Ψ

Baltic

JOURNAL OF PSYCHOLOGY

Baltijas

PSIHOLOĢIJAS ŽURNĀLS

Contents

Editorial

We wish to draw your attention to the article by Cropley and Gribov on the topic of Creativity and invite your commentaries to initiate a dialogue about current educational policies and practices for fostering creativity in different countries.

Interest in fostering creative talent continues to motivate researchers across the globe to seek innovative approaches to assessment and intervention. However, teachers are not always informed and the innovative ideas do not extend into classroom practice.

For example, at the 2005 American Psychological Association Convention in Washington DC creativity was discussed in several contexts. Topics ranged from Sternberg's invited address on Creativity in School Achievement to the Healing aspects of artistic expression and the role of creativity in the development of the challenged.

Researchers interested in human strengths from the positive psychology perspective include creativity among the underpinnings of psychological health and well-being. Trust, openness, and flexibility are critical features of learning to adapt to new experiences. Although positive emotions, creative self-expression and exploratory approaches to problem solving are recognized as adaptive assets across the life span, very little is said about these topics in teacher training institutions. It is not surprising then that students blame the school system for stifling their creativity.

On the other hand, students also name teachers as the encouraging heroes in their quest for creativity. Hence the purpose of the proposed dialogue on creativity is to bring forth examples of policies and practices that support the development of creative self-expression.

We invite you to submit articles and commentaries on creativity for the Baltic Journal of Psychology and would welcome your participation at the International Baltic Psychology Conference in June, 2006 in Riga.

Solveiga Miezitis
Malgazota Rascevska

REPORTS OF EMPIRICAL STUDIES

Time Perspective of Latvian and Russian (Ethnic Minority) High School Students in Riga and Latgale

Aleksandrs Koļesovs

University of Latvia

This study investigated the extent to which the time perspective of high school students varies in different economic and ethnic settings in Latvia. The research involved 43 boys and 89 girls from Latvian high schools in Riga, the capital of Latvia, 34 boys and 50 girls from Latvian high schools in Latgale, the region with the highest level of unemployment in Latvia, 53 boys and 95 girls from Russian (ethnic minority) high schools in Riga, and 15 boys and 20 girls from Russian high schools in Latgale (mean age = 17.84, SD = 0.59).

The Zimbardo Time Perspective Inventory, and the Hopes and Fears Questionnaire were administered. Results demonstrate that ethnic minority adolescents are more oriented towards the future. A similar tendency was observed in adolescents from Latgale. These findings reflect both dissatisfaction with the present situation, and a constructive orientation towards the future in these groups. Education, occupation, and family are the main topics in the future perspective of adolescents in Latvia, regardless of ethnic background.[*]

Keywords: time perspective, ethnic minority/majority, economic settings.

Introduction

Time perspective (TP) is the construct that represents the cognitive partitioning of individual experience into past, present, and future temporal frames (Zimbardo & Boyd, 1999). Important changes in TP occur in adolescence (Lewin, 1942). Adolescents' challenge during the transition to adult life is that of entering into productive and reproductive fields of their culture (Nurmi, 2004). Their decisions are related to future education, occupation, and family and have important consequences for adolescents' future life (Nurmi, 1993).

Studies on adolescents' TP have demonstrated that variety in TP is related to cultural and economic setting (Nurmi, Pool, & Seginer, 1995), ethnicity and individual differences (Zimbardo & Boyd, 1999). However generalization of these findings is limited by different theoretical and empirical approaches in the investigation of TP. The aim of this study was to investigate the extent to which TP of high school students in Latvia varies across economic and ethnic settings.

Several approaches have been developed for taking into account the complexity of the construct of TP (Nurmi, 1994; Nuttin & Lens, 1985; Zimbardo & Boyd, 1999). Two principal traditions in research on TP will be described below.

Integrated approach

The first approach encompasses all temporal frames: past, present, and future. Integrated models of TP are based on meta-analysis of clinical research (Fraisse, 1964), and on theoretical considerations and empirical research results (Nuttin & Lens, 1985; Zimbardo & Boyd, 1999).

Nuttin and Lens (1985) described psychological time as a combination of three main aspects: time orientation, time attitude, and parameters of TP (e.g. length, density). These authors noted that it is difficult to distinguish the various aspects of TP. They emphasized that objects without affective importance are not integrated into individuals' TP.

Zimbardo and Boyd (1999) identified a five-factor structure of TP in a population of college and university students. Past-Negative, Present-Hedonistic, Future, Past-Positive, and Present-Fatalistic factors represent individual biases in dealing with the flow of experience. A convergent and discriminant validity study (Zimbardo & Boyd, 1999) showed that TP factors correlated significantly with such prominent psychological constructs as aggression, depression, anxiety, and self-esteem. For example, a negative, pessimistic, or aversive view of the past was significantly associated with depression, aggression, anxiety, and low self-esteem. A general orientation towards the future was negatively associated with depression, anxiety, and sensation seeking. Additional external validation studies demonstrated that a present-oriented TP was highly related to risky driving (Zimbardo, Keough, & Boyd, 1997), more frequent smoking, alcohol consumption, and drug use (Keough, Zimbardo, & Boyd, 1999).

There were significant ethnic and gender differences in TP. In the United States, African Americans scored highest on the Past-Negative, Caucasians on the Past-Positive, and Asians on the Present-Fatalistic scales. Women scored higher than men on the Future scale and on the Past-Positive scale. Zimbardo and Boyd (1999) argued that an individual's TP is multiply determined by culture, religion, education, social class, and family.

Future-oriented approach

The second tradition is focused on future TP or «future orientation» (Nurmi, 1994; Trommsdorff, 1994). New models of future TP represent interactions between social context, schemata, and future orientation (Nurmi, 1994), and links between motivational, cognitive, and behavioral components of future orientation and self-evaluation (Seginer, Vermulst, & Shoyer, 2004). The content of future TP and anticipated life-span development have traditionally been analyzed within the framework of the future-oriented approach (Nurmi, in press). In more recent TP studies, effects of culture, ethnic group, social class, and gender were more visible (for a review, see Nurmi, 1991).

