

V Congress of Russian Psychological Society

Depressiveness in Children and Adolescents: a Cross-cultural Study in Russia and Kyrgyzstan

Sergey Malykh^{a*}, Alexandra Belova^a, Elena Sabirova^b, Ivan Voronin^a, Elena Gindina^a, Darya Gaysina^c

^a *Psychological Institute of Russian Academy of Education, Moscow, Mokhovaya 9-4, 125009, Russia*

^b *Kyrgyz-Russian Slavic University, Bishkek, Kievskaya str., 44, 720000, Kyrgyzstan*

^c *University of Leicester, Leicester, Lancaster Road, LE1 9HN, UK*

Abstract

Difference in depressiveness among children and adolescents from Russian and Kyrgyz non-clinical samples was investigated. 1139 children and adolescents aged 7 to 17 from Russia (n=752) and Kyrgyzstan (n=387) took part in the survey. Depressiveness was measured by means of Children's Depression Inventory (CDI). Significant difference in CDI scores was shown for country×age (p=0,003) and country×gender×age (p=0,03) factors (based on ANOVA). Kyrgyz 7-11 y.o. boys scored significantly higher compared to Russian peers. Difference among girls didn't reach significance level. Different age dynamics for Russian and Kyrgyz girls was shown. The possible reasons for higher scores among Kyrgyz 7-11 year olds are discussed.

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Selection and/or peer-review under responsibility of Russian Psychological Society

Keywords: depressiveness, cross-cultural study, children and adolescents, CIS countries.

* Corresponding author. Tel.: +7-495-695-81-28; fax: +7-495-695-81-28

E-mail address: malykhsb@mail.ru

1. Introduction

Depression is one of the main psychiatric diseases that cause disability and mortality according to World Health Organization (WHO) data [1], [2]. Despite being considered a ‘Western’ problem in the past it obviously gains ‘Global’ status nowadays. In recent study that involved 480000 participants from 91 countries worldwide it was shown that the average depression level in Western countries is even a bit lower comparing to some non-western countries [3]. About 4% of people suffer from depression in North and South America, New Zealand, Australia and Eastern countries such as China, Thailand and Indonesia while in Asian and Middle East countries (e.g. India, Afghanistan, etc.) the percentage is more than twice higher ($\approx 9\%$).

Cross-cultural and ethnic differences in depression rates were also found on adolescent and children’s samples. For instance in US, Latin Americans were proved to have higher depression rates than Caucasian and African Americans [4], [5], [6]. Ethnicity was proved to be the most important factor in predicting depression level among all the factors (e.g. sex, age, and socio-economic status) analyzed by JM.Twenge & S. Nolen-Hoeksema in meta-analysis of 310 US and Canadian studies [4]. Cross-cultural studies that include American, Australian and British samples usually show quite a comparable depressiveness levels in these countries [7]. Studies that compare Western and Asian samples are more controversial. Thus Chinese children have similar depression rates to their Western peers while Egyptians appears to be significantly more depressed [7, 8].

Cross-cultural studies that include Russia are also available. In the study of Russian and British 9-13 y.o children conducted by T. Charman & I. Pervova in 1996, Russians reported higher depression rates than their British peers [7]. Two other studies also show higher level of internalization problems among Russian adolescents compared to normative American sample [9, 10]. Cross-cultural studies of children’s and adolescent depression in CIS countries are very limited. Still these countries offer quite severe conditions for leaving and are theoretically vulnerable for high depression levels.

Our study compares depressiveness level among children and adolescents in Russia and Kirgizstan (which is one of the less prosperous CIS countries). Apart from standard of leaving Russia and Kirgizstan are different in terms of ethnicity, religion, social-economic conditions, traditions of family relationships and education system. All these factors can cause cross-cultural differences in depressiveness [6], [11], [12].

2. Methods

1.1. Sample

1139 children and adolescents aged 7 to 17 years from Russia and Kirgizstan took part in the survey. Among them: 752 Russia citizens and 384 Kyrgyzstan citizens; 544 boys and 959 girls (boys are 47% in Russian sample and 48% in Kyrgyz sample). In order to make samples comparable across countries the data was weighted by age. Split by age groups after weighting follows: 7–11 y.o – 33 and 35%, 12–14 y.o – 25 and 25%, 15–17y.o – 42 and 39% for Russian and Kyrgyz samples respectively.

