

## Prevalence and correlates of problem behavior in 12-to-16-year-old adolescents in the Russian Federation

### Summary

*This study on problem behavior in 12-to-16-year-old adolescents in the Russian Federation had two objectives: 1) to provide base line data on the prevalence of behavioral and emotional problems, and 2) to explore the relation between problem behavior in adolescents and selected demographic, child, and family factors. By means of a three-stage stratified sampling design a sample was drawn that was representative of gender, age, family's socio-economic status, region, and type of community in the Russian Federation. Parents completed two questionnaires: 1) the Child Behavior Checklist (CBCL; Achenbach, 1991), in which they reported on children's competence and problem behavior during the last six months, and 2) an additional questionnaire containing specific questions on the child's living conditions, life history and family relations. These questions were added in order to detect demographic, child and family factors co-occurring with deviant behavior in teenagers. Skilled interviewers visited the parents at home and administered both questionnaires. A total of 2,002 respondents participated in the study, approximately 71.0% of all parents visited. Non-response was mainly due to refusals. According to their parents' reports, Russian teenagers showed a wide variety of behavioral and emotional problems. Some problems had very high prevalence rates and seemed to be characteristic for young Russian people, i.e. withdrawal behavior, psychosomatic problems and delinquency. Many problems were significantly related to the adolescent's gender: internalizing problems (anxiety, depressive feelings, psychosomatic complaints) were reported as being more typical for girls, externalizing problems (aggression, delinquency) as more typical for boys. Only a few small significant age differences in the prevalence of behavioral and emotional problems were found. Demographic factors co-occurring with high levels of problem behavior in teenagers were area of residence (e.g. living in large cities like Moscow and St. Petersburg), the most recent monthly income of the family and the parents' perception of their financial position. Higher levels of problem behavior were also noted in adolescents who had moved or changed school frequently, in adolescents who did not have a room of their own in the house or apartment, and in adolescents stemming from families in which at least one member manifested a chronic somatic or psychological disease. The Russian version of the CBCL has proven moderate reliability and validity in this sample. Nevertheless, statistical norms based on large Russian samples of non-referred and referred adolescents should be developed in order to refine the diagnostic use of the CBCL in the Russian population.*

## Introduction

Since 1992 Russian society has been changing rapidly, due to the collapse of the former Soviet Union. The installation of a more Western-oriented market economy has replaced the old communist state economy. This transition has taken place rather abruptly (metaphorically it has been called a 'shock therapy') and has not been without consequences in the short term: continuing inflation, deteriorating housing conditions, reduced health care provision, increased crime rates. Long-term developments cannot be foreseen yet, but it may be clear that transitions will become increasingly difficult to manage for certain groups: elderly people, the disabled, and children.

The socio-economic transition has positive consequences for child-rearing practices and child care policy in Russia. Massive political and economic shifts in the country have produced questioning, reform and change of the child care system (Ispa, 1994). Whereas in former communist times the state felt responsible for the child's education by organizing a lot of rearing activities beyond daily education in school (e.g., by means of summer camps, sports camps), giving child rearing within the family a secondary role, the emphasis is now on child-rearing activities within the family, according to Western models. Child care is increasingly being conducted by a child-centered approach in which family life regains its central place. The number of unprotected children (or children living in difficult circumstances) who find a new home in foster or adoption families, is increasing (Unicef, 1995).

Although the orientation towards the models of Western society might improve life conditions in Russia in the long term, the current negative consequences of the transition can hardly be overestimated. Socio-economic transition seems to threaten family life, which is to become the cornerstone of Russian society. Recent reports of the United Nations Children's Fund (1994, 1995) provide a wealth of information on these negative outcomes. Summarizing the results presented by Unicef, we can conclude that:

- There is an increasing number of poor children, due to lower family incomes and to reduced child allowances. The number of homeless children is growing steadily, and in Moscow is estimated at 60,000.
- The quality of food consumption is declining. Less favourable relative prices cause people to consume less expensive and more filling foods. This affects the health status of children in the short term (e.g. an increase in low birth-weight babies) as well as in the long term. Children are falling ill more frequently. Because of stressing work conditions many parents cannot leave from work to look after their sick child. So, in this case of absolute need, children are without the care of their parents. This often leads to more acute illnesses in many children or to the development of chronic conditions.
- Demographic developments sometimes affect children adversely. For example, the presence of more under-age and/or unmarried mothers raises the risk of uncontrolled abortion, abandonment, institutionalization, poverty, and psychological maladjustment.

- There is a drop in the proportion of children attending kindergarten and a decrease in school enrolment, causing damage to child socialization, peer interaction and school achievements. Due to financial problems in their family (wages do not co-vary with inflation rates), many children have to earn money during the daytime (e.g. by selling things in the street).
- Socialization among young people is becoming increasingly problematic, and crime rates are growing. A number of adolescents are being pushed 'onto the street', the share of young offenders and the number of youths sentenced are growing steadily.
- Life expectancy is declining, especially for males (a decline of about 6 years between 1989 and 1994) due to worsening life and health conditions and increasing psycho-social stress.
- Crisis is deepening, giving rise to a political comeback of the Communist Party, which constantly promises the return to 'Eden' in times of parliamentary and presidential elections.

How do adolescents react to these changing living conditions? Western scholars explain adolescence in Western society as a period of developmental transition, self-definition and renewed socialization: empirical studies consistently show that adolescents bridge the gap between childhood and adulthood by means of pluralized transition patterns and reach the state of adulthood through multiple pathways (Chisholm & Hurrelmann, 1995; Crockett & Crouter, 1995). Adolescent development does not simply follow a linear course providing clear, unidimensional outcomes in adulthood (work, marriage, parenthood), as in former times. Modern society is much more complex than it used to be: developments in various domains (e.g. study, love relationships, work) not always run parallel nor achieve their goals at the same point in time. Besides, adolescence is not a period of final achievement, but one of initiation, rather, that will have significant consequences for future adult life (Hill, 1993). Important decisions can be postponed and will become a crucial developmental task in young adulthood. We believe that adolescents in modern Russia are confronted with the same developmental issues as their Western age-mates. Some studies lend support to this hypothesis (e.g. Koklyagina, 1995). Furthermore, it can be assumed that being an adolescent in Russia today is more stressful than before the socio-economic transition. Under the communist regime, social life was well-planned and regulated largely by state institutions, leaving little or no room for private decisions and individualized transition. We speculate that being an adolescent in Russia now is even more stressful than being an adolescent in any Western country, since transitions on the macro-level (socio-economic changes and social instability) interact with transitions on the micro-level (intra-individual changes). The interaction between microlevel and macrolevel variables may give rise to unfavourable transition patterns dominated by anxiety, feelings of hopelessness, lack of future perspectives, or criminal tendencies, resulting in negative developmental outcomes in adulthood.

Population-based data on negative developmental outcomes in Russian adolescents are scarce. Due to the huge size of the country and the inaccessibility of some regions, it is difficult to draw highly representative samples. Findings stemming from samples drawn in cities cannot be generalized and provide an incomplete or distorted picture that may lead to rash conclusions.

This study seeks to contribute to the study of adolescent life in modern Russia by concentrating on one of its most negative characteristics: the occurrence of problem behavior. Our study has two main objectives: 1) to provide base line data on the prevalence of behavioral and emotional problems in 12-16-year-old adolescents in the Russian Federation, and 2) to explore the relationship between problem behavior in adolescents and selected demographic, child, and family factors.

By using the Russian translation of the 'Child Behavior Checklist' (CBCL; Achenbach, 1991), a contribution can be made to the research on standardized assessment procedures of behavioral and emotional problems in adolescents. Data obtained by the CBCL can be compared easily with data of samples of contemporary adolescents outside Russia, for instance with the original American sample (Achenbach, 1991; Achenbach, Howell, Quay, & Conners, 1991). Cross-cultural comparisons of prevalence rates of problem behavior are a critical test for the cross-cultural generalizability of CBCL constructs. In the long term they will improve appropriate use of the instrument in future epidemiological research on child and adolescent psychopathology (Weisz & Eastman, 1995).

## Method

### *Sample selection*

The sample unit consisted of teenagers between 12 and 16 years old. In order to draw a sample that was representative of this age group in the Russian Federation, a *three-stage, stratified sampling design* was used. Sample representativeness was maximized using four parameters: gender, age, region, and settlement type.