There are three main topics in the content of adolescents' future TP in Western cultures: education, occupation, and family (Nurmi, 1993). Nurmi et al. (1995), in studies of adolescents in Australia, Finland, and Israel, found a few differences between cultures on these topics. These differences were related to different institutional transitions and to gender roles. For example, military service for girls was mentioned only in Israel. In fact, there were significant interactions between gender and culture. Girls were more concerned about education than boys in Israel or Finland. In Israel this tendency was more pronounced than in Finland. For Australian adolescents, gender differences in education-related topics were not significant. Research shows similar differences in the structure of future TP. Different institutional

tracks and transitions were the most important factor in the timing of changes in educational, occupational, and family domains.

Differences in TP are more pronounced in heterogeneous populations. Comparison of the future TP of Jewish and Arab Israelis (Seginer, 1991), and urban and kibbutzim Jewish adolescents (Seginer, 1988) support this conclusion. Seginer found that, in general, Arab adolescents are more oriented towards the future than Jewish adolescents, and urban Jewish adolescents are more oriented towards the future than their peers in the kibbutzim. Seginer commented that these differences are closely related to the adolescents' social situation. Kibbutzim youth grow up in collectivist environments and expect their future needs to be satisfied without a great deal of preparation. Urban Jewish adolescents develop in a middle-class environment and recognize their own responsibility in maintaining their social status. Arab Israelis are dissatisfied with present circumstances, and look to the future for new opportunities.

One more source of diversity in future TP are the economic circumstances in which young people are growing up. Socio-economic settings vary for adolescents from different social classes, and from regions with different economic situations. Nurmi (1987) found that adolescents from a higher social class have a longer future TP, and more time for preparation for adult life in a professional domain. Differences between regions are related to different opportunities in occupational and educational domains. Nurmi, Pool, and Kalakoski (1994) observed an overall pessimism about future occupation among adolescents from rural regions of Australia and Finland. Their hopes about work and career decreased with age. The authors comment that this tendency is related to lack of options and high unemployment in the rural environment.

Economic and ethnic settings in Latvia

Latvia is a state in Eastern Europe, which regained its independence after the collapse of the Soviet Union. This resulted in significant political, social, and economic changes. Economic development differs in the regions of Latvia. The average level of unemployment at the end of 2003 was 8.5%, but in Riga, the capital of Latvia, it was 4.5%, whereas in Latgale, one of the larger regions of the country, it was as high as 28.2% (Central Statistical Bureau of Latvia, 2003, December 15). This is the highest level of unemployment in the country, and this tendency has remained constant for the last few years.

The ethnic structure of Latvia is also heterogeneous. The population consists of 2.3 million people. Latvians constitute 58.2% of the population, Russians 29.9%, Byelorussians 4%, Ukrainians 2.6%, Poles 2.5%, Lithuanians 1.4%, and other nationalities 2.1% (Central Statistical Bureau of Latvia, 2003).

For a variety of sociopolitical reasons school education in Latvia is provided principally in two languages: Latvian and Russian. In 2003/2004 70.3% of children studied in schools with Latvian as the language of instruction, 29.2% in schools with Russian as the language of instruction. The remaining 0.5% of children studied in Polish, Ukrainian and Byelorussian schools (Ministry of Education and Science of Latvia, 2004). None of the schools are completely homogeneous in ethnic structure. Thus, in schools with Latvian as the language of instruction 92% of children are Latvians, and in schools with Russian language of instruction 87% are non-Latvians. Nonetheless, a division into schools with a prevalence of the ethnic majority (Latvian schools) versus a prevalence of ethnic minorities (so-called Russian schools) is obvious. Research

of in-group and out-group stereotypes (Austers, 2002) confirmed that Russian students, the largest minority group, perceive their status as that of an ethnic minority.

At the present time reform of the educational system for Russian schools is taking place in Latvia. The aim of the reform is a gradual change of language from Russian to Latvian, as the state language in Latvia is Latvian. These changes in educational context can provide one more source for dissatisfaction with the present situation among the Russian school students.

Purpose of the present study

It can be concluded that socialization of adolescents in Latvia occurs in various economic and ethno-cultural settings. Previous studies demonstrated that economic settings and ethno-cultural background are related to differences in TP, its content and structure. Proceeding from the analysis of TP studies and the situation in Latvia, the following research question was formulated for this study. *To what extent does the TP of high school students from Latvian and Russian high schools differ in Riga and in Latgale?*

In view of the fact that dissatisfaction with the present situation or status is related to higher orientation towards the future, and that a high level of unemployment is related to decreasing hope about occupation, three additional hypotheses were formulated:

1. Students from a region with a stable high level of unemployment (Latgale) are more oriented towards the future than students from a region with a low level of unemployment (Riga).

2. Students from Russian high schools are more oriented towards the future than students from Latvian high schools.

3. Students from Latgale are more concerned about occupation than students from Riga.

The complexity of the construct of TP necessitates a complex approach to its study. Kolesovs (2004a) suggested that this goal be pursued by (1) a combination of quantitative and qualitative methods, and by (2) a combination of integrated and future-oriented TP approaches. The integrated approach reflects the presence of temporal categories in individual TP, and the future-oriented approach can describe the content of adolescents' TP. Therefore, TP in the present study was operationally defined as the combination of TP factors (Zimbardo & Boyd, 1999), content of future TP, and timing of expected future events (Nurmi, Pool, & Seginer, 1992).

This study was designed to investigate the effects of the economic and ethnic heterogeneity of Latvian society on adolescents' TP. Gender was taken into account, since its interaction with the ethnic and economic situation was observed in previous studies (Kolesovs, 2004b; Nurmi et al., 1995).

Method

Participants

Participants were 399 senior high school students who ranged in age from 17 to 19, $M = 17.84$, $SD = 0.59$. To eliminate the effects of age and institution-related differences, all participants were students in one institutional track (12th grade of senior high school).

Participants included 43 boys and 89 girls from Latvian high schools in Riga, 34 boys and 50 girls from Latvian high schools in Latgale, 53 boys and 95 girls from Russian high schools in Riga, and 15 boys and 20 girls from Russian high schools in Latgale.

Instruments

Zimbardo Time Perspective Inventory (ZTPI). This inventory (Zimbardo & Boyd, 1999) consists of 56 items. The ZTPI asks respondents to indicate how characteristic a statement is of them on a 5-point Likert scale ranging from «very uncharacteristic» to «very characteristic». Below is a brief description of the scales and of their reliability coefficients for Latvian and Russian versions of the ZTPI:

1. *Past-Negative*. This scale reflects a generally negative, aversive view of the past. It includes 10 items. A typical item is: «I think about the bad things that have happened to me in the past». Cronbach's alpha coefficients are .77 for the Latvian version and .76 for the Russian version of the scale. Test-retest coefficients (after four weeks) are .89 and .90 respectively.