1.2. Measurements

The level of depressiveness in both Russian and Kyrgyz samples was measured by means of Children’s Depression Inventory (CDI; [13]). The questionnaire contains 27 items related to depressive symptoms. Each item contains three statements that represent presence of the symptom and its intensity. Respondents are asked to chose one of the statements which best describes how they felt during past two weeks. CDI is designed to measure depression among children and adolescents aged 6 to 17 and allows evaluating such symptoms as depressive mood, cognitive symptoms of depression, somatic complains, social and behaviour problems related to depression. CDI was officially translated into 23 languages and is widely used as a depressiveness measurement in cross-cultural studies. CDI was administered to the participants for self evaluation in the set of

other questionnaires related to emotional and cognitive spheres. CDI Cronbach's alpha on our Russian and Kyrgyz samples was 0.84 and 0.81 respectively.

1.3. Statistical analysis

SPSS 17.0 was used for statistical data analysis. T-test was used to compare depressiveness level in two countries. One- and multifactor ANOVA were employed to evaluate differences in depression by age, gender and country.

In order to compare our data with the data from USA and Canada the data from meta-analysis of 310 children's and adolescent samples was grouped into similar age-gender groups [4].

2. Results

In order to evaluate difference in depressiveness between Russian and Kyrgyz samples ANOVA analysis for CDI score with the effects of country, age, gender and combined effects of country \times sex, country \times age, sex \times age, country \times sex \times age was performed. The difference appeared to be statistically significant for country \times age ($F=5.87$, $p= .003$) and country \times sex \times age ($F=3.68$, $p=.03$) combinations. As far as it was shown that depressiveness rates differ by country \times sex \times age subgroups we performed detailed analysis of depression scores in these subgroups.

Russian and Kyrgyz boys obtain similar CDI scores at 12-14 y.o. ($p=.56$) and 15-17 y.o. ($p=.99$). Still at 7-11 years Kyrgyz boys score significantly higher ($p=.025$, CDI means are 11.24 and 13.77 for Russian and Kyrgyz samples correspondingly). Depressiveness level tends to decrease with age for both Russian and Kyrgyz boys as it is shown on Fig.1 (A). Though on Kyrgyz sample differences are more pronounced ($p=.05$). Both Russian and Kyrgyz boys at all ages score notably higher than their peers in US and Canada. There is no significant difference between Russian and Kyrgyz samples observed in girls of any age (still there is a tendency that Kyrgyz girls score higher at 7-11 and 12-14 years, while Russian scores higher at 15-17 y.o.). In terms of age dynamics (Fig.1 (B)) Kyrgyz girls tend to show decrease in depressiveness at 15-17 years compared to earlier ages while Russian girls demonstrate opposite trend. Depressiveness significantly increases among Russian girls at 15-17 y.o. ($p=.001$). The dynamic shown by Russian girls is quite alike depressiveness dynamic among girls from US and Canada. Still in Russia it is more pronounced. Both Russian and Kyrgyz girls shows higher level of depressiveness at 7-11 years than girls from US and Canada.

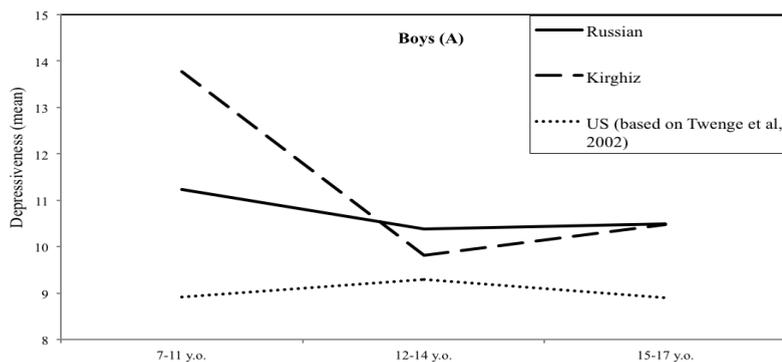


Fig. 1 (A). Mean CDI scores for boys at different ages from Russia, Kyrgyzstan and US&Canada [4]