In Stage One, the population was distributed into regions. The territory of the Russian Federation was divided into 10 zones, which were designed by official statistics according to their ethnic, economic, demographic, and geographic characteristics, and to their level of infrastructure and living standard. These regions or zones were 1) North and North West, 2) Central Non-Chernozem Region, 3) Central Chernozem Region, 4) North Caucasus, 5) Volgo-Viatka, 6) Volga, 7) the Urals, 8) West Siberia, 9) East Siberia, and 10) the Far East. The total sample was distributed among these 10 zones, proportionally to the population size in each zone. Since official regional statistics data about differences in the number of teenagers aged 12 to 16 were lacking, data of the whole population of the Russian Federation were taken as the basis for the geographical distribution of the sample.

In Stage Two, regions were distributed into strata. Each region was stratified into nine strata. These nine strata were based on four characteristics: the size of the regional population, the region's administrative status, its status of (non-)autonomy, and urban/rural settlements in the region. The nine strata were: 1) the Metropolitan Moscow and St. Petersburg areas, 2) the 'oblast' (= regional) capitals with a population of one million or more, 3) the 'oblast' capitals with a population of less than one million, 4) small towns or settlements of city type, 5) rural settlements or villages, 6) autonomous republic capitals with a population of 300,000 or more, 7) autonomous republic capitals with a population of less than 300,000, 8) small towns or settlements of city type in autonomous republics, and 9) rural settlements or villages in

autonomous republics. The total number of questionnaires for each region was distributed among the strata proportionally to the population size in each stratum.

In Stage Three, primary sampling units (PSUs) were selected. For each stratum the maximum and minimum limits were defined of the number of respondents for a PSU of each type. According to these limits, the number of settlements was defined of each type that was to be included in the sample. The number of PSUs for each existing stratum ('existing' means that the number of the questionnaires for the stratum was not equal to 0) of a region was defined. The number of questionnaires for a stratum was equally distributed among all the stratum's PSUs. PSUs were chosen randomly from the list of all the possible PSUs of each stratum, with a probability that was proportionate to the population size.

Finally, the survey was carried out in 34 republics, 'oblasts', and 'krais' of the Russian Federation. In sum, 102 places of settlement were involved: 30 republican 'oblast' and 'krai' capitals, 37 medium-sized cities and towns, and 35 rural settlements. Respondents were parents or persons who were responsible for the education of the children. They were chosen randomly in each selected PSU.

### **Data collection**

The study was coordinated by the Russian Center for Public Opinion and Market Research (Russian abbreviation: VCIOM). VCIOM's head offices are in Moscow, but the organization has several field offices throughout the Russian Federation. In the study 22 field offices of the VCIOM were involved. They provided 172 *interviewers*, 12 men (7%) and 160 women (93%). Most interviewers (n=104, or 60%) attended higher education, 68 interviewers (40%) attended secondary education. The interviewers were skilled to participate in large-scale surveys carried out by the Russian Centre for Public Opinion and Market Research. For the topic of this study, problem behavior in children, the interviewers received advance training and detailed instructions about the administration of the questionnaires, in order to optimize standardization and reliability of the assessment procedure. The interviewers visited the homes of the selected respondents. Only when respondents had at least one child between 12 and 16 years old, they administered the CBCL and the additional questionnaire (see next paragraph on 'Instruments'). Duration of the interviews varied from 35 to 70 minutes (average duration was about 50 minutes).

In total, the interviewers visited 12,169 homes. In 2,825 homes lived at least one child between 12 and 16 years old (which means that 9,344 contacts fell beyond the quota). This group formed the survey sample. 2,016 interviews were completed (71%). Non-response was due to the impossibility of parents to answer (e.g. because of bad health) (n=28), refusals (n=753), or interrupted interviews (n=28).

Supervisors of the regional field offices checked the quality of the administration of the questionnaires and interviews. In total, 363 questionnaires (18%) were inspected, by means of callbacks (119 cases), post checks (120 cases), or telephone checks (124 cases). When a mistake was found, all questionnaires administered by that interviewer were reviewed. During

the examination by the regional supervisors, 12 interviews were rejected (e.g. because of mistakes or fraud). During the final examination at the VCIOM's headquarters in Moscow, again 2 interviews were rejected (because of mistakes in the administration). In total, 2,002 interviews could be used in the data analysis. The final response rate was 71% (2,002/2,825), which is moderately high.

Table 1 presents the distribution of respondents by region and VCIOM field office. The national sample of teenagers is representative of gender, age, the family's socio-economic status, region, and type of community. Socio-demographic characteristics of the sample are given in Table 2.

**Table 1.** *Distribution of respondents (N=2,002) by region and VCIOM field office*

Region	# respondents	Field office	# respondents
1) North + North West	206	Arkhangelsk	92
		St.-Petersburg	114
2) Central Non-Chernozem	408	Moscow-1	107
		Moscow-2	78
		Vladimir	151
		Smolensk	72
3) Volgo-Viatka	117	Nizjni Novgorod	117
4) Central Chernozem	107	Voronezh	107
5) North Caucasus	231	Stavropol	114
		Cherkessk	58
		Rostov-on-Don	43
		Krasnodar	16
6) Volga	219	Saratov	106
		Samara	60
		Kazan	53
7) the Urals	274	Perm	197
		Izjevsk	36
		Ufa	41
8) West Siberia	200	Novosibirsk	123
		Barnaul	77
9) East Siberia	128	Krasnoyarsk	128
10) Far East	112	Khabarovsk	112

**Table 2.** *Sociodemographic characteristics of the sample*

	<b>Total</b> <i>N</i> =2,002	<b>Boys</b> <i>N</i> =1,000	<b>Girls</b> <i>N</i> =1,002
<i>Parents' occupation*</i>			
entrepreneurs	3.4	3.1	3.8
leaders/specialists	50.9	51.2	50.7
employees and workers	36.0	36.2	35.7
others	8.3	8.1	8.6
no answer	1.3	1.4	1.2
<i>Family's income**</i>			
very low	33.1	32.5	33.7
low	38.1	39.2	37.0
middle	19.8	19.8	19.9
high and very high	5.6	5.7	5.5
no answer	3.3	2.8	3.9
<i>Regions</i>			
Moscow and St. Petersburg	8.0	8.0	8.1
North	28.5	28.4	28.5
South	22.2	22.0	22.4
Pre-Urals and Urals	19.3	19.4	19.3
Siberia and Far East	22.0	22.2	21.8
<i>Type of community</i>			
major cities	36.3	36.4	36.1
small towns	36.8	36.9	36.7
villages	26.9	26.7	27.1
<i>Who filled out the questionnaire?</i>			
mother/stepmother	83.1	81.5	84.7
father/stepfather	9.9	11.7	8.1
another family member	7.0	6.8	7.2

\*) In Russia a stable scale of socio-economic status is not available at this moment; therefore, two indeces, with only a slight degree of correlation, were used: occupation/qualification level of the family head and income level of the family.

\*\*) Taken into account the high inflation rates and the unreliable declaration of income by respondents, an 'objective' income scale was not available. Instead, the respondents' subjective determination of their property status was used.

#### *Instruments*

Two questionnaires were used: 1) the *Child Behavior Checklist* (CBCL; Achenbach, 1991) to assess behavioral and emotional problems, and 2) an *additional questionnaire* containing 76 questions on topics that were hypothesized to have a significant influence on the outcome variable (e.g. socio-economic conditions, family life, school conditions, child abuse, etc.).

*Child Behavior Checklist (CBCL)*

In the Child Behavior Checklist parents report on their children's competencies and problem behavior within the previous 6 months. The CBCL contains 20 competence items concerning children's sports and non-sports activities, social relationships and school performance. The parent rates the child's competence and performance on each specific domain (e.g. social relationships, school) and compares the child's participation and skills with those of other children of the same age. A high score is an indication of positive performance. Parents also rate their child on 118 items describing specific behavioral and emotional problems and answer two open questions, one for additional physical problems without known medical cause and one for additional types of problem behavior. Each item is rated on a 3-point scale: 0 = *not applicable*, 1 = *somewhat or sometimes applicable*, and 2 = *very relevant or often applicable*.