2. *Present-Hedonistic*. The scale reflects a hedonistic, risk-taking attitude towards time and life. It contains 15 items. A typical item is: «I do things impulsively». Cronbach's alpha coefficients are .77 for the Latvian version and .73 for the Russian version. Test-retest coefficients are .84 and .73 respectively.

3. *Future*. The scale consisting of 13 items reflects a general future orientation. A typical item is: «I keep working at difficult, uninteresting tasks if that will help me get ahead». Cronbach's alpha coefficients are .77 and .72. Test-retest coefficients are .82 and .78 respectively for the Latvian and Russian versions.

4. *Past-Positive*. The scale reflects a warm, sentimental attitude towards the past. It consists of nine items. A typical item is: «I like family rituals and traditions that are regularly repeated». Cronbach's alpha coefficients are .64 and .63; test-retest coefficients are .74 and .54 for the Latvian and Russian versions.

5. *Present-Fatalistic*. The last scale of the ZTPI, composed of nine items, represents a fatalistic, helpless, and hopeless attitude towards the future and life in general. A typical item is: «My life path is controlled by forces I cannot influence». Cronbach's alpha coefficients are .66 and .66; test-retest coefficients are .69 and .81 respectively for the Latvian and Russian versions.

Hopes and Fears Questionnaire. To investigate the content of future TP, participants filled out the Hopes and Fears Questionnaire (Nurmi, Poole, & Seginer, 1992). They were asked about their hopes with the following question: «People often think about the future. In the lines below please write down the hopes you have for the future.» There were 10 numbered lines allowed for their hopes. Then their concerns were investigated by asking: «Now we would like you to think about your fears concerning the future and write them down in the lines below.» There were 10 numbered lines for their fears. Further inquiry concerned the timing of expected future events: «Please write down the age at which you believe these hopes/fears will come true.»

Hopes and fears of Latvian and Russian students were classified separately. In the course of content analysis, categories were discussed with experts and compared with previous studies

(Kolesovs, 2004a; Nurmi, 1987; Nurmi et al., 1995). For Latvian and Russian school samples 17 content categories were chosen: education, occupation, achievement, property, leisure, self, health, old age, love, family, children, parents/relatives, friends, adversaries, changes of place of residence, global issues, and military service.

All students' answers were placed in one of these 17 categories by two independent assessors for Latvian, and by two other independent assessors for Russian school students. Reliability of content analysis, measured by the percentage rate of agreement between the two raters, was 91% for hopes and 89% for fears in the Latvian school sample, and 92% for hopes and 88% for fears in the Russian school sample.

Procedure

This research was conducted in spring 2004, two to three months before the final examinations in senior high school. The Zimbardo Time Perspective Inventory and The Hopes and Fears Questionnaire were filled out with no time limit in groups of 10 to 24 persons. Questionnaires were administered in Latvian for Latvian school students, and in Russian for Russian school students.

Results

In order to answer the general research question and to test the specific hypotheses, analysis was performed in two steps. The first step involved ascertaining the presence of temporal categories in TP of high school students. Zimbardo and Boyd's model of TP was used to this end.

Temporal categories in Time perspective

For testing Region, School, and Gender effects, a $2 \times 2 \times 2$ ANOVA was used. The probability of a Type I error was maintained at .05 for all subsequent analyses. Past-Positive and Present-Fatalistic scales with low reliability were excluded from further statistical analyses. Means and standard deviations for TP factors are presented in Table 1.

Table 1. *Means and standard deviations for time perspective factors*

TP factors	Riga				Latgale			
	Latvian school		Russian school		Latvian school		Russian school	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Past-Negative	2.77 (0.47)	2.93 (0.65)	2.98 (0.59)	3.12 (0.65)	3.07 (0.60)	3.24 (0.65)	3.16 (0.72)	2.86 (0.60)
Present-Hedonistic	3.41 (0.45)	3.64 (0.46)	3.40 (0.39)	3.39 (0.44)	3.38 (0.49)	3.49 (0.47)	3.38 (0.55)	3.35 (0.65)
Future	2.98 (0.64)	3.19 (0.56)	3.22 (0.51)	3.31 (0.43)	3.05 (0.43)	3.26 (0.52)	3.27 (0.47)	3.65 (0.63)

The strongest main effects were detected on the Future scale (Figure 1).

There was a statistically significant effect of School, $F (1, 398) = 14.93, p < .01, \eta^2 = .04$. Students from Russian school ($M = 3.32, SD = 0.49$) were more oriented towards the future than students from Latvian school ($M = 3.14, SD = 0.55$). There were significant main effects of Region, $F (1, 398) = 4.43, p = .03, \eta^2 = .01$, and Gender $F (1, 398) = 12.27, p < .01, \eta^2 = .03$. Students from Latgale ($M = 3.27, SD = 0.54$) were more oriented towards the future than students from Riga ($M = 3.20, SD = 0.53$), and girls ($M = 3.28, SD = 0.52$) were more oriented towards the future than boys ($M = 3.12, SD = 0.54$).
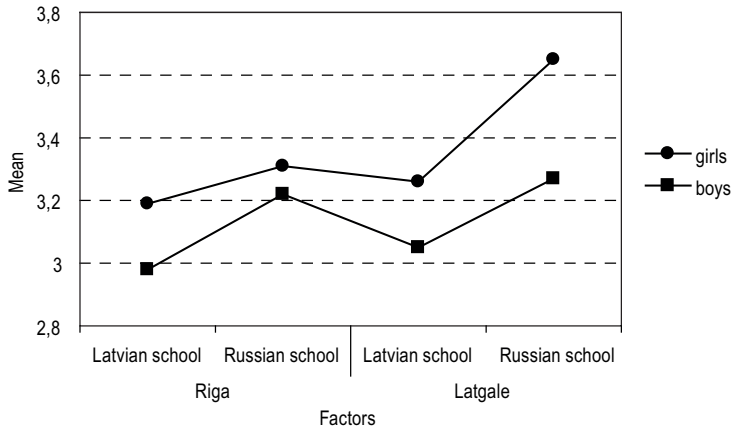
Figure 1. *Effects of Region, School, and Gender on the Future scale*