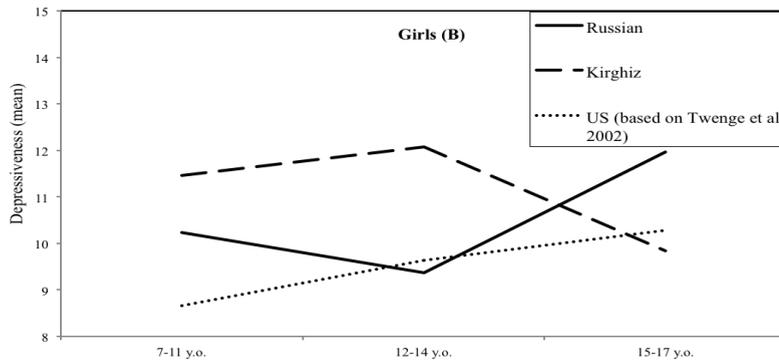


Fig. 1 (B). Mean CDI scores for girls at different ages from Russia, Kyrgyzstan and US&Canada [4]

Summarizing the above we can say that significant difference between Russian and Kyrgyz samples are shown for boys at youngest age group. Despite the fact that Kyrgyz 7-11 y.o. girls also demonstrate slightly higher depressiveness score than Russians (10.24 and 11.46 correspondingly), the difference doesn't reach significance level.

3. Discussion

The existing difference in depressiveness among 7-11 year olds from Russia and Kyrgyzstan can be caused by social-economic situation, specifics of educational system and family relationships.

Social and political situation in Kyrgyzstan during the past few years was not stable. In 10 years two revolutions took place and there is possibility of the third one. Russia didn't face revolutions during the same period. Besides other political reasons one of the main causes of people dissatisfaction is extremely low standard of living in Kyrgyzstan [14]. According to 2005 World Bank data the percentage of poor people in Kyrgyzstan is 70% for adults and 80% for children. In Russia it is 9 and 12% correspondingly [15].

According to the data published by UNICEF the education system in Kyrgyzstan offers children less opportunities than Russian educational system [15]. The results of PISA (Program for International Student Assessment) survey that took place in 2006 in 57 countries on 15 y.o. students had shown that Kyrgyzstan occupied last 57th place in terms of education effectiveness. According to the same study Russia held 32th to 40th position depending on the discipline which is highest among SIC countries, a bit lower compared to Eastern Europe and much lower than majority of Western countries [16]. The similar situation is observed in elementary school. According to MLA 2006 (Monitoring Learning Achievement) data 64% of Kyrgyz 4th grade children demonstrate unsatisfactory level of literacy and 62% - mathematic skills [17].

We can suggest that to certain extent the difficulties observed among children in elementary school are caused by the situation in pre-school education. Pre-school education in Kyrgyzstan was seriously affected by the sharp reduction of government investments in transition period. The number of pre-school education centers had decreased more than 4 times in 2000 year compared to 1990 and remains low despite some growth during past decade. As a result only 11% of children obtain pre-school education in Kyrgyzstan compared to 35% in 1990 [17]. All the above negatively influence preparedness to school and obviously make school adaptation more difficult (especially taking into account that more than one third of parents don't prepare children for school themselves [17]).

Family relationships in Kyrgyzstan might also cause additional stress for some children. According to UNICEF [18] data about 72% of children reported that they experienced aggressive and/or indifferent parents'

behavior. There is no corresponding data for Russia available but according to the research published in 1995 about 30% of Russian children claimed that faced parents' aggressive behavior [19].

Summarizing we can say that Russian children and adolescents live in more suitable social conditions than Kyrgyz children enjoying relative political stability and fewer poverty rates. Russians also demonstrates better school competence level and have more opportunities for health school adaptation thanks to better development of pre-school educational system. Kyrgyz children in contrast have to experience higher rates of social instability and poverty. Educational system also appeared to be less effective in providing children with competences for living (which is reflected in the lowest rates obtained by Kyrgyz children among children from 57 countries participated in PISA). Moreover poor condition of pre-school and family education give less opportunities for easy school adaptation among Kyrgyz children which might cause higher depressiveness rates among young children in particular.

4. Conclusion

The present study has number of limitations that should be taken into account when interpreting the results. Firstly, this is a cross-sectional study with different children interviewed in different ages which makes it possible that side factors (for example socio-economic conditions), that are different for different children, influence the results. Cohort effects can also appear as the data was gathered in 2005 to 2011 years. Secondly, the depressiveness was measured by means of CDI inventory only, which is probably measuring not only depression, but negative emotionality in general [20]; moreover based on CDI clinical depression can not be diagnosed which means that the results are not necessary true for clinically diagnosed depression.

Despite these limitations, the results of the study can be valuable contribution to better understanding of depression in children and adolescents in Russia and Kyrgyzstan. More detailed investigation of the reasons and mechanisms that lead to higher depressiveness scores among Kyrgyz 7-11 year olds is required to provide better basis for preventive actions.

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