The CBCL scoring profile provides scores for total competence, total problems, three competence scales (Activities, Social, School), and eight 'cross-informant' syndromes: Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, and Aggressive Behavior. The first three syndromes are manifestations of Internalizing problem behavior, the last two of Externalizing problem behavior. Externalizing problems refer to those types of problem behavior that cause distress in others (e.g. arguing, disobedience); internalizing problems cause stress or suffering in the self (e.g. sadness, feelings of loneliness). All CBCL syndromes are empirically derived by means of multivariate techniques in large samples of children referred for mental health services or special schools (Achenbach, 1991, 1993). They merely refer to a cluster of co-occurring problem behaviors and cannot be regarded as clinical entities nor as individual diagnostic categories.

The CBCL must be considered as a dimensional scale, but scores can also be classified into three different categories or ranges: a *clinical*, a *borderline*, and a *normal* range. Children scoring above the 90th percentile of the raw score distribution on Total Problems are classified into the clinical range. They manifest severe behavioral and emotional problems, according to their parents. Children scoring between the 82nd and 90th percentile of the raw score distribution on Total Problems are classified into the borderline range. They manifest many behavioral and emotional problems, but cannot be typified as seriously deviant according to their parents' reports. Children scoring below the 82nd percentile of the raw score distribution on Total Problems, according to their parents, manifest problem behavior that falls within the normal range. For the eight 'cross-informant' syndromes, scores above the 98th percentile of the raw score distribution are classified as clinically deviant, scores between the 96th and 98th percentile as borderline, and scores below the 96th percentile as normal.

The CBCL has been translated into more than 30 different languages and has been used in more than 1,500 research or clinical projects (Brown & Achenbach, 1995). There are several Russian versions of the questionnaire. In this study the version of the JDC Falk Institute (provided to us by Prof. Dr. Achenbach in 1994) was used.



After data collection, the completed CBCLs were checked by the members of the VCIOM research team, in order to detect invalid or incorrect answers. Afterwards some cases were excluded from data analysis. This was done when, in the researcher's opinion, problems had been reported because the parent misunderstood the content of the question. Responses were excluded on the following items:

- item 9* 'Can't get mind off thoughts': 67 cases (3.3% of the total sample) were excluded, when parents reported child's love emotions, emotions with regard to financial problems or constant appeal to parents with questions on various themes, etc.;
- item 28* 'Eats non-food': 16 cases (0.8%) were excluded, when a child chews shirt collars, scarf, blanket, gnaws a pen, chalk, etc.;
- item 40* 'Hears sounds or voices that aren't there': 10 cases (0.5%) were excluded, when parents reported a child's fancies;
- item 66* 'Repeats certain acts over and over again; compulsions': 25 cases (1.2%) were excluded, when parents reported only the child's 'ill breeding' (picks nose, touches sex organs) and obsessive repetitive actions were not included;
- item 70* 'Sees things that aren't there': 13 cases (0.6%) were excluded, when parents reported the child's fancies;
- item 79* 'Speech problems': 32 cases (1.6%) were excluded, when parents reported limited vocabulary or in censorship expressions employed by a child;
- item 84* 'Strange behavior': 26 cases (1.3%) were excluded, when parents reported that a child had become secretive and ceased to share his emotions;
- item 85* 'Strange ideas': 41 cases (2.0%) were excluded, when parents reported a child's fancies (desire not to go to school, to travel, etc.);
- item 113* 'Other problems': 87 cases (4.3%) were excluded, when parents repeated problems already named earlier and also referred to the family's financial problems.

CBCL data were stored by means of the standard program (version 4.1, by Arnold & Jacobowitz, 1993). In this study only data on problem behavior are reported.

#### *Additional questionnaire*

A series of specific questions concerning the child's living conditions (e.g. own room), life history (e.g. hospitalization, day nursery), relationships within the family (e.g. between siblings and other family members), and traumatogenic factors (e.g. physical abuse) were added in a separate questionnaire in order to detect factors which retrospectively influence the development of behavioral and emotional disorders in Russian teenagers. This questionnaire also contained questions on problem behavior corresponding to the CBCL (e.g. the use of alcohol). The purpose of these questions was to verify the indexes provided by the CBCL by comparing these scales with more common indexes of deviant behavior in Russia and to test the validity of the CBCL in the Russian sample. The total questionnaire contained 76 questions.

## Results

The total sample consisted of 2,002 adolescents, covering age ranges 12 to 16. Distributed by age and gender, each cell contained the same number of respondents ( $n=200$ ), except for 12- and 13-year-old girls ( $n=201$ ). Results can be divided into three categories: 1) the reliability (internal consistency) of the Russian CBCL version, 2) base line data on problem behavior in Russian adolescents, and 3) correlates of problem behavior in Russian adolescents.

### *Internal consistency of the Russian CBCL version*

Cronbach alphas of CBCL problem behavior total scales, sub-scales, and cross-informant syndromes are presented in Table 3. Coefficients were moderate to high for most (sub)scales, except for Social Problems ( $\alpha=.63$ ) and Thought Problems ( $\alpha=.30$ ) among the cross-informant syndromes. Iterative item analyses (Guttman's procedure, see Lord & Novick, 1968, p. 94) could not enhance alpha coefficients significantly. Low internal consistency can be due to low variability in item scores, as in the case of the Thought Problems syndrome (Mean=.24, SD=.53). Other explanations may be found in linguistic variables, i.e. the translation of the questionnaire and the particular meaning which respondents ascribe to the problems covered by the scales. It is not clear whether the items of this and other scales convey the same idea for Russian respondents as for American (or Western) respondents. Detailed cross-cultural comparisons between Russian and Western samples are needed to test the influence of linguistic variables on CBCL item scores and prevalence rates of problem behavior. In general, the Russian CBCL translation used in our study showed moderate to high internal consistency, as was indicated by alpha coefficients on Total Problems ( $\alpha=.94$ ), Internalizing ( $\alpha=.87$ ), and Externalizing ( $\alpha=.89$ ).

**Table 3.** *Internal consistency (Cronbach alpha coefficients) of CBCL competence and problem behavior total scales, sub-scales and cross-informant syndromes in the Russian sample ( $N=2,002$ )*

	Cronbach's $\alpha$ -coefficient
<i>Total scales</i>	
Total Problems	0.94
Internalizing	0.87
Externalizing	0.89
<i>Cross-informant syndromes</i>	
Withdrawn	0.73
Somatic Complaints	0.76
Anxious/Depressed	0.78
Social problems	0.63
Thought problems	0.30
Attention problems	0.74
Delinquent behavior	0.78
Aggressive behavior	0.86

*Base line data on problem behavior in Russian adolescents*

Means, standard errors of means, and standard deviations on problem behavior are presented in Table 4 for raw as well as normalized T-scores.

**Table 4.** 'Raw' and normalized scores of the Russian teenagers on Total Problems, Internalizing, Externalizing and eight syndrome scales

Scales	Boys 12-16				Girls 12-16			
	Mean	S.E.	SD	N	Mean	S.E.	SD	N
Withdrawn								
Raw score	2.86	.08	2.56	1000	2.95	.09	2.71	1002
T-score	55.34	.23	7.22	1000	54.94	.21	6.68	1002
Somatic Complaints								
Raw score	3.42	.09	2.85	1000	4.17	.10	3.06	1002
T-score	62.94	.31	9.68	1000	62.18	.28	8.75	1002
Anxious/Depressed								
Raw score	3.37	.10	3.17	1000	3.95	.12	3.74	1002
T-score	54.50	.19	5.39	1000	54.42	.19	6.03	1002
Social problems								
Raw score	2.08	.07	2.11	1000	1.74	.06	1.90	1002
T-score	55.47	.22	6.88	1000	54.00	.17	5.48	1002
Thought problems								
Raw score	.24	.02	.53	1000	.30	.02	.64	1002
T-score	51.60	.11	3.47	1000	52.00	.12	3.95	1002
Attention problems								
Raw score	4.09	.10	3.16	1000	3.26	.09	3.01	1002
T-score	55.36	.20	6.34	1000	55.43	.20	6.38	1002
Delinquent behavior								
Raw score	3.09	.10	3.21	1000	1.69	.07	2.09	1002
T-score	56.81	.23	7.38	1000	54.89	.20	6.39	1002
Aggressive behavior								
Raw score	7.75	.18	5.73	1000	5.93	.15	4.78	1002
T-score	54.95	.20	6.29	1000	54.38	.18	5.79	1002
Internalizing								
Raw score	9.42	.22	6.83	1000	10.79	.25	7.79	1002
T-score	55.17	.33	10.53	1000	54.65	.33	10.58	1002
Externalizing								
Raw score	10.84	.26	8.20	1000	7.62	.20	6.30	1002
T-score	53.01	.31	9.86	1000	51.15	.31	9.83	1002
Total Problems								
Raw score	29.89	.61	19.38	1000	26.90	.59	18.76	1002
T-score	54.32	.32	10.19	1000	52.70	.34	10.62	1002

# Prevalence and correlates of problem behavior in 12-to-16-year-old adolescents

In order to test *gender and age differences* in problem behavior, data were analyzed using ANOVAs (for this and other procedures used in this paper, see Kirk, 1968) in a 2 (gender) x 5 (age) design, with  $p < .01$  as level of significance. Results are presented in Table 5 for CBCL total scales, sub-scales, and cross-informant syndromes.