Results also showed a significant Region × School interaction, $F (1, 398) = 5.36, p < .02$, $\eta^2 = .01$, on the Past-Negative scale (Figure 2). Latvian school students from Riga reported a lower level of negative experiences in their TP ($M = 2.88, SD = 0.60$) than Latvian students from Latgale ($M = 3.17, SD = 0.63$), $t (214) = 3.37, p < .01$, and Russian school students from Riga ($M = 3.07, SD = 0.63$), $t (278) = 2.57, p < .01$.
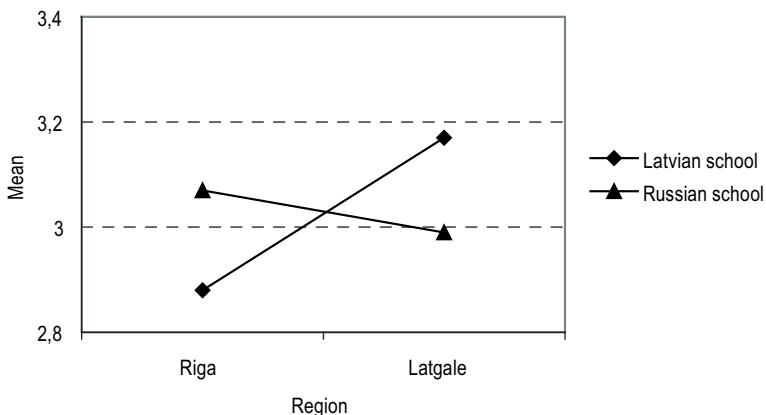
Figure 2. *Region × School interaction on the Past-Negative scale*

There were no significant differences between Russian school students from Riga and Latgale, t (181) = 0.72, p = .47, nor between Latvian and Russian school students in Latgale, t (117) = 1.43, p = .15.

Students' hopes and fears

The second step in the analysis involved testing differences in students' future TP. Overall, participants most frequently mentioned hopes related to education (77% of respondents), occupation (76%), family (64%), property (36%), self (34%), and leisure activities (33%). Their fears were most frequently related to education (45%), occupation (38%), self (34%), global issues (30%), property (20%), and family (17%). In the further analyses only the most frequently mentioned categories were included.

Future-related hopes

Following the procedure suggested by Nurmi and Lainekivi (1991), new relative frequencies were calculated for each respondent by dividing the number of hopes related to particular content category by the total number of hopes mentioned by the respondent.

Means and standard deviations for relative frequencies of students' hopes are presented in Table 2.

Table 2. *Means and standard deviations*
for relative frequencies of future-related hopes

| Categories	Riga				Latgale			
	Latvian school		Russian school		Latvian school		Russian school	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Education	0.22 (0.25)	0.23 (0.17)	0.16 (0.15)	0.22 (0.20)	0.21 (0.16)	0.25 (0.18)	0.25 (0.23)	0.28 (0.17)
Occupation	0.15 (0.14)	0.14 (0.12)	0.22 (0.19)	0.15 (0.11)	0.20 (0.13)	0.16 (0.10)	0.24 (0.16)	0.12 (0.11)
Family	0.10 (0.10)	0.11 (0.10)	0.11 (0.12)	0.13 (0.10)	0.12 (0.10)	0.11 (0.10)	0.05 (0.10)	0.16 (0.13)
Self	0.05 (0.12)	0.08 (0.17)	0.10 (0.15)	0.06 (0.12)	0.07 (0.11)	0.08 (0.11)	0.05 (0.11)	0.09 (0.11)
Property	0.14 (0.19)	0.05 (0.09)	0.07 (0.11)	0.06 (0.10)	0.07 (0.08)	0.06 (0.11)	0.12 (0.19)	0.08 (0.13)
Leisure	0.03 (0.07)	0.08 (0.11)	0.05 (0.11)	0.05 (0.08)	0.04 (0.09)	0.07 (0.10)	0.04 (0.08)	0.05 (0.09)

The results of $2 \times 2 \times 2$ (Region × School × Gender) ANOVA showed a significant main effect of Gender, F (1, 393) = 13.26, p < .01, η^2 = .03, and a significant School × Gender interaction, F (1, 393) = 4.29, p = .04, η^2 = .01, for occupation-related hopes (Figure 3).

Boys (M = .19, SD = .16) mentioned hopes related to occupation more often than girls (M = .14, SD = .11), and this tendency is more pronounced for boys and girls from Russian schools (see Table 2).
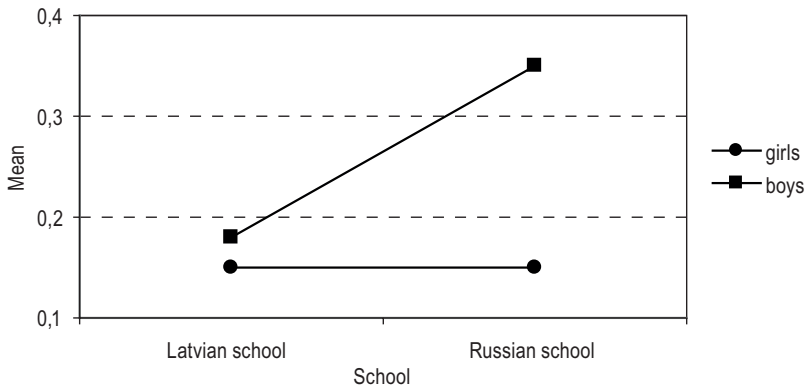
Figure 3. *Effect of School, and School × Gender interaction for occupation-related hopes*

There was a significant effect of Gender, F (1, 393) = 5.64, $p < .02$, $\eta^2 = .01$, and significant School × Gender interaction, F (1, 393) = 5.48, $p < .02$, $\eta^2 = .01$, for family-related hopes (Figure 4).
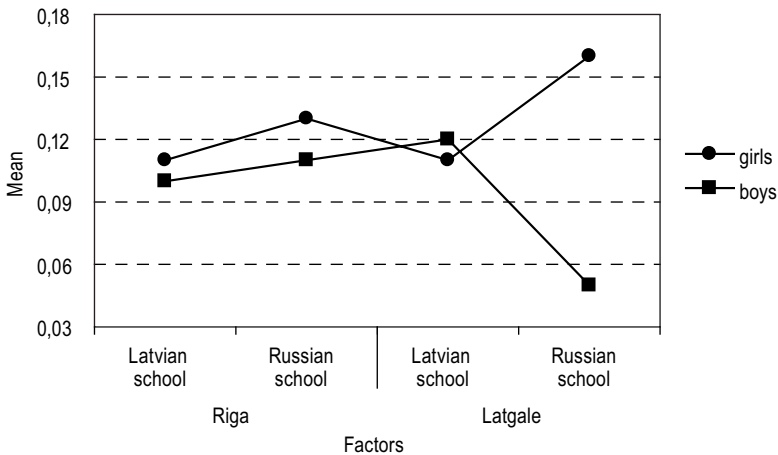
Figure 4. *Effects and interactions of Gender, School, and Region for family-related hopes*

Moreover, there was a significant Region × School × Gender interaction, F (1, 393) = 4.46, $p < .03$, $\eta^2 = .01$. Girls ($M = 0.12$, $SD = 0.10$) more often mentioned family related hopes than boys ($M = 0.10$, $SD = 0.11$). This tendency is more pronounced for girls ($M = 0.13$, $SD = 0.11$) and boys ($M = 0.10$, $SD = 0.12$) from Russian school, especially in Latgale (see Table 2).

A significant effect of Gender, F (1, 393) = 7.01, $p < .01$, $\eta^2 = .02$ was detected for property-related topics. Boys ($M = 0.10$, $SD = 0.15$) mentioned hopes related to property more often than girls ($M = 0.06$, $SD = 0.10$).

Future-related fears

Similarly as for hopes, new relative frequencies were calculated for students' fears. Means and standard deviations for relative frequencies of fears are presented in Table 3.

Table 3. *Means and standard deviations*
for relative frequencies of future-related fears

Categories	Riga				Latgale			
	Latvian school		Russian school		Latvian school		Russian school	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Education	0.17 (0.27)	0.29 (0.29)	0.13 (0.20)	0.19 (0.26)	0.25 (0.33)	0.20 (0.22)	0.12 (0.22)	0.21 (0.30)
Occupation	0.09 (0.19)	0.13 (0.19)	0.09 (0.19)	0.11 (0.20)	0.19 (0.26)	0.16 (0.17)	0.13 (0.21)	0.12 (0.19)
Family	0.02 (0.06)	0.04 (0.09)	0.03 (0.09)	0.05 (0.12)	0.06 (0.11)	0.05 (0.09)	0.02 (0.08)	0.04 (0.10)
Self	0.12 (0.23)	0.12 (0.22)	0.17 (0.26)	0.19 (0.24)	0.06 (0.20)	0.22 (0.30)	0.06 (0.18)	0.12 (0.24)
Property	0.07 (0.14)	0.04 (0.10)	0.09 (0.20)	0.06 (0.15)	0.05 (0.10)	0.03 (0.09)	0.17 (0.31)	0.12 (0.25)
Global issues	0.32 (0.35)	0.12 (0.26)	0.20 (0.31)	0.12 (0.22)	0.13 (0.28)	0.13 (0.23)	0.26 (0.44)	0.13 (0.26)

The results of $2 \times 2 \times 2$ (Region $\times$ School $\times$ Gender) ANOVA showed a significant effect of School, $F (1, 355) = 9.71$, $p < .01$, $\eta^2 = .03$, and Region $\times$ School interaction, $F (1, 355) = 4.72$, $p < .03$, $\eta^2 = .01$, for property-related fears (Figure 5).

Students from Russian schools ($M = 0.08$, $SD = 0.11$) mentioned property-related fears more often than Latvian school students ($M = 0.04$, $SD = 0.11$), and this tendency was more pronounced in Latgale ($M = 0.14$, $SD = 0.27$ vs. $M = 0.04$, $SD = 0.09$). The effect of Region on occupation-related fears was not significant, $F (1, 355) = 2.84$, $p = .09$.
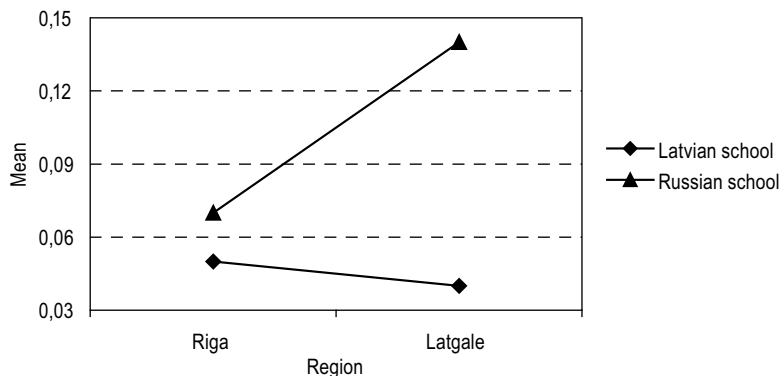

Figure 5. *Effect of School, and Region $\times$ School interaction*
for property-related fears

There were two main effects of Gender. The first effect was on self-related fears, $F(1, 355) = 4.26, p = .04, \eta^2 = .01$. Girls ($M = 0.17, SD = 0.25$) were more concerned about themselves than boys ($M = 0.11, SD = 0.23$). The second effect was on concern about global issues, $F(1, 355) = 8.64, p < .01, \eta^2 = .02$. Boys ($M = 0.23, SD = 0.34$) were more concerned about them than girls ($M = 0.12, SD = 0.24$).

Timing of expected future events

It should be noted that age differences among the samples were not significantly related to any of the three factors (Region, School, and Gender), and their interactions. Differences in timing were tested for two factors (School, and Gender) because of the small number of participants ($n = 200$) who specified chronology for their hopes and fears.

Means and standard deviations for anticipated events of the main future TP topics are presented in Table 4.

Table 4. *Means and standard deviations for timing of future-related hopes*

Categories	Latvian school		Russian school	
	Boys	Girls	Boys	Girls
	M (SD)	M (SD)	M (SD)	M (SD)
Education	21.2 (2.9)	20.0 (2.2)	20.5 (2.5)	20.6 (2.5)
Occupation	23.5 (3.3)	22.9 (2.9)	23.4 (4.9)	22.3 (2.5)
Family	25.5 (3.1)	25.6 (3.0)	26.6 (4.5)	23.8 (3.5)

Note. Timing is expressed in age of realization of hopes. The results of the 2×2 (School $\times$ Gender) ANOVA showed no significant differences in timing of educational and occupational hopes. There were a significant main effect of Gender, $F(1, 166) = 5.63, p = .02, \eta^2 = .03$, and a significant School $\times$ Gender interaction, $F(1, 166) = 6.10, p = .01, \eta^2 = .04$, on timing of family related hopes. There was a statistically significant difference between girls and boys from Russian schools, $t(67) = 2.72, p < .01$. For girls and boys from Latvian schools this difference was not statistically significant $t(96) = 0.08, p = .93$.

Discussion

Overall, the results of this study showed that ethnic group and differences in the economic situation in the regions are related to differences in adolescents' TP. The statistically significant differences are discussed below.

Effects of ethnic and economic settings

As predicted, students from the region with a higher level of unemployment are more oriented towards the future than students from the region with a better situation on the job market. This reflects the presence of dissatisfaction with the present situation, as was demonstrated in a study of Arab Israeli adolescents (Seginer, 1988). On the other hand, as was suggested in previous analyses (Fraisse, 1964; Nuttin & Lens, 1985; Zimbardo & Boyd, 1999),

orientation towards the future is one of the constructive ways of dealing with the present situation. Future-oriented individuals are highly organized and ambitious goal seekers. They are ready «to do», and are prepared to sacrifice present enjoyment in order to achieve their career objectives (Zimbardo & Boyd, 1999).

The choice of senior high school as the institutional track in the transition to adulthood is related to greater orientation towards future opportunities, and to the recognition of one's own responsibility for future career. This is in keeping with the positive correlation of high school students' orientation towards the future and internal control of reinforcement (Kolesovs, 2002). As was observed in previous studies (Koroļeva, Rungule, Sebre, & Trapenciere, 1999), about 85% of high school students are oriented towards further education in universities. However it is more difficult to make such a choice in Latgale than in Riga, as the socio-economic conditions of families differ in these regions.

The second prediction about the effect of ethnic group on orientation towards the future was also confirmed. This prediction was based on the relation between orientation towards the future and dissatisfaction with present situation (Seginer, 1988). Research on life satisfaction among adolescents in the United States (Bradley & Corwyn, 2004) demonstrates one more source of dissatisfaction for ethnic minority groups. Minority group adolescents cope with the conflict arising from living simultaneously in the contexts of their own culture and of the dominant culture. Changes in the educational system for ethnic minority schools in Latvia can intensify this conflict, and this is reflected in an increase in orientation towards the future. The following findings shed additional light on this effect.

A significant region by ethnic group interaction showed that students from Latvian schools in Riga have the lowest degree of pressure of negative past events. By analogy with the previous studies, this finding is suggestive of lower levels of anxiety, depression, aggression, and stress for this group (Zimbardo & Boyd, 1999). In addition to this finding, significant interactions of the same factors are observed for property-related concerns. Students from Russian schools are more concerned about their financial well-being in the future, and this tendency is more pronounced in Latgale. Thus, the TP reflects the fact that adolescents from ethnic minority groups feel more insecure in economic spheres of life than the majority group. The negative situation in the region makes this difference more pronounced.

The third prediction about the main effect of region on occupation-related concerns was not confirmed. In this study, occupation was a very important topic for all groups, but variations pertaining to this topic may be found in the content of students' answers. Moreover, previous analyses demonstrate that the region had an effect on property-related hopes and fears in interaction with ethnic group. Therefore, the high level of unemployment in Latgale is related to the consequences of living without work, prominently related to property.

Effects and interactions of gender

The second group of effects summarizes interactions of gender differences with ethnic and economic factors. Results showed significant gender differences in the occupational and family domains of adolescents' future TP. Boys in Latvia are more interested in future occupation and property, but girls most frequently mentioned hopes about the family. These hopes reflect traditional gender roles (Nurmi et al., 1995), but they vary for adolescents from Latvian and Russian schools. Interest in future occupation is more pronounced for boys from ethnic minority groups than for boys from the Latvian group. Girls from ethnic minority groups

more often mentioned hopes about the future family than girls from the Latvian group. Thus, traditionalism in gender roles in occupational and family domains in Latvia is more pronounced for adolescents from ethnic minorities.

It should be noted that the latter tendency is even more strongly expressed in Latgale. The significant interaction with the region may be interpreted in the context of the economic instability of Latgale. The family has not only a reproductive function but is also a source of sense of security. Sebre and Bite (2003) found that the family in Latvia is ranked first as the most significant security factor. Girls' family-centred hopes may be related to wishes for a secure environment.

More egalitarian tendencies are observed in the educational domain. There were no significant gender differences in hopes and fears concerning education, nor any other differences in this domain. The first place of education in adolescents' hopes and fears corresponds with other studies of the values of adolescents in Latvia (Koroļeva et al., 1999). In 1983 education was in fourth place in adolescents' answers, but by 1998 it had moved up to the first place, followed by family, work, friends, and other values. The results of this study confirmed that the significance of these domains is persistent for adolescents in Latvia, and is in keeping with the main developmental tasks of adolescence, as identified in earlier cross-cultural studies (Nurmi, 1991; Nurmi et al., 1995).

Only a few differences in timing were found in this study. Adolescents from all ethnic groups expected that education-related hopes would be actualized by about the age of 20.5, and occupation-related hopes would be actualized at about the age of 22.9. Differences in patterns of anticipated life course were significant in the future family domain. Girls' tendency to anticipate forming a partnership and establishing a family earlier than boys (Malmberg, 1996) was confirmed for the ethnic minority groups, but not for the Latvian students group. Girls and boys from Latvian schools expected that their family-related hopes would be actualized at about the age of 25.6. Boys from ethnic minority groups expected that their hopes would be actualized by about the age of 26.5, and girls by about the age of 23.8. Thus, girls from the ethnic minority groups have a shorter extension of TP. Their expectations about future occupation and family are placed close to each other in time, and this might provide the basis for role conflict.

Conclusions and implications

In summary, the results of this study demonstrated that the economic and ethnic heterogeneity of society of Latvia is related to differences in adolescents' TP. The most pronounced differences concern orientation towards the future. The TP of adolescents from the region with a high level of unemployment, and also from ethnic minority groups in Latvia, reflects the presence of insecurity and dissatisfaction with the present situation. At the same time, it reflects a constructive orientation towards dealing with future difficulties.

The main topics pertaining to future TP of adolescents in Latvia are education, occupation, and family. The timing of these topics identifies key points in transition into adult life. Adolescents in Latvia expect to finish their education first, then find a job, and finally establish a family. More traditional gender roles in occupational and family domains are observed in ethnic minority groups. For girls from the ethnic minority groups, role conflict is probable in family and occupational domains.

There are at least two ways of coping with the negative tendencies observed in students' TP. The first is to focus on future goals in students' career counseling. As was suggested in previous studies (Nurmi, 1987), high school students' planning abilities are in the process of

development. Psychological training for goal-setting, planning, and decision-making can be of great help. Step-by-step plans may open new opportunities for action in the present, and reduce unconstructive aspects of the orientation towards the future, as mentioned by Fraisse (1964).

The second is related to changes in the social context of adolescents' development in Latvia. Social support programs are needed for students from regions with high levels of unemployment and for ethnic minority schools. Moreover, it is important to provide a more predictable social context. Adolescents need information about the future because future-oriented planning is based on knowledge about future opportunities (Nurmi, 1991). Long-term goals for social policies concerning adolescents in Latvia and information about those are needed to attain this aim.

Limitations and future direction

There were significant limitations to this study. First, they are related to the institutional track. Only senior high school students participated in the study. As a result, generalization of the findings to other segments of the adolescent population of Latvia is problematic. Second, interactions of economic situation and ethnic group with others factors, such as social class, place of residence, and religion, need to be explored. Self-representations (Seginer et al., 2004), and schemata (Nurmi, 1994) can mediate links between TP and socio-cultural context. Thus, in future studies, it would be desirable to include such mediators in the research design.

This study revealed variation in the temporal dimensions among several cultural components of the population of Latvia. However, the cultural characteristics responsible for these differences have as yet not been analyzed. As Betancourt and Lopez (1993) pointed out, it is important to attribute cultural differences to specific dimensions that are characteristic of the culture in question. In addition, qualitative studies are required to explore models of time in the two major ethnic groups in Latvia.

The combination of methods suggested for the complex approach to TP (Koļesovs, 2004a) was useful in answering the research question. This approach revealed the content of future TP and the role of the future relative to the other temporal frames. However, the question of an optimal balance of temporal categories in individual TP remains. Zimbardo and Boyd (1999) emphasized that a balanced TP is the opposite of an extremely biased TP. At the same time, these authors noted that each orientation may lead to optimal decision-making in a specific situation. Therefore, to determine an optimal balance, relations between overuse of an orientation towards a particular temporal frame and individual psychological health and behavior should be investigated.

References

Austers, I. (2002). Attribution of value stereotypes as a consequence of group membership: Latvian and Russian students living in Latvia compared. *International Journal of Intercultural Relations 26*, 273–285.

Betancourt, H., & Lopez, S. R. (1993). The study of culture, ethnicity, and race in American psychology. *American Psychologist, 48,* 62–637.

Bradley, R. H., & Corwyn, R. F. (2004). Life satisfaction among European American, African American, Chinese American, Mexican American, and Dominican American adolescents. *International Journal of Behavioral Development, 28,* 385–400.

Central Statistical Bureau of Latvia (2003). *Demographic yearbook of Latvia.* Riga: Central Statistical Bureau of Latvia.

Central Statistical Bureau of Latvia (2003, December 15). *Registered unemployment rate by city and district.* Retrieved January 7, 2004, from http://www.csb.lv/ateksts.cfm?tem_kods=bezd_ pr&datums={ts '2003-12-15 13:00:00'}.

Fraisse, P. (1964). *The psychology of time.* London: Eyre & Spottiswood.

Keough, K. A., Zimbardo, P. G., & Boyd, J. N. (1999). Who's smoking, drinking, and using drugs? Time perspective as a predictor of substance use. *Journal of Basic and Applied Social Psychology, 21,* 149–164.

Kolesovs, A. (2002). The relation between time perspective and locus of control in high school students. *Baltic Journal of Psychology, 3*(2), 7–19.

Kolesovs, A. (2004a). Cerības un bažas par nākotni 17–18 gadus veco krievu skolēnu laika perspektīvā [Hopes and fears about the future in the time perspective of 17–18 year old Russian students living in Latvia]. *Latvijas Universitātes raksti, 682,* 19–28.

Kolesovs, A. (2004b). Gender differences in time perspective of high school students in Latvia. *Baltic Journal of Psychology, 5*(1), 14–20.

Koroļeva I., Rungule R., Sebre S., & Trapenciere I. (1999). *Latvijas jaunatnes socioloģisks portrets* [Sociological portrait of Latvian youth]. Rīga, Latvija: LU Filozofijas un socioloģijas institūts.

Lewin, K. (1942). Time perspective and morale. In G. Watson (Ed.), *Civilian morale* (chap. 4). Boston: Houghton Mifflin.

Malmberg, L.-E. (1996). How do Finnish students prepare for their future in three school types? The relation between content of plans, information gathering and self-evaluations. *British Journal of Educational Psychology, 66,* 457–469.

Ministry of Education and Science of Latvia (2004). *LR vispārizglītojošo dienas skolu skolēnu sadalījums pa tautībām un pēc apmācības valodas* [Distribution of full time high school students by ethnicity and language of instruction in Latvia]. Retrieved February 3, 2004, from http://www.izm.gov.lv/getfile.aspx?sid=825.

Nurmi, J.-E. (1987). Age, sex, social class, and quality of family interaction as determinants of adolescents' future orientation: A developmental task interpretation. *Adolescence, 22(88),* 977–991.

Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review, 11,* 1–59.

Nurmi, J.-E. (1993). Adolescent development in an age-graded context: The role of personal beliefs, goals, and strategies in the tackling of developmental tasks and standards. *International Journal of Behavioral Development, 16,* 169–189.

Nurmi, J.-E. (1994). The development of future orientation in life span context. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 63–74). Lublin: Towarzystwo Naukowe KUL.

Nurmi, J.-E. (2004). Socialization and self-development: Channeling, selection, adjustment, and reflection. In R. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (pp. 85–124). New York: Wiley.

Nurmi, J.-E. (in press). Thinking about and acting upon the future: Development of future orientation across the life-span. In A. Strathman & J. Joireman (Eds.), *Understanding behavior in the context of time: Theory, research and applications.* [Author: Add place and publisher.]

Nurmi, J.-E., & Lainekivi, J. (1991). Verbal fluency and the measurement of future-oriented goals and hopes: A comparison of questionnaire and interview data. Perceptual and Motor Skills, 72, 1–2.

Nurmi, J.-E., Pool, M., & Kalakoski, V. (1994). Age differences in adolescent future-oriented goals, concerns, and related temporal extension in different sociocultural contexts. *Journal of Youth and Adolescence, 23,* 471–487.

Nurmi, J.-E., Pool, M., & Seginer, R. (1992). *Future Hopes and Fears Questionnaire.* Helsinki: University of Helsinki, Department of Psychology.

Nurmi, J.-E., Pool, M., & Seginer, R. (1995). Tracks and transitions – A comparison of adolescent future-oriented goals, explorations, and commitments in Australia, Israel, and Finland. *International Journal of Psychology, 30,* 355–375.

Nuttin, J., & Lens, W. (1985). *Future time perspective and motivation: Theory and research method.* Leuven & Hillsdale, NJ: Leuven University Press & Erlbaum.

Sebre, S., & Bite, I. (2003). The individual and positive close relationships as securitability factors. In M. Simane (Ed.) *The Latvia human development report 2002/2003* (pp. 66–79). Riga: United Nations Development Programme Latvia.

Seginer, R. (1988). Social milieu and future orientation: The case of kibbutz vs. urban adolescents. *International Journal of Behavioral Development, 11,* 247–273.

Seginer, R. (1991). Cross-cultural variations of adolescents' future orientation: The case of Israeli Druze versus Israeli Arab and Jewish males. *Journal of Cross-cultural Psychology, 22,* 224–237.

Seginer, R., Vermulst, A., & Shoyer, S. (2004). The indirect link between perceived parenting and adolescent future orientation: A multiple-step model. *International Journal of Behavioral Development, 28,* 365–378.

Trommsdorff, G. (1994). Future time perspective and control orientation: Social conditions and consequences. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 39–62). Lublin: Towarzystwo Naukowe KUL.

Zimbardo, P. G., & Boyd J. N. (1999). Putting time in perspective: A valid, reliable individual-differences metric. *Journal of Personality and Social Psychology, 77,* 1271–1288.

Zimbardo, P. G., Keough, K. A., & Boyd, J. N. (1997). Present time perspective as a predictor of risky driving. *Personality and Individual Differences, 23,* 1007–1023.

Future orientation in culture and socio-economic changes: Lithuanian adolescents in comparison with Belgian and Japanese

Toshiaki Shirai and Danguole Beresneviciene

Osaka Kyoiku University

The purpose of this study is to examine (1) whether the Western nations such as Lithuania and Belgium tend to orient to the future owing to an individualistic culture in comparison with Eastern nations such as Japan that orient to the present owing to a collectivistic culture and (2) whether economic hardships cost a negative quality on the time orientation for Lithuania. One hundred and twenty Lithuanian, two hundred and fifty four Belgian and three hundred and two Japanese adolescents participated in this study. They filled out a self-report questionnaire to investigate time orientation and time attitude. The findings support the prediction that Belgians and Lithuanians are more likely to orient towards the future while Japanese are more likely to focus on the present. In addition, in Lithuania, economic hardships influence time orientation, resulting in a negative future orientation. This suggests that one dimensional differentiation based on culture alone does not adequately account for national differences and that the interaction of culture with socio-economic changes should be considered.[*]

Keywords: future orientation, culture, socio-economic changes.

Time orientation refers to the preferential direction in a subject's behavior and thought insofar as it is predominantly oriented toward objects and events in the past, the present, or the future (Nuttin & Lens, 1985). Although current research on time perspective increasingly highlights the three (e.g., Kolesovs, 2002, 2004), the future has been generally mentioned as the most important cognitive-motivational determinant (Nurmi, 1991; Nuttin & Lens, 1985; Simons, Vansteenkiste, Lens, & Lacante, 2004). Raynor (1982) suggests that future orientation may be a Western bias since the ability to attain one's future goals is a central part of the valued self-image for many Westerners. It is characterized by the individualistic tendency that is reflected in self-reliance and competition (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). It leads to placing higher value on individual goals rather than social ones and higher value on independence than on conformity which is more highly rated in collectivistic cultures. Accordingly, Westerners are more likely to attribute more importance to the future than Easterners. Previous cross-cultural studies (Kluckhorn & Strodtbeck, 1961; Meade, 1968, 1971; Sundberg, Pool, & Tyler, 1983) indicated that Western individualistic culture is more likely to orient to the future, while the Eastern collectivistic cultures are more likely to orient to the present or the past. However, from the Western point of view, the present orientation tends to be seen from a hedonistic and fatalistic perspective. This view may be reinforced by the assumption that individualism is a functional prerequisite for or a consequence of achievement, economic success and modernization. This can not be supported in light of cross-cultural research including Japan, since Japan is perceived as an Eastern culture but has experienced rapid

---

modernization and economic success. Thus successful industrialization need not necessarily be accompanied by an increasing individualistic orientation (Gallimore, 1981).

Since the meaning of time orientation can vary according to the socio-cultural contexts (Shannon, 1975; Seginer, 2003; Shirai, 1996, 1999), it is necessary to clarify the differences in meaning of time orientation in different cultural contexts. Shirai (1996) suggested that some respondents who rank the present as the most important orientation are also open to the future and the past. This kind of time orientation is referred to as a positive type of present orientation. It differs from the future orientation by emphasizing the value of the present itself beyond just perceiving its instrumentality to reach future goals. The typology of time orientation is summarized in Table 1. Positive future orientation refers to a highly ranked future that connects with the present. Negative future orientation refers to highly ranked future that does not connect with the present. This classification is useful to highlight not only the between-cultural differences but also the intra-cultural differences that allow to describe how time orientation is changing along with societal changes.

Table 1. *The typology of time orientation*

The most important time	The connection of the present with the future	
	connected	disconnected
Future	Positive future orientation	Negative future orientation
Present	Positive present orientation	Negative present orientation
Past		Past orientation

Note: Past orientation is classified only as disconnect since this direction seems to be indirectly associated with the future even if connectedness with the future is described.

Recent studies suggest that an one-dimensional differentiation based on culture alone does not adequately account for cultural differences and emphasize the role of social and historical factors in the study of time orientation (Liberska, 2002; Pinquart & Silbereisen, 2004; Seginer & Schlesinger, 1998; Silbereisen, 2005; Trommsdorff, 1995). The question arises how social changes can influence time orientation in the context of cultural patterns. This study attempts to clarify how culture and social factors interact to influence time orientation.

To answer the question, this study examines the following hypotheses. (1) Culture may determine the preferential direction; which time orientation is the most important. