaviour Control. The magnitude of most of the correlation coefficients indicates positive low correlations between the variables. Table 30 and Table 31 summarize the correlation matrix between CBCL/ SDQ scores and FAD results.

Table 30: Pearson correlation coefficients (r) between parent-reported CBCL and FAD scores in psychiatry (P) and neurology (N) groups (see Appendix VI).

	Family functioning			
CBCL	Problem Solving	Communication	Roles	Affective Responsiveness
Anxious	.28* (P)		.31* (P) .28* (N)	
Withdrawn		.31* (P)	.47** (P) .27* (N)	.38** (N)
Somatic Complaints		.34** (P)	.42** (P)	
Social Problems			.33** (P)	
Thought Problems			.26* (P)	
Attention Problems			.32* (P)	
Aggressive Behaviour			.30* (P)	
Internalizing			.45** (P)	
Externalizing			.30* (P)	

*correlation coefficient (r) significant at p< 0.05
** correlation coefficient (r) significant at p< 0.01

The capacity of performing behaviours to fulfil the needs of the family members (FAD Roles) was positively correlated with almost all the CBCL subscales and SDQ Total Difficulties score in the psychiatric group and with the Internalizing subscales in the neurology group. In the neurology group, there were only few significant correlations between CBCL or SDQ symptoms and FAD scales, excepting the scores on SDQ Emotional Scale which has significantly correlated almost all the FAD dimensions (excepting Affective involvement) (Table 30, Table 31).

Table 31: Pearson correlation coefficients (r) between parent-reported SDQ and FAD scores in psychiatry (P) and neurology (N) groups (see Appendix VI).

	Family functioning					
SDQ	Problem Solving	Communication	Roles	Affective Responsiveness	Behaviour Control	General functioning
Emotional	.24* (N)	.24* (N)	.30** (P) .26* (N)	.32** (P)	.24* (N)	.35** (N)
Total score			.29* (P)			

* correlation coefficient (r) significant at p< 0.05
** correlation coefficient (r) significant at p< 0.01

6.3.3. Self–reported adolescent mental health problems (psychiatry, neurology and school groups)

Self–reported adolescent mental health problems YSR, SDQSR

This section presents the results of self-rating reports (YSR and SDQ-SR) in all three groups. In the same manner in which the CBCL results were analysed, the scores of each YSR syndrome scale, as well as the broadband Internalizing and Externalizing scores and the Total Problems scores (both raw -and T- scores) were examined. In both psychiatry and school groups the T-scores resulted from adolescents' self-reports were compared to cut-off points provided by Achenbach & Edelbrock (1991) for clinical and borderline assignment. Due to the small group size, the subjects in the neurology group were omitted from the clinical/borderline designation.

The cut-off points for SDQ self-reporting provided by the authors were used to intepret the subscale- and total scores and for the abnormal/ borderline/normal designation. (Goodman et al. 1998)

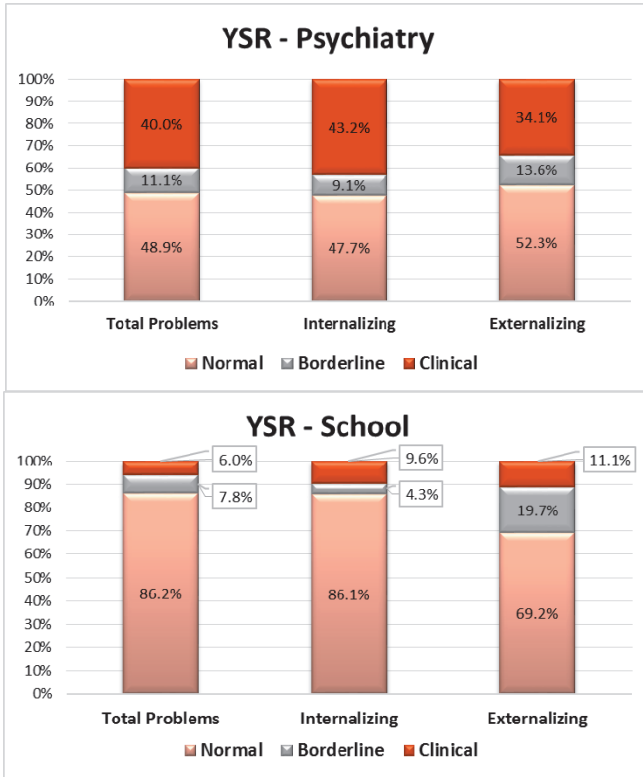
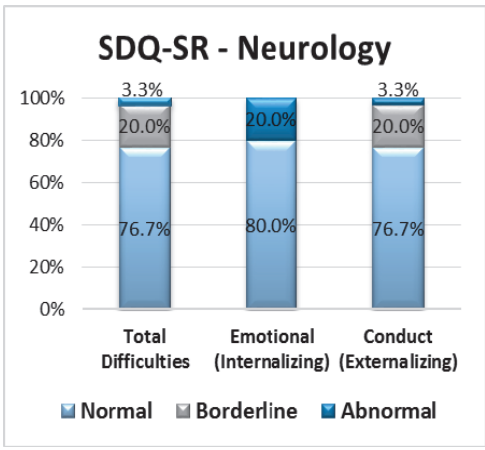
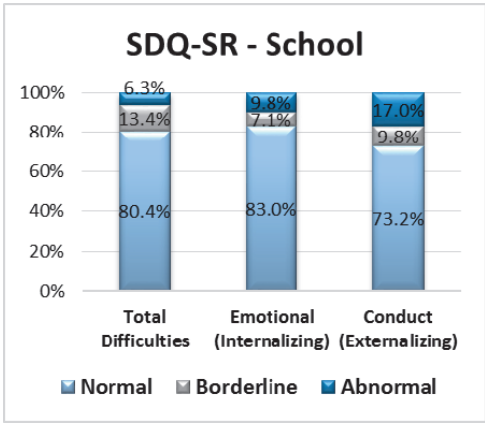


Figure 17: YSR – Normal/ Borderline/ Clinical assignment.

In the psychiatry group 40% of adolescents had scored in the clinical range for Total Problems, while only 6% of school youths reported clinical scores (χ^2[1,N=157]=28.51; p=0.00) (Figure 17). The same pattern of scoring is present in both broadband subscales, with adolescents in the psychiatric group showing significant more Internalizing and Externalizing problems in the clinical range, than those in the school group. (χ^2 Int [1,N=157]=23.49, p=0.00; χ^2 Ext [1,N=157]=11.75,p=0.00).





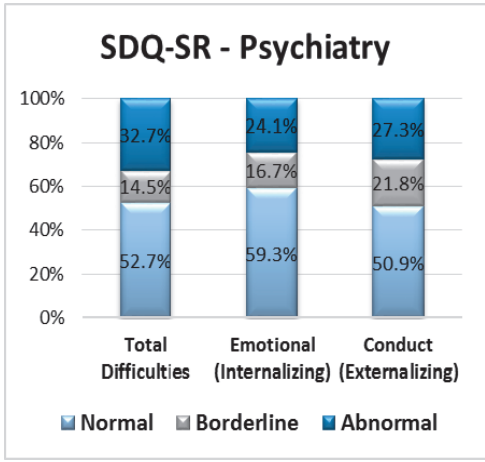


Figure 18: SDQ SR – Normal / Borderline / Abnormal assignments.

About one-third of the adolescents in the psychiatry group reported a SDQ Total Difficulties score in the abnormal range, with significant higher rates than those observed in the neurology group (3.3 %) or in the school group (6.3 %). The Conduct problems also have significantly more frequent clinical scores in the psychiatry group than in the other two groups. Emotional problems in the abnormal range were equally common in both clinical groups and less frequent in the school adolescents. No statistically significant differences were reported between neurology and school groups, regarding the frequency of abnormal SDQ self-reported symptoms.

Compared to the school group, the adolescents from the psychiatry group reported significant higher Total problems score and all subscales scores on both YSR and SDQ SR. When compared to the neurology group, the adolescents from the psychiatry group reported significant higher results on YSR Total score, YSR Externalizing and Aggressive Behaviour, YSR Attention problems and SDQ Hyperactivity. There was no significant difference between the neurology and school groups on any of the rating scales. (Table 32, Table 33)

Table 32: The YSR scores in psychiatry (P), neurology (N) and school (S) groups.

	Groups			Differences	
	Psychiatry	**Neurology**	**School**		
	n= 44	**n = 7**	**n = 113**	**Between 3 groups**	**Between 2 groups (sig)**
YSR	mean(SD)/ median	mean (SD)/ median	mean (SD)/ median		
Anxious	7.0	4.0	4.0	0.000[2]	P-S 0.000
Withdrawn	6.0	3.0	3.0	0.000[2]	P-S 0.000
Somatic Complaints	8.0	5.0	2.0	0.000[2]	P-S 0.000
Social Problems	8.0	1.0	2.0	0.000[2]	P-S 0.000 P-N 0.001
Thought Problems	10.0	6.5	6.0	0.000[2]	P-S 0.000
Attention Problems	7.0	4.0	5.0	0.000[2]	P-S 0.000 P-N 0.004
Rule Breaking Behaviour	9.0	5.5	7.0	0.042[2]	
Aggressive Behaviour	10.0	4.5	7.0	0.001[2]	P-S 0.009 P-N 0.011
Internalizing	21.5	10.0	10.0	0.000[2]	P-S 0.000
Externalizing	20.0	9.0	15.0	0.001[2]	P-S 0.014 P-N 0.010
Other Problems	13.5 (3.5)	12.0 (2.7)	11.8 (3.7)	0.042[1]	P-S 0.030
Total	75.0	47.0	53.0	0.000[2]	P-S 0.000 P-N 0.022

[1]ANOVA [2]Kruskal-Wallis

Table 33: The SDQ SR scores in psychiatry (P), neurology (N) and school (S) groups.

	Groups			Differences	
SDQ SR	**Psychiatry n = 54** mean (SD)/ median	**Neurology n = 30** mean (SD)/ median	**School n = 112** mean (SD)/ median	**Between 3 groups**	**Between 2 groups (sig)**
Emotion	4.4 **(**2.8**)**	3.8 **(**2.5**)**	3.2 **(**2.3**)**	0.016[1]	P-S 0.011
Conduct	3.0	2.0	2.0	0.011[2]	P-S 0.019
Hyperactivity	4.0 **(**2.3**)**	2.8 **(**1.8**)**	3.0 **(**1.8**)**	0.006[1]	P-S 0.010 P-N 0.021
Peer	3.0	2.0	2.0	0.016[2]	P-S 0.014
Total	15.0	11.5	10.0	0.001[2]	P-S 0.000

[1]ANOVA [2]Kruskal-Wallis

In all the three groups, there were no significant score differences between boys and girls on YSR and SDQ SR, except for YSR Rule breaking behaviour scores in the psychiatry group, where adolescent boys had higher rates than adolescent girls (11.4 vs 7.2 p 0.041) and SDQ SR Emotion in the school group, where girls had higher scores than boys (3.9 vs 2.6, p 0.024).

The comparative analysis between genders in different groups did not reveal any differences between the boys in psychiatry and neurology groups or between the boys in neurology and school groups, on any scales of the two intruments. However, there were significant differences in the scales scores of both instruments, between psychiatric and school groups, with boys in the clinical group having higher results. Furthermore, in case of girls, there were no statistically significant differences between psychiatric and neurology groups, but the girls in the school

group reported higher rates of CBCL Rule Breaking Behaviour than those included in the psychiatry group and girls in the psychiatry group had greater scores than those in the school group on YSR Internalizing (including Somatic Complaints) and YSR Social Problems.

Comparisons of mental health problems reported by adolescents and parents CBCL-YSR, SDQP-SDQSR

This section presents the results of the analysis on parent-youth agreement regarding the aforementioned CBCL, YSR, SDQ P and SDQ SR scores in the psychiatry group. Only the subjects with both parent- and self- reports (n [CBCL-YSR]= 22; n [SDQ – SDQ SR]= 31) were included in this comparative procedure.

When compared to parent's CBCL reports, the adolescent's YSR ratings in the psychiatry group were more elevated in almost all the symptom scales (raw scores), but the paired samples tests did not reveal statistically significant differences between the means (excepting the Thought Problems scale: 6.05±4.2 vs 10.29±4.4, p= .002). Contrary to the CBCL-YSR results, the SDQ reports showed higher scores in the entire range of difficulties when using parents as raters. The mean differences were statistically significant on SDQ Hyperactivity (6.56 vs 4.30, p= .000), SDQ Peer (5.65 vs. 3.15, p= .000) and also on SDQ Total Difficulties Score (21.45 vs 15.77, p= .002). Moreover, the same pattern of differences between parent and youth reports could be seen in both genders.

Table 34 and Table 35 display the cross-informant correlations for both questionnaires. Most of ASEBA syndrome scales were significantly correlated between parents (CBCL) and adolescents (YSR), and the Pearson's quotients indicate low and moderate, positive correlations. Statistically significant correlations were also found between parents and youths on three of the SDQ scales.

Table 34: CBCL – YSR correlations.

	Pearson's correlation coef (r)	**p-value**
Syndrome Scales		
Anxious	0.41	.050
Withdrawn	0.50	.023
Somatic Complaints	0.58	.003
Social	0.44	.033
Thought	0.23	.292
Attention	0.36	.090
Rule Breaking Behaviour	0.44	.033
Aggressive Behaviour	0.41	.050
Subscores		
Internalizing	0.56	.006
Externalizing	0.36	.098
Total Problem Score	0.47	.026

Table 35: SDQ – SDR SR correlations.

	Pearson's correlation coef (r)	**p-value**
Emotional	0.35	.047
Conduct	0.36	.040
Hyperactivity	0.43	.013
Peer	-0.15	.398
Prosocial	0.36	.062
Total Difficulties Score	0.26	.148

Self- reported adolescent mental health problems and family factors YSR+SDQSR -HQ
The analysis of adolescents' reports brought out fewer differences in YSR or SDQ SR scores related to various household characteristics than those observed in parents' reports. Adolescents in the psychiatry group reported greater scores on YSR-Social Problems (high vs medium 6.3 vs 1.00 p 0.035) and SDQ-Peer scale (high vs medium 3.23 vs 0.0 p 0.01) when they came from higher income families. Youths from families exposed to violence had higher SDQ-Total Difficulties scores (witness of physical violence: present vs absent 21.3 vs 13.4 p 0.023) and YSR- Anxious (victim of physical violence: present vs absent 7.0 vs 3.2 p 0.028; witness of verbal violence: present vs absent 9.1 vs 2.3 p 0.018) and YSR-Internalizing scores (victim of physical violence: present vs absent 20.0 vs 12.2 p 0.030).

Other differences in the adolescent results according to their household features were: higher YSR Withdrawn scores reported by adolescents in families with an authoritarian parenting style; higher YSR Withdrawn and Social Problems scores noted by youths having a father abusing alcohol; higher YSR Rule Breaking Behaviour reported by subjects from families with mothers having lower level of education.

Scarce differences in YSR and SDQ SR scores by household characteristics can be seen in neurology group also. Adolescents coming from extended families had higher YSR Somatic Complaints scores (extended vs nuclear 11.0 vs 3.9 p 0.076) and SDQ SR Hyperactivity Scores (extended vs nuclear 16.5 vs 9.0 p 0.002), and also greater SDQ Total Difficulties scores (extended vs nuclear 16.5 vs 9.0 p 0.002) than those coming from nuclear families. The Withdrawn scale scores (single parent vs two parent family 7.5 vs 2.4 p 0.010) and the YSR Externalizing (single parent vs two parent family 17.0 vs 8.5 p 0.038) scores were higher when the adolescent came from a single-parent family.

Furthermore, youths having an alcohol abusing father had higher scores on different scales including: YSR Withdrawn (absent vs present 3.4 vs 9.0 p 0.020), SDQ SR Peer problems (present vs absent 4.7 vs 1.8 p 0.01) and SDQ SR Total Difficulties (present vs absent 16.5 vs 9.7 p 0.030). The YSR Withdrawn scale scores were higher when the adolescent had an unemployed father (absent vs present 9.0 vs 3.0 p 0.032).

Also the SDQ SR Conduct scores and the YSR Externalizing scores were higher in males (YSR male vs female 7.6 vs 3.3 p 0.044; on SDQ SR male vs female 3.1 vs 1.7 p 0.032), and when an authoritarian parenting style is used.

There are some problems whose self-reported scores were different according to certain household features. The Withdrawn scale scores were higher when the adolescent came from a single-parent family, when having a father abusing alcohol or an unemployed one. Also the SDQ SR Conduct scores and the YSR Externalizing scores were higher in males, in single-parent families and when an authoritarian parenting style is used.

Associations between self-reported adolescent mental health problems and family functioning YSR+SDQ SR – FAD
Self-rating reports in both psychiatry and neurology groups showed several significant correlations between the clinical status of children and adolescents (YSR, SDQ SR) and certain dimension of family functioning (FAD). Table 36 and Table 37 summarize the correlation matrix between YSR/ SDQ SR scores and FAD results, in both clinical groups.

Table 36: Pearson correlation coefficients (r) between YSR and FAD scores in psychiatry (P) and neurology (N) groups (see Appendix VI).

	Family functioning						
YSR	Problem Solving	Communication	Roles	Affective Respons.	Affective Involv.	Behaviour Control	General Function.
Withdrawn				.95* (N)			
Somatic Complaints						.64* (N)	
Social Problems					.91* (N)		
Attention Problems	.50* (P)	.42* (P)	.49* (P)				.51* (P)
Total score							.45* (P)

* correlation coefficient (r) significant at $p< 0.05$
** correlation coefficient (r) significant at $p< 0.01$

In the psychiatry group, all the family functioning scales significantly and positively correlated with certain self-reported mental health problems. The YSR Attention and SDQ SR Conduct problems are the aspects that were found to most frequently correlate with FAD scores, in the psychiatry group. Moreover, the Conduct Problems established statistically significant correlations with four of the family functioning dimensions, in the neurology group also. There were specific identified correlation between YSR/ SDQ SR scales and FAD scores in the neurology group, with a high/ very high degree of strength ($r> 0.70$) (Affective Responsiveness with YSR Withdrawn/ SDQ SR Conduct scores; Affective Involvement with YSR Social Problems scores)

Table 37: Pearson correlation coefficients (r) between SDQ SR and FAD scores in psychiatry (P) and neurology (N) groups (see Appendix VI).

	Family functioning						
SDQ SR	Problem Solving	Communication	Roles	Affective Respons.	Affective Involv.	Behaviour Control	General Function.
Conduct	.44* (P) .44* (N)	.60* (N)	.41* (P)	.73** (N)	.38* (P)	.63* (N)	.48** (P)
Hyperactivity				.47* (P)			.43* (P)
Total score							.41* (P)

* correlation coefficient (r) significant at $p< 0.05$
** correlation coefficient (r) significant at $p< 0.01$

6.3.4. Child and adolescent mental health competencies (psychiatry, neurology and school groups)

Parent-reported child and adolescent mental health competencies CBCL, SDQP (psychiatry and neurology groups)

The vast majority of subjects (more than 80%) in both groups had Total Competence scores in the abnormal range with no significant differences within the groups ($\chi^2[1,N=191]=0.16$; p=ns). A greater proportion of subjects in the neurology group had abnormal Activity scores ($\chi^2[1,N=191]=5.01$; $p=0.025$) than psychiatry group. The majority of subjects in both groups had abnormal School scores and the percentage of subjects in the neurology group is significantly higher than it is in the psychiatry group ($\chi^2[1,N=191]=8.07$; $p=0.004$). Half of the children in both groups had Social scale scores in the abnormal range, with no significant differences within the groups. (Figure 19)

Different aspects of the child's competence were analyzed using both parent reports and self-ratings. Raw scores and assigned T scores were examined for CBCL - Activities, Social, School and Total competence scales. Cut-off points provided by Achenbach & Edelbrock (1991) were used to define normal/borderline/abnormal categories in psychiatry and neurology groups.

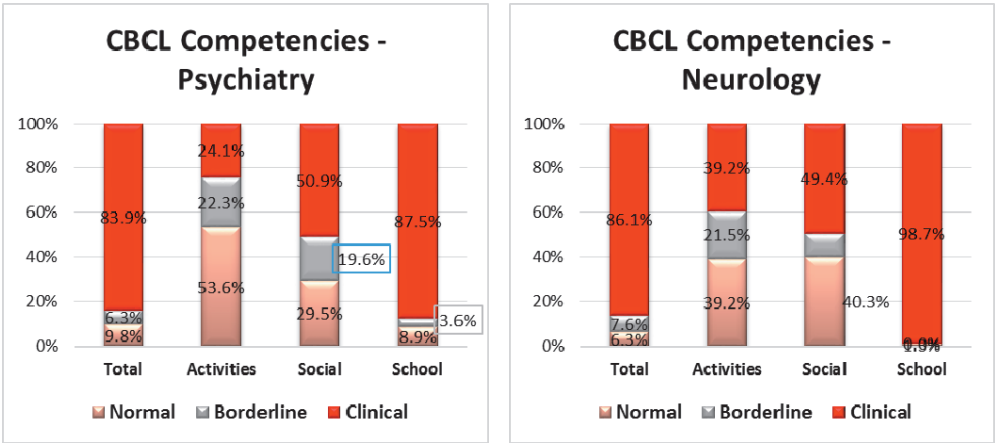


Figure 19: CBCL Competence – Normal/ Borderline/ Clinical assignement.

The table 39 below shows the mean scores of CBCL competence scales and SDQ prosocial scale, in psychiatry and neurology groups. Children in the psychiatry group had higher CBCL Activities and School competence levels and those in neurology group had higher CBCL Social and SDQ Prosocial scores. No statistically significant difference was found between the mean Total Competence scores of the two groups.

Table 39: Parent-reported CBCL competence scores and SDQ prosocial scores.

	Groups		
Variables	**Psychiatry n = 115 Mean (SD)**	**Neurology n = 79 Mean (SD)**	**p-value**
CBCL Activities	6.0 (3.8)	4.6 (3.4)	0.013[1]
CBCL Social	6.0 (4.0)	7.2 (3.4)	0.035[1]
CBCL School	1.7 (1.4)	1.2 (1.2)	0.017[1]
CBCL Total competence	13.7 (7.3)	13.1 (6.3)	0.531[1]
SDQ Prosocial	6.9 (2.6)	8.0 (1.9)	0.007[1]

[1] Independent-samples t-test

The same pattern of competencies was observed in the comparative analysis of the groups when considering gender or age-group. Thereby, the 6-11-year old children in the psychiatry group had significantly higher CBCL Activities and School scales scores (6.3 vs 4.3, p 0.007, 1.9 vs 1.0, p 0.005) compared to children in the neurology group. The 12-18-year-old children in the neurology group had significantly higher scores on the SDQ prosocial scale (8.8 vs .7.4 p 0.007) compared to the psychiatry group. The comparisons by gender, between the two groups (psychiatry vs. neurology) found that the psychiatry-group boys had significantly higher CBCL Activity (6.5 vs 4.5 p 0.006) and School (1.8 vs.1.1 p 0.007) scales scores than the boys in the

neurology group, and the girls in neurology group had significantly higher SDQ Prosocial scale scores (8.6 vs 6.6, p 0.007)

Boys and girls belonging to the same group had comparable CBCL competence scores, the only significant difference that was found being on the Activities Scale in the psychiatry group, with boys scoring significantly higher than girls (6.5 vs 4.8 p 0.026). There was no meaningful difference between sexes on the SDQ Prosocial scale in the psychiatry group, but the neurology group girls had significantly higher scores than boys in the same group (8.6 vs 7.6, p 0.035). Further, dividing each gender in each group in two age groups (6-11 years and 12-18 years), no statistically significant differences could be seen on any of the CBCL competence scales or SDQ Prosocial scale, between boys and girls being part of the same age-level.

Self- reported adolescent mental health competencies YSR, SDQ SR (psychiatry, neurology, school groups)

This section presents the results of self-ratings reports on competencies (YSR and SDQ-SR) in all three groups (psychiatry, neurology and school groups). The scores of each YSR competence scale (Activities, Social, Total Competence) were examined using both raw scores and T-scores. The T-scores resulted from the adolescent self-reports were compared to cutting points provided by Achenbach & Edelbrock (1991) for clinical and borderline assignment in both psychiatry and school groups. The results in the neurology group are not presented due to the limited number of the subjects who reported self competencies.

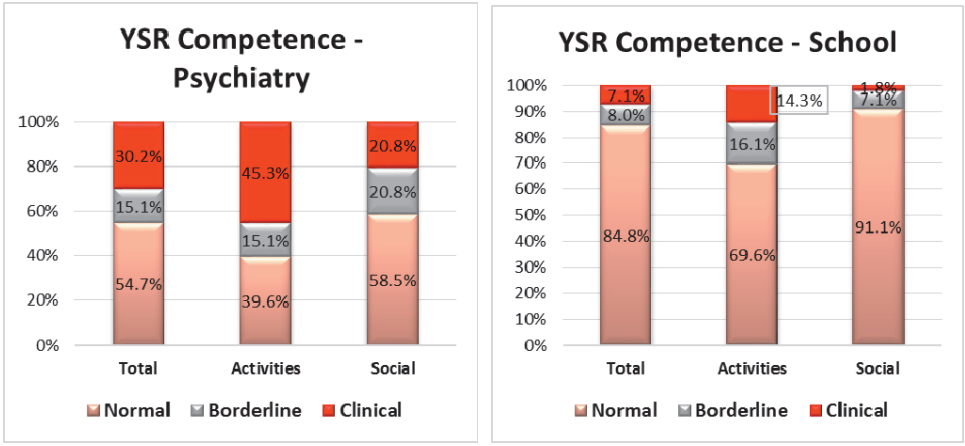


Figure 20: YSR Competence – Normal / Borderline/ Clinical assignment.

One-third of the adolescents in the psychiatry group reported Total competence scores in the clinical range, a proportion significantly higher than that observed in the school group (χ^2[1,N=165]= 15.37; p=0.000). Furthermore, significantly more clinical Activities- (χ^2[1,N=165]= 18.82; p=0.000) and Social-scale scores (χ^2[1,N=165]= 17.83; p=0.000) were reported by subjects in the psychiatry group compared to those noted in the school group.

Table 40 presents the scores of YSR competence scales and SDQ Prosocial scale in psychiatry, neurology and school groups. Adolescents in both clinical groups reported their YSR competence levels significantly lower compared to those in the school group, but without any difference within each other. The self-reported SDQ Prosocial scores had similar levels in all three groups.

The same pattern is mentained in both genders, with no differences in YSR competence scores between the two clinical groups and significantly higher rates in school-group girls.

Table 40: YSR and SDQ SR Competence Scores.

	Groups			Differences	
	Psychiatry n= 53	**Neurology n=30**	**School n=109**	**Between 3 groups**	**Between 2 groups (sig)**
Variables	median	median	Median		
YSR Activities	5.5	5.7	8.3	0.000[1]	P-S 0.000[2] N-S 0.000[2]
YSR Social	5.5	6.3	7.6	0.000[1]	P-S 0.000[2] N-S 0.014[2]
YSR Total competence	13.5	14.7	18.5	0.000[1]	P-S 0.000[2] N-S 0.011[2]
SDQ SR Prosocial	8.0	8.5	8.0	0.280[1]	

[1] Kruskal-Wallis [2] Mann-Whithney

Boys and girls belonging to the same group had comparable YSR competence scores, with no statistically significant difference between genders. However, on the SDQ SR prosocial scale in the school group, girls had higher scores than boys.

Parent- and self-reported child mental health competencies and family factors CBCL, SDQ P-HQ; YSR, SDQ SR- HQ

The analysys revealed few differences in parent-reported child competency scores related to the households' characteristics and no differences at all when self-rated measures were used.

The parent reports in both clinical groups showed that children being part of extended families are more likely to have high levels of School competencies than those from nuclear families (psychiatry: nuclear vs extended families 1.4 vs 2.3 p=0.007; neurology: nuclear vs extended families 1.1 vs 1.8 p=0.029), and in neurology group only, high levels of Social Competencies also (nuclear vs extended families 6.7 vs 8.4 p=0.046).

Other significant differences according to specific household characteristics were: higher Social competence in children being part of two-parent families than those from single-parent families (single parent vs two parent family 3.0 vs 5.3 p=0.020) and higher Activities competence when having a mother with a high level of education (highschool vs university 5.7 vs 8.0 p 0.048), in the psychiatry group; greater Prosocial behaviour when having an employed father (absent vs present 5.75 vs 8.02 p=0.018) and lower School competencies when the child was a victim of physical violence in the neurology group (absent vs present 1.61 vs 0.63 p=0.002).

Associations between parent- and self-reported child mental health competencies and family functioning CBCL, SDQ P – FAD; YSR, SDQ SR – FAD

In the psychiatry group, both parent reports (CBCL, SDQ P) and self-ratings (YSR, SDQ SR) showed several significant correlations between child and adolescent competencies and certain dimension of family functioning (FAD)(Table 41). All the correlation coefficients indicate negative low correlations between the child competence scores and FAD results.

Considering the parent informant reports in the psychiatry group, the Activities competence scores negatively correlated with almost all FAD scales (except for the General functioning) and the Total competence scores with five out of seven family functioning aspects. The capacity of performing behaviours to fulfil the needs of the family members (FAD Roles) was negatively

correlated with all the parent-reported child CBCL competencies. The correlation matrix between self-reported competence scores and FAD items rendered only one significant correlation (i.e FAD Communication * YSR Social competence, r= -0.44, p <.05)

In the entire neurology group, no significant correlation was identified between parent-reported CBCL competence scales or SDQ prosocial scale and FAD items.

Table 41: Pearson correlation coefficients (r) between parent-reported child's competencies and family functioning(see Appendix VI).

	Family functioning						
Variables	Problem Solving	Communication	Roles	Affective Respons.	Affective Involv.	Behaviour Control	General Function.
CBCL Avtivities	-.24*	-.25*	-.34**	-.25*	-.28*	-.28*	
CBCL Social	-.30**		-.27*				
CBCL School			-.22*				-.29**
CBCL Total Competence	-.34**	-.27*	-.39*		-.25*		-26*
SDQ Prosocial	-24*						

* correlation coefficient (r) significant at p< 0.05
** correlation coefficient (r) significant at p< 0.01

7. DISCUSSION

The purpose of the present dissertation was to offer an overall picture of child and adolescent mental health in Romania, during almost 25 years of changes since the Romanian Revolution of December ’89. The interpretation of the present study findings requires firstly to take into account its limitations and strengths regarding research characteristics such as the design, groups, methods and data analysis.

7.1. Discussion of methodology

7.1.1. Study design

The study design was structured in such a way as to meet the objective that was initially set: the complex assessment of child and adolescent mental health in Romania. For this purpose it was structured in three parts. Therefore, the qualitative analysis of the development of the child mental health system in Romania included in Part I was mainly intended to position the research (Part II- analysis of the pathology of children hospitalized throughout a year in the child psychiatric clinic and Part III- the assessment of child mental health problems and competencies and related factors) in the current context of Child and Adolescent Mental Health in Romania. Part I consisted of a comparative qualitative analysis between the state of child mental health network before and after the December ’89 Revolution as well as of an examination of the present-day situation. The analysis was done in three directions: changes, challenges, solutions. Part II, the assessment of the development of the patients referred to the psychiatric department, involved a comparative quantitative analysis of certain variables (e.g. age, gender, primary diagnosis, comorbidities, time of hospitalization) and was conducted on the patients who attended the Child and Adolescent Psychiatry Department of Bucharest in 1991, soon after the December ’89 Revolution, and in 2013. Part III, the inquiry of children’s mental health and related factors, was performed through a cross-sectional analysis of three different groups: a psychiatry group, a neurology group and a school group. An essential strength of the study is the perspective on the development of mental health in Romania, with the 1989 Revolution as the starting point of the strain of changes that followed.

7.1.2. Informants and subjects

In the Part I, the group consisted of ten professionals who were selected due to their ability to make a comparative analysis of the situation between the two moments – before and after the December 1989 revolution. They have between 10 and 45 years of experience in the Romanian medical system, or they have been involved in different organizational structures of the health network. The very good rate of response is another strong point of the study. The 10 professionals that were selected to come from three different fields: child and adolescent psychiatrists, psychologists, social workers, one of the limitations being that there were no nurses involved. An advantage is that they practice in four different areas of the country. Another advantage of the group is the experience of the participants: the evaluation was conducted on professionals who have been actively involved in the establishment of the child and adolescent psychiatry network since the ’70s, having experienced first-hand the changes occurred after 1989. Some of the professionals have been involved in the system since before 1989, and others have been actively involved in the system restructuring process after the revolution.

In Part II, the patient information was gathered throughout a period of 12 months, in 1991 and in 2013, and included all patients hospitalized during that period in the Child and Adolescent Psychiatry Department of the "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry. The main advantages of this part of the study are the fact that the data were gathered more than 20 years apart, and the fact that 12 months is a period long enough to get a comprehensive image of the features of the patients in a particular time span. This long time interval gave us the possibility to notice the possible changes in the child psychiatry patient profile that took place in Romania.

The information collected in 1991 on the 1879 patients are, so far, the only available data regarding the characteristics of the patients hospitalized in a child psychiatry clinic in Romania around the time of the December 1989 Revolution. Collecting the data was a difficult process, because the patient information from 1991 is stored only on handwritten charts and, in order to collect the necessary data, a team of six people analysed each chart. Most of the 2013 patient data are still stored only on the handwritten charts, the department database electronically storing only limited data of the patients, a process which started few years ago (2007).

In 2013, data were collected from 2204 patients. In the three major child and adolescent psychiatry university departments in Romania, which are Bucharest, Cluj and Timisoara, studies were conducted in order to evaluate the incidence of mental illness over a period of three years (2002-2006 in Bucharest and 2004 – 2007 in the other two centres) but not on the entire population of patients admitted to the clinic, only on 6-14 years age range. *(Anghel et al. 2007; Andreica et al. 2007; Dumitriu et al. 2007)*. But unfortunately, these data were never published, being only presented as part of congress communications.

Information included in Part III was collected in regards to three groups: psychiatry, neurology and school. The psychiatry group had 165 subjects meeting the inclusion criteria who were invited to fill in the questionnaire. Out of the total number of subjects only 144 (87.3 %) subjects actually created a study group, with 21 (12.7 %) subjects dropping out. The neurology group had 315 subjects, with 85 (27.0 %) subjects creating a study group, and 230 (73.0 %) subjects dropping out. The school group had 157 subjects, with 113 (72.0 %) subjects creating a study group, and 44 (28.0 %) subjects dropping out.

Collecting the data from the psychiatry group was done in Child and Adolescent Psychiatry Department of the "Prof. Dr. Alexandru Obregia" Hospital of Psychiatry were the use of structured interviews for gathering data was still limited, far from being common procedure. Not even the medical personnel (doctors and nurses) use this structured way to evaluate children on a regular basis. Until now, there has been no well-defined algorithm of instruments for structured evaluation of patients hospitalized in child and adolescent psychiatry departments. A basic set of evaluation instruments does not exist, and is not usually used. The interview is clinical. Medical personnel are not used to integrate questionnaires for parents. Even if this situation was generally known, the initial plan regarding the data collecting process included a systematic collection procedure consisting in the inclusion in the group of each first patient hospitalized every morning, providing such patient met the inclusion criteria.

In the child psychiatry department, there are unwriten rules according to which each psychiatrist treats only the patients directly referred to him/her. This situation meant that only the patients of the author of the thesis could be included in the study group (the addressability criteria). All the patients were between 4-18 years old, living in Bucharest, referred to the author from different outpatient services in Bucharest. Some patients referred to the department during `on call`, or when the author had consultations were included in the group. The questionnaires were given to the parents, who filled them in on their own, in the clinic. One of the strengths of the study, to

my knowledge, is that the psychiatry group is the largest sample ever collected on child and adolescent psychiatry inpatients in Romania, on cross- sectional basis data, not on retrospective data collected from record files. One of the major limitations was that it was not possible to follow up the later outcome of the children and families.

The neurology group was collected from the Paediatric Neurology Department of the same "Prof. Dr. Alexandru Obregia" Psychiatry Hospital, where the Child and Adolescent Psychiatry Department is also located. The collaboration with the medical staff was, with few exceptions, limited. The advantage of its location in the same area enabled the collection of data by a team consisting of one student and five residents in training in the Child and Adolescent Psychiatry Clinic. The outpatient conditions, the short time and the inadequate practical conditions were related to the high number of refuses. In the paediatric neurology clinic, one of the members of the team collected data based on interviews with the parents. Another explanation could be that, at the evaluation, the parents who underestimated the symptoms of their child refused to answer.

The data on the school group were collected from a regular school, where Romanian teaching staff has a limited experience in evaluating mental health (emotional and behavioural) problems of their pupils using structured interviews, in accordance with their training curricula. The refusal of the parents could have something to do with their concerns about the possible impact of mental health problems reported by the teachers in the children's academic assessment.

The size of the groups in Part III is one of the study limitations, which is determined by the current research conditions in Romania. Unfortunately, the process of filling in questionnaires is a recently new way of gathering data in our country. On a large scale, the public in Romania is not used to this structured way of reporting information. They are reluctant in answering questions about themselves. On the other hand, the level of information about mental health problems on a large scale is still limited. When data collecting for this thesis started, the parents did not have experience in writing about the problems of their children. They were used to answering interviews conducted by professionals (doctors, psychologists, nurses). Obtaining information via mailed questionnaires or telephone calls has not been yet used in research projects in Romania. Given this context, the success rate in gathering data regarding child and adolescent mental health problems, competences and associated factors represents an important strength of the study, especially because of the fact that this is an unique atempt Romania. Until now, in Romania, the information on child and adolescent mental health problems and competences were collected in school context (*Rescola et al, 2012*; *Ivanova et al, 2007*) and in paediatric context (*Gleason et al., 2011*) and in particular context of institutionalized or foster care children (*Zeanah et al., 2009*)

7.1.3. Methods used in data collection and analysis

The method used in Part I, the interview questionnaire CAMH in Romania, was specially designed for the study, in order to collect extensive, partially structured information. The email interview was also used, allowing the professionals time to elaborate their answers, as opposed to face-to-face interview. The Grounded Theory method - a data analysis technique which is commonly used in social sciences, based on un-structured answers - was applied to the answers offered by 10 Romanian mental health professionals. The more complex part consisted in extracting some key points and elaborating representative assertions regarding Romania's current situation.

In Part II, the data were collected from the handwritten charts of the patients, as no computerized system existed in 1991. A setback in this regard is that only limited information about the patient

characteristics was available, and that part of the data was lost (out of the 1879 of the patients admitted in 1991 for either a psychiatric or a neurological disorder, 233 had no information regarding their diagnosis). An positive aspect of this part of the study is access to the original files, with diagnostic terminology used in 1991 and the opportunity to achieve the equivalence with the current ICD terminology. The main characteristics of the 1991 and 2013 study groups, related to the age at admission, gender, primary and secondary diagnoses and the length of stay in hospital, were analysed comparatively, thus representing the first study on Romanian child and adolescent psychiatry inpatients within a time span of 22 years.

In Part III, a part of the questionnaires have been validated in Romanian (CBCL, YSR). Other questionnaires have been translated into and adapted to Romanian and used in other studies (FAD, SDQ). The Family Assessment Device (FAD) as a measuring instrument for family functioning has been previously used in Romanian studies (*Ciobanu 2013*, *Palada 2012*, , *Stanescu 2006),* but only limited in the psychiatry clinical contexts (*Jurma 2008*, *Jurma and Mircea 2009),* on selected problems (ASD, ADHD). The role of culture in measuring family functioning is pointed out by the existing variations between the international adaptations of the FAD, whose parameters (internal consistency and reliability) differ from country to country. There are also studies which particularly followed the existence of cross-cultural differences and similarities, with the purpose of objectifying the impact of different social and political influences. The results of these studies have shown that there are differences not only between countries (one example is that of *Keitner et al.1990*, which shows that families in Hungary perceive issues regarding communication and problem solving abilities significantly better than families in the US), but also between various nationalities living in the same country (e.g. Caucasian vs Hispanic Americans (*Aarons et al. 2007),* Hawaiian vs Japanese Americans (*Morris 2010)*). To this day, no standardization and validation of the FAD on the population of Romania has been carried out, thus, the interpretation of these results has been made taking into account the values of relevant studies in medical literature, and foremost, the cut-off points provided by the authors (*Epstein, Baldwin, Bishop 1983*).

An important aspect of the study on family functioning is represented by the differences in perception among its members: mother, father, child. There are numerous studies showing significant disparities between the way in which family members perceive problems. Sawyer and colleagues, while carrying out a study on 188 families, half of which had a child with a mental disorder (clinical group) and the other half having a child without any significant health issues (community group), found that adolescents in both groups rated their families as significantly less healthy than their parents did (*Sawyer et al., 1988)*. Studying the mother/father agreement on family functioning, a study carried out in UK, revealed significant correlations on five of the seven FAD domains and no connection between mothers and fathers of Affective Involvement and General Functioning (*Akister, Stevenson-Hinde 1991*). Meaningful differences have also been found between the mothers' and their daughters' (with eating disorders) perception of global family functioning, with mothers scoring significantly healthier than their daughters (*Dancyger et al., 2005)*. Due to methodological issues, data was collected about family functioning using parents as informants only, but a comparative analysis is provided between FAD scores and different perceptions of the child's mental health problems (CBCL, SDQ – parent reports, YSR, SDQ SR – self-reports).

HQ- household questionnaire, collecting quite extensive background information, has been used in different areas of the world (*Goodman et al., 2005, Mullick and Goodman, 2005)*, and it was translated and adapted into Romanian language.

A strength of this part of the study was the use of internationally known and generally accepted instruments, and also the fact the same instruments (at least in part) were used with all three groups (psychiatry, neurology, school).Another strong point is the existence of two informants, (the parents, on the one hand, and the children themselves on the other) for evaluation children older than 11. Another important strength of the study is represented by the richness of the information collected for each subject, due to the use of two different questionnaires for problems and competencies (SDQ and ASEBA instruments).

A quantitative analysis was also performed in Part III of the thesis, using classical descriptive uni- and bi-variate statistics methods and different tests (Independent-samples t-test, Mann-Whitney U-test, ANOVA, Kruskal-Wallis, Tukey's HSD, Chi-square, Pearson's correlation, Spearman's rank-order correlations and. But in this part a particularly difficult situation arose, regarding data collection and analysis and concerning, mainly, the interpretation of the results. This was due to the large number of sub-groups (parent- / self-reports, psychiatry/ neurology/ school groups, male/ female gender and 2 age-ranges), and a great variety of explanatory and response variables, among which multiple comparison analyses were performed. In what multiple comparisons are concerned, no correction has been applied to the significance levels, which may be considered to be a limitation of this study.

7.2. Disscussion of results

7.2.1. Part I – Qualitative study: The development of child and adolescent mental health services in Romania (Child and Adolescent Mental Health Services Development study, CAMH Services Development study)

The need for change in Romanian society, which led to the 1989 Revolution, also stimulated the changes which occurred in the child mental health field. The Romanian Child and Adolescent Psychiatry has undergone the implementation of the European Union norms and standards even if the pace as such was lower than the required one. In the 25 years that have passed, many changes have occurred in Romanian CAMH, but many unresolved issues have also risen. Thus, based on the informants' answers, significant changes that took place during this period of time, in the field of Romanian Child and Adolescent Psychiatry, were outlined, with emphasis on the professionals' way of thinking, theoretical background, clinical practice, patients, available services and treatments, awareness of the general public and the policies.

One of the changes, frequently stated by the ten respondents, is the increased access to information. Respondents highlighted the benefits that came with it, concerning both the professionals and the general public. The acquisition of foreign models (laws, mental health related projects), the access to scientific information about therapeutic interventions and the enhancement of medical education methods have all been identified as consequences of this improved way of accessing information. Thus, professionals have mostly shaped their action accordingly in their clinical practice, using a more varied range of standardized diagnostic instruments and therapies. But, the acquisition of foreign models related to policies, although stated by the respondents, had only partially occurred. The publication of the Mental Health Law in 2002 and elaborating the Mental Health Strategy, were important steps of compliance with European laws, but professionals were still waiting for national regulations to define their applicability, with programmes to be launched, and services to be developed. Data collected from 66 countries, within the Child and Adolescent Mental Health Atlas project, demonstrated that "having child and adolescent mental health policy, of any type or at any level of government,

does not mean that a country or region has an identifiable child and adolescent mental health services programme" (*WHO 2005*)

Another change that has been identified by the informants is a higher interest in the diversification of services of all the mental health professionals, as well as the fact that these services still need to be developed. The informants highlighted that a coherent network is missing in the public health care system and, although the large hospitals operating before 1989 were closed, the inpatient units are still overcrowded and improvements in the community assistance are required. The report on the Institutional and community-based services in the mental health field in Europe, published by the Mental Health Europe in 2012, explained that the closure of psychiatric hospitals might represent, in fact, a loss of services, if the inpatient care units are not replaced by the provision of services in the community (*MHE 2012*). The Eurostat data, also presented in this document, revealed that, between 1999 and 2010, there was a decline in the number of psychiatric care beds in hospitals, in many European countries, which was not always accompanied by an increase in community-based care facilities. (*MHE 2012*)

The American and west-European influences have led to an attempt develop a system parallel to the state system, but whose network is still insufficiently structured (in spite of the changes), with a low number of professionals (because of the financial difficulties), and with almost the absence of communication and collaboration between the various structures.

Private practice has, thus, emerged, gathering services offered by doctors and psychologists, and NGOs have been created – trying, and often succeeding in developing alternatives to the state services. One of the conclusions provided by the WHO in the Child and Adolescent Mental Health Atlas project, is that over 90% of all the 66 countries, reported the presence of an NGO related to child and adolescent mental health, organizations focusing mostly on advocacy, but the functioning of these is rarely linked to ongoing national programs and often lacks sustainability (*WHO 2005*). Another study, focusing on the Child and Adolescent Mental Health care in low- and middle-income countries, emphasized the important role of the NGOs in those countries where the government fails to support services, thus allowing governments to neglect the need of incorporating child mental health services in their national budgets. (*Kieling et al., 2011*)

As the majority of informants have declared, the therapeutic interventions have improved, almost the entire range of psychopharmacological and psychotherapeutic interventions available worldwide being currently present in Romania as well. Whilst only small differences were reported regarding the access to medicine throughout the country, the distribution of facilities providing psychotherapy is uneven and moreover it is not financially supported. All over the country, a lot of parents and their children with mental health issues have managed to evolve from the position of waiting for help from the state system, have united in parents associations and have formed a very strong movement, developing awareness campaigns, raising funds, and sometimes even inducing law changes.

The professionals' (whether from the education, health or social services systems) and general population's level of education regarding child mental health is one of the main challenges posed in the current Romanian society. Promoting child mental health is considered a worldwide challenge, with more evidence suggesting that "early interventions can provide long-term health and socioeconomic benefits by prevention of the onset of mental health problems and their development into chronic disorders" (*Kieling et al., 2011).* Thus, it could be possible, that through awareness campaigns, mobilization of stakeholders and involvement of various institutions outside the health sector, to promote the child and adolescent mental health care and

to increase the general knowledge in this field. Other challenges pointed out by the informants, include financial problems, emigration of professionals and the lack of social services.

Among the solutions suggested by the informants are the development of an adequate legislative framework, the enhancement of funding resources, the involvement of parents' associations, a better cooperation between institutions and the change of mentality through the education of the general public. The enthusiasm of those who contribute to the „creation process" which is undergoing in today's Romania must be cultivated, as it is an essential resource which, combined with the western-European model of association and organization, and financially sustained (from public and private funding) could also represent a solution for the Romanian child and adolescent psychiatry network. The strategic directions proposed by WHO and listed by the IACAPAP textbook of Child and Adolescent Mental Health include the following guiding principles: integrating mental health care in general health services, improving equity and access to tratment-providing care near communities, promoting a continuum care, ensuring inter-sectorial coordination, adopting ecological, life-cycle and human rights-based approaches, promote users' participation. (*Servili, 2012*)

7.2.2. Part II – Quantitative study: The change of the characteristics of child and adolescent psychiatry patients at „Prof. Dr. Alexandru Obregia" Hospital of Psychiatry, Bucharest between 1991 and 2013 (Hospitalized Psychiatric Patients study)

This study shows the development of the characteristics of patients admitted in the Department of Child and Adolescent Psychiatry in Bucharest, between 1991 and 2013. The Department of Child and Adolescent Psychiatry in Bucharest is one of the three university clinics in Romania, and the patients' characteristics are strongly related to the past and current administrative features of the child and adolescent mental health network in Romania, presented in Chapter 2 and also in Part I (CAMH Services Development study).

In the almost 25 years that have passed since the 1989 Revolution, the characteristics of the patients admitted in the department have significantly changed. These findings referring to the changes that have been identified in the Hospitalized patients study, in terms of the number of patients and in terms of the characteristics of the pathologies, seem to give some answers to the problems formulated by the informants in the first part of this thesis (CAMH Services Development study).The separation of infantile neuropsychiatry into paediatric psychiatry and paediatric neurology represents the most challenging change, which stimulated progress in each of the two fields. This separation officially occurred in 1996, but in reality only after 2000, initially due to the forced functioning of the two specialties in the same space, by the lack of separate buildings, but also because of the professionals' double competence and of a deep-rooted patient care tradition. The movement of paediatric neurology department in an individual separate location, the training of a new generation of professionals having a unique competence (child and adolescent psychiatry) and their training in accordance with evidence based western medicine paradigm, the formal introduction of the DRG (Diagnosis-related group) system in hospital, based on ICD10 criteria and classification, the education process (confirmed by the answers of the interviews of the respondents in the Part I) of family doctors, paediatricians and general public (parents, families) regarding the existence of two separate medical disciplines and pathologies, psychiatry and respectively neurology, are all major factors that have contributed to the change of pathology admitted in the clinic. Along with these national characteristics, the worldwide reported development of the incidence and characteristics of mental health disorders in children have also influenced the aspect of current hospitalized pathology.

On the other hand, the referral area of the Child and Adolescent Psychiatry Clinic of "Prof. Dr. Alexandru Obregia" Psychiatry Hospital has not changed significantly between 1991 and 2013, this finding being as a confirmation to an answer from the Part I, the need of development of mental health network in Romania. Due to the specific structuring features of mental health network in Romania, the patients referred to this clinic are residents of this city, a capital with more than 2 million inhabitants, but also residents living in 5 south-eastern counties of Romania (Ilfov, Giurgiu, Calarasi, Ialomita and Teleorman), which do not have child psychiatry inpatient facilities. Having 70 inpatient beds, the clinic is considered a large one compared to the average number of psychiatric beds in Europe. Young and Ferrari estimated the need for child psychiatric beds to 4 beds for 10.000 children *(Young, Ferrari 1998).* The number of care beds, dating back to the period before December '89 Revolution, has been kept because of the limited development of intermediate health care structures and also because the number of child psychiatry beds in Romania is much lower compared to European figures (*Dlouhy, 2014; Kozma, Petri 2012; Ellila, 2007).* For a population of 661.000 children aged 0-18, living in Bucharest and five surrounding counties (in concordance with 2011census), the network has 1.36 child psychiatry beds per 10.000 children (70 beds at "Prof. Dr. Al. Obregia" Hospital, the only beds that existed in 1991, to which another 20 beds were added at "Dr. Constantin Gorgos" Hospital in 2011). As a comparison, the average number of psychiatric beds in Finland is 5/10.000 (*Ellila, 2007*) and in England and Wales is 0.7/10.000, with a variation between districts of 0.3- 1.3/ 10.000 (*O`Herlihy et al., 2003*).

In the global context of changes regarding the quality of the Romanian health system, which started in 2007, after joining the European Union, being more pronounced in the last 3 years, the functioning of the clinic has changed. In 2013, just as it was in 1991, the department is designed as an acute treatment clinic, functioning 24 hours a day, 7 days a week, 365 days a year and having 5 days a week medical consultation programme. Moreover, it has 24-hour on-call services and acts as a child psychiatric emergency room for Bucharest and surrounding counties. But, as an important change, for several years, due to the limited number of mental health centres and the attempt to streamline the activity of the clinic, a part of patients are hospitalized for less than 24 hours, as day patients, the clinic functioning in this case as an outpatient facility. This need to develop the mental health services was pointed out by all respondents in Part I.

In 1991, the professional team consisted of 6 psychiatrists, 38 nurses and cleaning personnel, 1 psychologist, 2 educators and 60 residents (Dobrescu, personal communication). The large number of residents in 1991 is explained by the fact that, the privous year, the admission process in residency was reopened after a period of six years, during which the government no longer allowed for residency exam (*see Chapter 2*). In 2013, the professional team consisted of 7 psychiatrists, 21 nurses, 3 psychologists and a variable number of residents in different medical specialties, including child and adolescent psychiatry, general psychiatry, paediatric neurology and paediatrics. Moreover, in 2013, the intervention programme has undergone significant improvement due to the access to a whole range of drugs existing in Europe, but also because of the development of psychotherapy approach, changes that have also had an impact on the length of hospitalization. Still, until recently, various psycho-educational and psychotherapy interventions were provided only voluntarily in the clinic, as there were no such services covered by the health budget, neither in the hospital nor outsourced (as resulted also from the interviews with the professionals in the Part I). Another important change is the official presence of psychotherapy in the clinic starting with September 2013, as a result of a public-private partnership developed between the hospital and a non-governmental organization, in the line with the changes in the available services indentified in Part I.

The following findings reffering to the organisation and functioning of the Child and Adolescent Department from Bucharest, resulted from the Hospitalized patients, are consistent with the answers formulated by the informants in the Part I, both at changes and challenges levels. Both in 1991 and 2013, the patients admitted in the department were children aged between 0 to 18, with all types of mental health problems, given that there are no specialized psychiatric treatment services for different ages or pathologies. Still, a major difference between the two periods is that in 1991, in addition to children with mental health disorders, there was also a large number of patients with neurological disorders. Thus, in 1991, 1,897 children and adolescents were hospitalized in the department, 897 of whom were admitted for a psychiatric condition and 749 for a neurological one (data about the diagnosis were not available for 233 patients). Both the results presented herein, and the following discussions focus only on the psychiatric pathology, given the theme and the objectives of this paper.

The context described above, mainly related to the structure of mental health network, the lack of community care services and the fact that the clinic is the only one in this geographical area, justifies the number of inpatients over a 1-year-period, 897 in 1991 and 2,204 in 2013. The significant increase in the number of patients admitted to the clinic, two and a half times more in 2013 compared to 1991 (which is confirming the ideas pointed out also by the respondents in the Part I), is consistent with the ever-growing incidence of psychiatric pathology reported by international studies (in 2010 the National Institute of Mental Health pointed out that more than 20% of children in US, have had a seriously debilitating mental disorder (*Merikangas et al. 2010*)). The sex ratio and the age at admission are two of the aspects that have undergone significant changes from 1991 to 2013. Starting from almost an equal proportion of gender in 1991, the male-to-female ratio reaches a value of 1.9 to 1 in 2013. This sex-ratio pattern, with almost twice as many boys as girls is also reported by other child psychiatric inpatient care units in recent studies (e.g. 58.7% boys out of 538 Turkish children during a 6-month period (*Durukan et al., 2010*); 63% boys in 25-years with an average of 230 subject/ year in an Indian study (*Malhotra et al., 2007*)).

The main reason for this change is the marked increase in the prevalence of certain neurodevelopmental disorders in the last decade, such as autism spectrum disorders and ADHD, whose higher frequency rates in boys are well-known. Yet, in 2013, the gender distribution tends to equalize in adolescents, the number of girls admitted for mental health conditions had steadily increased, starting from one-third of the number of boys in the 0-5 year age group, and equalling their number in the 12-18 year age range. The massive shift in pathology is also one of the causes of decreasing age at admission, from an average age of 12 in 1991 to nearly 9 years old in 2013. Equally important, the patients' age has gradually lowered these past years due to increased awareness and level of education regarding children's mental health among the general population and professionals (family doctors, paediatricians, teachers). Thereby, parents seek help earlier, as soon as they notice something abnormal in their child's development, while professionals, including those working in education or in primary health care, guide the families to specialists more quickly.

Perhaps one of the most substantial changes, of absolute necessity, and which has occurred in recent years is how diagnoses are established and formulated. The increased access to scientific information and the free circulation of people (presented by the respondents in the Part I) relate to several findings from the Hospitalized patients study (Part II). The changes in the diagnostic formulation in accordance with international classifications and the use of international standardized instruments come as consequences of the open access of this open border to the western society. Currently, according to international regulations, the hospital uses the DRG system based on the International Classification of Diseases so that diagnoses, procedures,

discharge status, or the presence of complications and comorbidities are all standardized. The situation during the communist regime was quite opposite to this uniform and reliable structure, as it was in the years that followed the Revolution. In 1991, as no generally accepted diagnostic criteria or common procedure existed, psychiatrists were using their own algorithms, the diagnosis thus becoming dependent on the training and subjectivity of each of doctor, and therefore, it differed widely among physicians. Moreover, the way the diagnosis was formulated varied greatly (see also Appendix V*):* sometimes there were up to ten different terms used to describe the same pathology and mostly the diagnoses were large, flexible and interpretable, often even written on several lines. All these aspects were nevertheless justified by the strong adherence to the socialist ideology of the Romanian system in general and also of the medical school and taxonomy, which, in those days, used to combine old traditional French ideas with new Soviet ones. As presented in the section on methodology, in order to analyze the characteristics of patients hospitalized in 1991, diagnoses were classified and coded by a team of professionals including doctors that were also practicing in the '90s.

The findings in the Hospitalized patients study regarding the outstanding differences between 1991 and 2013 in most common psychiatric diagnoses seem to give some confirmations to the information reported by the respondents in the Part I . While in 1991 the five most frequently diagnosed disorders were the following: Dissociative/ Somatoform disorders, Mental retardation, Conduct disorders, Hyperkinetic disorders and Anxiety disorders/OCD, in 2013 this list consists of: ASD, Hyperkinetic disorders, Conduct disorders, Mood disorders and Emotional disorders with onset in childhood.

As professionals practicing at that time (1991) explained in the Part I, the large number of children and adolescents diagnosed with dissociative and somatoform disorders is justified by the way the psychiatrists were trained, by the clinical judgment and by the above mentioned adherence to French and Soviet classifications. Furthermore, a number of diagnoses, grouped by international classifications in distinct entities, were not yet recognized by the Romanian psychiatrists at that time. This is also the case of adjustment disorders and emotional disorders with onset in childhood, whose prevalence though known and accepted by other medical systems in Europe, were not commonly in use in the clinic. For instance, a Finnish study published in 1999 reported a prevalence of about 30% of adjustment disorders in 1990 and 1993, thus representing the most common diagnosis in paediatric inpatients discharged from psychiatric hospitals *(Sourander & Turunen 1999)*. In our department, part of these children were often discharged with diagnoses that include terms like “reactive state”, “reactivity disorder”, “functional crisis/disturbances”, diagnoses which today lead us to think about dissociative or somatoform disorders. Socio-political context, the curtailment of freedom of expression and imposed strict rules of behavior, or education the children in the spirit of the socialist cause, could stimulate expression of psychological conflict as part of a conversion disorder / dissociative / somatization. In this context, freedom of expression and relaxation and permissiveness toward children and adolescents contributed to a decrese in the occurance of these disorders.

The rate of Mental retardation, the second most common diagnosis found in 1991 (16% as a primary diagnosis and 18% as a secondary one) is also influenced by a number of factors specific to the context of that period. Amongst many adverse consequences, the communist decree for banning abortions led to the birth of a large number of children with multiple problems, including development or mental delays. Whether it was about failed attempts to produce illegal abortions, with their crucial physical consequences on the new-borns and their mothers, about risky and unmonitored pregnancies or about the large number of children abandoned in orphanages, these children were at high risk to have an abnormal cognitive development, due to either organic or environmental causes (*Johnson 2000*; *Mitrut, Wolff 2011*). In addition to these aspects which

could justify the high frequency of mental retardation, there is also reason to believe that there could be an over-diagnosis of this condition: there were no validated tools to support the diagnosis; part of these children who were misdiagnosed as having a mental delay were, in fact, autistic. Perhaps one of the most damaging aspects of the time was that the biological paradigm was overrated with its subsequent effect on underestimating the importance of cognitive stimulation therapy, the so much needed intervention for these children experiencing mental delay. As it has been highlighted in Part I, the context created by closing the Faculties of Psychology and Social Work limited the number of these types of professionals in the network , thus depriving patients of psychosocial intervention and of receiving adequate services.

The analysis of 2013 showed that the results on the frequency of different diagnoses found in the clinic, is mostly similar to current trends in the world. The high rate of children diagnosed with one ASD, the most frequent diagnosis in this group in 2013 (44.2%), could be linked to the increase in worldwide reported prevalence of this disorder. According to the US National Institute of Mental Health, what was once considered a rare disorder is now reported as affecting 1 in 88 children, 1 in 54 boys (*NIMH 2012*). There are also certain features, specific to Romanian mental health network, that could explain the high frequency reported in this inpatient group: the mandatory annual psychiatric evaluation for the assessment of the degree of disability (required by the Disability Evaluation Board part of the General Directorate of Social Assistance and Child Protection), the lack of specific services needed for the psychiatric evaluation of this disorder in other Bucharest institutions, including the internationally recommended psychometric tools (i.e. ADOS and ADI) which have been translated into Romanian and validated within the Romanian population, but not available yet in a uniform manner at the national level (as it was identified as a result in Part I).

The rates for the most frequently diagnosed entities in 2013 after ASD (i.e. Hyperkinetic disorders, Conduct disorders, Mood disorders, Emotional disorders with onset specific to childhood) respects the worldwide prevalence trend of children's mental health disorders in the general population. In a twelve-month US population study on 3042 children, the DSM-IV diagnoses with the highest prevalence rates were attention-deficit/hyperactivity disorder (8.6%), mood disorders (3.7%), conduct disorder (2.1%) (*Merikangas et al., 2010*). There is no recent epidemiological study on the Romanian population, so a comparison with the situation in the general population is not possible at present. A specific aspect that needs to be mentioned is that, unlike other clinical studies, this group combines two types of subjects, inpatients and outpatients (day service).

Both in 1991 and 2013, the diagnostic distribution was gender-dependent, in regards to the diagnostic categories and their frequencies of occurrence. Thereby, in 1991 the Dissociative and Somatoform disorders and Mood disorders had significantly higher rates in girls, while Conduct disorders, Hyperkinetic disorders and Anxiety disorders were more frequently diagnosed among boys. In 2013 boys were found to have higher rates of ASD and Hyperkinetic disorders and girls higher rates of Mood disorders, Eating disorders, Stress related disorders, Dissociative and Somatoform disorders, Emotional disorders with onset specific to childhood. These gender differences are consistent with the prevalence rates in the general population, reported by the largest epidemiological studies. The Centre for Disease Control and Prevention stated that boys are more likely than girls to be diagnosed with ADHD (13.2% vs 5.6%), ASD (1/54 vs 1/252) Conduct disorders (6.2% vs 3%) and girls are more likely to have Depression (4. 5% vs 12.0% in adolescence) (*CDC 2013*). The gender differences in Anxiety disorders cannot be seen in childhood but they increase with age, reaching a male-to-female sex ratio of 1:2 / 1:3 in adolescence (*Beesdo et al., 2009*). The epidemiological data of Dissociative and Somatoform disorders in children are still lacking, but there are studies showing that these conditions are more

likely to occur in girls (4% vs 11%, the prevalence of distressing somatic symptoms in a general population survey of adolescents aged between 12-16) (*Silber, Pao 2003*) .

The diagnostic distribution is also age-dependent. Thus, in 1991 Mental retardation and Hyperkinetic disorders are common in patients under 11 years while after the age of 12 Dissociative and Somatoform disorders, Conduct disorders and Mood disorders are the most prevalent. In 2013 the analysis revealed that neuro-developmental disorders occur mostly in children aged between 0 and 5, followed by a decrease of these conditions in the 6-11 age range together with an increase of Externalizing disorders and the onset of the Emotional disorders. Further, an important diversification of diagnostic classes appears in children aged between 12 and 18 along with significant rates of Mood disorders and Emotional disorders.

In 1991, a stratified diagnostic system, including primary and secondary diagnoses, was not yet implemented in the Romanian health system. Given this, and the unstandardized way in which diagnoses were formulated, the real rates of psychiatric comorbidities are not known. In some cases, it was possible to identify several diagnoses, definitely delineated from the main ones, which were thus analysed as secondary diagnoses. Out of these, the most common were Mental retardation, Personality disorders and Dissociative and Somatoform disorders. In 2013, the comorbidities respect the pattern of co-existing psychiatric disorders previously described in other studies. Hence, ASD was frequently found to coexist with Mental retardation and ADHD. Epidemiological data report that ASD may coexist with ADHD-symptoms in 20-80% (*Amr et al., 2012; Gjevik et al., 2011*; *Rommelse et al., 2010; Matshusima et al., 2008; Lee, Ousley 2006; Ponde et al., 2010*) and with Mental retardation in 50-75%. In this group ADHD is frequently comorbid with Mental retardation, Conduct disorders and Specific developmental disorders of speech and language, results which are similar to the previously reported ones (*Kaplan, Sadock, 2000, Larson, 2011*). The co-existence between ADHD and language disorders is considered common, with prevalence rates reaching up to 45% (*Tirosh, 1998*). Other frequent comorbidities seen within these subjects and also consistent with the scientific studies were: Conduct disorders with Personality disorders and Mental retardation; Mood disorders with Personality disorders, Anxiety disorders, Dissociative and Somatoform disorders (*Patel, 2012; Tirosh, 1998*).

The drop regarding the length of hospitalisation is one of the major changes that have occurred between the two periods included in the study. In 1991, the length of stay in hospital was not controlled by administrative rules and thus hospitalizations may last weeks or even months. The average length of stay in the clinic in 1991 was 12 days, with one third of inpatients being hospitalized for more than 15 days. In 2013, the maximum length of stay was 39 days, the clinic being now considered one that provides medical assessment, diagnosis and intervention for acute pathology. Out of all the patients admitted in 2013, 60.7% had a hospitalization of 8 days or less, and only 4% of the inpatients stayed in hospital for more than 15 days. There are several factors that have contributed to the large decrease in length of stay, which include: the transition from inpatient to outpatient services, the development of healthcare financial management including strategies and policies to improve cost-effectiveness, the emergence of new drugs and therapies. There are other studies that have also reported a decrease in the length of stay in the last decades. In 2007, Case and colleagues showed that the average length of stay declined by 63% between 1990 and 2000, reaching an average length of stay of 4.5 (*Case et al., 2007*). A relevant aspect to be mentioned is the fact that, according to the limited structure of child and adolescent mental health network in Bucharest, and to the variety of functions performed by the clinic, not all the patients actually spent the entire period of hospitalization in the clinic. Depending on the required type of assessment and the characteristics of the intervention, children can be outpatients (day hospitalization) without spending the night in the hospital, but a monitoring system of these facilities still needs to be improved and structured. These findings are confirming some results of

the interviews with professionals form the Part I, the limited number of policies implemented in practice, the scarcity of human and financial resources.

As children get older and the change of pathology that comes with age is taken into account, the length of hospitalization increases, but this aspect is less recognizable in 1991 compared to 2013. However, in 1991 the only four pathologies whose median LOS exceeded 15 days are diagnoses with onset more common in adolescence than in childhood (i.e. Conduct disorders, Personality disorders, Mood disorders, Schizophrenia, schizotypal and delusional disorders). In 2013, almost 90% of the children diagnosed with ASD, had a length-of-stay of 8 days or less. The Externalizing disorders (ADHD and Conduct disorders) and the Internalizing disorders (Anxiety disorders-OCD, Dissociative and Somatoform disorders, Emotional disorders) showed a decrease in the period of hospitalization of less than 8 days, and an increase in hospitalisation periods of 9 to 15 days. Mood disorders, Schizophrenia, schizotypal and delusional disorders, Eating disorders and Dissociative and Somatoform disorders accounted for lower rates of short hospitalization, the median LOS in these cases falling into the 9-15 day interval. The results reported by other recent studies are slightly different. Thus, the reported length of hospitalization in Conduct disorders (11.8 days in 6-11-year-old children and 10.8 days in 12-17-year-old children) and Emotional disorders (10.9 days in 6-11 year- range, 8.1 days in 12-17-years-range) is higher than it is in the 2013 group; lower than it is in the group for Mood disorders (7.1-7.7); similar to these in case of psychosis (less than 30 days) (*Lasky et al., 2011; Meyers et al., 2010; Paruk e al., 2009; Gearing, Milan, 2005)*. Several of the above mentioned structuring features of the Romanian mental health network, including the lack of interim mental health facilities, are particularly important in what the length-of-stay analysis of this group is concerned. Therefore, the vast majority of subjects having less than 8 days of hospitalization, consisted of children with Neurodevelopmental disorders (e.g.ASD, ADHD, Mental retardation, Language developmental disorders) who are admitted in the acute care clinic instead of an outpatient unit, for clinical assessment and diagnosis process.

7.2.3. Part III – Quantitative study: Child and adolescent mental health and related factors in three groups – psychiatry, neurology and school groups (Child and Adolescent Mental Health study, CAMH study)

Family factors and family functioning

The manner in which a family functions represents an important factor of a child's mental welfare, whether we speak of children within the general population, or we refer to those with a background of somatic or mental disorders. This can be seen in an ever-growing number of studies on family functioning throughout the last decades, and through the massive efforts made by professionals in order to develop specific and efficient methods of measuring family stress and dysfunction.

Before drawing a conclusion about how a family functions in relation to their children's mental health issues, the main household features should be considered, taking into account the role of social and economic inequalities on the families' functioning status. Thereby, the household information was assessed using a structured interview (the Household Questionnaire) which offers data about a variety of aspects which influence the overall health of the family but also the clinical picture of the child. (*Murray et al. 2013, Goodman et al., 2005, Mullick et al., 2005*). Some of the important findings in these clinical groups that should be mentioned are that the vast majority of children in both groups (psychiatry, neurology) have parents with no history of health problems, most of them belonging to nuclear two-parent families, and more than two-thirds coming from high income households. The educational level of both parents is significantly

higher among the parents in the psychiatry group, almost one-third of fathers in both psychiatry and neurology groups report alcohol abuse and one-fourth of families experience physical violence. Lower educational and income level families search less medical help for their children due, mostly, to the lack of information refering to mental health problems (which limits their ability to identify their children's problems) and reffering to the services access. Also a context of mental or somatic health problems of the parents, alcohol use, violence, and a higher degree of tolerability for mental health problems in children is usually present in families with lower educational and income level.

The evaluation of family functioning can be performed either from an objective point of view with observer-rated instruments, or from a subjective perspective with self-reported questionnaires. The assessment tools which directly address a family member are preferred by most researchers, because they offer a clearer view of the way in which the family experiences existing problems (*Tamplin, Goodyear 2001*). Thus, the Family Assessment Device used in the present study, analyses the profile of existing relationships between the family members, using six scales which evaluate specific domains of functioning and one scale which reflects the overall adaptation (general functioning). (*Epstein et al., 1983*)

Existing studies have shown that there are many factors that can contribute to poor family functioning, including socio-economic hardship, family structure, physical or mental health problems of parents or children, negative life events, etc.

A key research direction in this study was to evaluate the impact of socio-demographic factors, as assessed with the help of the Household Questionnaire (*Goodman, 2005*) on different aspects of family functioning, using parents of clinical-referred children as raters.

Taking both groups together, the significant differences in family functioning were found to be related to family structure and complexity, the father's use of alcohol, the mother's and the father's employment status and the presence of verbal and physical violence in the family. A large Canadian study (*Freistadt, Strohschein 2013*) on 6,223 families has also revealed significantly lower family functioning levels within single-parent households than in stable two-parent households. The father's use of alcohol, the mother's employment status and the presence of violence were reported in both clinical groups (psychiatry and neurology). The type of violence, identified as a contributing factor to a high level of family dysfunction was instead different: verbal in neurology group and physical in psychiatry group.

Not as expected, given the results of other studies, the family functioning in these groups did not vary according to family income. *Herzer et al.* in 2010, using parents of children with five different chronic conditions as respondents, reported that lower household income is related to poorer family functioning and the results of another study pointed out that for men only and not for women, a lower current income is associated with a more negative perception of family.(*Tiffin et al., 2007*).

An in-depth analysis within the recruited families, regarding the impact of different family factors on the perceived specific aspects of family functioning, showed the following: The abilities to convey clear and directive verbal messages (Communication) differ according to the presence of physical violence in the family, family complexity and the father's use of alcohol; The capacity of performing behaviors to fulfill the needs of the family members (Roles) vary according to the father's employment status and the presence of physical violence in the family; The ability to give adequate affective responses (Affective responsiveness) differs according to: the presence of physical violence in the family, family complexity and the father's use of alcohol; The capability of showing interest and caring to one another (Affective involvement) has

been found to be influenced by family structure and father's use of alcohol; The capacity of maintaining standards of behavior within the family system (Behavior control) varies only according to the mother's employment status; The overall General functioning has been found to vary according to almost the entire range of family factors, including: presence of physical violence, family complexity, father's use of alcohol and the mother's employment status.

Child and adolescent mental health problems (psychiatry, neurology and school groups)
Severity of problems. As it has been suggested by Achenbach and Rescorla in 2001, the analysis of parent- and self-reported child mental health problems was mainly conducted using raw scores in order to obviate having truncated data. The usage of T scores still remains a useful tool when dealing with clinical groups rather than with community ones, as it has been previously emphasized in various researches (*Handwerk et al., 1999*). Thereby, each of these two sections (parent- and self-ratings) start with an overview on the severity of the child's problems through the assignment in normal, borderline and clinical ranges of CBCL Total problem scores and its broadband Internalizing and Externalizing scales and also on SDQ Total Difficulties scores and its subsequent Emotional and Conduct scores.

As expected, the procedure revealed more parent-reported Total problems in the clinical range in the psychiatry group, twice as many as those reported in the neurology group. Furthermore, CBCL Internalizing problems and SDQ Emotional symptoms fell more frequently in the clinical spectrum within the neurology subjects while the CBCL Externalizing problems and SDQ Conduct problems were more often scored in the abnormal range by parents included in the psychiatry group, results which are consistent with the following analysis of raw scores.

By encompassing the self-rated reports of the subjects enrolled in the school group along with the clinical groups, it has been noticed that clinical problems in the psychiatry group were five times higher than in the school group. Thus, the adolescents included in the psychiatry group have reported more problems in the clinical domain on all the above mentioned subscales when compared to youth in either the neurology or school groups. The only exception to the observed pattern was found in regards to the SDQ Emotional symptoms in the abnormal range which have been reported equally by adolescents in both clinical groups.

The children's problem scores in psychiatry and school groups, reported either by parents or by adolescents themselves were, mostly, comparable to published values regarding clinical and normal populations (*Achenbach, 2001*). However, particular trends of boys' scores observed in both age groups and both patient groups, reported either by parents or by adolescents, shall be mentioned. Until now, no values have been reported for Romanian child psychiatric population, existing data referring only to healthy children, which are comparable to those in worldwide studies, with the exception of higher Internalizing scores in 12-18-year-old boys (*Ivanova et al., 2007*).

In 6-11-year-old boys within the psychiatric group, the parents reported CBCL Total problems, Externalizing (i.e. Aggressive behaviour) and Internalizing (i.e. Anxious and Withdrawn) scores significantly lower than ASEBA manual scores (*Achenbach, 2001*). Hence, considering the sample size, these lower scores could be interpreted as a cultural awareness of mental health issues at young ages, which determine the referral of children to mental health services even for low intensity problems, especially taking into consideration that this age interval represents the primary school years. In 12-18-year-old boys, Total Problem, Rule Breaking Behaviour and Somatic Complaints sores had meaningful higher scores, in both psychiatry and school as reported by adolescents. On the other hand, this higher Internalizing subscale score for adolescent

boys compared to ASEBA manual scores, reported by parents and by adolescents, confirms the results obtained regarding the Romanian healthy population (*Ivanova et al., 2007*).

Confirming the results reported by parents in 31 societies, within the psychiatric group, as children get older, the Internalizing problems increase significantly and the problems of hyperactivity / inattention decrease (*Rescorla et al., 2007*). Furthermore, the Internalizing problems in the psychiatry group increase more in boys than in girls. Based on the theory of greater interpersonal vulnerability of adolescent-girls, there are studies that have reported a higher increase of internalizing problems in girls compared to boys. (*Leadbeater et al., 1999*)

The CBCL problem scores reported by parents of children in the neurology group were higher than those for healthy children, found in the scientific literature (*Achenbach 2001, Ivanova 2007*). The majority of the scores were borderline, being outside the clinical range, with few exceptions. Though, the Internalizing and Social problems scores were significantly higher, falling into the interval of clinical values. Although parents describe clinical-intensity problems, until now these children haven't been referred to psychiatric evaluation. A distinct result is reported for Somatic complaint scale, which identified that scores fall into the clinical range in both genders and age groups, but is justified by the inclusion in the neurology group group. Given the small group size, the girls' self- and parent- reported rates within the neurology group were similar to those of the healthy population on all the scales, except for the Somatic complaints scale.

Through a clinical perspective, the parents of children in the psychiatric group reported a global impairment of the children (Total score) and Externalizing problems. The parents of children in the neurology group mostly reported internalizing problems, as being the problems that they noticed or which were bothering them.

Intrafamilial violence. Significantly higher sores on various CBCL and SDQ scales were reported for subjects coming from families in which violence occurs, including physical and verbal maltreatment, both witnessed and experienced. The result is consistent to those that have emerged in 118 studies, included in a meta-analytic review by Kitzmann and colleagues, showing a significant correlation between the child's exposure to violence and their psychosocial outcomes. The authors have also concluded that there is no meaningful difference between the problems of children who witness abuse and abused children. (*Kitzmann et al., 2003*)

Higher levels of internalizing problems were reported for children and adolescents coming from families experiencing violence, when having a father with a low level of education or one abusing alcohol, and for those being part of a low income family. All of these possible associations have been previously highlighted by researchers studying the influence of certain family factors to the children's mental health. In 2000, Shahinfar and colleagues analysed the behavioural correlations of violence exposure and concluded that internalizing problems is more likely to occur in children who had witnessed violence *(Shahinfar et al., 2000)*. In addition, the effect of low family income increasing the likelihood that children will develop internalizing problems has been mentioned in numerous studies (*Shaw et al., 1997; Dearing et al., 2006*) and, moreover, that children of alcoholic parents are at increased risk for depression and anxiety. (*Eiden et al., 2009; Hussong et al., 2008*)

Another finding of this study reveals that, when physical or verbal violence occurs in the family, children are likely to have high levels of externalizing problems. A series of articles in this field, have demonstrated that chronic violence exposure is associated with high rates of externalizing behaviour problems in children and in adolescents (*Osofsky et al., 1993; Friedman, 1999; Fitzpatrick, 1993; Evans 2008*). On the other hand, McCabe and colleagues, in a study conducted on 423 adolescents, emphasize on the importance of community violence, rather than of child

maltreatment or parental violence, as contributors to the development of conduct and externalizing problems. (*McCabe et al., 2005*)

Furthermore, peer difficulties were significantly higher among subjects being part of low income families, when having a father abusing alcohol or when violence occurs in their families. The scores in CBCL total problems scale and SDQ total difficulties score, used as measures of the global psychological impairment, have been found to have significantly higher levels depending to the following: male gender, the presence of verbal or physical violence in the family and the low level of the father's education.

The CBCL and SDQ scores varied mostly according to the same types of family factors in both clinical groups. Still, there were certain determinants documented only in the psychiatric group (i.e. father's low educational level) or in the neurology group (the presence of mother's health problems). This last result of the effects of the mother's health problems on the child's mental health problems is consistent with the results reported in a recent study made on Romanian child population (*Gleason 2011*).

As mentioned above, another potential factor contributing to poor family functioning could be the experience of illness in the family. Currently, it has been stated that a child's chronic condition, either physical or mental, has a potential negative impact not only on the patient but also on the family. The Family Assessment Device has been used extensively in clinical paediatric subjects in families of children with cancer, diabetes, asthma, primary headaches, traumatic brain injuries, inflammatory bowel disease etc. (*Eccleston et al. 2012)*

Family functioning. This study attempted to identify potential associations between children's mental health problems reported both by parents and themselves, and various aspects of family functioning. A first important point to note is that, in contrast to previous studies, the family functioning scores within the two clinical groups (psychiatry and neurology), fall within the normal range („healthy families"), in almost the entire range of functioning aspects except for the Control behaviour problems (*Miller 1985; Epstein 1983*). This result, once again, emphasizes on the important role of cultural differences in the way families perceive their strengths and problems.

In the psychiatric group, all child mental health problems were found to significantly correlate with different family functioning aspects. Still, the identified correlations were different between children's and parents' reports.

With parents as raters of child mental health problems, the internalizing disturbances were mostly correlated to different aspects of family functioning. All the child mental health problems were significantly correlated with FAD Roles. Boys had more significant associations than girls (girls' internalizing problems correlated only with FAD Roles scale score whilst boys' were related to four aspects of family functioning: Problems solving, Communication, Roles, Affective Responsiveness). Stein and colleagues studied the interrelation between a child's depression and his/her parents' perception on their family functioning. They have also documented significant correlations, with regard to Behavioural Control and General Functioning in case of fathers' reports and on Roles and Affective Involvement in the case of mothers' reports (*Stein et al., 2010*).

With adolescents as raters of their own mental health problems, externalizing and attention/ hyperactivity problems were significantly correlated with family functioning. These associations occur in the boys' group only and are established between: both externalizing and attention/ hyperactivity problems with Problems solving, and General functioning; only externalizing

problems with Roles, and only attention/ hyperactivity problems with Communication, Affective Responsiveness. The interrelationship between the child's externalizing and attention deficit/hyperactivity problems and the level of family dysfunction has also been documented in a Turkish study conducted on 28 children with ADHD and comorbid Conduct disorder and their families. Their results were comparable to those obtained in this study, with high scores at the level of "unhealthy functioning" in the Roles but also in the Behaviour Control subscales of the FAD (*Kilik, Sener 2005*).

As expected, in the neurology group, there were only a few correlations between child mental health problems and family functioning. Children within this group have less clinical-intensity mental health disturbances, most of them being linked to somatic illness.

With parents as raters, Internalizing problems (with regards to Anxious and Withdrawn problems) and Social functioning have been related to different types of family dysfunction. In girls, the child mental health problems established an important relationship with the Communication and Affective responsiveness, as family functioning characteristics. Among boys, social problems are correlated with many aspects of family functioning.

With adolescents as raters of their own mental health state, a limited number of significant correlations have been found between certain types of mental health problems (conduct problems within the externalizing issues, withdrawn and somatic complaints within the internalizing issues, and social problems) and almost the entire range of family functioning aspects.

A particular feature of this study is that the patients included in it were children with different types of mental disorders and that the relationships with family functioning were analysed through a general perspective, that is the existence of a child with a mental illness in the family. Most research literature on the connection between the child's mental health and family functioning, has been carried out on a single spectrum of psychiatric disorders, such as: Autism Spectrum Disorders, ADHD, Substance Use disorders, Social phobia, Eating Disorders, Anxiety disorders, Depression (*Johnson et al., 2011*; *Dancyger et al., 2005*; *Ghanizadeh, Shams 2007*; *Knappe et al., 2009; Hughes, Hedtke, Kendall, 2008*; *Stein et al., 2000)*

This section on child and adolescent mental health problems ends with an analysis of the correspondence between different informants' reports. The ratings in the psychiatry group identified a pattern of disagreement with adolescents scoring higher in almost all the ASEBA symptom scales. Hence, the differences were not significant, and this could be mainly due to the small data included in this comparative procedure. On the other hand, the reports on difficulties revealed meaningful higher scores when using parents as raters, especially in Hyperactivity-, Peer- and Total Difficulties- SDQ scores. Reviewing the studies carried out regarding the degree of consistency between parent- and youth- reports, it could be easily noticed that there is no consensus among different inquiries. For instance, a study conducted on 1,718 clinically referred subjects between the age 11 and 18 showed that parents reported significantly more problems than their children (*Selbach-Andrae et al., 2009*), while another study among 580 15- to 16-year-old adolescents found less problems in parents' reports (*Sourander et al., 1999*).

Another finding, consistent with other previous publicated results, is the low-moderate and positive correlations between cross-informants, this pattern being detected in most of the ASEBA Syndrome Scales and in three of the SDQ scales (Emotional, Conduct, Hyperactivity). This last phase in the analysis of child mental health and of its relationship with potential contributing factors highlighted once more the relevance of including multiple informants when running clinical studies surrounding children.

Child and adolescent mental health competencies (psychiatry, neurology and school groups)
The children's competencies assessment, including multiple area of functioning, is an important part of the psychic evaluation. This stems mostly from the fact that although usually a negative correlation is established between a child's levels of problems and competencies (the higher the problems, the lower the competencies), there are still some children scoring high/low on both competence and problem scales. Thereby the CBCL competence scales provide a better look on the way a child functions, taking into account his/her social interactions, friendships, academic performances, sports and hobbies. Considering the SDQ Prosocial behavior as counterpart to other negative behaviors, the subscale has also been included in this analysis of the child's strengths and competencies.

By assigning normalized T scores for each competence scale and also for the Total Competence score, the purpose was to group the child's competencies in three ranges of severity (normal, borderline, clinical) in order to provide an overview of each group pattern of competencies and a coarse comparison between different groups or informants. Thus, in both psychiatry and neurology groups, most parents reported clinical levels of Total competencies and of School performances also, and half of them noted their child's Social Competencies into the same abnormal range. Adolescents within the psychiatry group, on the other hand, rated their competencies less severe with only one-third of them scoring the total competence scale in the clinical range, emphasizing the parent-youth disagreement previously described for problems assessment.

Integrating the results of this analysis among other scientific studies, led to the conclusion that the Children's CBCL Social competencies within the psychiatry group, were similar to those reported in relevant literature, in both genders and age groups (*Achenbach 2001*).On all the other CBCL competence scales, the 6-11-year-old children had significantly lower results than those obtained in other studies, while in 12-18-year-old children, the situation was less severe (girls have comparable scores on Activities and Total Competence Score and boys on the Total Competence Score). Scarce differences were found between boys and girls belonging to the same group, including the Prosocial behavior within the neurology group group which has been rated significantly higher in girls and the Activities scores in the psychiatry group which were greater in boys. A more extensive study including 1300-psychiatric inpatient subjects revealed numerous gender differences on specific competence items but without significant difference in total competence score (*Achenbach, Edelbrock, 1981*).

The boys and girls in the psychiatric adolescent group reported more reduced YSR competencies compared to those found in scientific literature (*Achenbach 2001*). These results were preserved in the school group, with one exception in the case of YSR social competencies, found to be comparable to those in the healthy Romanian population. Moreover, scores were significantly lower than those in ASEBA reports, except for the YSR Social Competence Scale that counted similar values in girls.

Adolescents' competencies within the neurology group were significantly more reduced than those reported in Romanian population, in both genders and age groups (*Ivanova 2007*). Compared to the values noted by the ASEBA manual, all the study results were significantly lower, except for the CBCL Social competence scores in 12-18-year-old boys and in girls of both ages. Studying Social Competence in paediatric epilepsy, Caplan and colleagues found that these children have similar scores in social interaction when compared to healthy control groups (*Caplan et al 2005*). Moreover, in both genders, the SDQ Prosocial behavior was rated significantly higher than it was in other published results.

As expected, the adolescents in both clinical groups have rated their competencies at a lower degree than youths in the school group, with the exception of the Prosocial behavior for which similar scores have be recorded from adolescents within the three groups.

A final part of the competence assessment focused on the way in which these scores could vary according to different household characteristics and, moreover, on the potential correlation with certain family functioning aspects. The analysis showed that the competence scores differ slightly depending on family factors, but only in parent-reports. Some of the important findings to be mentioned here are the high levels of School competencies in children being part of extended families, higher Social competencies in youth from two-parent families and a greater Prosocial Behaviour when having an employed father.

According to parent-informant reports the whole spectrum of competencies negatively correlate with almost the entire range of family functioning domains (except for the General Functioning) but when having the adolescent as a self–rater for his/her competencies it was only the Social domain that negatively correlated with the ability of family members to communicate. Instead, the neurology group did not reveal any significant correlation, but it is possible that these results may have been affected by the small number of subjects in this group, having collected data with both required instruments.

Even though no similar data have been found due to the lack of research studies on this topic, these results point out, once again, the importance of considering the socioeconomic status and the family environment when assessing a child's overall competencies.

8. IMPLICATIONS AND CONCLUSIONS

In the studies conducted for this dissertation, it was possible to demonstrate the following:

1. The Child and Adolescent Mental Health System in Romania is definitely and finally set on the path of reorganization after the occidental pattern. Still, a major challenge of Child and Adolescent Mental Health in Romania is the network restructuring in accordance with European standards, by the development of outpatient facilities (by increasing the number of units, professionals and extending the types of services).

2. The implication of the parents in the activities of mental health of children has played an essential role in the changes that have taken place in the Romanian mental health service delivery system, by the development of NGOs which involved in prevention and in psychotherapeutic services. Still, the most important challenge for Child and Adolescent Mental Health in Romania is the limited level of education of the entire society regarding mental health.

3. The characteristics of the patients admitted within the timeframe of 12 months in the Child and Adolescent Psychiatry Clinic have radically been changed between 1991 and 2013. Outstanding differences could be observed in the frequency of various child mental health disorders. While in 1991 the dissociative/ somatoform disorders were the most frequently diagnosed diseases in the clinic, in 2013 the Autism spectrum disorders had the highest rate (44.2%). The rates of admitted diagnoses in 2013 (e.g. ADHD, Mood, Conduct) within the clinic, as well as the pattern of comorbid conditions confirm the reports in scientific literature

4. One of the major changes that have occurred in Child and Adolescent Mental Health in Romania is related to the way the diagnoses are established and formulated, from an unstandardized, unreliable and subjective way in 1991 to the one currently existing, based on the ICD 10 criteria and standardized instruments, a system similar to many others in the European Union.

5. A drop in the duration of hospitalization occurred between 1991 and 2013 explained by the major shift in pathology and by the lack of specific administrative rules in 1991. Moreover, the length of stay in the hospital in 2013, still differs from the ones stated in scientific works due to the fact that the clinic plays a double role: that of outpatient and inpatient care unit.

6. The child mental health problems in both psychiatry and school groups, reported either by parents or by adolescents themselves are, in their majority, comparable to those reported by other studies around the world, in clinical and normal populations.

7. The mental health state of children with neurological disorders was confirmed to be more fragile than that of healthy children, reaching clinical thresholds sometimes and necessitating an adequate screening and the development of adequate child intervention programmes.

8. Almost two-third of parents, within the two clinical groups (psychiatry and neurology) perceive their general family functioning as being “unhealthy”, emphasizing the important role of cultural differences in the way families perceive their strengths and problems. High levels of internalizing, externalizing and social problems were identified among subjects coming from families in which violence occurs, including physical and verbal maltreatment, either witnessed or directly experienced.

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11. APPENDICES

Appendix I. Romania in Europe and the administrative map of Romania

Appendix II. The general legal framework (general policies) related to child and adolescent mental health in Romania

The following **general legal framework (general policies)** related to child and adolescent mental health in Romania are available:

- Poverty and social exclusion [Law 74/1999 Law for adopting revised Social European Charta, Strassbourg, 3 May1996]
- Social welfare (e.g. benefits and payments for disabled) [Law 448 / 2006 about protection and promotion of persons with handicap rights]
- Child protection policies [United Nations Convention on the Rights of the Child (ratified by Romania in 1990 by Law 18/1990; Law 272/ 2004 about protection and promotion of child rights]. The child protection policies are integrated within social and family policies: allowance for newborn children, the state allowance for children under 18, allowance additional family support allowance for single parent families, allowance for raising under 2 years old child, parental leave for child under 2 years, allocation for child placement in special protection system.
- Optional Protocol to the Convention on the Rights of the Child on the Sale of Children, Child Prostitution and Child Pornography, done at New York on September 6, 2000, ratified by Law no. 470/2001.
- Council of Europe Convention on Action against Trafficking in Human Beings, adopted on 3 May 2005, opened for signature and signed by Romania in Warsaw on 16 May 2005, ratified by Law no. 300/2006.
- ILO Convention no. 182/1999 on the Worst Forms of Child Labor and Immediate Action for the Elimination adopted at the 87th session of the General Conference of the International Labor Organization in Geneva on 17 June 1999, ratified by Law no. 203/2000.
- Memorandum of Understanding between the Government and the International Labour Organization on child labor elimination, signed at Geneva on 18 June 2002, approved by Decision no. 1156/2002.
- ILO Convention no. 105/1957 on the Abolition of Forced Labour, ratified by Law no. 140/1998;
- Recommendation 19/2006 of the Council of Ministers of the Council of Europe Member States on policies intended to support positive parenting;

- Recommendation No. 5 of the Committee of Ministers of the rights of institutionalized children (2005).
- Nr.1.286 Recommendation of the Parliamentary Assembly of the Council of Europe on a European strategy for children (1996)
- Education and school programs (e.g., school age, availability) [Law 1/2011 Education Law, School programmes for pre university education for each subject]. As part of the change process of education in Romania, the curriculum of kindergarten pupils changes since 2009.
- Day care legislation/policy for pre-school children [Law 1/2011 Education Law]
- Adoption, fostering policies [Law 273/2004 Adoption Law, Law 272/ 2004 about protection and promotion of child rights]
- Divorce and custody policies [Law 288/2007 for modifying Law 4/1953 – Family Code]
- Urbanisation policies (e.g. growth & expansion rates of towns, cities & their infrastructure) [Law 100/2007 for modifying and completion Law 351/2001 about approbation of Plan for improvement of national territory]
- Housing (e.g. state provided housing for certain groups, etc.) [GD 669/ 2006 about approval of National Strategy for social inclusion of young persons who leave child protection system, Law 416/2001, about minimum guarantee income, Law 12/2007]
- Anti discrimination (e.g., race, gender, disability, etc.) [Law 27/2004 about approbation of GD 77/2003 for modifying and completion GD 137/2000 about prevention and punishing all forms of discrimination]
- Principles for the protection of persons with mental disorders and improving mental health care contained in Resolution 46/119 of the UN General Assembly on 17 December 1991.
- Laws governing child and adolescent mental health: Law 487/2002, The Law of mental health and for protection of persons with mental disorders
- The Applications Norms of The Law of mental health and for protection of persons with mental disorders (2006)
- Law 151 / 2010 The Integrated specialized services to persons with autistic disorder
- Convention on Human Rights and Fundamental Freedoms and the Additional Protocols to the Convention, ratified by Law no. 30/1994.
- Revised European Social Charter, adopted in Strasbourg on 3 May 1996, ratified by Law no. 74/1999

- Resolution of the Council of Europe member states and representatives of the governments in the Council on the Equalization of Opportunities for Persons with Disabilities (1996).
- Standard Rules for Equalization of Opportunities of Persons with Disabilities (1993).
- Mental Health Strategy by the Ministry of Health of Romania July 2004
- National Strategy for Protecting and Promoting Children's Rights 2008-2013

Appendix III. The specific policies for child and adolescent mental health in Romania

The following following **specific policies for child and adolescent mental health in Romania** are available:

- The are available: action plan and National strategy for promotion and protection children rights,
- National action plan for implementing National strategy for Mental Health of Health Ministry, National Program of Mental Health- Subprogram for prophylaxis in psychiatric and psychosocial pathology (started in May 2007)
- National strategy for Protecting and Promoting Children's Rights 2008-2013
- National Program for Women and Child Health 2011
- National program for monitoring the determinants of living and working environment- Subprogram on protecting public health by preventing diseases associated factors risk determinants of living and working environment
- National program evaluation and health promotion and health education: Subprogram for promoting a healthy lifestyle; Subprogram for health surveillance of the population
- Programmes intending to improve life skills (education in life skills, socio emotional learning, etc.) [National Program „Education for Health into Romanian “, 2002].

Appendix IV. The point prevalence of diagnosis by age group in The Centaur Study of child and adolescent psychiatry disorders epidemiology, Romania, 1981-1984 (*Grigoroiu Serbanescu et al, 1999*)

	Diagnosis	Age				
		0-2	**3-5**	**6-9**	**10-11**	**12-16**
1	**Language. Develop. retard**	9 (.46%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
2	**Language. Devel. Dis. - R**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
3	**Language Devel. Dis. - E**	2 (.10%)	1 (.03%)	0 (0%)	0 (0%)	0 (0%)
4	**Dislexia**	0 (0%)	0 (0%)	9 (.23%)	2 (.10)	8 (.20%)
5	**Devel. Arithmetic Disord.**	0 (0%)	0 (0%)	4 (.10)	8 (.16%)	4 (.10%)
6	**Borderline Intelligence**	2 (.10%)	36(1.24%)	179 (4.53%)	90(4.65%)	161(3.94%)
7	**Mild Mental Retardation**	2 (.10%)	25 (.66%)	65 (1.64%)	69(3.57%)	111(2.72%)
8	**Moderate Ment. Retardation**	1 (.05%)	3 (.10%)	14 (.35%)	6 (.81%)	10 (.24%)
9	**Severe Ment. Retardation**	3 (.15%)	4 (.14%)	6 (.15%)	3 (.16%)	3 (.07%)
10	**Profound Ment. Retard.**	5 (.26%)	8 (.28%)	9 (.23%)	3 (.16%)	2 (.05%)
11	**Unspecified Ment. Retard.**	9 (.46%)	9 (.31%)	9 (.23%)	6 (.31%)	2 (.05%)
12	**Stuttering**	2 (.10%)	19 (.66%)	34 (.86%)	12 (.62%)	19 (.47%)
13	**Elective mutism**	0 (0%)	7 (.24%)	3 (.08%)	1 (.05%)	0 (0%)
14	**Chronic tics**	1 (.05%)	12 (.41%)	37 (.94%)	15 (.78%)	22 (.54%)
15	**Tourette's disorder**	0 (0%)	0 (0%)	0 (0%)	1 (.05%)	1 (.02%)
16	**Sleep terror disorder**	1 (.05%)	20 (.69%)	33 (.84%)	19 (.98%)	14 (.34%)
17	**Sleepwalking disorder**	0 (0%)	5 (.17%)	11 (.28%)	13 (.67%)	15 (.37%)
18	**Anorexia nervosa ***	0 (0%)	0 (0%)	0 (0%)	1 (.10%)	1 (.04%)
19	**Bulimia nervosa**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
20	**Primary enuresis**	0 (0%)	26 (.90%)	164 (4.15%)	49(2.53%)	39 (.95%)
21	**Secondary enuresis**	0 (0%)	4 (.14%)	28 (.71%)	10 (.52%)	4 (.10%)
22	**Primary encopresis**	0 (0%)	1 (.03%)	3 (.08%)	0 (0%)	1 (.02%)
23	**Secondary encopresis**	0 (0%)	2 (.07%)	1 (.03%)	3 (.16%)	1 (.02%)
24	**ADHD**	6 (.31%)	107(3.7%)	194 (4.91%)	76(3.93%)	105(2.57%)
25	**Conduct disorder**	0 (0%)	1 (.03%)	14 (.35%)	30(1.55%)	67 (1.64%)
26	**Oppositional disorder**	0 (0%)	29 (1.0%)	48 (1.21%)	19 (.98%)	41 (1.0%)
27	**Mixed. dis. emotion.& conduct**	0 (0%)	9 (.31%)	39 (.99%)	14 (.72%)	18 (.44%)
28	**Adjd. depressive mood**	0 (0%)	0 (0%)	2 (.05%)	0 (0%)	5 (.12%)
29	**Adjd. anxious mood**	0 (0%)	1 (.03%)	6 (.15%)	2 (.10%)	3 (.07%)
30	**Adjd. conduct disord**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
31	**Adjd. affect. & conduct.**	0 (0%)	1 (.03%)	5 (.13%)	2 (.10%)	6 (.15%)
32	**Adjd. depress. & anxious**	0 (0%)	1 (.03%)	1 (.05%)	4 (.21%)	8 (.20%)
33	**Adjd. acad. inhibition**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (.05%)
34	**Adjd. withdrawal**	0 (0%)	4 (.14%)	16 (.48%)	9 (.47%)	15 (.37%)
35	**Unspecified emotional dis.**	10 (.51%)	55(1.90%)	107 (2.71%)	27(1.40%)	40 (.98%)
36	**Separation anxiety**	1 (.05%)	7 (.24%)	7 (.18%)	3 (.16%)	7 (.17%)
37	**Overanxious disorder**	0 (0%)	3 (.10%)	25 (.63%)	14 (.72%)	27 (.66%)
38	**Paranoid personality**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (.02%)
39	**Schizoid personality**	0 (0%)	0 (0%)	0 (0%)	1 (.05%)	3 (.07%)
40	**Schizotypal personality**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (.02%)
41	**Compulsive personality**	0 (0%)	0 (0%)	0 (0%)	6 (.31%)	3 (.07%)
42	**Histrionic personality**	0 (0%)	0 (0%)	7 (.18%)	1 (.05%)	14 (.34%)
43	**Dependent personality**	0 (0%)	0 (0%)	74 (1.87%)	36(1.86%)	68 (1.67%)
44	**Unstable personality**	0 (0%)	0 (0%)	2 (.05%)	2 (.10%)	7 (.17%)

45	**Explosive personality**	0 (0%)	0 (0%)	4 (.10%)	1 (.05%)	4 (.10%)
46	**Hysteric. dis. conversion**	0 (0%)	0 (0%)	1 (.03%)	0 (0%)	8 (.20%)
47	**Hysteric. dis. dissociative**	0 (0%)	0 (0%)	1 (.03%)	0 (0%)	0 (0%)
48	**Phobic disorders**	0 (0%)	3 (.10%)	26 (.66%)	15 (.78%)	26 (.64%)
49	**Obses-compulsive disorder**	0 (0%)	0 (0%)	1 (.03%)	2 (.10%)	5 (.12%)
50	**Dysthymic disorder**	0 (0%)	1 (.03%)	12 (.30%)	9 (.47%)	20 (.49%)
51	**Neurasthenia**	0 (0%)	0 (0%)	1 (.03%)	0 (0%)	1 (.02%)
52	**Cyclotymic disorder**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
53	**Hypomaniac disorder**	0 (0%)	0 (0%)	1 (.03%)	2(.10%)	1 (.02%)
54	**Bipolar disorder**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (.05%)
55	**Infantile autism**	1 (.05%)	1 (.03%)	2 (.05%)	0 (0%)	0 (0%)
56	**Schizophrenia**	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Appendix V. The diagnostic terminology correspondence in 1991 and in 2013

ICD 10 Diagnoses		1991 Diagnoses
F07	Personality and behavioral disorders due to brain disease, damage and dysfunction	• post-traumatic cerebroasthenia • post cerebral contusion state • confusional-delusional state probably due to infection, with sequel background • post traumatic brain injury syndrome • post-traumatic confusional syndrome • psycho-organic syndrome • psychiatric disorders interparoxistic epilepsy
F20-29	Schizophrenia, schizotypal and delusional disorders	• acute / recurrent/ delusional/agitated confusional delusional/ discordant/ paranoid /hallucinatory-delusional/ agitated hallucinatory-delusional /catatonic psychotic episode • hebephrenic/ Paranoid schizophrenia • previously documented paranoid syndrome, in remission • psychotic crises • psychotic state with discordant elements • discordant/ simple discordant/ paranoid catatonic syndrome • paranoid catatonic syndrome in remission • endogenous psychosis, discordant affective type • manic episode with atypical episode (Schizoaffective disorder)
F30-39	Mood disorders	• depressive/ reactive depressive state • simple depressive syndrome • manic syndrome • catatonic psychotic episode on euphoric state • manic psychosis (Second episode) • bipolar affective disorder- depressive/ manic episode/ manic decompensation • hyperthimic delusional psychotic episode • bipolar affective disorder • bipolar affective disorder with atypical elements • acute delusional syndrome (endogenous manic episode)
F41	Anxiety disorders	• endogenous anxious-depressive/ anxious neurotic / anxious- depressive/ polymorphic neurotic/ polymorphic anxiety /acute anxious-depressive-obsessive episode • anxious/ anxious-depressive/ mixed neurosis • anxious depression • panic crises/ attacks • neurotic disorders • anxious/ neurotic/ anxious-depressive reaction • school phobia/ dropout/ difficulties on emotional background
F42	Obsessive-compulsive disorder	• obsessive-phobic syndrome/ neurosis/ disorder • obsessive-compulsive syndrome • impulsive-obsessive syndrome • obsessive manifestations/ crises/ syndrome

F43	Reaction to severe stress, and adjustment disorders	• pubertal behavior disorder with reactive increase • reactive behavior disorder • reactive states • pubertal disturbances • reactive depressive episode • depressive reaction during adolescence • adolescence crisis in family context • maladaptative reaction • pubertal independence reaction • adolescence neurotic disturbances • psychogenic behavioral reaction in adolescence • functional crises in adolescence • reactivity disturbances in adolescence • aggressive reaction. reactivity problems • reactivity disturbances in adolescence in context of psychopathy
F44	Dissociative [conversion] disorders	• reactivity disorder with functional crises • conversion disorder • functional reaction on sequelar background • reactivity disturbances in tense environment • neurovegetative/ functional / affection crises • functional / polymorphic functional disturbances • reactivity changes on borderline intelligence background • reactive/ subacute reactive/ confusional state • neurovegetative dystonia • crises of functional manifestations/of loss of consciousness of vegetative origin/ of non-convulsive loss of consciousness • functional reactivity changes/ elements/ symptoms in family context • vegetative/ polymorphic fainting/ previously documented functional crises • co-occurring functional features • psychogenic reaction/ behavior disorder • demonstrative features • functional disturbances with tendency to secondary benefits • hypocalcemia symptoms secondary intesified • intention body tremor • latent spasmophilia
F45	Somatoform disorders	• cenesthopathic/ functional vertigo crises • functional/ psychogenic cephalalgic syndrome • functional cephalalgia • paroxysmal headache with neurovegetative symptoms • psychogenic migraine/ transient cenesthopathic syndrome
F48.0	Neurasthenia	• astheno-depressive neurotic/ cerebroasthenic syndrome • astheno-depressive neurosis/ development • asthenic syndrome with atypical features/ with polymorphic neurotic features • neurasthenic traits • fixed asthenia • neuroasthenic syndrome due to school strain • depressive neuroasthenia
F50.0	Anorexia nervosa	• anorexia nervosa
F51	Nonorganic sleep disorders	• sleep terrors • morpheic ambulatory automatism • ambulatory automatism • sleep disorder, ambulatory automatism type • paroxysmal sleep disorders

F60	Personality disorder	• disharmonic personality development, histrionic type/ unstable type • personality with disharmonic/ asthenic-depressive traits • introverted personality traits • conduct disorder with tendency to psychopathic structuring/ with characterial instability/ on unstable psychic background • psychotic intensity reactive state • unstable/ decompensated impulsive/ excitable personality • expansive-unstable personality development • neurotic/ psychopathic development • hysterical psychopathia • congenital instability • disharmonic unstable-hypomanic background
F63.3	Trichotillomania	• trichotillomania
F70	Mild mental retardation	• debility • mental debility • mild psychic retardation • simple delay • mild language and psychic delay • mild psychomotor delay
F71	Moderate mental retardation	• oligophrenia II degree • moderate psychic and language developmental delay • moderate psychic delay • moderate psychic and language delay • moderate psychic delay • moderate psychic retardation • moderate psychic deficiency • moderate psychomotor delay
F72	Severe mental retardation	• oligophrenia III degree • severe psychic and language delay • marked psychomotor development delay • severe psychomotor delay
F79	Unspecified mental retardation	• oligophrenia • psychomotor retardation • psychic retardation • psychic delay • psychic developmental delay • borderline intelligence • age-appropriate intelligence • normal-range intelligence • familial oligophrenia
F80	Specific developmental disorders of speech and language	• language underdevelopment • developmental dyslalia • minor speech deficits • mixed speech disorders • speech disorders • language disorders • mild delay of expressive language on lesional background
F81	Specific developmental disorders of scholastic skills	• scholastic difficulties • dysgraphia-dyslexia • instrumental deficit • instrumental difficulties

F84	Pervasive developmental disorders	• psychic delay/ psychomotor retardation/ critical mental delay / epilepsy with autistic features • autistic elements / features/ components/ traits/ syndrome • mild childhood autism • social interaction difficulties • psychomotor retardation, uneven appearance and specific features
F90	Hyperkinetic disorders	• psychomotor instability • hyperkinetic syndrome with aggressive behavior/ on sequel background • mental delay with hyperactivity • moderate instability • hyper excitability • agitation on hyperkinetic background
F91	Conduct disorders	• behavior disorders • minor behavior disturbances/ behavior disturbances with a tendency to structuring /with borderline intelligence • fixed aggressive behavior disorder with mixed etiology • fixed behavior disorders • mixed/ non-aggressive, non-socialized behavior disorder • behavior disorder in mental debility/ in mental delay • socialized conduct disorder with educational deficiencies • non-aggressive/ reactive non-aggressive socialized conduct disorder • socialized/ aggressive socialized behavior disorder • socialized behavior disorder on a disharmonic background • aggressive non-socialized conduct disorder • aggressive conduct disorder on hyperkinetic background • prepubertal behavior disorders • paroxysmal oppositional manifestation • pathological oppositional crises
F92	Mixed disorders of conduct and emotions	• mixed disorders of conduct and emotions
F94.0	Elective mutism	• elective mutism • voluntary mutism
F95	Tic disorders	• tic disorder • polymorphic tics • respiratory tics • tic neurosis • motor tics
F98.0	Nonorganic enuresis	• primary nocturnal enuresis
F98.1	Nonorganic encopresis	• encopresis
F98.5	Stuttering	• stuttering • tonic stuttering • clonic stuttering • stuttering related to psychogenic factors
R45.1	Restlessness and agitation	• crises of psychomotor agitation • agitation /psychomotor agitation state • episode of psychomotor agitation
Z55-65	Problems related to socioeconomic and psychosocial circumstances	• tense environment • family disorganization • social deficiencies • permissive upbringing • educational deficiencies • educational mistakes • deficiencies of authority • supervision deficiencies

Z91.5	Personal history of self-harm	• suicide attempt • intentional self-poisoning
	Other	• crises of ipsatie (ipsatie= childhood erotic self-stimulation behavior)
	Other disorders (neurological/ somatic)	• epilepsy • infantile encephalopathy due to pre- / peri- / postnatal factors • subacute sclerosing panencephalitis (PESS) • neurological disorders • physical illnesses • hypoacusia • deaf-muteness

Appendix VI. The tables presenting complete data output for Result Part III Child and adolescent mental health and related factors in three groups – child psychiatry, neurology and school groups (Child and Adolescent Mental Health study, CAMH study) see http://urn.fi/URN:ISBN:978-951-29-5991-4.

Appendix VI. Tables

Table 1. FAD scores in famillies with different Gender of the child

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Female	Male	p_value	Female	Male	p_value
Problem solving	10.5909± 3.5276	10.3962± 2.6699	0.7949*	9.5152± 2.4383 9.0000 median	10.4878± 3.6819 10.0000 median	0.2755**
Communication	18.5909± 4.3606	17.9074± 4.3967	0.5397*	17.0000± 3.2882	16.9756± 4.1382	0.9781*
Roles	23.5000± 4.7684	23.4717± 5.2828	0.9827*	24.7273± 3.2526 24.0000	24.5854± 4.7169 25.0000	0.9304**
Affective responsiveness	13.0000± 3.6121	12.3704± 3.9011	0.5168*	12.8485± 3.1930	12.8293± 3.2319	0.9797*
Affective involvement	14.5909± 2.8894	14.6111± 2.3745	0.9749*	14.4545± 3.4012	13.5366± 3.8542	0.2871*
Behavior control	20.2273± 3.4356	19.5926± 2.7232	0.3966*	20.3939± 4.6161	20.0244± 4.0465	0.7149*
General functioning	23.0000± 6.3546	22.6111± 6.9890	0.8221*	20.4545± 5.6684	21.7317± 7.0357	0.4010*

Table 2. FAD scores in famillies with different Family structure

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Single-parent family	Two-parent family	p_value	Single-parent family	Two-parent family	p_value
Problem solving	10.0000±2.1794	10.5238±2.9831	0.6141*	10.4615±2.2589	9.8438±3.2573	0.5170*
Communication	17.9000±4.7947	18.0317±4.3772	0.9307*	17.0769±4.2713	16.9844±3.8193	0.9380*
Roles	24.1000±5.7629	23.3226±5.1463	0.6640*	25.4615±3.7775	24.4688±4.3642	0.4477*
Affective responsiveness	11.8000±3.3599	12.6667±3.9226	0.5112*	13.6154±2.8148	12.7813±3.2634	0.3937*
Affective involvement	14.9000±2.9981	14.4762±2.4813	0.6272*	**16.3846**±3.7090	**13.4219**±3.6245	0.0091*
Behavior control	18.7000±2.3118	19.8571±2.9831	0.2461*	20.7692±4.2260	20.0781±4.3363	0.6004*
General functioning	22.4000±5.5618	22.5714±7.0727	0.9420*	22.8462±5.0637	20.6719±6.4317	0.2552*

Table 3. FAD scores in famillies with different Family complexity

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Extended	Nuclear	p_value	Extended	Nuclear	p_value
Problem solving	10.0000±2.8284	10.7619±3.0106	0.3033*	9.8400±3.2619	10.0217±3.2761	0.8237*
Communication	**16.5000**±4.5365	**18.9302**±4.1941	0.0270*	16.7600±3.9925	16.9348±3.8896	0.8583*
Roles	21.7308±4.9522	24.2857±5.3066	0.0521*	25.6400±3.9038	23.8696±4.3747	0.0956*
Affective responsiveness	**11.1923**±3.3349	**13.2093**±4.0741	0.0370*	13.3600±3.3897	12.4130±3.1239	0.2405*
Affective involvement	14.0385±2.7782	14.8140±2.4713	0.2324*	14.4000±4.0104	13.3696±3.5236	0.2663*
Behavior control	19.3462±3.3099	19.8372±2.6809	0.5024*	21.2000±4.6993	19.3261±3.9612	0.0792*
General functioning	**20.4615**±5.7357	**23.8605**±7.3601	0.0482*	21.5200±7.1070	20.5870±6.0794	0.5627*

Table 4. FAD scores in famillies with different Mother health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
Problem solving	10.3171±2.9448	11.4286±3.5051	0.3288*	9.8200±2.8692	10.4000±5.3996	0.6046**
				9.0000	9.5000	
	8.0000±1.7321	8.5000±0.7071		-	12.0000±0.0000	
					12.0000	
Communication	17.2683±3.9688	20.0000±5.9442	0.2289*	16.9000±4.0620	18.1000±5.0431	0.7259**
				17.0000	18.0000	
	14.6667±2.5166	15.0000±7.0711			19.0000±0.0000	
					19.0000	
Roles	22.4250±4.7225	24.2857±6.2640	0.7110*	24.5200±4.6390	24.7000±4.9677	0.9940**
				25.0000	24.0000	
	20.6667±2.5166	23.5000±7.7782			25.0000±0.0000	
					25.0000	
Affective responsiveness	11.4390±3.7752	14.4286±2.6992	0.1068*	12.7200±2.9280	13.1000±4.4585	0.8737**
				13.0000	13.5000	
	9.6667±2.0817	14.5000±0.7071			14.0000±0.0000	
					14.0000	
Affective involvement	14.2195±2.6973	15.5714±2.4398	0.4890*	13.6600±4.1826	14.9000±2.3781	0.2957**
				13.0000	15.0000	
	13.0000±1.7321	14.0000±1.4142			16.0000±0.0000	
					16.0000	
Behavior control	19.2927±3.1957	19.3333±4.1633	0.9955*	20.1400±4.6861	19.1000±3.8137	0.7210**
				20.0000	19.0000	
	19.0000±1.9149	19.0000±4.2426			22.0000±0.0000	
					22.0000	
General functioning	21.4634±6.3051	25.1429±9.3707	0.3120*	21.0800±6.1407	21.2000±9.6586	0.5297**
				21.5000	19.0000	
	16.6667±4.1633	23.5000±7.7782			25.0000±0.0000	
					25.0000	

Table 5. FAD scores in famillies with different Father health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
Problem solving	10.0638±2.9148	12.5000±3.3166	0.2772**	10.1455±3.4233	8.7143±2.2887	0.4861**
	13.0000±0.0000	8.0000±0.0000		9.0000	8.0000	
	13.0000	8.0000		11.0000±0.0000		
				11.0000		
Communication	17.7447±4.1518	20.2500±4.5735	0.2138**	17.4364±4.0358	16.1429±4.0591	0.3379**
	18.0000	18.0000		17.0000	14.0000	
	22.0000±0.0000	10.0000±0.0000		13.0000±0.0000		
	22.0000	10.0000		13.0000		
Roles	22.8511±4.8989	24.5000±3.6968	0.3837**	24.5091±4.6423	25.0000±2.9439	0.3694**
	23.0000	24.0000		25.0000	26.0000	
	28.0000±0.0000	18.0000±0.0000		19.0000±0.0000		
	28.0000	18.0000		19.0000		
Affective responsiveness	12.5745±3.9107	14.7500±3.0957	0.6312**	13.0727±3.2765	12.4286±3.1015	0.3871**
	12.0000	14.0000		13.0000	13.0000	
	14.0000±0.0000	14.0000±0.0000		9.0000±0.0000		
	14.0000	14.0000		9.0000		
Affective involvement	14.2766±2.5427	16.0000±1.4142	0.1408**	13.8000±3.7337	13.4286±4.8599	0.9453**
	14.0000	15.0000		14.0000	14.0000	
	20.0000±0.0000	13.0000±0.0000		13.0000±0.0000		
	20.0000	13.0000		13.0000		
Behavior control	19.8723± 2.9386	18.7500± 1.8930	0.2000**	20.1818± 4.4808	19.4286± 2.9358	0.5733**
	21.0000	19.5000		20.0000	19.0000	
	23.0000±0.0000	16.0000±0.0000		17.0000±0.0000		
	23.0000	16.0000		17.0000		
General functioning	22.4255±6.9930	26.5000±7.6811	0.4610**	21.6182±6.4678	16.8571±4.1805	0.1193**
	21.0000	23.0000		22.0000	16.0000	
	29.0000±0.0000	18.0000±0.0000		20.0000		
	29.0000	18.0000		20.0000		

Table 6. FAD scores in famillies with different Mother alcohol use

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Problem solving	10.5385±3.0469	9.0000±1.4142	0.4817*	10.0725±3.1591	-	-
Communication	18.1212±4.5624	17.0000±1.4142	0.7314*	24.7101±4.3626	-	-
Roles	23.4615±5.0624	20.5000±3.5355	0.4163*	12.7681±3.2091	-	-
Affective responsiveness	12.5758±3.9382	8.5000±0.7071	0.1511*	13.8841±3.8292	-	-
Affective involvement	14.5758±2.4749	13.5000±3.5355	0.5500*	13.8841±3.8292	-	-
Behavior control	19.8485±2.8406	17.0000±1.4142	0.1647*	20.0870±4.4250	-	-
General functioning	22.7273±7.1070	23.5000±4.9497	0.8796*	21.2029±6.6412	-	-

Table 7. FAD scores in famillies with different Father alcohol use

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Problem solving	10.6136±3.0133	10.3529±3.3155	0.7693*	9.5122±2.7397	10.4800±2.6160	0.1617*
Communication	17.6444±4.5982	19.5882±4.3597	0.1375*	**16.2683**±4.0375	**18.2400**±3.1395	0.0410*
Roles	22.8409±5.3176	24.5882±4.744	0.2412*	24.6585±4.5034	24.5200±3.9804	0.8997*
Affective responsiveness	12.5111±3.7877	12.8824±4.3858	0.7428*	**11.7805**±2.9792	**14.5200**±2.9029	0.0005*
Affective involvement	**14.1111**±2.4423	**15.6471**±2.8049	0.0381*	13.4878±4.0751	13.8000±3.0822	0.7428*
Behavior control	19.8222±2.5162	19.7647±3.5094	0.9430*	20.0976±4.6519	20.1200±4.2556	0.9844*
General functioning	22.0667±7.3094	24.6471±6.8733	0.2127*	**19.4146**±5.9160	**22.9200**±5.7440	0.0213*

Table 8. FAD scores in famillies with different Mother education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
	10.2857±1.8157	9.7241±3.1948	10.6842±3.3175	0.6296**	10.1935±3.6094	10.0833±3.17	8.4000±2.1909	0.5377*
Problem solving	10.0000	9.0000	10.0000					
Communication	18.5714±3.5239	17.1000±4.4517	17.6316±5.0245	0.5959*	17.0000±4.4121	17.5833±4.3230	15.4000±2.7019	0.5763*
Roles	24.4286±4.1642	22.6333±5.9913	22.8889±5.0746	0.5773*	25.5806±3.7307	23.8333±5.2640	21.8000±4.2071	0.1315*
	13.7857±1.9682	11.6333±4.1811	12.0526±4.6485	0.0930**	13.0968±3.2286	12.9583±3.3555	11.2000±2.7749	0.4800*
Affective responsiveness	14.0000	11.5000	11.0000					
Affective involvement	15.1429±2.4133	14.3667±2.4280	14.0526±2.3446	0.4276*	13.9677±3.3812	13.6250±4.0840	12.4000±4.0373	0.6795*
Behavior control	20.7857±2.6364	19.3000±3.0530	18.5789±2.7349	0.0974*	21.1290±4.2485	20.0417±3.6173	17.0000±5.8310	0.1148*
General functioning	23.7857±4.7585	20.7667±7.4077	23.0000±7.3333	0.3265*	21.6452±7.0595	22.0417±6.1748	17.6000±5.1284	0.3880*

Table 9. FAD scores in famillies with different Father education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
Problem solving	10.5455±3.2051	10.7619±2.7369	9.2308±2.0878	0.2641*	9.5294±3.5199	9.3333±2.5000	10.2500±1.5000	0.8821*
	18.1818±5.8961	17.6667±3.6788	16.2143±3.0929	0.4555**	15.5294±3.9705	16.5556±3.7454	17.7500±3.5000	0.5484*
Communication	18.0000	18.0000	16.0000					
Roles	23.8182±5.7414	23.1905±5.2784	21.8462±5.2891	0.6499*	24.2941±4.2977	22.5556±3.9	22.7500±5.1881	0.5762*
Affective responsiveness	13.7273±4.5846	11.3810±3.1540	11.0714±3.1000	0.1363*	12.4706±3.6932	13.0000±3.6056	13.0000±2.1602	0.9207*
	15.0909±2.4271	14.0952±2.8444	13.7143±2.2336	0.4053*	13.4118±3.2222	14.3333±1.6583	12.2500±4.5000	0.4871**
Affective involvement					13.0000	15.0000	12.0000	
Behavior control	19.2381±3.2234	20.1818±3.1565	19.1429±2.7972	0.6546*	21.0000±4.8862	21.0000±4.5277	15.7500±2.8723	0.1237*
	24.0909±8.7230	22.4762±6.7425	19.2143±4.2640	0.2149**	20.4706±6.0737	19.7778±4.6845	21.0000±4.5461	0.9238*
General functioning	25.0000	25.0000	20.0000					

Table 10. FAD scores in famillies with different Mother employment status

*** Student T** **** Mann-Whithey** ***** Chi-square** ******Fisher exact**	**GROUPS**					
Variable	**PSYCHIATRY**			**NEUROLOGY**		
	Absent	**Present**	**p_value**	**Absent**	**Present**	**p_value**
Problem solving	10.4000±2.4083	10.4286±2.9778	0.9835*	8.8333±2.2286	10.1273±3.2833	0.3519*
Communication	18.6000±4.9800	17.5789±4.5824	0.6366*	16.5000±4.9699	17.3818±3.8417	0.6055*
Roles	25.4000±3.6469	23.1607±5.4231	0.3710*	21.5000±4.0866	25.0000±4.1855	0.0561*
Affective responsiveness	12.0000±2.7386	12.0526±3.6763	0.9752*	11.3333±1.8619	13.2000±3.2398	0.1728*
	16.0000±2.3452	14.3158±2.4724	0.1480*	13.3333±1.6330	14.3455±4.0744	0.4142**
Affective involvement				13.0000	15.0000	
	22.4000±1.1402	**19.2105**±2.9745	0.0113**	**15.3333**±2.6583	**20.7091**±4.1619	0.0031*
Behavior control	22.0000	19.0000				
	22.4000±7.1972	22.1404±6.8983	0.9361*	16.1667±3.3116	21.9273±6.8065	0.0369**
General functioning				15.0000	22.0000	

Table 10. FAD scores in famillies with different Father employment status

*** Student T** **** Mann-Whithey**	**GROUPS**					
Variable	**PSYCHIATRY**			**NEUROLOGY**		
	Absent	**Present**	**p_value**	**Absent**	**Present**	**p_value**
Problem solving	-	10.2344±2.8991	-	7.0000±1.7321	9.8939±2.6668	0.0681*
Communication	-	18.0000±4.3265	-	13.6667±7.2342	17.2576±3.5790	0.1086*
Roles	-	23.3538±4.9826	-	**19.0000**±6.5574	**24.8333**±4.0935	0.0212*
Affective responsiveness	-	12.5538±3.7998	-	10.3333±1.5275	13.1970±3.1389	0.1227*
Affective involvement	-	14.7385±2.5756	-	11.0000±2.6458	13.9394±3.6580	0.1750*
Behavior control	-	19.9077±3.0348	-	18.3333±5.5076	20.2879±4.4020	0.4583*
General functioning	-	22.7077±6.8596	-	18.0000±3.0000	21.0152±5.9781	0.3906*

Table 11. FAD scores in famillies with different Victim of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Problem solving	10.8095±2.3795	9.8788±3.1201	0.2487*	9.9512±2.6641	10.5238±3.2034	0.4578*
Communication	17.7619±3.6181	17.7647±4.5730	0.9981*	17.4390±3.4860	16.5238±4.2851	0.3696*
Roles	22.6190±4.9140	23.1212±4.6688	0.7073*	25.3415±3.7987	24.7619±4.4599	0.5941*
Affective responsiveness	12.7143±3.4806	12.0588±3.8134	0.5251*	12.6829±3.0368	13.0476±3.1540	0.6602*
Affective involvement	14.1429±3.0543	14.8235±2.3416	0.3559*	14.0488±3.5843	13.8095±4.3199	0.8174*
Behavior control	20.0952±3.0316	19.1765±2.9896	0.2757*	20.8537±4.1204	20.4762±4.3545	0.7389*
General functioning	22.1905±5.6888	22.0882±6.8196	0.9544*	21.6098±6.2844	21.2381±6.0738	0.8244*

Table 12. FAD scores in famillies with different Victim physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Problem solving	10.0357±2.7282	10.3500±3.1166	0.7125*	10.2286±2.8808	10.7778±3.8763	0.5244*
Communication	16.9643±4.2902	17.8095±4.1547	0.4925*	17.6000±3.3184	16.8889±4.6931	0.4874*
Roles	21.8148±4.7234	23.1905±4.6219	0.3176*	24.7714±3.8278	26.0741±3.8921	0.1922*
Affective responsiveness	12.0357±3.4905	12.1429±4.3045	0.9238*	12.8857±2.9879	13.3333±3.2699	0.5767*
Affective involvement	14.2857±2.9421	14.3810±2.1089	0.9003*	14.1714±3.6741	14.2593±4.0057	0.9288*
Behavior control	20.0357±3.1445	18.5714±3.0095	0.1071*	20.4286±4.4344	21.1111±3.5662	0.5163*
General functioning	21.0714±6.3998	22.4286±6.7125	0.4754*	21.8000±5.9695	21.8889±7.7526	0.9595*

Table 13. FAD scores in famillies with different Witness of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Problem solving	9.7000±3.3682	11.2069±3.2555	0.2186*	9.0714±2.6736	11.0968±4.0113	0.0928*
Communication	17.7619±3.6181	17.7647±4.5730	0.9981*	17.4390±3.4860	16.5238±4.2851	0.3694*
Roles	23.0000±4.8580	25.4138±4.8367	0.1673*	25.2143±2.8060 26.0000	25.4194±4.6888 26.0000	0.7208**
Affective responsiveness	12.6364±3.7755	13.8966±4.0298	0.3750*	12.1429±3.1831 13.0000	13.5806±3.1809 14.0000	0.2132**
Affective involvement	15.3636±2.4196	15.2069±2.7436	0.8688*	15.0714±3.7306	14.1290±3.2326	0.3929*
Behavior control	20.0909±2.9480	19.9655±3.0412	0.9072*	20.8571±4.5718	20.6129±4.4548	0.8667*
General functioning	22.4545±5.7856	27.0000±7.0812	0.0654*	**19.4286**±6.6183	**24.0000**±6.8751	0.0427*

Table 14. FAD scores in famillies with different Witness of physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Problem solving	10.1053±2.7868	12.4286±3.9940	0.1064*	9.6000±3.2184	10.0000±2.4495	0.7678*
Communication	**17.4500**±3.5314	**23.1429**±2.9681	0.0008*	16.6500±3.7314	17.5714±3.9940	0.5854*
Roles	**23.0000**±3.9470	**29.0000**±1.4142	0.0007*	25.4500±3.1200	27.4286±2.7603	0.1505*
Affective responsiveness	**12.3000**±3.2783	**16.1429**±3.6710	0.0157*	12.4500±3.4255	14.2857±3.4983	0.2361*
Affective involvement	15.7143±2.4300	14.9500±2.7237	0.5183*	14.3000±3.4959	15.0000±1.8257	0.6202*
Behavior control	19.8000±3.3182	19.7143±2.4300	0.9507*	21.4500±4.5477	20.2857±6.1567	0.5993*
General functioning	**23.1000**±4.8547	**30.5714**±6.3471	0.0034*	20.7000±6.9668	24.0000±6.6583	0.2861*

Table 15. FAD scores in famillies with different Family income

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	low	medium	high	p_value	low	medium	high	p_value
	-	11.00±1.225	10.36±3.063	0.5996**	-	10.69±4.135	9.78±2.534	0.5186**
Problem solving		11.00	11.00			10.00	9.50	
	-	20.20±2.588	17.82±4.489	0.2480*	-	17.42±4.692	17.00±3.505	0.7333**
Communication						17.50	17.00	
Roles	-	24.80±3.899	23.15±5.121	0.483*	-	25.96±4.652	23.98±3.873	0.0522*
Affective responsiveness	-	14.80±2.588	12.26±3.870	0.1552*	-	13.15±3.449	12.88±3.055	0.7239*
	-	16.40±3.782	14.46±2.422	0.1000*	-	14.73±4.729	13.54±3.125	0.4276**
Affective involvement						14.00	14.00	
Behavior control	-	19.80±3.493	19.66±2.905	0.9195*	-	21.27±4.295	19.56±4.267	0.1026*
	-	25.80±4.658	22.43±7.004	0.2944*	-	22.85±8.332	20.34±4.910	0.2726**
General functioning						23.50	20.50	

Table 16. FAD scores in famillies with different Parenting style

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	authoritative	authoritarian	not specified	p_value	authoritative	authoritarian	not specified	p_value
	10.71±2.825	8.67±2.236	11.64±3.414	0.0680*	9.80±2.500	10.86±2.797	10.36±5.921	0.2631**
Problem solving					10.00	11.00	8.00	
Communication	17.96±4.556	17.33±3.969	20.09±4.036	0.2917*	16.83±3.951	18.21±3.017	16.09±4.908	0.3746*
Roles	23.27±5.361	21.44±3.539	25.73±4.429	0.1610*	24.67±3.836	25.93±3.407	24.00±5.848	0.4748*
Affective responsiveness	12.54±3.880	11.44±4.391	13.64±3.557	0.4596*	12.63±2.947	13.86±2.413	12.18±3.995	0.3228*
	14.33±2.625	15.67±3.082	14.73±2.005	0.3658*	13.74±4.134	14.71±2.199	13.27±2.901	0.3211**
Affective involvement					13.00	15.00	13.00	
Behavior control	19.15±2.797	19.44±3.844	21.27±2.453	0.1011*	20.48±4.360	20.86±3.278	20.09±4.614	0.9026*
	22.54±7.216	21.00±5.937	27.09±4.847	0.0883*	20.72±6.320	22.00±4.420	21.64±9.298	0.5175**
General functioning					20.50	23.00	21.00	

Table 17. CBCL scores by Gender

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Female	Male	p_value	Female	Male	p_value
Anxious	5.47±3.338	6.38±4.107	0.4089*	5.10±3.632	6.48±4.122	0.2174*
Withdrawn	3.69±3.860	3.64±2.981	0.9600*	3.41±2.594	4.94±3.464	0.0831*
	3.09±4.162	3.47±2.792	0.1273**	4.07±3.316	4.21±3.585	0.8735*
SomaticComplaints	2.00	3.00				
SocialProblems	5.65±3.790	7.53±4.051	0.0954*	6.33±3.665	8.12±4.361	0.1261*
ThoughtProblems	4.41±3.842	5.11±3.614	0.4951*	3.62±3.930	4.62±3.925	0.3660*
AttentionProblems	7.06±5.932	9.42±4.352	0.0809*	7.57±4.728	9.13±4.696	0.2494*
RuleBreakingBehaviour	5.59±5.221	6.06±4.199	0.7076*	2.90±2.022	4.18±2.627	0.0635*
	11.47±9.540	13.45±7.789	0.3908*	**8.00**±5.771	**13.19**±8.760	0.0275**
AggressiveBehaviour				6.00	12.50	
Internalizing	12.31±9.414	13.63±7.968	0.5801*	12.24±7.648	16.26±8.896	0.0973*
	17.06±13.654	19.51±10.823	0.4492*	10.90±7.092	17.37±10.930	0.0268**
Externalizing				9.00	15.50	

Table 18. CBCL scores by Family structure

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Single-parent family	Two-parent family	p_value	Single-parent family	Two-parent family	p_value
Anxious	6.70±3.713	6.18±4.032	0.7046*	7.10±3.929	5.60±3.860	0.2694*
Withdrawn	4.73±2.611	3.49±3.333	0.2509*	5.17±3.834	3.88±3.008	0.2134*
SomaticComplaints	3.46±2.470	3.25±3.374	0.8343*	3.17±2.791	4.40±3.854	0.2964*
SocialProblems	8.27±5.002	6.80±3.938	0.2835*	7.82±3.656	6.91±4.277	0.5208*
ThoughtProblems	6.18±3.816	4.61±3.596	0.1931*	4.58±2.999	4.04±3.972	0.6629*
AttentionProblems	10.45±3.778	8.46±5.085	0.2231*	9.44±4.720	7.96±4.695	0.3883*
RuleBreakingBehaviour	7.91±3.562	5.43±4.447	0.0866*	**5.09**±2.663	**3.31**±2.353	0.0314*
AggressiveBehaviour	16.91±8.348	11.79±7.862	0.0547*	13.00±8.420	10.23±7.796	0.3173*
Internalizing	15.00±6.716	13.18±8.705	0.5336*	16.10±8.812	14.04±8.405	0.4886*
Externalizing	**24.82**±11.044	**17.21**±11.028	0.0405*	18.20±10.675	13.54±9.625	0.1770*

Table 18. CBCL scores by Family complexity

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Extended	Nuclear	p_value	Extended	Nuclear	p_value
Anxious	5.91±3.598	6.49±4.205	0.5838*	6.39±3.534	5.75±4.212	0.5889*
	2.82±1.943	3.91±3.618	0.5290**	4.72±3.444	3.94±3.171	0.4143*
Withdrawn	2.50	3.00				
	2.73±2.308	3.65±3.649	0.4538**	**5.58**±3.933	**3.50**±3.416	0.0276*
SomaticComplaints	2.00	2.00				
	6.05±2.820	7.57±4.622	0.1948**	7.50±3.808	7.27±4.502	0.8567*
SocialProblems	6.00	7.50				
ThoughtProblems	4.77±3.422	4.91±3.827	0.8882*	3.78±3.191	4.48±4.317	0.5453*
AttentionProblems	8.64±4.614	8.80±5.165	0.9032*	9.00±4.298	7.84±5.235	0.4294*
RuleBreakingBehaviour	5.50±4.103	6.00±4.600	0.6679*	3.28±2.562	3.89±2.471	0.4060*
AggressiveBehaviour	11.23±7.010	13.30±8.669	0.3355*	9.56±6.635	11.62±8.978	0.3956*
	11.32±4.912	14.48±9.701	0.5518**	16.67±7.754	13.63±8.969	0.2336*
Internalizing	10.00	11.00				
Externalizing	16.73±9.958	19.30±12.030	0.3912*	12.83±9.005	15.50±10.861	0.3772*

Table 19. CBCL scores by Mother health problems

* ANOVA ** Kruskal-Wallis	Groups					
	Psychiatry			Neurology		
Variable	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**
	5.63±3.562	6.00±2.549	0.9546**	5.54±3.412	8.85±6.094	0.2029**
	5.00	6.00		5.00	9.00	
	7.00±7.00	6.00±0.000		-	-	
Anxious	4.00	6.00				
	3.05±2.396	3.60±5.504	0.4005**	**3.66**±2.932	**6.71**±4.029	0.0211*
	2.00	1.00				
	3.00±4.358	0.00±0.000				
Withdrawn	1.00	0.00				
	2.62±2.363	5.83±3.430	0.1230**	4.14±3.764	5.11±4.594	0.8766**
	2.00	5.50		3.00	4.00	
	3.00±3.464	4.00±0.000		-	4.00±0.000	
SomaticComplaints	1.00	4.00			4.00	
	6.48±3.912	6.60±3.361	0.6084**	7.07±4.102	9.14±5.080	0.2445*
	6.00	8.00				
	7.66±3.214	3.00±0.000		-	-	
SocialProblems	9.00	3.00				
	4.56±3.542	5.80±3.768	0.8235**	3.68±3.171	5.14±6.0671	0.8252**
	4.00	6.00		3.00	2.00	
	5.00±3.000	3.00±0.000		-	-	
ThoughtProblems	5.00	3.00				
	8.26±4.706	10.80±5.674	0.4254**	8.25±4.338	7.85±6.694	0.8425*
	9.00	13.00				
	10.66±2.309	6.00±0.000		-	-	
AttentionProblems	12.00	6.00				
	5.24±4.085	6.80±4.147	0.7213**	3.92±2.619	3.28±2.138	0.5472*
	5.00	7.00				
	4.66±5.507	5.00±0.000		-	-	
RuleBreakingBehaviour	2.00	5.00				
	11.51±6.986	13.60±8.294	0.7007**	10.60±8.455	12.57±8.303	0.5738*
	12.00	15.00				
	14.33±5.507	9.00±0.000		-	-	
AggressiveBehaviour	17.00	9.00				
	11.42±5.509	15.00±10.723	0.8220**	13.54±7.422	21.00±12.635	0.1391**
	10.00	11.00		11.00	24.00	
	13.00±14.798	10.00±0.000		-	-	
Internalizing	6.00	10.00				
	16.75±10.031	20.40±11.058	0.6193**	14.52±10.646	15.85±10.351	0.7618*
	18.00	23.00				
	19.00±10.000	14.00±0.000		-	-	
Externalizing	19.00	14.00				

Table 20. CBCL scores by Father health problems

* ANOVA ** Kruskal-Wallis	Groups					
	Psychiatry			Neurology		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	6.20±3.961	4.50±2.645	0.7130**	5.35±4.029	6.66±3.669	0.1873**
	5.00	5.00		4.00	7.50	
	3.00±0.000	6.00±0.000		12.00±0.000	-	
Anxious	3.00	6.00		12.00		
	3.65±3.428	3.00±3.162	0.3963**	4.25±3.417	4.66±3.326	0.8510**
	2.00	2.50		3.50	5.00	
	5.00±0.000	0.00±0.000		3.00±0.000	-	
Withdrawn	5.00	0.00		3.00		
	2.98±3.432	4.00±1.633	0.1904**	4.22±3.656	3.14±3.436	0.2623**
	2.00	4.00		3.00	1.00	
	7.00±4.242	4.00±0.000		9.00±0.000	-	
SomaticComplaints	7.00	4.00		9.00		
	6.86±4.386	7.00±6.377	0.6251**	6.83±4.493	8.16±4.262	0.5585**
	6.00	5.50		6.00	8.50	
	9.00±0.000	3.00±0.000		10.00±0.000	-	
SocialProblems	9.00	3.00		10.00		
	4.38±3.699	3.50±3.696	0.8221**	3.78±3.904	3.83±4.167	0.6485**
	3.50	3.00		2.50	2.50	
	7.00±0.000	3.00±0.000		6.00±0.000	-	
ThoughtProblems	7.00	3.00		6.00		
	8.18±4.914	11.00±7.164	0.6771**	8.12±5.070	7.33±4.676	0.8589**
	8.00	12.50		8.00	7.00	
	11.00±0.000	6.00±0.000		9.00±0.000		
AttentionProblems	11.00	6.00		9.00		
	5.70±4.337	2.25±2.217	0.1417**	3.63±2.762	3.00±0.894	0.8769**
	5.00	2.00		3.50	3.00	
	13.00±0.000	5.00±0.000		4.00±0.000		
RuleBreakingBehaviour	13.00	5.00		4.00		
	11.68±7.338	9.00±6.976	0.3361**	10.38±8.444	12.16±8.841	0.5176**
	12.00	8.50		8.00	11.50	
	30.00±0.000	9.00±0.000		18.00±0.000	-	
AggressiveBehaviour	30.00	9.00		18.00		
	13.38±8.974	10.50±4.654	0.9826**	13.90±8.635	13.66±8.641	0.4232**
	11.00	10.50		11.00	15.50	
	12.00±0.000	10.00±0.000		24.00±0.000	-	
Internalizing	12.00	10.00		24.00		
	17.38±10.488	11.25±8.845	0.2500**	14.02±10.790	15.16±8.886	0.5099**
	18.00	10.00		13.00	14.50	
	43.00±0.000	14.00±0.000		22.00±0.000	-	
Externalizing	43.00	14.00		22.00		

Table 21. CBCL scores by Mother alcohol use

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Absent	Present	p_value	Absent	Present	p_value
	6.39±4.022	2.00±0.000	0.0588	5.73±3.920	10.00±0.000	0.2360**
Anxious	6.00	2.00		5.00	10.00	
	3.80±3.306	1.50±2.121	0.3337*	3.90±3.050	13.00±0.000	0.0871**
Withdrawn				3.00	13.00	
	3.43±3.251	1.00±1.414	0.2983*	4.35±3.781	3.00±0.000	0.8699**
SomaticComplaints				3.00	3.00	
	6.97±4.097	4.00±5.657	0.3207*	7.12±4.327	11.00±0.000	0.3234**
SocialProblems				7.00	11.00	
	4.95±3.628	1.50±2.121	0.1879*	4.18±3.882	2.00±0.000	0.5687**
ThoughtProblems				3.00	2.00	
	8.90±4.888	4.00±5.657	0.1688*	7.78±4.615	15.00±0.000	0.1861**
AttentionProblems				8.00	15.00	
	5.77±4.418	3.00±2.828	0.3832*	3.59±2.499	7.00±0.000	0.1659**
RuleBreakingBehaviour				4.00	7.00	
	12.50±7.963	7.00±9.899	0.3422*	10.44±8.155	25.00±0.000	0.1342**
AggressiveBehaviour				8.00	25.00	
	13.87±8.524	4.50±3.536	0.1290*	14.18±8.575	26.00±0.000	0.1651**
Internalizing				12.00	26.00	
	18.27±11.103	10.00±12.728	0.3048*	14.02±10.119	32.00±0.000	0.1341**
Externalizing				13.00	32.00	

Table 22. CBCL scores by Father alcohol use

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	6.07±4.152	7.56±4.033	0.2232*	5.63±3.728	6.68±4.510	0.3801*
Withdrawn	3.37±3.039	4.59±3.906	0.2058*	3.84±3.089	5.25±3.669	0.1454*
	2.89±2.219	4.90±4.867	0.2225**	4.39±4.017	4.58±3.309	0.8482*
SomaticComplaints	2.00	3.00				
SocialProblems	6.83±4.344	7.35±4.137	0.6749*	7.03±4.620	7.53±3.921	0.7019*
ThoughtProblems	5.21±3.758	4.71±3.996	0.6457*	4.06±3.829	4.53±4.452	0.6989*
AttentionProblems	8.69±5.298	9.12±4.729	0.7738*	8.27±4.556	8.37±5.166	0.9427*
	5.05±3.492	7.35±6.154	0.2709**	3.42±2.363	3.95±2.857	0.4824*
RuleBreakingBehaviour	5.00	6.00				
AggressiveBehaviour	12.45±7.578	12.94±8.407	0.8286*	11.06±8.579	10.16±8.187	0.7138*
	12.71±7.400	16.88±11.465	0.2586**	14.07±8.098	16.58±9.783	0.3342*
Internalizing	11.00	14.00				
Externalizing	17.50±10.225	20.29±12.810	0.3811*	14.48±10.405	14.11±10.503	0.9015*

Table 23. CBCL scores by Mother education level

* ANOVA ** Kruskal-Wallis	Groups							
Variable	**Psychiatry**				**Neurology**			
	primary school	**highschool**	**university**	**p_value**	**primary school**	**highschool**	**university**	**p_value**
	5.17±3.070	6.38±3.442	6.32±4.679	0.6355*	6.60±3.267	5.52±4.956	5.00±0.000	0.4406**
Anxious					6.00	3.00	5.00	
Withdrawn	3.25±2.633	3.35±3.111	3.11±2.685	0.9623*	4.95±3.090	3.14±3.167	1.00±1.414	0.0781*
SomaticComplaints	3.62±3.380	3.00±3.464	3.09±2.521	0.8352*	4.10±3.367	5.13±4.635	3.33±3.215	0.5631*
	6.58±4.870	6.93±3.862	7.26±3.956	0.9025*	8.38±3.905	6.20±4.408	1.00±0.000	0.0670**
SocialProblems					8.00	5.00	1.00	
	4.08±3.147	4.89±3.796	5.32±3.830	0.6642*	4.67±3.199	4.75±4.800	2.00±0.000	0.6245**
ThoughtProblems					4.00	4.00	2.00	
	7.75±4.224	8.56±4.956	9.89±4.306	0.4189*	8.55±3.804	7.43±5.065	2.00±0.000	0.2906**
AttentionProblems					9.00	7.00	2.00	
	5.58±5.213	6.33±4.764	4.79±1.960	0.5579**	3.62±2.837	3.67±2.415	4.50±2.121	0.9018*
RuleBreakingBehaviour	4.00	6.00	5.00					
AggressiveBehaviour	11.17±7.661	13.89±8.885	12.84±6.517	0.6133*	11.55±8.016	10.29±8.094	5.50±3.536	0.5721*
	12.17±7.322	13.12±8.393	12.89±8.717	0.9473*	16.00±7.049	13.81±10.722	6.00±0.000	0.3029**
Internalizing					16.00	11.00	6.00	
Externalizing	16.75±11.741	20.22±12.333	17.63±7.819	0.5841*	15.15±10.494	13.95±9.836	10.00±5.657	0.7680*

Table 24. CBCL scores by Father education level

* ANOVA ** Kruskal-Wallis	Groups							
Variable	Psychiatry				Neurology			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
Anxious	8.33±3.674	6.60±3.719	5.56±3.812	0.2205*	5.27±3.409	5.00±4.830	4.33±1.155	0.9206*
Withdrawn	**6.33**±3.808 7.00	**3.31**±2.496 3.00	**1.88**±1.668 1.00	0.0072**	3.36±3.295	3.75±4.272	2.67±2.309	0.9164*
SomaticComplaints	**6.11**±4.167 5.00	**3.45**±2.460 3.00	**1.65**±1.835 1.00	0.0028**	3.94±3.579	6.12±4.883	2.00±1.000	0.2442*
SocialProblems	9.11±3.919	7.37±4.856	6.56±3.521	0.3511*	6.18±2.562	6.75±5.377	7.33±5.508	0.8866*
ThoughtProblems	6.00±2.398	5.00±4.397	3.62±3.138	0.2640*	5.45±3.532 5.00	4.50±1.291 4.50	2.33±.577 2.00	0.1797**
AttentionProblems	11.67±4.387	8.94±5.260	8.12±4.209	0.1977*	8.27±3.927	6.50±4.041	5.33±4.933	0.4994*
RuleBreakingBehaviour	8.78±6.457 6.00	5.81±2.949 5.00	5.50±4.517 5.00	0.4037**	3.55±2.583	1.75±1.708	3.33±1.528	0.4268*
AggressiveBehaviour	14.33±6.557	12.88±8.172	12.81±6.853	0.8657*	9.82±5.510	7.50±7.047	5.33±3.215	0.4502*
Internalizing	**20.78**±9.162	**13.53**±6.151	**9.12**±5.365	0.0007*	12.45±6.802	16.25±9.287	9.00±2.646	0.4126*
Externalizing	23.11±10.529	18.69±10.005	18.31±10.750	0.5060*	13.36±7.089	9.25±8.655	8.67±4.619	0.4680*

Table 25. CBCL scores by Mother employment status

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	10.00±7.071	6.18±3.941	0.1917*	4.40±2.702	6.15±4.207	0.3710*
Withdrawn	5.00±4.243	3.52±3.009	0.5002*	4.00±2.550	3.84±3.248	0.9196*
	7.00±3.000	3.34±3.277	0.0627*	5.60±6.189	4.37±3.605	0.9076**
SomaticComplaints				3.00	4.00	
SocialProblems	6.50±4.950	7.12±3.978	0.8293*	7.60±3.435	7.00±4.570	0.7796*
	8.50±.707	5.05±3.671	0.1933*	2.40±1.517	4.56±4.317	0.3485**
ThoughtProblems				2.00	4.00	
AttentionProblems	10.50±2.121	9.02±4.650	0.6571*	9.20±6.301	7.63±4.755	0.5072*
RuleBreakingBehaviour	2.00±.000	6.07±4.255	0.1851*	2.60±1.949	3.58±2.633	0.4231*
AggressiveBehaviour	12.00±7.071	13.09±7.686	0.8446*	8.20±5.215	10.76±8.492	0.5150*
Internalizing	20.50±13.435	13.40±8.301	0.2466*	14.00±6.964	14.47±9.345	0.9138*
Externalizing	14.00±7.071	19.16±10.655	0.5016*	10.80±6.648	14.35±10.566	0.4692*

Table 26. CBCL scores by Father employment status

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	-	6.38±3.769	-	4.00±4.082	6.04±3.946	0.3259*
Withdrawn	-	3.57±3.223	-	**7.75**±4.272	**4.24**±3.011	0.0343*
SomaticComplaints	-	3.26±3.302	-	5.00±6.164	4.20±3.607	0.6826*
SocialProblems	-	7.05±4.208	-	7.25±3.304	7.17±4.174	0.9692*
ThoughtProblems	-	4.83±3.710	-	3.75±4.856	4.12±3.699	0.8495*
AttentionProblems	-	8.75±4.999	-	9.00±6.377	8.17±4.385	0.7267*
RuleBreakingBehaviour	-	5.81±4.396	-	3.50±4.041	3.56±2.431	0.9627*
AggressiveBehaviour	-	12.51±7.639	-	10.50±11.328	10.52±7.630	0.9960*
Internalizing	-	13.37±8.347	-	16.75±9.912	14.56±8.490	0.6264*
Externalizing	-	18.32±10.789	-	14.00±15.122	14.08±9.598	0.9873*

Table 27. CBCL scores by Victim of verbal violence

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	No	Yes	p_value	No	Yes	p_value
Anxious	5.25±3.082	6.56±3.951	0.1834*	**5.21**±3.938	**8.43**±4.014	0.0175*
Withdrawn	3.40±2.432	3.50±3.243	0.8983*	3.52±2.899	4.50±3.246	0.3025*
	2.32±2.036	4.11±3.843	0.0678**	3.92±3.451	4.55±3.546	0.5167*
SomaticComplaints	2.00	3.00				
	6.68±4.432	7.00±2.918	0.2104**	**5.97**±4.230	**9.21**±4.264	0.0234*
SocialProblems	5.00	7.50				
ThoughtProblems	4.00±3.476	5.81±3.402	0.0531*	3.90±3.488	5.73±4.758	0.1519*
AttentionProblems	7.84±5.153	9.69±3.847	0.1268*	7.74±4.736	10.14±4.365	0.1221*
RuleBreakingBehaviour	**4.56**±3.709	**6.94**±4.355	0.0335*	3.46±2.835	4.44±2.250	0.2462*
AggressiveBehaviour	10.72±6.624	14.28±7.239	0.0611*	9.43±7.900	14.27±8.137	0.0652*
	11.00±5.556	14.22±9.164	0.2769**	12.75±8.449	17.86±9.718	0.0866*
Internalizing	10.00	11.50				
Externalizing	**15.28**±9.163	**21.22**±10.140	0.0260*	12.89±10.108	18.73±9.874	0.0761*

Table 28. CBCL scores by Victim physical violence

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	No	Yes	p_value	No	Yes	p_value
	6.09±3.971	5.05±2.350	0.4711**	5.05±3.873	7.08±4.211	0.1057*
Anxious	5.00	4.50				
	3.55±3.222	2.81±1.940	0.7464**	3.43±2.657	4.48±3.293	0.2459*
Withdrawn	2.00	2.00				
	3.26±3.097	2.61±2.148	0.5316**	4.29±3.561	4.07±3.304	0.8123*
SomaticComplaints	2.00	2.00				
SocialProblems	6.82±3.729	6.62±3.626	0.8474*	**5.33**±3.967	**8.50**±4.304	0.0143*
ThoughtProblems	4.85±3.624	4.67±2.745	0.8449*	4.24±3.961	4.60±4.031	0.7613*
AttentionProblems	8.27±4.951	9.81±4.045	0.2392*	7.55±5.266	8.96±4.487	0.3498*
RuleBreakingBehaviour	5.00±4.359	6.86±3.798	0.1152*	3.29±2.390	4.17±2.745	0.2606*
AggressiveBehaviour	10.97±6.227	14.62±7.520	0.0584*	8.86±7.624	13.17±8.768	0.0901*
	12.94±7.961	10.70±4.953	0.4672**	12.75±8.245	16.04±9.351	0.2270*
Internalizing	10.00	9.00				
Externalizing	**15.97**±9.282	**21.48**±10.008	0.0442*	12.14±9.286	17.35±11.048	0.0998*

Table 29. CBCL scores by Witness of verbal violence

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	No	Yes	p_value	No	Yes	p_value
Anxious	**3.11**±1.965 4.00	**8.19**±4.691 8.00	0.0035**	5.60±3.373	7.09±4.430	0.3516*
Withdrawn	3.00±1.512 2.50	4.71±3.630 3.00	0.3375**	3.20±3.360	4.80±3.014	0.1787*
SomaticComplaints	2.69±2.529 2.00	4.61±4.120 4.00	0.1312**	4.69±3.660	4.83±3.905	0.9124*
SocialProblems	**3.78**±2.539 4.00	**7.93**±4.545 7.00	0.0141**	6.80±4.756	7.88±3.768	0.4880*
ThoughtProblems	3.33±2.828	5.39±3.852	0.1491*	2.60±2.951	4.80±4.223	0.1429*
AttentionProblems	**5.56**±3.504	**9.68**±4.714	0.0214*	8.90±4.067	8.00±5.045	0.6228*
RuleBreakingBehaviour	4.44±3.504	6.71±4.345	0.1641*	2.60±1.265 2.50	3.88±2.755 4.00	0.1394**
AggressiveBehaviour	8.33±6.225	13.89±7.405	0.0502*	8.60±4.600 9.00	11.09±8.213 11.00	0.6516**
Internalizing	9.38±2.925 9.00	17.48±10.606 16.00	0.0644**	13.30±9.286	17.35±8.773	0.2402*
Externalizing	**12.78**±8.969	**20.61**±9.814	0.0410*	11.20±5.287 12.00	14.96±10.755 15.00	0.4318**

Table 30. CBCL scores by Witness of physical violence

* Student T ** Mann-Whithey	Groups					
Variable	Psychiatry			Neurology		
	No	Yes	p_value	No	Yes	p_value
Anxious	5.58±3.717	9.20±5.070	0.0852*	6.14±4.055	9.60±5.727	0.1590*
	3.42±2.610	6.17±4.875	0.2344**	3.86±3.718	5.20±2.775	0.4739*
Withdrawn	3.00	5.50				
SomaticComplaints	**2.96**±3.141	**8.00**±5.033	0.0029*	4.26±3.572	6.17±4.446	0.2933*
	5.05±2.483	**11.83**±4.446	0.0019**	7.21±4.353	10.60±3.975	0.1462*
SocialProblems	5.00	11.00				
	3.79±2.463	7.67±4.761	0.0530**	**2.79**±2.833	**8.60**±6.427	0.0319**
ThoughtProblems	3.00	6.00		2.00	7.00	
AttentionProblems	**7.84**±3.848	**11.83**±4.535	0.0444*	9.64±4.050	8.80±5.215	0.7147*
RuleBreakingBehaviour	6.68±4.796	8.00±2.608	0.5307*	3.36±2.845	3.75±1.708	0.7985*
AggressiveBehaviour	**10.84**±4.992	**19.17**±7.360	0.0042*	10.43±7.314	12.00±8.485	0.7183*
Internalizing	**12.16**±6.842	**24.80**±13.027	0.0062*	14.57±9.597	20.60±13.202	0.2883*
Externalizing	**17.53**±8.475	**27.17**±7.834	0.0214*	13.79±9.885	15.75±10.145	0.7318*

Table 31. CBCL scores by Family income

* ANOVA ** Kruskal-Wallis	Groups							
Variable	Psychiatry				Neurology			
	low	medium	high	p_value	low	medium	high	p_value
	-	7.50±3.317	6.17±3.994	0.5191*	-	6.58±4.811	5.54±3.371	0.5897**
Anxious						6.00	5.00	
Withdrawn	-	**6.75**±5.439	**3.46**±2.994	0.0468*	-	5.05±3.502	3.69±2.993	0.1251*
SomaticComplaints	-	4.40±3.286	3.32±3.248	0.4725*	-	4.88±3.833	3.63±3.473	0.1672*
SocialProblems	-	9.75±6.500	6.86±3.915	0.1727*	-	7.63±4.705	6.82±3.931	0.4923*
	-	6.50±3.109	4.78±3.654	0.3617*	-	5.05±4.740	3.38±2.861	0.2667**
ThoughtProblems						4.00	3.00	
AttentionProblems	-	13.00±7.703	8.56±4.615	0.0773*	-	**9.89**±5.486	**7.17**±3.968	0.0388*
	-	8.00±8.287	5.72±4.061	0.8341**	-	4.30±2.993	3.29±2.167	0.1456*
RuleBreakingBehaviour		7.00	5.00					
AggressiveBehaviour	-	15.50±13.329	12.73±7.629	0.5035*	-	12.70±8.430	9.32±7.561	0.1281*
	-	17.25±6.397	13.21±8.460	0.3532*	-	16.95±10.080	12.84±7.198	0.1314**
Internalizing						16.00	11.00	
	-	23.50±20.920	18.45±10.418	0.6764**	-	17.00±10.834	12.59±9.191	0.1106*
Externalizing		24.00	19.00					

Table 32. CBCL scores by Parenting style

* ANOVA ** Kruskal-Wallis	Groups							
Variable	Psychiatry				Neurology			
	authoritative	authoritarian	not specified	p_value	authoritative	authoritarian	not specified	p_value
Anxious	5.62±3.327	6.00±3.215	6.80±4.638	0.6397*	6.00±4.320	6.18±3.656	5.00±2.944	0.8110*
Withdrawn	3.50±3.156	3.57±3.259	3.80±3.521	0.9657*	3.53±3.009	4.00±2.412	5.29±3.592	0.3587*
	3.32±2.736	**2.10**±4.280	**3.50**±2.121	0.0493**	3.75±3.901	4.14±3.570	5.20±3.676	0.5533*
SomaticComplaints	2.50	0.50	3.00					
SocialProblems	7.47±4.090	6.29±3.352	6.50±4.453	0.6644*	7.32±4.457	6.25±3.911	7.00±4.082	0.7592*
ThoughtProblems	4.95±3.345	3.86±3.805	4.70±3.529	0.7333*	4.24±4.112	4.08±3.965	4.57±3.457	0.9675*
AttentionProblems	9.35±4.830	7.14±6.440	8.10±4.483	0.4811*	7.94±4.899	8.50±5.061	7.43±4.577	0.9031*
	6.02±3.864	7.57±7.764	4.40±2.675	0.6511**	3.69±2.587	3.83±2.125	2.29±2.289	0.3551*
RuleBreakingBehaviour	5.00	5.00	5.00					
AggressiveBehaviour	13.49±7.109	12.00±10.551	11.40±9.216	0.7111*	11.12±8.821	9.58±6.721	8.43±5.381	0.6679*
Internalizing	12.49±6.411	12.14±10.542	14.10±9.527	0.8134*	13.62±9.400	14.09±7.273	15.57±7.161	0.8647*
Externalizing	19.51±9.879	19.57±16.930	15.80±11.144	0.6250*	14.79±10.912	13.42±8.306	10.71±7.228	0.6069*

Table 33. SDQ scores by Gender

* Student T ** Mann-Whithey	GROUPS					
Variabila	PSYCHIATRY			NEUROLOGY		
	Female	Male	p_value	Female	Male	p_value
Emotion	3.54±2.580	4.13±2.713	0.3474*	5.03±2.061	4.61±2.407	0.4435*
Conduct	4.23±2.286	4.55±1.964	0.5117*	3.47±1.814	3.95±1.788	0.2662*
Prosoc	6.62±2.639	7.06±2.629	0.4672*	**8.60**±1.754	**7.63**±1.959	0.0356*
Hyper	6.87±2.050	7.51±1.776	0.1605*	6.57±1.851	6.93±2.017	0.4445*
Peer	**4.80**±1.443	**5.81**±1.587	0.0074*	6.10±1.605	6.17±1.759	0.8627*
Total	19.5833±4.7081	21.9836±5.2773	0.0554*	20.8621±4.7111	21.6585±6.2514	0.5644*

Table 34. SDQ scores by Family structure

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Single-parent family	Two-parent family	p_value	Single-parent family	Two-parent family	p_value
Emotion	4.83±2.517	3.87±2.704	0.2543*	5.00±2.412	4.81±2.216	0.7856*
Conduct	4.92±1.881	4.30±2.066	0.3328*	4.23±2.088	3.52±1.725	0.1946*
Prosoc	6.33±3.257	7.07±2.554	0.3774*	8.00±2.082	8.11±1.830	0.8439*
Hyper	7.50±2.236	7.26±1.860	0.6911*	7.54±1.941	6.58±1.887	0.1019*
Peer	5.50±1.508	5.59±1.618	0.8553*	**7.38**±1.387	**5.79**±1.611	0.0014*
Total	22.7500± 4.5950	21.0725± 5.4458	0.3178*	23.6667± 6.1398	20.6935± 5.3026	0.0873*

Table 35. SDQ scores by Family complexity

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Extended	Nuclear	p_value	Extended	Nuclear	p_value
Emotion	4.00±2.694	4.02±2.690	0.9758*	5.32±1.930	4.59±2.433	0.2034*
Conduct	4.32±1.847	4.46±2.164	0.7725*	3.72±1.745	3.70±1.862	0.9731*
Prosoc	6.96±3.061	7.04±2.457	0.9064*	7.76±2.087	8.27±1.783	0.2846*
Hyper	7.11±1.912	7.34±1.944	0.6112*	6.72±1.948	6.80±1.972	0.8785*
Peer	**5.00**±1.491	**5.77**±1.616	0.0403*	6.12±1.787	6.05±1.569	0.8574*
Total	20.4286± 5.1599	21.6800± 5.4714	0.3260*	21.8800± 5.3876	21.1364± 5.7571	0.5995*

Table 36. SDQ scores by Mother health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**
Emotion	3.58± 2.1485	3.66± 2.0656	0.2407*	5.02±2.0665	4.40± 2.5906	0.5315**
				5.00	5.50	
	3.33± 4.1633	7.00± 4.2426			3.00±0.0000	
					3.00	
Conduct	4.46±2.1113	4.66±1.8619	0.7182**	3.65±1.7145	4.20±1.7512	0.3048**
	4.00	4.50		4.00	4.00	
	4.66±2.3094	3.00±0.0000			6.00±0.0000	
	6.00	3.00			6.00	
Prosoc	7.42±2.4668	6.50±2.4290	0.6187**	7.93±2.0352	8.00±1.6330	0.8807**
	8.00	6.50		9.00	8.00	
	7.66±1.5275	9.00±0.0000			9.00±0.0000	
	8.00	9.00			9.00	
Hyper	7.31±1.9123	7.33±2.1602	0.9540**	6.75±1.9422	6.00±2.2111	0.2582**
	7.00	7.50		7.00	5.50	
	7.66±1.1547	8.00±0.0000			9.00±0.0000	
	7.00	8.00			9.00	
Peer	5.22±1.4615	5.33±1.5275	0.5078*	6.02±1.6392	5.80±2.0976	0.5545**
				6.00	5.00	
	6.00±2.4495	6.50±2.1213			7.00±0.0000	
					7.00	
Total	21.6667± 2.6583	0.7025*	21.4490± 5.3544	20.4000± 6.9634 18.0000	0.4712**	21.6667± 2.6583
	24.5000± 6.3640	33.50±6.3640	21.0000 -	25.0000±0.0000 25.0000	34.00±0.0000 34.00	24.5000± 6.3640

Table 37. SDQ scores by Father health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	3.92±2.7324	3.60±0.5477	0.1765**	4.94±2.3182	4.28±2.4976	0.6958**
	4.00	4.00		5.00	4.00	
	9.50±0.7071	4.00±0.0000		6.00±0.0000		
	9.50	4.00		6.00		
Emotion						
	4.25±1.9923	4.60±2.3022	0.4423**	3.49±1.8547	6.00±0.0000	0.2634**
	4.00	5.00		3.00	6.00	
	6.50±2.1213	3.00±0.0000		4.28±1.9760		
Conduct	6.50	3.00		5.00		
	7.25±2.4967	5.20±2.2804	0.3208**	8.03±1.9904	8.00±0.0000	0.7793**
		5.00		9.00	8.00	
	5.00±7.0711	9.00±0.0000		7.85±1.3452		
Prosoc	5.00	9.00		8.00		
	7.32±1.8991	6.80±1.7889	0.2989**	6.80±1.9569	5.42±2.0702	0.2149**
	7.00	7.00		7.00	5.00	
	9.50±0.7071	8.00±0.0000		8.00±0.0000		
Hyper	9.50	8.00		8.00		
	5.51±1.6794	5.20±2.5884	0.6645**	6.10±1.8426	5.85±1.3452	0.4149**
	5.00			6.00		
	6.50±0.7071	5.00±0.0000		4.00±0.0000		
Peer	6.50	5.00		4.00		
	21.1132±5.7267	20.2000±3.3466	0.1764**	21.1852± 5.7530	19.8571±6.3095	0.6986**
	20.0000	21.0000		21.0000	22.0000	
	32.0000±4.2426	20.0000±0.0000		24.0000±0.0000		
Total	32.0000	20.0000		24.0000		

Table 38. SDQ scores by Mother alcohol use

* Student T ** Mann-Whithey Variable	GROUPS PSYCHIATRY Absent	Present	p_value	NEUROLOGY Absent	Present	p_value
Emotion	3.95±2.554 4.00 median	0.00±0.000 0.00 median	0.0285**	4.98±2.240 5.00 median	6.00±0.000 6.00 median	0.6142**
Conduct	4.32±1.992 4.00 median	4.00±4.243 8.00 median	0.8300*	3.73±1.697 4.00 median	8.00±0.000 8.00 median	0.0836**
Prosoc	6.90±2.588 9.00 median	6.50±2.121 4.00 median	0.8278*	8.17±1.950 9.00 median	4.00±0.000 4.00 median	0.1050**
Hyper	7.33±1.886 7.00 median	6.00±2.828 10.00 median	0.3336*	6.65±1.885 7.00 median	10.00±0.000 10.00 median	0.0940**
Peer	5.46±1.736 5.00 median	5.00±0.000 5.00 median	0.6837**	6.03±1.691 6.00 median	10.00±0.000 10.00	0.0930**
Total	21.1000±5.1334 21.0000	15.0000±7.0711 34.0000	0.1042*	21.2615± 5.4695 21.0000	34.0000±0.000 34.0000	0.0874**

Table 39. SDQ scores by Father alcohol use

* Student T ** Mann-Whithey Variable	GROUPS PSYCHIATRY Absent	Present	p_value	NEUROLOGY Absent	Present	p_value
Emotion	3.82±2.537	4.30±2.993	0.4995*	5.16±2.343	4.81±1.939	0.5319*
Conduct	4.36±2.008	4.25±1.888	0.8339*	3.89±1.970	3.63±1.713	0.5749*
Prosoc	6.72±2.763	7.50±1.933	0.2532*	8.03±2.073	7.96±1.829	0.8990*
Hyper	7.39±1.956	7.17±1.948	0.6827*	6.50±1.751	7.00±2.000	0.2891*
Peer	5.38±1.748	5.68±1.668	0.5157*	**5.71**±1.523	**6.63**±1.964	0.0376*
Total	21.0408±5.3345	21.3889±6.1466	0.8210*	21.2632±5.8895	21.7692±4.9340	0.7201*

Table 40. SDQ scores by Mother education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
Emotion	4.62±3.462	3.48±2.174	4.04±2.868	0.3933*	5.14±1.900	5.62±2.516	3.00±2.345	0.0633*
Conduct	4.62±1.668	4.77±2.093	4.30±2.265	0.7094*	3.90±1.472	3.83±1.834	3.00±2.000	0.5396*
Prosoc	7.06±3.235	7.42±2.233	6.43±2.660	0.3991*	7.97±2.079	8.46±1.841	8.40±1.140	0.6355*
Hyper	7.75±1.770	6.83±1.967	7.57±1.701	0.1931*	6.93±1.926	6.96±1.805	6.20±2.168	0.7043*
Peer	5.75±1.949	5.39±1.283	5.48±1.831	0.7706*	6.24±1.902	6.00±1.694	5.80±.447	0.8244**
Total	22.7500±6.6182	20.4333±4.1579	21.3913±5.6225	0.6197**	21.9286±5.0767	22.4167±5.9411	18.0000±5.3385	0.2649*
	22.0000	20.5000	21.0000		6.00	6.00	6.00	

Table 41. SDQ scores by Father education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
Emotion	**5.92**±2.678	**3.62**±2.481	**3.20**±2.541	0.0176*	4.59±2.093	5.56±2.128	3.25±2.062	0.1974*
Conduct	4.92±1.564	4.25±1.824	3.87±2.200	0.3602*	3.71±1.724	3.67±1.658	2.75±.957	0.5686*
Prosoc	6.00±2.663	7.67±2.444	7.13±2.475	0.1809*	7.94±1.819	9.33±1.118	8.25±.957	0.1131*
Hyper	7.75±1.765	7.09±1.905	7.50±1.912	0.5849*	6.82±1.741	6.78±1.563	5.25±1.893	0.2537*
Peer	6.67±2.060	5.67±1.435	5.33±.816	0.0504**	6.06±1.676	6.00±2.179	5.50±1.291	0.8551*
Total	7.00	6.00	5.00					
	25.2500±5.7860	20.8261±4.2496	19.7143±4.7301	0.0121*	21.1765±4.4894	22.0000±4.9244	16.7500±4.0311	0.1642*

Table 42. SDQ scores by Mother employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	**7.50**±3.109	**3.91**±2.586	0.0094*	5.50±2.345	4.88±2.332	0.5432*
Conduct	4.25±1.500	4.48±2.010	0.8249*	4.17±1.472	3.62±1.705	0.4513*
Prosoc	7.50±2.380	6.99±2.643	0.7050*	7.50±2.345	8.37±1.738	0.2697*
Hyper	7.75±.957	7.37±1.949	0.7008*	6.33±1.966	6.67±1.997	0.6943*
	6.00±2.160	5.55±1.702	0.6105*	4.67±.816	6.08±1.631	0.0309**
Peer				4.50	6.00	
Total	25.5000± 6.3509	21.2923± 5.2729	0.1298*	20.6667± 3.7238	21.2500± 5.9898	0.8171*

Table 43. SDQ scores by Father employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	-	3.91±2.662	-	6.00±0.816	4.79±2.151	0.2700*
Conduct	-	4.43±2.068	-	4.50±2.380	3.68±1.776	0.3840*
Prosoc	-	6.92±2.540	-	**5.75**±2.872	**8.02**±1.755	0.0187*
Hyper	-	7.38±1.834	-	7.50±2.646	6.62±1.818	0.3628*
Peer	-	5.47±1.640	-	5.75±3.096	6.10±1.663	0.7041*
Total	-	21.8131± 5.4602	-	23.7500± 7.3201	21.0484± 5.0617	0.3167*

Table 44. SDQ scores by Victim of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	3.86±2.563	3.58±2.456	0.1048*	4.65±2.381	5.68±1.945	0.1049*
Conduct	4.04±1.915	4.89±2.141	0.0971*	**3.28**±1.617	**4.70**±1.949	0.0039*
Prosoc	6.57±2.768	7.37±2.353	0.2116*	8.08±1.900	8.25±2.099	0.7465*
Hyper	7.26±1.953	7.75±1.663	0.2864*	**6.42**±1.662	**7.85**±1.785	0.0034*
Peer	5.75±1.898	5.11±1.524	0.1354*	**5.62**±1.353	**7.00**±1.654	0.0011*
Total	21.0741± 5.8371	21.3056± 4.3806	0.8578*	**19.9750**± 5.1065	**24.9474**± 4.9270	0.0008*

Table 45. SDQ scores by Victim physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	**4.00**±2.517	**2.71**±1.829	0.0342*	5.00±2.449	4.73±2.183	0.6620*
Conduct	**3.89**±1.822	**5.63**±2.203	0.0015*	**3.45**±1.716	**4.41**±1.803	0.0408*
Prosoc	7.11±2.547	6.62±2.618	0.4769*	8.36±1.917	7.74±1.992	0.2236*
Hyper	7.44±1.949	7.61±1.644	0.7389*	6.48±1.856	7.04±1.911	0.2626*
Peer	**5.81**±1.823	**4.75**±1.294	0.0163*	5.82±1.446	6.48±1.827	0.1218*
	21.2778± 5.6194	20.6087± 4.0197	0.8272**	20.7576± 5.9004	22.3846± 5.2618	0.2750*
Total	21.0000	21.0000				

Table 46. SDQ scores by Witness of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	**3.07**±2.814	**4.97**±2.899	0.0442*	4.93±2.235	4.93±1.944	0.9971*
Conduct	4.36±2.205	4.48±1.752	0.8335*	3.57±2.065	3.93±1.388	0.4959*
	6.71±3.583	7.12±2.315	0.9906**	8.21±2.082	7.50±1.978	0.2787*
Prosoc	8.50	7.00				
	6.92±2.065	7.70±1.741	0.2125*	6.29±1.383	7.03±2.141	0.1974**
Hyper				6.00	7.50	
Peer	5.38±1.758	5.61±1.919	0.7203*	5.50±1.286	6.47±1.814	0.0807*
Total	20.0000± 7.2488	22.7576± 5.3679	0.1732*	20.2857± 4.5981	22.1034± 5.2122	0.2729*

Table 47. SDQ scores by Witness of physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	**4.10**±2.698	**6.50**±2.449	0.0196*	4.84±2.062	4.43±1.988	0.6513*
	4.56±2.209	4.75±1.669	0.7238*	3.63±1.862	4.14±.900	0.3179**
Conduct				3.00	4.00	
Prosoc	6.87±2.592	7.62±2.446	0.4762*	7.84±2.115	7.57±1.618	0.7625*
Hyper	7.18±1.964	7.87±1.553	0.7550*	6.74±1.522	6.71±1.799	0.9748*
Peer	5.75±1.648	5.87±2.100	0.6118*	**5.53**±1.467	**7.29**±1.604	0.0141*
Total	21.4348± 6.2510	25.0000± 3.7796	0.1419*	20.7368± 4.4452	22.5714± 4.8599	0.3711*

Table 48. SDQ scores by Family income

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	low	medium	high	p_value	low	medium	high	p_value
Emotion	**3.00**±0.000 3.00	**7.20**±2.588 8.00	**3.73**±2.553 4.00	0.0399**	-	5.42±2.062	4.61±2.308	0.1523*
Conduct	4.00±0.000 4.00	6.00±1.871 5.00	4.43±2.035 4.00	0.2322**	-	3.83±1.551	3.64±1.946	0.6717*
Prosoc	3.00±0.000 3.00	6.00±4.183 5.00	7.00±2.550 8.00	0.3460**	-	7.67±2.180	8.26±1.794	0.2187*
Hyper	9.00±0.000 9.00	8.80±1.095 9.00	7.26±1.902 7.00	0.1190**	-	7.13±2.007	6.54±1.897	0.2269*
Peer	5.00±0.000 5.00	6.00±1.225 6.00	5.45±1.668 5.00	0.5352**	-	6.33±1.810	6.02±1.635	0.4585*
Total	**21.00**±0.000 21.00	**28.00**±4.582 28.00	**20.90**±20.9054 21.00	0.0203**	-	22.70±5.7444	20.63±5.418	0.1361*

Table 49. SDQ scores by Parenting style

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	authoritative	authoritarian	not specified	p_value	authoritative	authoritarian	not specified	p_value
Emotion	4.08±2.489	3.22±3.270	3.83±2.588	0.6570*	4.73±2.359	4.43±1.910	5.45±2.296	0.5185*
Conduct	4.82±1.967	3.78±2.991	4.50±1.883	0.3801*	3.89±1.722	3.27±2.154	3.18±1.471	0.3305*
Prosoc	7.08±2.606	6.67±2.449	6.08±3.204	0.5051*	8.29±1.753	7.33±1.952	7.64±2.014	0.1797*
Hyper	7.54±1.940	6.50±2.330	7.08±1.311	0.3164*	6.58±2.017	6.73±1.751	7.27±1.849	0.5697*
Peer	5.46±1.752	5.67±1.581	5.17±1.403	0.7842*	6.07±1.601	6.13±1.506	5.09±1.300	0.1518*
Total	21.920± 5.2210 21.500	18.875± 8.2711 15.500	20.583±4.0330 21.000	0.3079**	21.266± 5.8052	19.928± 4.1037	21.000± 5.6391	0.7290*

Table 50. CBCL-FAD Correlations in Psychiatry group

		Anxious	Withdrawn	Somatic Complaints	Social Problems	Thought Problems	AttentionProblems	RuleBreaking Behaviour	Aggressive Behaviour	INT	EXT
Problem Solving	Pearson Correlation	0.111	0.146	0.285*	0.137	0.039	0.171	0.058	0.036	0.157	0.048
	Sig. (2-tailed)	0.403	0.269	0.017	0.297	0.766	0.191	0.662	0.788	0.239	0.716
	N	59	59	70	60	60	60	60	60	58	60
Communication	Pearson Correlation	0.121	0.310*	0.344**	0.095	0.051	0.095	0.157	0.141	0.266*	0.162
	Sig. (2-tailed)	0.356	0.016	0.003	0.466	0.698	0.464	0.227	0.277	0.042	0.211
	N	60	60	71	61	61	61	61	61	59	61
Roles	Pearson Correlation	0.319*	0.479**	0.429**	0.333**	0.263*	0.320*	0.232	0.303*	0.457**	0.306*
	Sig. (2-tailed)	0.014	0.000	0.000	0.009	0.042	0.013	0.074	0.019	0.000	0.017
	N	59	59	70	60	60	60	60	60	58	60
Affective Responsiveness	Pearson Correlation	0.191	0.309*	0.296*	0.156	-0.016	0.015	0.011	0.054	0.274*	0.042
	Sig. (2-tailed)	0.144	0.016	0.012	0.230	0.902	0.911	0.931	0.680	0.036	0.745
	N	60	60	71	61	61	61	61	61	59	61
Affective Involvement	Pearson Correlation	0.137	0.183	0.254*	-0.043	0.097	-0.055	0.230	-0.024	0.183	0.075
	Sig. (2-tailed)	0.297	0.162	0.033	0.742	0.455	0.676	0.075	0.852	0.165	0.568
	N	60	60	71	61	61	61	61	61	59	61
Behavior Control	Pearson Correlation	0.158	0.046	0.155	-0.086	-0.088	-0.111	-0.051	-0.100	0.086	-0.091
	Sig. (2-tailed)	0.229	0.730	0.198	0.512	0.499	0.393	0.697	0.442	0.519	0.486
	N	60	60	71	61	61	61	61	61	59	61
General Functioning	Pearson Correlation	0.110	0.244	0.337**	0.084	-0.001	0.025	0.134	0.048	0.228	0.087
	Sig. (2-tailed)	0.403	0.060	0.004	0.522	0.993	0.851	0.304	0.716	0.082	0.506
	N	60	60	71	61	61	61	61	61	59	61

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 51. CBCL-FAD Correlations in Neurology group

		Anxious	Withdrawn	Somatic Complaints	Social Problems	Thought Problems	AttentionProblems	RuleBreaking Behaviour	Aggressive Behaviour	INT	EXT
Problem Solving	Pearson Correlation	0.163	0.070	-0.053	-0.012	0.081	-0.016	0.099	0.119	0.056	0.121
	Sig. (2-tailed)	0.230	0.601	0.657	0.932	0.551	0.910	0.458	0.378	0.682	0.371
	N	56	59	72	57	57	55	58	57	56	57
Communication	Pearson Correlation	0.153	0.245	-0.153	-0.197	-0.039	-0.011	0.043	-0.096	0.043	-0.065
	Sig. (2-tailed)	0.259	0.062	0.200	0.143	0.776	0.937	0.750	0.478	0.752	0.629
	N	56	59	72	57	57	55	58	57	56	57
Roles	Pearson Correlation	0.285*	0.275*	-0.078	0.099	0.161	0.185	0.073	0.097	0.165	0.098
	Sig. (2-tailed)	0.034	0.035	0.515	0.466	0.232	0.177	0.585	0.471	0.223	0.469
	N	56	59	72	57	57	55	58	57	56	57
Affective Responsiveness	Pearson Correlation	0.239	0.388**	-0.015	0.015	0.120	0.079	0.120	0.000	0.208	0.032
	Sig. (2-tailed)	0.076	0.002	0.901	0.913	0.372	0.568	0.369	0.998	0.124	0.813
	N	56	59	72	57	57	55	58	57	56	57
Affective Involvement	Pearson Correlation	0.154	0.052	-0.007	-0.203	0.017	0.040	-0.057	-0.110	0.063	-0.103
	Sig. (2-tailed)	0.257	0.694	0.951	0.130	0.900	0.770	0.673	0.413	0.642	0.445
	N	56	59	72	57	57	55	58	57	56	57
Behavior Control	Pearson Correlation	0.154	-0.050	-0.024	-0.119	0.155	0.047	0.111	0.041	0.045	0.063
	Sig. (2-tailed)	0.258	0.709	0.840	0.378	0.251	0.734	0.406	0.760	0.744	0.641
	N	56	59	72	57	57	55	58	57	56	57
General Functioning	Pearson Correlation	0.196	0.175	0.102	-0.125	0.186	0.010	0.115	0.049	0.168	0.069
	Sig. (2-tailed)	0.148	0.184	0.392	0.354	0.167	0.944	0.390	0.720	0.215	0.611
	N	56	59	72	57	57	55	58	57	56	57

*. Correlation is significant at the 0.05 level (2- tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 52. SDQ – FAD Correlations in Psychiatry group

		Problem Solving	Communication	Roles	Affective Responsiveness	Affective Involvement	Behavior Control	General Functioning
Emotion	Pearson Correlation	0.144	0.132	0.307**	0.329**	0.177	0.135	0.226
	Sig. (2-tailed)	0.222	0.258	0.008	0.004	0.129	0.250	0.051
	N	74	75	74	75	75	75	75
Conduct	Pearson Correlation	0.024	0.011	0.048	-0.078	0.104	-0.087	0.005
	Sig. (2-tailed)	0.840	0.922	0.683	0.508	0.376	0.459	0.968
	N	74	75	74	75	75	75	75
Prosocial	Pearson Correlation	-0.240*	-0.115	-0.222	-0.112	-0.074	-0.048	-0.164
	Sig. (2-tailed)	0.039	0.326	0.058	0.338	0.529	0.682	0.160
	N	74	75	74	75	75	75	75
Hyperactivity	Pearson Correlation	0.119	0.159	0.190	0.124	0.100	0.058	0.138
	Sig. (2-tailed)	0.319	0.180	0.110	0.295	0.399	0.623	0.246
	N	72	73	72	73	73	73	73
Peer	Pearson Correlation	-0.014	-0.062	0.146	0.102	0.093	0.041	-0.032
	Sig. (2-tailed)	0.906	0.602	0.218	0.386	0.430	0.731	0.786
	N	73	74	73	74	74	74	74
Total	Pearson Correlation	0.027	0.069	0.187	0.163	0.160	0.055	0.089
	Sig. (2-tailed)	0.820	0.563	0.116	0.169	0.176	0.642	0.456
	N	72	73	72	73	73	73	73

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 53. SDQ-FAD Correlations in Neurology group

		Problem Solving	Communication	Roles	Affective Responsiveness	Affective Involvement	Behavior Control	General Functioning
Emotion	Pearson Correlation	0.028	0.046	0.102	0.064	-0.117	0.001	0.071
	Sig. (2-tailed)	0.812	0.695	0.389	0.589	0.319	0.994	0.548
	N	74	74	74	74	74	74	74
Conduct	Pearson Correlation	0.066	-0.114	0.075	-0.112	0.015	-0.117	-0.094
	Sig. (2-tailed)	0.576	0.330	0.522	0.340	0.897	0.318	0.424
	N	75	75	75	75	75	75	75
Prosocial	Pearson Correlation	-0.088	0.008	-0.072	0.000	0.221	-0.027	-0.017
	Sig. (2-tailed)	0.451	0.944	0.542	0.999	0.057	0.815	0.882
	N	75	75	75	75	75	75	75
Hyperativity	Pearson Correlation	0.110	0.037	0.101	0.079	0.084	0.120	0.184
	Sig. (2-tailed)	0.347	0.751	0.390	0.500	0.474	0.306	0.113
	N	75	75	75	75	75	75	75
Peer	Pearson Correlation	0.240*	0.245*	0.267*	0.377**	0.160	0.249*	0.353**
	Sig. (2-tailed)	0.038	0.034	0.021	0.001	0.171	0.031	0.002
	N	75	75	75	75	75	75	75
Total	Pearson Correlation	0.113	0.086	0.161	0.114	0.083	0.058	0.140
	Sig. (2-tailed)	0.340	0.465	0.172	0.334	0.484	0.623	0.235
	N	74	74	77	74	74	74	74

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 54. YSR scores by Gender

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Female	Male	p_value	Female	Male	p_value
Anxious	6.60±5.030	6.57±5.287	0.9918*	4.33±1.528	4.25±4.031	0.9747*
	4.60±6.542	4.86±3.085	0.3265**	2.67±1.528	4.75±3.500	0.3868*
Withdrawn	2.00	4.50				
	7.80±8.672	6.43±3.777	0.6752**	6.29±5.057	5.29±4.889	0.7134*
SomaticComplaints	4.00	5.00				
SocialProblems	4.40±4.561	6.31±2.840	0.2958*	2.00±1.732	2.40±3.209	0.8516*
ThoughtProblems	10.40±5.079	9.36±4.308	0.6621*	6.33±1.528	6.80±1.924	0.7349*
AttentionProblems	5.80±3.033	7.79±3.401	0.2666*	3.00±1.000	4.60±1.817	0.2178*
	6.20±1.643	**10.57**±5.095	0.0318**	**3.33**±1.155	**7.60**±2.702	0.0444*
RuleBreakingBehaviour	6.00	8.50				
AggressiveBehaviour	6.80±3.899	11.21±7.202	0.2149*	4.00±4.000	5.20±3.493	0.6700*
	19.00±19.962	17.86±10.567	0.8718*	9.33±0.577	14.25±9.287	0.2845**
Internalizing				9.00	12.50	
	13.00±3.464	21.79±10.482	0.1034**	7.33±3.055	12.80±6.140	0.2086*
Externalizing	14.00	22.00				
OtherProblems	11.60±1.949	13.25±3.980	0.3968*	10.33±3.511	13.00±1.870	0.2004*
Total	64.20±33.093	75.38±29.767	0.4977*	38.33±7.571	56.50±19.706	0.1972*

Table 55. YSR scores by Family structure

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Single-parent family	Two-parent family	p_value	Single-parent family	Two-parent family	p_value
	10.67±10.970	5.73±3.411	0.5**	7.00±4.243	3.20±1.924	0.1364*
Anxious	7.00	5.00				
	6.00±4.000	4.47±4.274	0.5755*	**7.50**±2.121	**2.40**±1.342	0.0105*
Withdrawn				7.50	3.00	
SomaticComplaints	9.67±5.033	6.47±5.357	0.3555*	4.50±4.950	6.36±5.045	0.6397*
SocialProblems	8.50±.707	5.20±3.406	0.2033*	5.00±4.243	1.33±1.366	0.0800*
ThoughtProblems	10.00±7.550	10.07±3.515	0.9804*	5.50±2.121	7.00±1.549	0.3104*
AttentionProblems	8.67±4.041	7.07±3.390	0.4776*	5.50±2.121	3.50±1.378	0.1599*
RuleBreakingBehaviour	11.33±5.774	9.20±4.887	0.5101*	9.50±3.536	4.83±2.041	0.0515*
	13.67±12.423	8.93±5.378	0.7669**	8.00±4.243	3.67±2.733	0.1311*
AggressiveBehaviour	7.00	10.00				
Internalizing	26.33±19.858	16.67±12.022	0.2659*	19.00±11.314	9.40±3.209	0.1056*
Externalizing	25.00±18.193	18.13±8.314	0.2980*	**17.50**±7.778	**8.50**±2.950	0.0382*
OtherProblems	13.66±6.506	12.57±2.927	0.6408*	14.00±0.000	11.33±2.875	0.2598*
Total	89.33±57.552	68.86±23.594	0.6784**	66.50±27.577	41.60±7.056	0.0844*

Table 56. YSR scores by Family complexity

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Extended	Nuclear	p_value	Extended	Nuclear	p_value
	7.80±8.786	6.08±3.475	0.7645**	2.00±0.000	4.67±3.077	0.4587*
Anxious	5.00	6.00				
Withdrawn	4.80±3.271	4.69±4.571	0.9625*	1.00±0.000	4.33±2.805	0.3213*
SomaticComplaints	6.80±4.919	7.08±5.634	0.9245*	**11.00**±4.546	**3.89**±3.219	0.0076*
SocialProblems	4.60±2.408	6.00±3.717	0.4535*	1.00±0.000	2.43±2.760	0.6455*
ThoughtProblems	13.00±3.162	8.92±3.947	0.0564*	9.00±0.000	6.29±1.496	0.1406*
AttentionProblems	7.60±3.362	7.23±3.586	0.8450*	5.00±0.000	3.86±1.773	0.5686*
RuleBreakingBehaviour	12.40±5.225	8.46±4.539	0.1324*	5.00±0.000	6.14±3.288	0.7561*
AggressiveBehaviour	11.60±10.015	9.00±5.354	0.4795*	3.00±0.000	5.00±3.651	0.6267*
Internalizing	19.40±16.041	17.85±12.935	0.8330*	14.00±0.000	11.83±7.705	0.8050*
Externalizing	24.00±14.213	17.46±8.089	0.2310*	8.00±0.000	11.14±6.012	0.6422*
	14.00±3.937	12.25±3.387	0.3681*	11.00±0.000	12.14±2.911	0.6527**
OtherProblems				11.00	14.00	
	82.60±40.016	68.30±26.335	0.3840*	48.00±0.000	48.83±19.208	0.3130**
Total				48.00	46.00	

Table 57. YSR scores by MotherHealthProblems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	11.33±10.214	3.50±0.707	0.2861**	2.00±1.414	7.00±4.242	0.2546*
	7.00	3.50				
	7.00±0.000	4.00±1.414		-	-	
Anxious	7.00	4.00				
	4.66±5.033	2.00±2.828	0.5981**	3.50±0.707	7.50±2.121	0.1271*
	4.00	2.00				
	6.00±0.000	1.50±0.707		-	-	
Withdrawn	6.00	1.50				
	7.00±7.000	4.50±3.535	0.6321**	7.00±5.686	4.66±3.511	0.5359*
	4.00	4.50				
	10.00±0.000	6.50±2.121		-	-	
SomaticComplaints	10.00	6.50				
	6.00±5.291	3.00±1.414	0.5724**	1.66±2.081	5.00±4.242	0.3081*
	8.00	3.00				
	9.00±0.000	4.00±1.414		-	-	
SocialProblems	9.00	4.00				
	11.33±5.859	8.50±3.535	0.8263**	6.33±0.000	5.50±2.121	0.6376*
	9.00	8.50				
	11.00±0.000	11.50±3.535		-	-	
ThoughtProblems	11.00	11.50				
	9.00±6.928	4.50±3.535	0.8659**	3.00±1.732	5.50±2.121	0.2394*
	13.00	4.50				
	6.00±0.000	6.50±3.535		-	-	
AttentionProblems	6.00	6.50				
	11.00±6.245	6.50±0.707	0.2439**	6.00±2.000	9.50±3.535	0.2387*
	9.00	6.50				
	5.00±0.000	13.00±4.242				
RuleBreakingBehaviour	5.00	13.00				
	15.00±13.527	2.00±2.828	0.5610**	3.66±1.527	8.00±4.242	0.1826*
	16.00	2.00				
	10.00±0.000	8.50±7.778		-	-	
AggressiveBehaviour	10.00	8.50				
	23.00±22.113	10.00±5.656	0.5431**	7.00±2.828	19.00±11.313	0.2829*
	15.00	10.00				
	23.00±0.000	12.00±1.414		-	-	
Internalizing	23.00	12.00				

*** ANOVA**
**** Kruskal-Wallis**

	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**
	26.00±19.519	8.50±3.535	0.4226**	9.66±2.886	17.50±7.778	0.1892*
	25.00	8.50				
	15.00±0.000	21.50±12.020		-	-	
Externalizing	15.00	21.50				
	16.33±6.350	11.00±0.000	0.4882**	11.00±4.000	14.00±0.000	0.5536**
	20.000	11.00		11.00	14.00	
	-	14.00±0.000		-	-	
OtherProblems		14.00				
	91.66±61.500	45.50±17.677	0.6137**	40.00±7.071	66.50±27.577	0.3187*
	92.00	45.50				
	64.00±0.000	69.50±14.849		-	-	
Total	64.00	69.50				

Table 58. YSR scores by Father health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	5.90±3.961 7.00	4.00±0.000 4.00	0.9206**	4.40±3.646	-	-
	-	5.00±0.000 5.00		-	-	
Anxious						
	5.27±4.562 4.00	0.00±0.000 0.00	0.1827**	4.00±3.000	-	-
	-	1.00±0.000 1.00		-	-	
Withdrawn						
	6.90±5.990 5.00	2.00±0.000 2.00	0.5588**	6.90±5.237 8.00	5.00±0.000 5.00	0.7485**
	-	5.00±0.000 5.00		-	-	
SomaticComplaints						
	5.45±3.615 6.00	2.00±0.000 2.00	0.5308**	2.50±3.016	-	-
	-	3.00±0.000 3.00		-	-	
SocialProblems						
	10.27±3.608 10.00	6.00±0.000 6.00	0.1897**	7.16±1.472	-	-
	-	14.00±0.000 14.00		-	-	
ThoughtProblems						
	7.72±3.408 7.00	2.00±0.000 2.00	0.1977**	4.16±1.940	-	-
	-	4.00±0.000 4.00		-	-	
AttentionProblems						
	10.18±5.269 9.00	6.00±0.000 6.00	0.4282**	6.16±3.488	-	-
		10.00±0.000 10.00		-	-	
RuleBreakingBehaviour						
	10.00±5.215 11.00	0.00±0.000 0.00	0.1327**	5.50±3.391	-	-
	-	3.00±0.000 3.00		-	-	
AggressiveBehaviour						
	18.09±13.352 14.00	6.00±0.000 6.00	0.3574**	13.00±8.455	-	-
		11.00±0.000 11.00		-	-	
Internalizing						
Externalizing	20.18±8.565	6.00±0.000	0.1737**	11.66±5.887	-	-

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**	**Absent Mental**	**Somatic Mental+Somatic**	**p_value**
	21.00	6.00				
	-	13.00±0.000		-	-	
		13.00				
	12.54±3.266	11.00±0.000	0.7404**	12.00±2.966	-	-
	11.00	11.00				
	-	14.00±0.000		-	-	
OtherProblems		14.00				
	74.27±24.466	33.00±0.000	0.3319**	52.20±19.588	-	-
	76.00	33.00				
		59.00±0.000		-	-	
Total		59.00				

Table 59. YSR scores by Mother alcohol use

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	6.88±5.464 3.50	-	-	3.33±1.751 10.00	10.00±0.000	0.1301**
Withdrawn	4.94±4.358 3.00	-	-	3.00±1.897 9.00	9.00±0.000	0.1266**
SomaticComplaints	7.19±5.588 4.50	-	-	5.92±5.054 8.00	8.00±0.000	0.5883**
SocialProblems	5.80±3.550 1.00	-	-	1.43±1.272 8.00	8.00±0.000	0.1036**
ThoughtProblems	10.19±4.293 6.00	-	-	6.57±1.813 7.00	7.00±0.000	0.8252**
AttentionProblems	7.25±3.624 4.00	-	-	3.57±1.272 7.00	7.00±0.000	0.1198**
RuleBreakingBehaviour	10.00±5.046 5.00	-	-	5.14±2.035 12.00	12.00±0.000	0.1244**
AggressiveBehaviour	10.00±6.995 4.00	-	-	3.86±2.545 11.00	11.00±0.000	0.1244**
Internalizing	19.00±14.062 9.50	-	-	9.67±2.944 27.00	27.00±0.000	0.1301**
Externalizing	20.00±10.520 8.00	-	-	9.00±3.000 23.00	23.00±0.000	0.1175**
OtherProblems	12.86±3.739 11.00	-	-	11.71±2.811 14.00	14.00±0.000	0.4996**
Total	73.93±31.693 46.00	-	-	42.50±6.685 86.00	86.00±0.000	0.1301**

Table 60. YSR scores by Father alcohol use

*** Student T** **** Mann-Whithey**	**GROUPS**					
Variable	**PSYCHIATRY**			**NEUROLOGY**		
	Absent	**Present**	**p_value**	**Absent**	**Present**	**p_value**
Anxious	5.92±6.037 3.00	8.75±3.500 10.00	0.3949*	3.20±1.924 3.00	10.00±0.000 10.00	0.1432**
Withdrawn	**3.42**±3.118 3.00	**9.00**±5.292 9.00	0.0202*	**2.40**±1.342 3.00	**9.00**±0.000 9.00	0.0109*
SomaticComplaints	6.08±4.295	10.00±8.485	0.2353*	5.11±4.256	10.67±4.619	0.0832*
SocialProblems	**4.18**±3.060 1.00	**9.00**±1.414 8.00	0.0106*	1.33±1.366 1.00	8.00±0.000 8.00	0.0979**
ThoughtProblems	10.08±3.919 7.00	11.00±5.888 7.00	0.7245*	7.00±1.549 7.00	7.00±0.000 7.00	1.0000**
AttentionProblems	6.58±3.288 3.50	9.75±3.775 7.00	0.1288*	3.50±1.378 3.50	7.00±0.000 7.00	0.1266**
RuleBreakingBehaviour	10.00±4.632 4.50	9.75±7.089 12.00	0.9355*	4.83±2.041 4.50	12.00±0.000 12.00	0.1301**
AggressiveBehaviour	9.17±8.043 3.50	11.75±3.096 11.00	0.5482*	3.67±2.733 3.50	11.00±0.000 11.00	0.1336**
Internalizing	15.42±12.442 9.00	27.75±16.520 27.00	0.1338*	9.40±3.209 9.00	27.00±0.000 27.00	0.1375**
Externalizing	19.17±11.590 8.00	21.50±8.583 23.00	0.7192*	8.50±2.950 8.00	23.00±0.000 23.00	0.1196**
OtherProblems	12.25±3.387 11.00	14.33±5.507 14.00	0.4101*	11.33±2.875 11.00	14.00±0.000 14.00	0.4450**
Total	67.33±33.619 45.00	89.75±21.328 86.00	0.2365*	41.60±7.056 45.00	86.00±0.000 86.00	0.1432**

Table 61. YSR scores by Mother education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
	4.60±2.608	6.25±3.615	3.00±0.000	0.4645**	2.00±1.414	4.00±0.000	-	0.1393*
Anxious	5.00	6.00	3.00					
	4.40±3.507	4.50±5.210	4.00±0.000	0.9656**	3.50±.707	6.00±0.000	-	0.0154*
Withdrawn	4.00	3.00	4.00					
	4.80±2.168	7.25±6.649	7.00±0.000	0.7718**	6.40±6.025	7.00±5.568	2.00±0.000	0.8352**
SomaticComplaints	5.00	4.50	7.00		5.00	8.00	2.00	
	4.60±2.074	6.29±4.192	4.00±0.000	0.6829**	2.50±2.121	2.00±0.000	0.00±0.000	0.6730*
SocialProblems	5.00	9.00	4.00					
	10.00±3.391	8.88±4.734	11.00±0.000	0.4980**	5.50±0.707	4.00±0.000	8.00±0.000	0.2390*
ThoughtProblems	10.00	8.00	11.00					
	8.00±3.391	6.37±3.852	7.00±0.000	0.7528**	3.50±2.121	4.00±0.000	2.00±0.000	0.8134*
AttentionProblems	8.00	6.50	7.00					
	14.60±4.879	**6.50**±1.604	**7.00**±0.000	0.0123**	6.00±2.828	7.00±0.000	6.00±0.000	0.9562*
RuleBreakingBehaviour	16.00	6.00	7.00					
	10.40±4.278	7.50±5.264	4.00±0.000	0.2871**	4.50±.707	5.00±0.000	2.00±0.000	0.2887*
AggressiveBehaviour	12.00	8.00	4.00					
	13.80±4.147	18.00±15.232	14.00±0.000	0.9248**	7.00±2.828	11.00±0.000	-	0.1393*
Internalizing	13.00	13.00	14.00					
	25.00±7.906	14.00±5.855	11.00±0.000	0.0913**	10.50±3.536	12.00±0.000	8.00±0.000	0.7668*
Externalizing	29.00	14.50	11.00					
	12.40±2.701	12.57±4.197	11.00±0.000	0.8832**	11.00±5.656	14.00±0.000	11.00±0.000	0.9086*
OtherProblems	14.00	13.00	11.00					
	73.80±10.986	63.75±29.879	58.00±0.000	0.4265**	40.00±7.071	47.00±0.000	-	0.2207**
Total	76.00	62.00	58.00		40.00	47.00		

Table 62. YSR scores by Father education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
	6.50±1.000	8.40±8.295	2.50±0.707	0.0956**	-	-	-	-
Anxious	7.00	5.00	2.50					
Withdrawn	5.25±3.775	4.00±4.000	3.00±1.414	0.7677*	-	-	-	-
	5.75±2.872	7.60±5.030	6.00±1.414	0.7710*	8.50±4.950	10.67±4.619	2.00±0.000	0.2936**
SomaticComplaints					8.50	8.00	2.00	
	7.25±3.096	5.60±2.881	4.00±0.000	0.5659**	-	-	-	-
SocialProblems	8.00	5.00	4.00					
ThoughtProblems	9.75±3.775	9.80±4.764	7.00±5.657	0.7452*	-	-	8.00±0.000	-
AttentionProblems	9.00±4.690	7.60±4.219	7.50±0.707	0.8620*	-	-	2.00±0.000	
RuleBreakingBehaviour	11.00±6.377	10.60±5.983	7.50±0.707	0.7700*	-	-	6.00±0.000	
AggressiveBehaviour	10.25±5.439	12.00±10.368	5.00±1.414	0.6032*	-	-	2.00±0.000	
Internalizing	17.50±5.508	20.00±16.688	11.50±3.536	0.7221*	-	-	-	-
Externalizing	21.25±8.884	22.60±15.646	12.50±2.121	0.6258*	-	-	8.00±0.000	-
OtherProblems	14.33±5.507	14.40±3.361	9.00±2.828	0.3034*	-	-	11.00±0.000	-
Total	75.50±16.421	80.00±44.648	49.50±12.020	0.5640*	-	-	-	-

Table 63. YSR scores by Mother employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	5.00±2.828	7.00±6.120	0.6659*	-	3.33±1.751	
Withdrawn	4.00±2.828	5.00±4.843	0.7857*	-	3.00±1.897	
SomaticComplaints	9.00±1.414	7.50±5.870	0.7335*	2.00±0.000	6.27±5.140	0.4446*
SocialProblems	7.00±2.828	5.55±3.174	0.5598*	0.00±0.000	1.67±1.211	0.2586*
ThoughtProblems	10.00±1.414	10.17±5.006	0.9646*	8.00±0.000	6.33±1.862	0.4450*
AttentionProblems	7.50±2.121	6.83±3.762	0.8152*	2.00±0.000	3.83±1.169	0.2062*
RuleBreakingBehaviour	10.50±7.778	9.75±5.578	0.8682*	6.00±0.000	5.00±2.191	0.6902*
AggressiveBehaviour	12.00±2.828	8.33±7.340	0.5103*	2.00±0.000	4.17±2.639	0.4815*
Internalizing	18.00±7.071	19.50±15.407	0.8973*	-	9.67±2.944	-
Externalizing	22.50±10.607	18.08±11.681	0.6270*	8.00±0.000	9.17±3.251	0.7532*
	14.00±0.000	11.91±3.396	0.3394**	11.00±0.000	11.83±3.060	0.7990**
OtherProblems	14.00	11.00		11.00	12.50	
Total	72.00±11.313	71.58±35.025	0.9873*	-	42.50±6.685	-

Table 64. YSR scores by Father employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Anxious	-	6.53±5.387	-	**10.00**±0.000	**3.33**±1.751	0.0168*
Withdrawn	-	4.65±4.271	-	**9.00**±0.000	**3.00**±1.897	0.0327*
SomaticComplaints	-	6.88±5.442	-	5.00±4.243	6.27±5.140	0.7499*
	-	5.37±3.364	-	4.00±5.657	1.67±1.211	1.0000**
SocialProblems				4.00	1.00	
ThoughtProblems	-	10.12±4.226	-	7.50±0.707	6.33±1.862	0.4389*
AttentionProblems	-	7.47±3.484	-	4.50±3.536	3.83±1.169	0.6652*
RuleBreakingBehaviour	-	9.65±5.061	-	9.00±4.243	5.00±2.191	0.1135*
AggressiveBehaviour	-	9.88±6.900	-	6.50±6.364	4.17±2.639	0.4507*
Internalizing	-	18.06±13.763	-	**27.00**±0.000	**9.67**±2.944	0.0028*
Externalizing	-	19.53±10.393	-	15.50±10.607	9.17±3.251	0.1900*
OtherProblems	-	12.68±3.628	-	12.50±2.121	11.83±3.060	0.7895*
	-	72.17±31.087	-	86.00±0.000	42.50±6.685	0.1301**
Total				86.00	46.00	

Table 65. YSR scores by Victim of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	**PSYCHIATRY**			**NEUROLOGY**		
	No	**Yes**	**p_value**	**No**	**Yes**	**p_value**
Anxious	5.00±3.651	8.50±6.887	0.3708*	3.00±2.160	-	-
	4.25±1.708	6.63±5.041	0.6059**	2.75±1.258	-	-
Withdrawn	4.50	5.00				
	8.00±2.160	9.00±6.459	0.6678**	**4.67**±4.131	**12.00**±4.000	0.0391*
SomaticComplaints	8.50	6.00				
SocialProblems	7.00±1.826	7.29±2.812	0.8608*	1.75±1.500	-	-
	10.25±1.500	11.25±5.676	0.7304**	7.00±1.826	-	-
ThoughtProblems	10.00	11.00				
AttentionProblems	6.75±2.062	8.88±3.603	0.3064*	4.00±1.414	-	-
RuleBreakingBehaviour	12.00±5.888	10.25±5.701	0.6304*	4.75±2.500	-	-
AggressiveBehaviour	10.00±3.162	11.00±8.089	0.8199*	5.00±2.160	-	-
Internalizing	17.25±6.131	24.12±16.669	0.4520*	9.50±3.697	-	-
Externalizing	22.00±8.679	21.25±12.303	0.9161*	9.75±2.363	-	-
OtherProblems	5.00±3.651	8.50±6.886	0.3708*	11.75±3.594	-	-
	75.50±3.415	83.75±36.659	0.6704**	43.75±5.965	-	-
Total	75.00	75.50				

Table 66. YSR scores by Victim physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Anxious	**7.00**±1.414 7.00	**3.25**±2.630 2.50	0.0282*	3.33±2.517 3.00	2.00±0.000 2.00	0.6547**
Withdrawn	5.40±3.286	3.75±1.258	0.3786*	3.33±.577 3.00	1.00±0.000 1.00	0.0728*
SomaticComplaints	7.60±2.881	5.25±1.258	0.1762*	6.62±5.449 6.50	11.00±0.000 11.00	0.4347**
SocialProblems	7.20±2.490	6.67±3.055	0.7952*	2.00±1.732	1.00±0.000	0.6667*
ThoughtProblems	10.00±3.317	8.75±4.031	0.6245*	6.33±1.528	9.00±0.000	0.2697*
AttentionProblems	6.60±3.647	9.00±2.708	0.3112*	3.67±1.528	5.00±0.000	0.5286*
RuleBreakingBehaviour	9.80±6.017	10.50±5.066	0.8582*	4.67±3.055 4.00	5.00±0.000 5.00	0.6547**
AggressiveBehaviour	8.00±3.391	9.25±5.377	0.6816*	5.67±2.082 5.00	3.00±0.000 3.00	0.1797**
Internalizing	**20.00**±5.099	**12.25**±2.754	0.0300*	8.00±2.646 9.00	14.00±0.000 14.00	0.1797**
Externalizing	17.80±7.981	19.75±8.617	0.7352*	10.33±2.517 10.00	8.00±0.000 8.00	0.3458**
OtherProblems	12.00±2.449 12.50	12.00±5.597 10.50	0.6612**	12.00±4.358 14.00	11.00±0.000 11.00	0.6547**
Total	71.20±10.709	66.75±22.081	0.7008*	42.33±6.429 45.00	48.00±0.000 48.00	0.1797**

Table 67. YSR scores by Witness of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
	2.33±1.528	**9.11**±6.009	0.0186**	-	4.00±2.828	-
Anxious	2.00	7.00				
Withdrawn	2.33±2.517	6.78±4.738	0.1593*	-	2.00±1.414	-
SomaticComplaints	4.00±1.732	9.00±6.384	0.2222*	6.50±2.121	10.00±6.377	0.5121*
SocialProblems	3.00±4.243	6.89±2.934	0.1438*	-	1.00±.000	-
ThoughtProblems	7.33±4.509	11.89±4.485	0.1590*	-	8.50±.707	-
AttentionProblems	5.67±4.041	8.89±3.444	0.2058*	-	4.50±.707	-
RuleBreakingBehaviour	10.67±6.429	11.00±5.612	0.9328*	-	3.50±2.121	-
AggressiveBehaviour	6.00±5.000	13.56±6.930	0.1162*	-	5.50±3.536	-
	8.67±2.517	24.89±15.293	0.0159**	-	12.00±2.828	-
Internalizing	9.00	21.00				
Externalizing	16.67±11.240	24.56±10.573	0.2951*	-	9.00±1.414	-
OtherProblems	**8.66**±1.527	**15.00**±3.585	0.0180*	-	12.50±2.121	-
Total	49.00±24.020	90.44±29.492	0.0540*	-	47.50±0.707	-

Table 68. YSR scores by Witness of physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Anxious	3.75±2.754	8.00±5.568	0.2344*	2.00±0.000	-	-
Withdrawn	4.50±4.041	7.33±7.572	0.5453*	1.00±0.000	-	-
	4.75±0.500	11.33±9.452	0.3543**	8.00±3.000	16.00±0.000	0.1797**
SomaticComplaints	5.00	8.00		8.00	16.00	
SocialProblems	5.33±2.082	8.33±2.887	0.2181*	1.00±0.000	-	-
ThoughtProblems	8.50±5.323	12.33±5.774	0.4039*	9.00±0.000	-	-
AttentionProblems	8.25±3.686	9.67±3.055	0.6136*	5.00±0.000	-	-
RuleBreakingBehaviour	14.00±5.888	10.00±5.568	0.4051*	5.00±0.000	-	-
AggressiveBehaviour	8.00±4.243	13.00±3.606	0.1626*	3.00±0.000	-	-
	13.00±5.416	26.67±21.962	0.1536**	14.00±0.000	-	-
Internalizing	11.00	15.00				
Externalizing	22.00±9.899	23.00±8.185	0.8930*	8.00±0.000	-	-
OtherProblems	10.00±2.943	16.00±3.464	0.0556*	11.00±0.000	-	-
Total	65.75±20.122	96.00±18.330	0.0970*	48.00±0.000	-	-

Table 69. YSR scores by Family income

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	low	medium	high	p_value	low	medium	high	p_value
Anxious	-	4.00±4.243	7.00±5.529	0.4761*	-	4.00±2.000	4.50±3.873	0.8486*
Withdrawn	-	2.50±2.121	5.20±4.379	0.4136*	-	1.67±1.155	5.50±2.646	0.0692*
SomaticComplaints	-	1.50±.707	7.93±5.311	0.1168*	-	8.00±6.782	5.22±3.962	0.3653*
	-	**1.00**±1.414	**6.36**±3.128	0.0351*	-	1.00±.000	3.00±3.162	0.3406**
SocialProblems						1.00	2.00	
ThoughtProblems	-	9.00±1.414	10.40±4.405	0.6694*	-	7.67±1.528	6.00±1.581	0.1947*
AttentionProblems	-	6.50±0.707	7.33±3.735	0.7635*	-	4.00±1.000	4.00±2.121	1.000*
	-	9.00±0.000	9.93±5.271	0.5480**	-	3.67±1.528	7.40±2.966	0.0946*
RuleBreakingBehaviour		9.00	8.00					
AggressiveBehaviour	-	8.50±4.950	9.80±7.272	0.8122*	-	3.67±4.041	5.40±3.362	0.5344*
Internalizing	-	8.00±7.071	20.13±13.835	0.2507*	-	11.00±2.646	13.00±9.661	0.7466*
Externalizing	-	17.50±4.950	19.73±11.029	0.7860*	-	7.33±3.055	12.80±6.140	0.2086*
OtherProblems	-	13.00±2.828	12.71±3.831	0.9215*	-	11.66±2.081	12.20±3.271	0.8114*
Total	-	55.00±16.970	75.40±31.941	0.3983*	-	42.66±8.386	53.25±22.455	0.4804*

Table 70. YSR scores by Parenting style

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	authoritative	authoritarian	not specified	p_value	authoritative	authoritarian	not specified	p_value
Anxious	4.33±2.291	8.00±1.414	5.00±5.657	0.2805*	3.00±2.646	-	-	-
Withdrawn	**2.67**±1.936	**7.00**±4.243	**6.50**±2.121	0.0421*	2.33±1.155	-	-	-
SomaticComplaints	4.78±2.819	7.00±4.243	8.00±4.243	0.3759*	7.25±7.500	6.50±2.121	10.00±2.828	0.8276*
SocialProblems	4.12±3.758	7.50±.707	7.00±1.414	0.3543*	1.00±.000	-	-	-
	8.89±2.977	8.00±4.243	12.00±0.000	0.1980**	7.67±1.528	-	-	-
ThoughtProblems	9.00	8.00	12.00					
AttentionProblems	6.67±3.354	9.00±5.657	8.50±.707	0.6205*	4.67±.577	-	-	-
RuleBreakingBehaviour	9.11±2.848	13.00±9.899	12.50±7.778	0.4654*	5.00±3.000	-	-	-
AggressiveBehaviour	7.56±5.223	10.00±2.828	14.50±4.950	0.2456*	5.33±2.517	-	-	-
Internalizing	11.78±5.495	22.00±1.414	19.50±12.021	0.0982*	9.67±4.509	-	-	-
Externalizing	16.67±7.263	23.00±12.728	27.00±2.828	0.2215*	10.33±2.517	-	-	-
OtherProblems	12.77±3.800	10.00±1.414	12.00±2.828	0.6165*	13.33±2.081	-	-	-
Total	60.44±20.069	79.50±10.606	86.00±14.142	0.1848*	46.66±1.527	-	-	-

Table 71. SDQ SR scores by Gender

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Female	Male	p_value	Female	Male	p_value
Emotion	3.00±3.266 2.00	4.06±1.662 4.05	0.2550**	4.73±2.687	2.57±1.813	0.0813*
Conduct	2.50±1.069 2.00	3.78±2.340 3.50	0.2251**	**1.73**±1.272	**3.14**±1.215	0.0325*
Prosoc	7.50±1.852	7.22±2.045	0.7455*	8.73±2.149	7.71±1.890	0.3233*
Hyper	2.75±2.252	4.00±2.701	0.2651*	2.73±2.412	3.00±2.082	0.8089*
Peer	2.75±2.315	3.00±1.782	0.7658*	2.82±2.183	2.14±1.574	0.4899*
Total	10.85±6.962	14.83±6.492	0.1905*	12.00±5.422	10.85±5.490	0.6702*

Table 72. SDQ SR scores by Family structure

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Single-parent family	Two-parent family	p_value	Single-parent family	Two-parent family	p_value
Emotion	4.25±1.708	3.68±2.428	0.6646*	3.50±.707	4.00±2.803	0.8100*
Conduct	4.75±3.500	3.11±1.853	0.1820*	4.00±.000	2.00±1.363	0.0618*
Prosoc	6.00±2.000	7.74±1.821	0.1022*	7.50±.707	8.47±2.232	0.5617*
Hyper	4.75±3.304	3.47±2.590	0.4005*	4.00±1.414	2.67±2.380	0.4587*
Peer	3.75±1.708	2.89±2.052	0.4471*	4.00±□.000	2.47±2.031	0.3156*
Total	17.50±8.266	13.15±6.652	0.2659*	15.50±0.707	11.13±5.629	0.3033*

Table 73. SDQ SR scores by Family complexity

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Extended	Nuclear	p_value	Extended	Nuclear	p_value
Emotion	3.11±1.764	4.21±2.547	0.2704*	5.33±2.160	3.18±2.639	0.1092*
Conduct	3.33±2.646	3.43±1.989	0.9224*	2.83±1.722	1.91±1.221	0.2155*
Prosoc	7.22±2.438	7.57±1.604	0.6815*	7.50±2.429	8.82±1.888	0.2317*
Hyper	3.56±2.603	3.79±2.833	0.8465*	**4.50**±1.225	**1.91**±2.256	0.0206*
Peer	3.33±2.291	2.86±1.834	0.5870*	3.83±1.835	2.00±1.789	0.0637*
Total	13.33±6.837	14.28±7.258	0.7567*	**16.50**±2.510	9.00±4.774	0.0029*

Table 74. SDQ SR scores by Mother health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	3.57±2.149	1.33±1.154	0.1990**	3.50±2.505	5.33±3.214	0.3156*
	4.00	2.00				
	5.00±0.000	4.00±0.000		-	-	
Emotion	5.00	4.00				
	3.25±2.712	2.66±2.886	0.8108**	2.60±1.173	2.66±2.309	0.9455*
	2.00	1.00				
	2.00±0.000	3.00±0.000		-	-	
Conduct	2.00	3.00				
	7.50±2.138	6.66±2.886	0.8437**	8.00±2.624	8.00±1.000	0.0000*
	8.50	5.00				
	9.00±0.000	7.50±0.7071		-	-	
Prosoc	9.00	7.50				
	3.87±3.399	4.00±3.605	0.5875**	3.30±2.406	4.00±1.000	0.6410*
	3.50	5.00				
	0.00±0.000	4.00±0.000				
Hyper	0.00	4.00				
	3.50±2.267	2.33±1.154	0.5779**	2.80±2.201	3.666±0.577	0.6071**
	3.00	3.00		2.00	4.00	
	1.00±0.000	2.50±2.121		-	-	
Peer	1.00	2.50				
	14.42±9.519	10.33±8.020	0.6189**	12.20±5.769	15.66±0.577	0.4960**
	12.00	11.00		12.50	15.66	
	8.00±0.000	13.50±2.121		-	-	
Total	8.00	13.50				

Table 75. SDQ SR scores by Father health problems

* ANOVA ** Kruskal-Wallis	GROUPS					
	PSYCHIATRY			NEUROLOGY		
Variable	Absent Mental	Somatic Mental+Somatic	p_value	Absent Mental	Somatic Mental+Somatic	p_value
	4.06±2.313	0.00±0.000	0.2953**	3.64±2.530	9.00±0.000	0.1011**
	4.00	0.00		4.00	9.00	
	-	4.00±0.000		-		
Emotion		4.00				
	3.31±1.922	1.00±0.000	0.3912**	2.42±1.222	0.00±0.000	0.0924**
	3.00	1.00		2.00	0.00	
	-	3.00±0.000		-	-	
Conduct		3.00				
	7.50±1.861	10.00±0.000	0.3401**	8.28±2.334	9.00±0.000	0.8063**
	8.00	10.00		9.50	9.00	
	-	8.00±0.000				
Prosoc		8.00				
	4.18±2.286	0.00±0.000	0.2778**	2.92±2.400	4.00±0.000	0.7227**
	5.00	0.00		3.50	4.00	
		4.00±0.000		-	-	
Hyper		4.00				
	3.25±2.049	1.00±0.000	0.2928**	2.71±2.016	3.00±0.000	0.8147**
	3.00	1.00		2.50	3.00	
	-	1.00±0.000		-	-	
Peer		1.00				
	14.93±6.052	2.00±0.000	0.2167**	11.71±5.355	16.00±0.000	0.4851**
	15.00	2.00		12.00	16.00	
		12.00±0.000		-	-	
Total		12.00				

Table 76. SDQ SR scores by Mother alcohol use

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	4.00±2.160 4.00	-	-	4.00±2.708 4.00	3.00±0.000 3.00	0.6045**
Conduct	3.52±2.150 2.00	-	-	2.12±1.408 2.00	4.00±0.000 4.00	0.2077**
Prosoc	7.43±1.927 9.00	-	-	8.44±2.159 9.00	7.00±0.000 7.00	0.2864**
Hyper	3.74±2.632 3.00	-	-	2.69±2.301 3.00	5.00±0.000 5.00	0.2968**
Peer	2.96±2.033 2.50	-	-	2.56±1.999 2.50	4.00±0.000 4.00	0.4700**
Total	14.27±6.825 12.00	-	-	11.37±5.524 12.00	16.00±0.000 16.00	0.4122**

Table 77. SDQ SR scores by Father alcohol use

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	3.47±2.232	4.71±1.976	0.2212*	3.50±2.844	5.25±2.062	0.2798*
Conduct	3.33±2.225	4.14±2.116	0.4295*	1.92±1.443	2.75±1.258	0.3220*
Prosoc	7.27±2.017	7.57±1.902	0.7406*	8.58±2.021	7.75±2.872	0.5281*
Hyper	3.87±2.200	3.86±3.579	0.9939*	2.50±2.316	3.75±2.630	0.3797*
Peer	2.73±2.086 2.00	3.43±2.070 3.00	0.4740*	**1.83**±1.749 1.50	**4.75**±.500 5.00	0.0140**
Total	13.40±6.609 12.00	16.14±7.425 16.00	0.3931*	**9.75**±5.293 12.00	**16.50**±2.645 16.00	0.0302*

Table 78. SDQ SR scores by Mother education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
Emotion	3.57±1.134	4.00±2.784	3.00±1.414	0.8222*	4.14±3.132	5.00±1.732	2.00±2.828	0.5271*
	3.86±1.952	3.00±1.871	1.00±0.000	0.1192**	2.00±1.000	3.33±2.082	3.00±1.414	0.3535*
Conduct	3.00	3.00	1.00					
Prosoc	7.29±2.138	7.78±1.787	7.50±3.536	0.8966*	8.00±2.769	8.67±1.155	7.50±3.536	0.8808*
	4.00±1.155	3.22±3.193	2.50±3.536	0.6189**	3.86±1.864	3.00±3.000	2.00±2.828	0.5910*
Hyper	4.00	3.00	2.50					
Peer	3.14±2.340	2.89±2.028	3.50±.707	0.9244*	2.43±1.988	3.33±2.082	4.00±2.828	0.6194*
	14.57±2.992	13.11±8.283	10.00±1.414	0.2870**	12.42±5.740	14.66±1.527	11.00±9.899	0.7710*
Total	13.00	12.00	10.00					

Table 79. SDQ SR scores by Father education level

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	primary school	highschool	university	p_value	primary school	highschool	university	p_value
	5.00±.816	4.17±2.229	3.00±1.414	0.4608*	5.00±3.606	5.40±1.517	0.00±0.000	0.2630**
Emotion					4.00	5.00	0.00	
	4.25±2.217	3.17±3.125	2.00±1.414	0.6303*	2.33±2.517	2.60±1.140	2.00±0.000	0.8621**
Conduct					2.00	3.00	2.00	
	8.25±.500	7.33±2.251	7.00±2.828	0.7353**	9.00±1.000	7.60±2.881	10.00±0.000	0.5767**
Prosoc	8.00	7.00	7.00		9.00	9.00	10.00	
	4.50±3.697	2.67±3.077	4.00±1.414	0.6622*	5.33±1.155	3.60±2.191	0.00±0.000	0.1716**
Hyper					6.00	4.00	0.00	
	2.75±2.363	3.50±1.761	2.50±0.707	0.7496*	1.67±1.155	4.40±1.949	2.00±0.000	0.1962**
Peer					1.00	5.00	2.00	
	16.50±8.062	13.50±8.983	11.50±0.707	0.7547*	14.33±2.886	16.00±3.240	4.00±0.000	0.1895**
Total	16.00	13.00	11.50		16.00	18.00	4.00	

Table 80. SDQ SR scores by Mother employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	4.50±.707	3.71±2.400	0.6610*	0.00±0.000	4.27±2.576	0.1312*
Conduct	2.50±.707	3.29±2.525	0.6766*	2.00±0.000	2.13±1.457	0.9307*
Prosoc	8.00±1.414	7.14±2.179	0.6034*	10.00±0.000	8.33±2.193	0.4740*
Hyper	2.00±2.828	2.86±2.316	0.6378*	0.00±0.000	2.87±2.264	0.2403*
Peer	2.50±2.121	3.43±2.027	0.5556*	2.00±0.000	2.60±2.063	0.7824*
	11.50±4.949	13.28±7.300	0.7463*	4.00±0.000	11.86±5.343	0.2314**
Total	11.50	12.00		4.00	12.00	

Table 81. SDQ SR scores by Father employment status

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	Absent	Present	p_value	Absent	Present	p_value
Emotion	-	3.95±2.202	-	1.50±2.121	4.50±2.504	0.1316*
Conduct	-	3.59±2.175	-	3.00±1.414	2.21±1.477	0.4919*
Prosoc	-	7.55±1.896	-	8.50±2.121	8.21±2.225	0.8671*
Hyper	-	4.00±2.600	-	2.50±3.536	3.07±2.200	0.7495*
Peer	-	2.77±1.950	-	3.00±1.414	2.57±2.138	0.7906*
Total	-	14.38±6.974	-	10.00±8.485	12.35±5.182	0.5787*

Table 82. SDQ SR scores by Victim of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	4.33±2.066	4.42±1.730	0.9290*	4.50±2.928	4.20±2.775	0.8580*
Conduct	3.17±1.722	3.77±2.421	0.5925*	2.00±1.195	2.40±1.673	0.6232*
Prosoc	6.17±1.835	7.54±1.854	0.1509*	7.50±2.673 9.00	9.60±.894 10.00	0.0879**
Hyper	2.50±1.049 2.50	4.38±2.815 5.00	0.0916**	3.00±1.927	3.20±3.033	0.8859*
Peer	4.33±1.506	3.08±1.891	0.1723*	2.50±2.204	3.00±2.000	0.6887*
Total	14.33±2.338 15.00	15.83±7.171 12.50	0.9625**	12.00±5.264	12.80±5.310	0.7954*

Table 83. SDQ SR scores by Victim physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	4.75±1.488	3.60±1.673	0.2219*	4.42±2.875 4.00	4.00±0.000 4.00	0.8919**
Conduct	2.89±1.764	3.20±2.280	0.7799*	2.17±1.403 2.00	2.00±0.000 2.00	1.0000**
Prosoc	7.67±1.658	7.20±2.588	0.6855*	8.25±2.454 9.50	9.00±0.000 9.00	0.7770**
Hyper	3.00±1.871	4.00±3.317	0.4783*	3.08±2.392 4.00	3.00±0.000 3.00	0.7840**
Peer	2.78±1.641	4.20±1.789	0.1577*	2.67±2.146 2.50	3.00±0.000 3.00	0.7855**
Total	13.37±3.622	15.00±6.819	0.5820*	12.33±5.297 12.50	12.00±0.000 12.00	0.8933**

Table 84. SDQ SR scores by Witness of verbal violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	3.17±2.041	4.91±1.578	0.0681*	5.00±3.082	5.00±2.449	1.0000*
Conduct	3.14±1.676	4.55±2.339	0.1892*	1.80±1.643	2.60±1.517	0.4468*
Prosoc	7.43±2.149	7.64±1.748	0.8247*	7.60±2.881 9.00	9.40±.894 10.00	0.3711**
Hyper	3.00±1.633	4.91±2.914	0.1354*	2.80±2.683	3.80±2.490	0.5583*
Peer	2.29±1.704	3.36±2.111	0.2740*	4.40±1.342	2.00±2.000	0.0566*
Total	11.50±4.969	17.72±6.929	0.0722*	14.00±5.431	13.40±4.037	0.8478*

Table 85. SDQ SR scores by Witness of physical violence

* Student T ** Mann-Whithey	GROUPS					
Variable	PSYCHIATRY			NEUROLOGY		
	No	Yes	p_value	No	Yes	p_value
Emotion	4.00±1.195	6.00±2.000	0.0663*	4.43±2.760 4.00	7.00±0.000 7.00	0.3681**
Conduct	3.56±1.944	4.00±1.000	0.7181*	1.86±1.345 2.00	3.00±0.000 3.00	0.3741**
Prosoc	7.67±2.000	7.67±0.577	1.0000*	8.14±2.545 9.00	10.00±0.000 10.00	0.3491**
Hyper	3.22±1.787	6.00±2.646	0.0626*	3.29±2.498	4.00±0.000 4.00	0.8208**
Peer	**2.56**±1.590	**5.33**±1.155	0.0203*	3.71±1.704	5.00±0.000 5.00	0.4913**
Total	**13.37**±3.814	**21.33**±5.686	0.0231*	13.28±4.608 13.00	19.00±0.000 19.00	0.1244**

Table 86. SDQ SR scores by Family income

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	low	medium	high	p_value	low	medium	high	p_value
Emotion	-	2.50±2.121	4.05±2.156	0.3427*	-	4.80±2.588	3.58±2.678	0.4028*
Conduct	-	3.00±1.414	3.45±2.241	0.7832*	-	1.60±1.140	2.50±1.508	0.2519*
	-	8.00±2.828	7.27±1.932	0.6241*	-	9.60±.548	7.83±2.329	0.1232**
Prosoc						8.50	10.00	
Hyper	-	5.50±.707	3.64±2.647	0.3405*	-	2.60±2.608	2.92±2.275	0.8051*
	-	**0.00**±0.000	**3.23**±1.850	0.0196**	-	1.80±2.168	3.00±1.859	0.2648*
Peer		0.00	3.00					
Total	-	11.00±2.828	14.42±6.925	0.5023*	-	10.80±5.761	12.00±5.559	0.6937*

Table 87. SDQ SR scores by Parenting style

* ANOVA ** Kruskal-Wallis	GROUPS							
Variable	PSYCHIATRY				NEUROLOGY			
	authoritative	authoritarian	not specified	p_value	authoritative	authoritarian	not specified	p_value
Emotion	3.40±1.724	6.00±1.414	4.00±2.828	0.1858*	4.14±2.734	5.67±4.163	4.50±.707	0.7656*
Conduct	2.80±1.568	5.00±2.828	4.67±2.309	0.1185*	**2.43**±.976	**0.67**±.577	**3.50**±2.121	0.0451*
	7.20±1.935	8.50±.707	6.33±2.517	0.4963*	7.43±2.936	9.67±.577	8.50±0.707	0.4245**
Prosoc					9.00	10.00	8.50	
Hyper	3.73±2.520	3.50±2.121	5.00±2.000	0.6989*	3.43±2.299	1.33±2.309	5.00±1.414	0.2276*
	2.60±1.920	3.50±0.707	3.67±2.082	0.5985*	2.86±2.545	3.67±1.155	1.00±0.000	0.4597**
Peer					3.00	3.00	1.00	
Total	12.53±5.054	18.00±2.828	19.50±3.535	0.1030*	12.85±5.871	11.33±5.686	14.00±2.828	0.8652*

Table 88. YSR-FAD Correlations in Psychiatry group

		Anxious	Withdrawn	Somatic Complaints	Social Problems	Thought Problems	AttentionProblems	RuleBreaking Behaviour	Aggressive Behaviour	INT	EXT
Problem Solving	Pearson Correlation	0.111	-0.050	-0.253	0.185	-0.162	0.501*	0.274	0.385	-0.062	0.389
	Sig. (2-tailed)	0.633	0.831	0.269	0.423	0.483	0.021	0.229	0.085	0.789	0.082
	N	21	21	21	21	21	21	21	21	21	21
Communication	Pearson Correlation	0.015	0.085	-0.095	0.009	-0.028	0.423*	0.202	0.263	-0.002	0.272
	Sig. (2-tailed)	0.948	0.708	0.674	0.970	0.902	0.050	0.366	0.237	0.994	0.220
	N	22	22	22	21	22	22	22	22	22	22
Roles	Pearson Correlation	0.032	0.178	0.023	0.169	0.012	0.491*	0.230	0.352	0.077	0.345
	Sig. (2-tailed)	0.887	0.427	0.920	0.463	0.959	0.020	0.304	0.109	0.732	0.116
	N	22	22	22	21	22	22	22	22	22	22
Affective Responsiveness	Pearson Correlation	-0.029	-0.061	-0.199	0.034	0.097	0.415	0.156	0.240	-0.103	0.235
	Sig. (2-tailed)	0.897	0.786	0.375	0.884	0.668	0.055	0.488	0.283	0.647	0.292
	N	22	22	22	21	22	22	22	22	22	22
Affective Involvement	Pearson Correlation	0.124	0.074	-0.058	-0.025	-0.066	0.326	0.345	0.144	0.054	0.255
	Sig. (2-tailed)	0.581	0.745	0.798	0.916	0.770	0.138	0.115	0.522	0.811	0.252
	N	22	22	22	21	22	22	22	22	22	22
Behavior Control	Pearson Correlation	-0.142	-0.158	-0.056	-0.063	-0.160	0.139	-0.068	0.041	-0.129	-0.003
	Sig. (2-tailed)	0.528	0.481	0.806	0.787	0.476	0.537	0.763	0.856	0.566	0.990
	N	22	22	22	21	22	22	22	22	22	22
General Functioning	Pearson Correlation	0.060	0.072	-0.099	0.090	0.027	0.517*	0.359	0.419	0.012	0.450*
	Sig. (2-tailed)	0.790	0.752	0.663	0.699	0.906	0.014	0.101	0.052	0.958	0.036
	N	22	22	22	21	22	22	22	22	22	22

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 89. YSR-FAD Correlations in Neurology group

		Anxious	Withdrawn	Somatic Complaints	Social Problems	Thought Problems	AttentionProblems	RuleBreaking Behaviour	Aggressive Behaviour	INT	EXT
Problem Solving	Pearson Correlation	-0.200	0.508	0.190	0.879*	-0.264	-0.441	-0.057	0.369	0.012	0.258
	Sig. (2-tailed)	0.747	0.382	0.598	0.050	0.668	0.457	0.927	0.541	0.984	0.675
	N	5	5	10	5	5	5	5	5	5	5
Communication	Pearson Correlation	0.079	0.851	0.109	0.827	-0.543	-0.388	0.027	0.379	0.473	0.323
	Sig. (2-tailed)	0.900	0.067	0.764	0.084	0.344	0.519	0.966	0.529	0.421	0.596
	N	5	5	10	5	5	5	5	5	5	5
Roles	Pearson Correlation	0.426	0.016	0.316	0.381	0.532	-0.346	-0.716	0.594	0.186	-0.012
	Sig. (2-tailed)	0.474	0.980	0.373	0.527	0.356	0.568	0.174	0.291	0.765	0.984
	N	5	5	10	5	5	5	5	5	5	5
Affective Responsiveness	Pearson Correlation	0.143	0.951*	0.356	0.652	-0.582	-0.192	0.140	0.433	0.553	0.445
	Sig. (2-tailed)	0.818	0.013	0.313	0.233	0.303	0.757	0.822	0.466	0.334	0.453
	N	5	5	10	5	5	5	5	5	5	5
Affective Involvement	Pearson Correlation	-0.452	0.201	-0.398	0.910*	-0.585	-0.721	0.093	-0.349	-0.080	-0.217
	Sig. (2-tailed)	0.444	0.746	0.254	0.032	0.300	0.170	0.882	0.565	0.898	0.726
	N	5	5	10	5	5	5	5	5	5	5
Behavior Control	Pearson Correlation	-0.030	0.696	0.642*	0.289	0.027	0.307	0.137	0.906*	-0.012	0.824
	Sig. (2-tailed)	0.962	0.191	0.045	0.637	0.965	0.615	0.826	0.034	0.985	0.086
	N	5	5	10	5	5	5	5	5	5	5
General Functioning	Pearson Correlation	0.168	0.604	0.245	0.766	-0.106	-0.384	-0.270	0.596	0.311	0.295
	Sig. (2-tailed)	0.787	0.280	0.495	0.131	0.866	0.524	0.661	0.289	0.610	0.630
	N	5	5	10	5	5	5	5	5	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 90. SDQ SR – FAD Correlations in Psychiatry group

		Problem Solving	Communication	Roles	Affective Responsiveness	Affective Involvement	Behavior Control	General Functioning
Emotion	Pearson Correlation	-0.025	-0.103	0.028	-0.038	-0.002	-0.143	0.065
	Sig. (2-tailed)	0.903	0.608	0.890	0.851	0.993	0.478	0.746
	N	26	27	27	27	27	27	27
Conduct	Pearson Correlation	0.443*	0.309	0.415*	0.272	0.382*	0.045	0.482**
	Sig. (2-tailed)	0.021	0.109	0.028	0.162	0.045	0.819	0.009
	N	27	28	28	28	28	28	28
Prosocial	Pearson Correlation	-0.305	-0.128	-0.101	-0.091	-0.107	-0.127	-0.165
	Sig. (2-tailed)	0.122	0.517	0.610	0.645	0.589	0.520	0.400
	N	27	28	28	28	28	28	28
Hyperactivity	Pearson Correlation	0.255	0.292	0.270	0.479**	0.222	0.028	0.435*
	Sig. (2-tailed)	0.200	0.132	0.165	0.010	0.257	0.890	0.021
	N	27	28	28	28	28	28	28
Peer	Pearson Correlation	0.195	0.174	0.315	0.210	0.036	-0.116	0.273
	Sig. (2-tailed)	0.329	0.376	0.102	0.284	0.854	0.555	0.160
	N	27	28	28	28	28	28	28
Total	Pearson Correlation	0.207	0.185	0.306	0.289	0.182	-0.100	0.372
	Sig. (2-tailed)	0.310	0.356	0.120	0.144	0.364	0.620	0.056
	N	26	27	27	27	27	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Table 91. SDQ SR – FAD Correlations in Neurology group

		Problem Solving	Communication	Roles	Affective Responsiveness	Affective Involvement	Behavior Control	General Functioning
Emotion	Pearson Correlation	-0.159	-0.059	0.359	-0.019	0.121	-0.117	0.135
	Sig. (2-tailed)	0.587	0.840	0.208	0.949	0.679	0.689	0.645
	N	14	14	14	14	14	14	14
Conduct	Pearson Correlation	0.543*	0.603*	0.195	0.734**	-0.228	0.633*	0.468
	Sig. (2-tailed)	0.045	0.022	0.505	0.003	0.432	0.015	0.092
	N	14	14	14	14	14	14	14
Prosocial	Pearson Correlation	-0.208	-0.081	0.239	-0.133	0.058	-0.011	0.037
	Sig. (2-tailed)	0.476	0.784	0.411	0.651	0.844	0.970	0.901
	N	14	14	14	14	14	14	14
Hyperactivity	Pearson Correlation	0.279	0.126	0.190	0.326	-0.182	0.521	0.158
	Sig. (2-tailed)	0.334	0.667	0.515	0.256	0.533	0.056	0.591
	N	14	14	14	14	14	14	14
Peer	Pearson Correlation	-0.090	0.405	-0.056	0.450	-0.149	0.306	0.089
	Sig. (2-tailed)	0.761	0.151	0.850	0.107	0.612	0.287	0.762
	N	14	14	14	14	14	14	14
Total	Pearson Correlation	0.069	0.306	0.374	0.438	-0.112	0.440	0.302
	Sig. (2-tailed)	0.815	0.288	0.187	0.117	0.703	0.115	0.294
	N	14	14	14	14	14	14	14

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).