Several significant gender differences were found in problem behavior. Boys scored significantly higher than girls on Total Problems (Mean boys=29.89; Mean girls=26.90), the Externalizing scale (Mean boys=10.84; Mean girls=7.62), Social Problems (Mean boys=2.08; Mean girls=1.74), Attention Problems (Mean boys=4.09; Mean girls=3.26), Delinquent Behavior (Mean boys=3.09; Mean girls=1.69) and Aggressive Behavior (Mean boys=7.75; Mean girls=5.93). On the other hand, girls scored significantly higher than boys on the Internalizing scale (Mean boys=9.42; Mean girls=10.79), Somatic Complaints (Mean boys=3.42; Mean girls=4.17), and Anxious/Depressed (Mean boys=3.37; Mean girls=3.95). No significant gender differences were found on Withdrawn and Thought Problems. Gender differences were the highest on externalizing problem behaviors, taking into account 4.8% of the variance in the Externalizing scale, 3.3% in Aggressive Behavior, and 7.2% in Delinquent Behavior. The latter effect could be considered medium, according to Cohen's criteria (1988); the former effects were small.

Only two significant age differences in problem behavior were found. Younger age groups scored significantly higher than older age groups on the Social Problems syndrome (Mean 12-year-olds=2.20; Mean 16-year-olds=1.50), older age groups scored significantly higher than younger age groups on the Delinquent Behavior syndrome (Mean 12-year-olds=2.04; Mean 16-year-olds=2.70). The number of significant age differences nearly exceeded that expected by chance ( $n=1$ ), taking into account the significance level ( $p < .01$ ) and the number of calculated statistics ( $n=11$ ) (Sakoda, Cohen, & Beall, 1954).

**Table 5.** *Effects of gender and age on CBCL competence and problem behavior total scales, sub-scales, and cross-informant syndromes in the Russian sample (N=2,002)*

	Gender			Age		
	F	p	difference	F	p	difference
<i>Total scales</i>						
Total Problems	13.3	$p < .01$	B>G	0.9	ns	-
Internalizing	17.6	$p < .01$	G>B	0.5	ns	-
Externalizing	96.9	$p < .01$	B>G	0.2	ns	-
<i>Cross-informant syndromes</i>						
Withdrawn	0.6	ns	-	1.0	ns	-
Somatic Complaints	31.9	$p < .01$	G>B	0.6	ns	-
Anxious/Depressed	14.1	$p < .01$	G>B	1.0	ns	-
Social problems	14.3	$p < .01$	B>G	9.1	$p < .01$	Y>O
Thought problems	6.5	ns	-	1.1	ns	-
Attention problems	37.1	$p < .01$	B>G	2.9	ns	-
Delinquent behavior	135.4	$p < .01$	B>G	3.8	$p < .01$	O>Y
Aggressive behavior	59.1	$p < .01$	B>G	1.0	ns	-

Note: B=boys; G=girls; Y=younger children; O=older children; ns=non-significant

ANOVAs to test gender and age differences were performed without taking into account *socio-economic status (SES)* of families. Other studies have shown that problem behavior in children and adolescents co-varies significantly with socio-economic status, usually expressed by the parent's occupation (Achenbach, Howell, Quay, & Conners, 1991; Verhulst & Achenbach, 1995). Since it is difficult to assess socio-economic status of Russian families by means of a single index (e.g. parent's occupation, income), we preferred to combine indices and to study the influence of SES in separate analyses.

Four linear indices of SES were used: 1) the family's most recent monthly income (in thousands of rubles), 2) the family's financial position, assessed by a 7-point scale, ranging from 'very good' (=1) to 'very bad' (=7), 3) the family's living conditions, assessed by an equivalent 7-point scale, and 4) change in the family's financial position, assessed by a 5-point scale, ranging from 'improved considerably' (=1) to 'deteriorated sharply' (=5). Parents' occupation (see Table 2) was not involved in the analyses, because it is a non-linear variable.

These four variables were included in stepwise linear regression analyses with level of significance  $p < .01$ , in order to explore their relation with CBCL Total Problems, the Internalizing and Externalizing scales, and eight cross-informant syndromes. The family's financial position and most recent monthly income proved to be the best predictors of problem behavior in Russian adolescents. Parent's reports about their financial position significantly predicted Total Problems, Internalizing, Externalizing, Somatic Complaints, Anxious/Depressed, and Delinquent Behavior. Parents who judged their financial position as bad or very bad reported more behavioral and emotional problems in their teenage children than parents who gave more positive judgements. The family's most recent monthly income significantly predicted Total Problems, Internalizing, Externalizing, and Delinquent Behavior. Teenagers from lower-income families manifested more behavioral and emotional problems than teenagers from higher-income families. Neither the family's living conditions nor change in the family's financial position significantly predicted problem behavior. The combined influence of both variables on CBCL scales was minimal and accounted for less than 1% of the total variance (see Table 6). According to Cohen's criteria (1988), the influence of SES indices has to be considered very small.

Summarizing the results of the linear regression analyses, we can conclude that problem behavior in Russian adolescents only slightly co-varied with SES indices. Subjective indices of the family's financial position and total income best predicted problem behavior and were associated with internalizing as well as externalizing problem behavior. These findings support the hypothesis that deteriorating living conditions in Russia due to recent socio-economic transitions might give rise to unfavourable individual transition patterns in adolescents that are dominated by anxiety, feelings of hopelessness, lack of future perspectives, or criminal tendencies.

**Table 6.** Results of linear regression analyses (*F*-values and percentage of variance accounted for by significant predictors), testing the relation between CBCL problem behavior scales and indexes of socioeconomic status in Russian adolescents (*N*=2,002)

	Index 1	Index 2	Index 3	Index 4	% variance
<i>Total scales</i>					
Total Problems	8.24	7.80	ns	ns	0.8
Internalizing	6.68	11.80	ns	ns	0.9
Externalizing	7.44	8.85	ns	ns	0.8
<i>Cross-informant syndromes</i>					
Withdrawn	ns	ns	ns	ns	ns
Somatic Complaints	ns	11.21	ns	ns	0.6
Anxious/Depressed	ns	8.57	ns	ns	0.4
Social problems	ns	ns	ns	ns	ns
Thought problems	ns	ns	ns	ns	ns
Attention problems	ns	ns	ns	ns	ns
Delinquent behavior	8.56	9.74	ns	ns	0.9
Aggressive behavior	ns	ns	ns	ns	ns

Note: index 1=family's income last month; index 2=family's financial position;  
 index 3=family's living condition; index 4=change in family's financial position;  
 level of significance:  $p < .01$ ; ns= nonsignificant

By means of the statistically derived cut-off points of Achenbach's normative samples, CBCL scores of Russian adolescents were classified into the normal, borderline and clinical range. As can be seen in Table 7, the distribution of scores differed largely in the Russian and the American samples. More Russian than American adolescents scored in the clinical range on Total Problems, the Internalizing scale, the Externalizing scale, Withdrawn, Somatic Complaints, and Delinquent behavior. The differences between both samples were especially salient for boys. On Total Problems 19% of Russian adolescent males scored in the clinical range, on the Internalizing scale 23.8%, and on the Externalizing scale 15.1% (about 10% of the boys in the American normative sample received clinically deviant scores on these scales, regardless of age). On the Withdrawn syndrome 3.7% of the Russian male adolescents scored in the clinical range, on the Somatic Complaints syndrome 21.9% (!), and on the Delinquent behavior syndrome 3.6% (about 2% of the boys in the American normative sample received clinically deviant scores on these syndrome scales, regardless of age). The differences in prevalence and distribution of problem behavior between 12-to-16-year-old adolescents in Russia and the United States have to be studied further in detailed cross-cultural comparisons. The results of this preliminary analysis already show large differences between the two cultural groups. Consequently, behavioral norms and expectations of one group (in this study, the United States) cannot simply be transferred to another group (Russia). Unwarranted simplification of this kind would lead to a distorted picture of the incidence of problem behavior in the population that is studied.

**Table 7.** *Percentage of boys (N=1,000) and girls (N=1,002) scoring in the normal, borderline or clinical range on CBCL Total Problems, Internalizing, Externalizing, and eight cross-informant syndromes*

	Boys			Girls		
	<i>normale</i>	<i>borderline</i>	<i>clinical</i>	<i>normale</i>	<i>borderline</i>	<i>clinical</i>
<i>Total scales</i>						
Total Problems	68.2	12.8	19.0	73.4	9.6	17.0
Internalizing	63.0	13.2	23.8	69.1	12.3	18.6
Externalizing	76.1	8.8	15.1	76.1	11.9	12.0
<i>Cross-informant syndromes</i>						
Withdrawn	90.5	5.8	3.7	92.4	5.2	2.4
Somatic Complaints	56.5	21.6	21.9	68.5	18.5	13.1
Anxious/Depressed	95.2	3.5	1.3	94.7	3.8	1.5
Social problems	92.6	4.5	2.9	96.7	2.4	0.9
Thought problems	99.2	0.8	0.0	98.8	1.0	0.2
Attention problems	93.8	3.8	2.4	93.8	4.8	1.4
Delinquent behavior	86.6	9.8	3.6	94.5	3.4	2.1
Aggressive behavior	93.9	3.6	2.5	95.1	4.2	0.7

Russian adolescents (boys as well as girls) received high scores on the Somatic Complaints syndrome. The number of adolescents scoring within the clinical range on this syndrome exceeded about 10 times that in the American normative sample. In Table 8 prevalence rates are presented for both genders of somatic complaints without known medical cause, belonging to the CBCL Somatic Complaints syndrome. Complaints are scored 1 if they occurred occasionally, and 2 if they occurred often. The percentage of items scored 1 varied from 7.8% (item 56d, 'Problems with eyes') to 50.4% (item 54, 'Overtired'); the percentage of items scored 2 from 1.4% (item 56g, 'Vomiting, throwing up') to 10.6% (item 54, 'Overtired'). Adolescent girls scored significantly higher than adolescent boys on all items of this syndrome, except on item 56c 'Nausea, feels sick' and item 56g 'Vomiting, throwing up.' Although most somatic complaints were more prevalent in girls than boys, the percentage of boys scoring within the clinical range on this syndrome exceeded by far that of girls (21.9% of the boys scored clinically deviant, versus 13.1% of the girls).

**Table 8.** Prevalence rates (%) of the items of the Somatic Complaints syndrome in 12-16-year-old Russian boys (N=1,000) and girls (N=1,002)

Item no.	Boys		Girls		Total		$\chi^2$	df	p
	1	2	1	2	1	2			
Item 51	27.3	3.4	39.3	4.1	33.3	3.7	35.2	2	.001
Item 54	48.3	9.4	52.5	11.8	50.4	10.6	9.9	2	.001
Item 56a	29.1	3.2	37.7	4.2	33.4	3.7	20.0	2	.001
Item 56b	46.1	7.2	53.7	8.2	49.9	7.7	15.1	2	.001
Item 56c	25.0	2.5	29.5	3.0	27.2	2.8	5.9	2	.053
Item 56d	6.5	7.3	9.1	10.8	7.8	9.1	13.6	2	.001
Item 56e	19.0	2.5	23.8	3.6	21.4	3.0	9.7	2	.008
Item 56f	36.8	4.0	45.8	5.1	41.3	4.5	20.6	2	.001
Item 56g	22.0	1.3	21.2	1.5	21.6	1.4	0.4	2	.830

Note: score 1=sometimes occurring; score 2=often occurring

#### *Correlates of problem behavior in Russian adolescents*

The relation between problem behavior in adolescents and selected demographic, child, and family factors was explored retrospectively. Two *demographic* factors were included (area and socio-economic status of the family), five *child* factors (whether or not the adolescent had his/her own private room in the house/apartment; whether the adolescent had moved once or more; whether he/she had changed school; whether or not the parents had ever been called to school because of problem behavior and whether or not the adolescent had ever been taken into custody), and five *family* factors (family size; relationships between members of the family; relationships between siblings; relationship between parents and the selected child and medical or psychological problems in family members). All factors were examined by means of the additional questionnaire. The results of the statistical analyses (F-values as outcomes of ANOVAs, with level of significance  $p < .01$ ) are presented in Table 9.

#### *Demographic factors*

According to geographic criteria, the territory of the Russian Federation was divided into *five areas*: 1) Moscow and St. Petersburg, 2) European area north, 3) European area south, 4) the Urals and surrounding regions, and 5) Siberia and the Far East. Area one included VCIOM field offices 'Moscow 1', 'Moscow 2' and 'St. Petersburg' with a total of 299 respondents. Area two included VCIOM field offices 'Archangelsk', 'Vladimir', 'Smolensk', 'Nizhni Novgorod' and 'Voronezh' (N=539). Area three included 'Stavropol', 'Cherkessk', 'Rostov on Don', 'Krasnodar' and 'Saratov' (N=337). Area four included 'Samara', 'Kazan', 'Perm', 'Izhevsk' and 'Ufa' (N=387). Finally, area five included 'Novosibirsk', 'Barnaul', 'Krasnoyarsk' and 'Chabarovsk' (N=440).



In Table 9, area effects on CBCL total scales and eight cross-informant syndromes are presented by means of F-values, resulting from ANOVAs with area ( $n=5$ ) as independent variable and  $p<.01$  as level of significance. On all total scales and cross-informant syndromes significant area effects were found, except on the Social Problems syndrome. In order to examine area effects more closely, differences between least square means were examined, using t-tests (level of significance:  $p<.01$ ). Summarizing t-tests, it could be concluded that most types of problem behavior were found in area 1 (Moscow and St. Petersburg), area 4 (the Urals and surrounding regions) and area 5 (Siberia and the Far East). On the Internalizing scale, the Somatic Complaints syndrome, and the Aggressive behavior syndrome adolescents from Russia's largest cities, Moscow and St. Petersburg (area 1), scored significantly higher than adolescents from all other areas. On the Anxious/Depressed syndrome the scores of adolescents living in big cities were significantly higher than those of three out of four areas (scores on this syndrome for young people in Moscow and St. Petersburg did not differ from the scores for young people in the Urals and surrounding regions (area 4)).

The relationship between the family's *socio-economic status (SES)* and problem behavior in adolescents has been examined in previous sections (see 'Base line data on problem behavior in Russian adolescents'), using four linear indices of SES: 1) the family's most recent monthly income (in thousands of rubles), 2) the family's financial position, 3) the family's living conditions, and 4) change in the family's financial position.

### *Child factors*

Having a *room of their own* significantly influenced the adolescents' behavior as reported by parents. Adolescents lacking privacy in the house/apartment scored significantly higher on all CBCL total scales and on seven out of eight cross-informant syndromes (the only exception being the Thought Problems syndrome) than adolescents who have recourse to some form of private space. Frequent moves and/or school changes also appeared to be related to higher scores on CBCL total scales and cross-informant syndromes (the only exception being the Social problems syndrome, which was not significantly related to moves, and the Thought problems syndrome, which was not significantly related to school change). Parents who had been called to school once or more during the last year because of their teenager's disruptive behavior, reported significantly more behavioral and emotional problems on the CBCL than other parents, except on the Somatic Complaints syndrome. Adolescents taken into custody once or more received significantly higher scores on CBCL total scales and cross-informant syndromes (except on the Somatic complaints, Social Problems and Thought Problems syndromes) than their age-mates who had never been taken into custody. Both 'call to school' and 'being taken into custody' are common indices of problem behavior in Russia. They were added to the additional questionnaire in order to test the construct validity of the CBCL in the Russian sample. If the CBCL assessed 'deviant behavior', it could be expected that adolescents for whom parents had been called to school because of disruptive behavior or adolescents who

had been taken into custody, scored considerably higher on the CBCL than other adolescents. Our findings have confirmed this expectation.

### ***Family factors***

The *size of the family* was related significantly to all of the CBCL total scales or cross-informant syndrome scales.

The *relationships between family members*, which were assessed by means of a 4-point scale, ranging from 'very warm' (=1) to 'unbearable' (=4), only affected scores on the Thought Problems syndrome. Parents reporting very negative relationships between family members reported significantly more problems of this kind in their teenagers. Nevertheless, the number of significant effects of this variable did not exceed that expected by chance ( $n=1$ ), taking into account the level of significance ( $p<.01$ ) and the number of calculated statistics ( $n=11$ ) (Sakoda, Cohen, & Beall, 1954). Consequently, this effect is difficult to interpret.

The *relationship between siblings* was assessed by means of an equivalent 4-point scale. No significant effects of sibling relations on CBCL scores of adolescents were found.

Again, a 4-point scale, ranging from 'warm and trustful' (=1) to 'unbearable' (=4), was used to assess the *relationship between the parents and the selected teenager*. Parents who had a very poor relationship with their teenage child reported significantly more delinquent behavior and attention problems than parents with a more positive relationship.

*Medical or psychological problems in family members* (e.g. chronic diseases, psychiatric disorders) significantly affected all CBCL scores on total scales as well as on cross-informant syndromes. Adolescents stemming from families with one or more members manifesting (serious) medical or psychological disturbances received higher scores than adolescents from families without disturbed members. The differences between both groups were highest on Total Problems ( $F=65.8$ ), the Internalizing scale ( $F=75.1$ ), the Somatic Complaints syndrome ( $F=69.2$ ), and the Anxious/Depressed syndrome ( $F=50.2$ ).

**Table 9.** *Effects of demographic, child and family factors (F-value) on CBCL total scales and cross-informant syndromes*

	Total Problems	Internalizing	Externalizing	Withdrawn	Somatic Complaints	Anxious/Depressed	Social problems	Thought problems	Attention problems	Delinquent behavior	Aggressive behavior
<i>Region</i>	13.1*	10.7*	12.8*	3.5*	13.4*	9.1*	2.3	7.0*	10.4*	12.2*	11.9*
<i>Child factors</i>											
Own room	8.2*	6.3*	5.8*	5.3*	5.0*	3.6*	4.2*	2.2	6.2*	3.4*	5.9*
Move	9.8*	11.0*	5.1*	4.9*	14.5*	5.6*	2.2	3.6*	4.9*	2.8*	5.4*
School change	10.0*	9.3*	7.9*	4.5*	7.9*	7.9*	3.1*	1.4	3.6*	3.0*	9.7*
Call to school	61.0*	5.0*	153.9*	6.1*	0.3	9.7*	8.8*	4.6*	66.8*	193.2*	98.3*
Custody	27.0*	4.0*	59.0*	5.8*	0.7	7.3*	2.5	1.3	17.3*	116.6*	26.9*
<i>Family factors</i>											
Family size	0.6	0.9	0.6	1.1	0.7	0.8	0.6	0.5	0.3	1.5	0.4
Family relations	0.5	0.5	0.4	1.0	0.5	0.6	0.0	3.7*	1.3	0.9	0.2
Sibling relations	0.5	1.7	1.8	1.3	1.5	1.4	0.4	0.9	0.8	2.3	1.2
Parent-child relation	0.8	0.2	2.5	0.5	0.8	0.3	0.9	0.4	0.9*	3.9*	1.5
Problems in family members	65.8*	75.1*	29.1*	39.2*	69.2*	50.2*	11.2*	19.8*	28.3*	16.3*	29.3*

Note: \* =  $p < .01$

## Discussion

A large-scale study was conducted on parent-reported behavioral and emotional problems in 12-16-year-old adolescents in the Russian Federation. Results included prevalence rates of problem behavior as well as correlating demographic, child and family factors, allowing comparisons with findings of other (Western and non-Western) studies. However, before discussing and interpreting research results, it is necessary to take into account some important methodological comments and restrictions.

Notwithstanding the accuracy of the sample selection and the maximization of sample representativeness by means of a three-stage sampling design, it is no sinecure to determine whether the sample is really representative of the adolescent population in the Russian Federation today, due to the huge size of the country (more than 17 million square kilometres) and the inaccessibility of some regions. For varying reasons (war, political instability, low population density) several regions were excluded from the sample, e.g. Chechnya, Dagestan, Sachalin. Despite these inevitable eliminations, the ten regions from which the sample was drawn covered a very considerable part of the country as a whole, including large cities, provincial towns and rural areas. We could therefore assume that the selected sample provided a reliable segment of the current generation of 12-16-year-old adolescents living in the Russian Federation. In addition to Russian respondents, several ethnic minorities were represented (e.g. Abkhasian, Armenian, Bashkirian, Belorussian, Tatar, Udmurt and Ukrainian adolescents). No comparisons between nationalities were made because the numbers were too small for this purpose.

Data were gathered by means of interviews. Local co-workers ( $n=172$ ) from 22 VCIOM field offices were trained to interview parents on the child's problem behavior. Interviewing was preferred to mailing the questionnaires, in order to increase the reliability of the study. Besides, the use of interviewers also made it possible to include illiterate respondents in the study. The response rate was 71%, which may be described as moderately high. Most non-responses were due to refusals ( $n=753$ ). It is not clear why parents refused to participate. Probably, refusals were caused by a lack of interest in the issue, by general resistance towards surveys, or by the threatening and intrusive character of the interview situation for some parents. In general, Russian parents are not as familiar with surveys on social and psychological topics as parents in the West. It is not common practice to reflect on children's behavior and emotions, or to compare their competence and skills.

The response rate (71%) was moderately high. However, we know that non-responders usually belong to either the lowest or highest socio-economic categories, and that the incidence of problem behavior in children of non-responders is generally higher than in children of responders (Rutter, 1977; Vikan, 1985; Achenbach, personal communication). Therefore, it could be hypothesized that the prevalence rates of problem behavior in Russian adolescents that were found in this study underestimate 'true' prevalence rates.

The Russian version of the CBCL that was used in this study (the version of the JDC Falk Institute) proved to have a high degree of internal consistency. Cronbach alpha coefficients varied from 0.30 (the Thought Problems syndrome) to 0.94 (Total Problems). Internal consistency of the Thought Problems ( $\alpha=0.30$ ) and the Social Problems syndrome ( $\alpha=0.63$ ) were lowest. Low internal consistency could be due to the distribution of item scores in the sample (especially on the Thought Problems syndrome the distribution of item scores was very skewed, with low prevalence rates of problems and a minimum of item variation), or to linguistic variables. Indeed, we did not test whether CBCL items had the same meaning for Russian parents as they have for Western parents. The items on both the Thought Problems and the Social Problems syndromes may have been interpreted differently by Russian parents. Retranslation in English of the Russian CBCL version by native speakers (followed by linguistic adaptation, if necessary) and administration of the instrument in a new sample might help to clarify this problem and enhance the internal consistency of the Russian translation.

Use of the American CBCL cut-off scores in the Russian sample showed that American norms are not transferrable to Russian respondents and resulted in overestimation of the number of seriously disturbed young people. Indeed, the mean T-score in the Russian sample was 54.3 for boys and 52.7 for girls, which was considerably higher than the mean T-score of 50 in the American normative sample (Achenbach, 1991). Looking at the distribution of raw scores, the 90th percentile (clinical range) corresponded with CBCL total score 54, the 82th percentile (borderline range) with CBCL total score 45. Total Problems scores varied from 0 ( $n=21$ ) to 122 ( $n=1$ ). In the American normative sample the clinical range started at about total score 45. In order to avoid over-detection of 'problematic' cases and to enhance the applicability of the CBCL in diagnostic activities, we suggest that statistical norms be developed based on large Russian samples of non-referred adolescents and adolescents referred to mental health services and special schools. In the remainder of this discussion of results we will mainly refer to CBCL raw scores.

Many gender differences were found in the incidence of problem behavior. Boys received significantly higher scores than girls on Total Problems, the Externalizing scale, the Social Problems syndrome, the Attention Problems syndrome, the Delinquent Behavior syndrome, and the Aggressive Behavior syndrome. Girls received significantly higher scores than boys on the Internalizing scale, the Somatic Complaints and the Anxious/Depressed syndrome. The gender differences in the Russian sample generally followed the trends of gender differences in other CBCL samples. In their review of cross-cultural research on child psychopathology, Verhulst and Achenbach (1995, p. 70) reported that 'cross-culturally consistent gender differences were found for the Somatic Complaints syndrome (higher scores for girls) and the Attention Problems syndrome (higher scores for boys).' Significant gender differences on Total Problems (higher scores for boys than girls) were less frequent. In the Russian sample this difference between boys and girls was significant, but of small size according to Cohen's criteria (accounting for 1.3% of variance). The largest gender differences were found on the Externalizing scale (4.8% of variance) and the Delinquent Behavior syndrome (7.2% of

variance). Trends in the Russian sample reflected the rather traditional view of parents and laymen on problem behavior in children. In this view, boys are considered to be mainly 'externalizers', manifesting problems that particularly harm others (e.g. disruptive behavior, aggression, violence), while girls are considered to be 'internalizers', predominated by self-oriented problems (e.g., somatic complaints, depressive moods).

Nevertheless, internalizing problems were also highly prevalent in Russian male adolescents, as compared with their American counterparts. Especially on the Somatic Complaints syndrome Russian adolescents received high scores (mean for Russian boys=3.42, for girls=4.17; mean for American boys aged 12-18=1.0, for same-aged girls=1.4). The prevalence of CBCL item 54, 'Overtired', was extremely high. According to their parents' reports, 57.7% of male adolescents at least occasionally looked overtired, compared with 61.0% of female adolescents. The gender difference on this item was significant on the  $p < .01$  level. Explanations for the high prevalence of somatic complaints without known medical cause in Russian adolescents could be found in poor living conditions due to socio-economic transition, which inevitably increase psycho-social stress and affect the individual's (mental) health. As far as we know, no epidemiological data are available about the prevalence of somatic complaints in other age groups. Therefore, it was not possible to test the 'specificity' hypothesis of vulnerability to socio-economic transitions in adolescents. Neither is it possible to test time trends, since information on the prevalence of somatic complaints under the former Soviet regime is also lacking. The validity of the assumption that being adolescent in current Russian society is even more stressful than being adolescent in any Western country may be tested by comparing CBCL scores in the Russian sample with those of other samples. The mean on Total Problems was 28.4, higher than the means in Achenbach's samples of 4-to-16-year-olds, which ranged from 20.0 to 28.1 (see Verhulst & Achenbach, 1995). Of course, samples are not completely comparable because of differences in the age groups that were studied. But considering the fact that problem behavior generally decreases with age, it is clear that the mean on Total Problems in the Russian sample is relatively high, illustrating the difficulties of the transitional period and the parents' concern.

Since both male and female adolescents manifested high levels of internalizing problem behavior, internalizing may be a typically Russian way of dealing with problems and stress. In order to check this assumption, co-morbidity patterns between the Delinquent Behavior syndrome (the externalizing syndrome which best differentiated between boys and girls) and the Somatic Complaints scale (the internalizing syndrome with the highest standardized scores in boys and girls) in boys were calculated. Co-morbidity is defined as 'the co-existence of two or more distinct disorders in the same individual' (McConaughy & Achenbach, 1994, p. 1141). The coexistence of cross-informant syndromes has been studied within the context of the CBCL. Using the formula of bi-directional co-morbidity proposed by the authors mentioned above, the co-morbidity rate for the combination of the Somatic Complaints syndrome and the Delinquent Behavior syndrome in male adolescents was estimated at 16.4%, with a T score of 67 as a definition of clinical deviance. In total, 80 boys scored clinically deviant on both the Somatic

Complaints and Delinquent Behavior syndrome, whereas 409 boys scored clinically deviant on one of the two syndromes. The co-morbidity rate is calculated by dividing the number of respondents scoring clinically deviant on both syndromes (80) by the total number of clinically deviant scores in the sample on either one or both syndromes (489). More than 16% of the male adolescents manifesting the Somatic Complaints syndrome also received clinically deviant scores on the Delinquent Behavior syndrome. The co-morbidity rate would probably be even higher if statistically derived Russian CBCL norms were used instead of American norms. Generally, the co-morbidity between the Somatic Complaints syndrome and externalizing syndromes is rather low. McConaughy and Achenbach (1994) reported rates of 11.3% and 13.9% between the Somatic Complaints and the Delinquent Behavior syndrome in 4-to-16-year-old American children. The relatively high co-morbidity between the two syndromes in Russian male adolescents might indeed reflect a more general Russian tendency to deal with problems and stress by internalizing them first.

Only a few significant age differences in problem behavior were found. On the Social Problems syndrome younger adolescents received significantly higher scores than older adolescents, on the Delinquent Behavior syndrome the reverse was true. The number of significant age differences nearly exceeded that expected by chance ( $n=1$ ). Consequently, age differences were hard to interpret. In fact, the lack of significant age differences in the distribution of problem behaviors is hardly surprising. The age range of the study was rather restricted (12-16) and covered but one developmental period (adolescence).

The small influence of socio-economic status (SES) on CBCL scores was more surprising. SES of families was assessed by means of four linear indeces: the family's most recent monthly income (in thousands of rubles), the family's financial condition, the family's living conditions, and change in the family's financial position. Adolescent problem behavior only slightly co-varied with SES indeces. Subjective indeces of the family's financial condition and total income were significantly correlated with CBCL Total Problems, the Internalizing scale, the Externalizing scale, and the Somatic Complaints, Anxious/Depressed, and Delinquent Behavior syndromes. SES differences accounted for less than 1% of the variance. Adolescents from low-income or dissatisfied families were more at risk than adolescents from higher-income or more satisfied families. These findings are consistent with general trends in epidemiological research, showing more problem behavior in lower SES children (Verhulst & Achenbach, 1995).

It is very difficult to assess socio-economic status of families in today's Russian society. The use of a single index (e.g. occupation, income) does not provide reliable information, since socio-economic conditions change rapidly and indeces are not always defined unambiguously. For instance, it is not clear whether parents reported their official income or the total income of the family (including incomes received unofficially by themselves or their children). We believe that by combining indeces more complete and reliable information could be obtained. Besides, it might be necessary to take into account other than the traditional indeces, e.g.

living or housing conditions. In that respect, information on the availability of a private room for the adolescent in the house/apartment could be a relevant indicator of the family's SES. We found that adolescents without recourse to a private room received significantly higher scores on nearly all CBCL total and syndrome scales (except on the Thought Problems scale) than adolescents that had a private space for themselves. This variable had a higher discriminative power with regard to CBCL scores than the traditional SES indices.

Significant differences in CBCL scores were noted between adolescents from different regions or areas. The Russian Federation was divided roughly into five areas (Moscow and St. Petersburg, European area north, European area south, the Urals and surrounding regions, and Siberia and the Far East). Except on the Social Problems syndrome, differences between areas were highly significant. We tried to pattern these differences and found that more behavioral and emotional problems were reported in adolescents from 1) Russia's largest cities, Moscow and St. Petersburg, 2) the Urals and surrounding regions, and 3) Siberia and the Far East. The concentration of problem behavior in large cities is not surprising and a well-known phenomenon in child psychopathology since Rutter's pioneering studies in London's inner-city children (Rutter, Cox, Tupling, Berger, & Yule, 1974; Rutter, Yule, Quinton, Rowlands, Yule, & Berger, 1975). Young people from Moscow and St. Petersburg manifested significantly more internalizing problems (i.e. somatic complaints without known medical cause) and aggression than young people living in other areas. The same trend was found for the Anxious/Depressed syndrome, though no significant difference with adolescents from the Urals and surrounding regions was noted. On the Delinquent Behavior syndrome no significancies were found between adolescents from 1) Moscow and St. Petersburg, 2) the Urals and surrounding regions, and 3) Siberia and the Far East. In fact, the highest mean score on this syndrome was obtained by adolescents living in the latter area (Mean=2.91), and not by adolescents from Moscow or St. Petersburg (Mean=2.61). On the basis of these area differences we can assume that living in large cities in modern Russia is not without stress and trouble for a considerable part of the population of young people. The consequences of socio-economic transitions are probably most perceptible in these areas, characterized by growing numbers of families living in poverty and a growing incidence of child neglect and unemployment. These unfavourable conditions could hamper adolescent transition patterns and result in anxiety, lack of future perspectives, feelings of hopelessness, and criminal behavior.

Child factors that were significantly correlated with problem behavior were the availability of a private room in the house or apartment (see above), unstable living conditions due to frequent moves or school changes, being taken into custody, and parental calls to the school principal.

Adolescents who (frequently) moved house or changed school ran a higher risk of problem behavior. They received significantly higher scores on nearly all CBCL total and syndrome scales than their age-mates living in more stable conditions (except on the Social Problems



syndrome for moves and the Thought Problems syndrome for school change). Many researchers consider moving house and school changes as unfavourable events or risk factors, negatively influencing developmental outcomes in children and adolescents, especially if they co-occur or interact with other unfavourable conditions (e.g. a child living in a poor family who is forced to move from residence to residence) (Berden, Althaus & Verhulst, 1990; Goodyer, 1990).

Being taken into custody and parental calls to the school principal are common indices of problem behavior in Russia. They were used as (internal) criteria to test the validity of the Russian version of the CBCL. As expected, both indices strongly correlated with CBCL total and syndrome scales, particularly with Total Problems, the Internalizing and Externalizing scale, and the Attention Problems, Delinquent Behavior and Aggressive Behavior syndromes. These findings proved the construct validity of the Russian version of the CBCL.

The only family factor that significantly correlated with adolescent problem behavior was the presence of medical or psychological problems in other family members (living in the house or apartment). Adolescents having at least one family member with such problems received higher scores on all CBCL total and syndrome scales than adolescents without medical or psychological problems in their families. Chronic familial adversities (e.g. mental disorder in one or both parents, parental delinquency) may affect the child's behavior in a negative way either through genetic or environmental mechanisms and are recognized by most scholars as an important risk factors in child development (Beardslee, Bempor, Keller & Klerman, 1983; Rutter, 1994). The fact that in Russia mostly large families, consisting of different generations (so-called 'extended' families), live in the same house or apartment may increase the impact of this factor. Nevertheless, findings must be interpreted carefully because familial adversities produce negative outcomes only by means of certain risk mechanisms, for instance disturbed interaction patterns or chronic exposure to negative parental models. In our study no information was available on the presence of these risk mechanisms in Russian society.

We suggest that future epidemiological studies in the Russian Federation should focus on the long-term developmental outcomes of socio-economic transitions in children and adolescents as well as on the identification of risk patterns and mechanisms in sub-groups. The use of standardized assessment procedures with Russian norms will then be indispensable. In addition, base line data on the incidence of behavioral and emotional problems in Russian adolescents should be compared with data of other large-scale studies, for instance with the American sample of Achenbach (1991).

## References

- Achenbach, T.M. (1991). *Manual for the CBCL and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1993). *Empirically Based Taxonomy: How to Use Syndromes and Profile Types Derived from the CBCL/4-18, TRF, and YSR*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M., Howell, C.T., Quay, H.C. & Conners, C.K. (1991). National survey of problems and competencies among four- to sixteen-year-olds. *Monographs of the Society for Research in Child Development*, 56 (3).
- Arnold, J. & Jacobowitz, D. (1993). *Program for the Child Behavior Checklist/4-18 (version 4.1)*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Beardslee, W.R., Bempor, J., Keller, M.B. & Klerman, G. (1983). Children of parents with major affective disorders: a review. *American Journal of Psychiatry*, 140, 825-832.
- Berden, G., Althaus, M. & Verhulst, F.C. (1990). Major life-events and changes in the behavioral functioning of children. *Journal of Child Psychology and Psychiatry*, 31, 949-959.
- Brown, J.S. & Achenbach, T.M. (1995). *Bibliography of Published Studies Using the Child Behavior Checklist and Related Materials: 1995 Edition*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Chisholm, L. & Hurrelmann, K. (1995). Adolescence in modern Europe. Pluralized transition patterns and their implications for personal and social risks. *Journal of Adolescence*, 18, 129-158.
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. New York: Academic Press.
- Crockett, L.J. & Crouter, A.C. (Eds.) (1995). *Pathways through Adolescence. Individual Development in Relation to Social Contexts*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Goodyer, I.M. (1990). *Life Experiences, Development and Childhood Psychopathology*. New York: John Wiley & Sons.
- Hill, P. (1993). Recent advances in selected aspects of adolescent development. *Journal of Child Psychology and Psychiatry*, 34, 69-99.
- Ispa, J. (1994). *Child Care in Russia: In Transition*. Westport, CT: Greenwood Press.
- Kirk, R.E. (1968). *Experimental Design Procedures for the Behavioral Sciences*. Belmont, CA: Brooks/Cole.
- Koklyagina, L. (1995). From school to work in a transitional society: Changing patterns in Russia. In L. Chisholm, P. Büchner, H.-H. Krüger & M. du Bois-Reymond (Eds.). *Growing up in Europe. Contemporary Horizons in Childhood and Youth Studies*, 145-151. Berlin: Walter de Gruyter.
- Lord, F.M. & Novick, M.R. (1968). *Statistical Theories on Mental Testscores*. Massachussets: Reading.
- McConaughy, S.H. & Achenbach, T.M. (1994). Comorbidity of empirically based syndromes in matched general population and clinical samples. *Journal of Child Psychology and Psychiatry*, 35, 1141-1157.

- Rutter, M. (1977). Surveys to answer questions: some methodological considerations. In P. J. Graham (Ed.). *Epidemiological Approaches in Child Psychiatry*, 1-30. London: Academic Press.
- Rutter, M. (1994). Stress research: Accomplishments and tasks ahead. In R.J. Haggerty, L.R. Sherrod, N. Garmezy & M. Rutter (Eds.). *Stress, risk, and resilience in children and adolescents. Processes, mechanisms, and interventions*, 354-385. Cambridge: Cambridge University Press.
- Rutter, M., Cox, A., Tupling, C., Berger, M. & Yule, W. (1975). Attainment and adjustment in two geographical areas. I. The prevalence of psychiatric disorders. *British Journal of Psychiatry*, 126, 493-509.
- Rutter, M., Yule, B., Quinton, D., Rowlands, O., Yule, W. & Berger, M. (1975). Attainment and adjustment in two geographical areas. III. Some factors accounting for area differences. *British Journal of Psychiatry*, 126, 520-533.
- Sakoda, J.M., Cohen, B.H. & Beall, G. (1954). Test of significance for a series of statistical tests. *Psychological Bulletin*, 51, 172-175.
- United Nations Children's Fund (1994). Central and Eastern Europe in transition. Public policy and social conditions. Crisis in mortality, health and nutrition. *Regional Monitoring Report*, No. 2. Florence, Italy.
- United Nations Children's Fund (1995). Central and Eastern Europe in transition. Public policy and social conditions. Poverty, children and policy: responses for a brighter future. *Regional Monitoring Report*, No. 3. Florence, Italy.
- Verhulst, F.C. & Achenbach, T.M. (1995). Empirically based assessment and taxonomy of psychopathology: cross-cultural applications. A review. *European Child and Adolescent Psychiatry*, 4, 61-76.
- Vikan, A. (1985). Psychiatric epidemiology in a sample of 1510 ten-year-old children-I. Prevalence. *Journal of Child Psychology and Psychiatry*, 26, 55-75.
- Weisz, J.R. & Eastman, K.L. (1995). Cross-national research on child and adolescent psychopathology. In F.C. Verhulst & H.M. Koot (Eds.). *The Epidemiology of Child and Adolescent Psychopathology*, 42-65. Oxford: Oxford University Press.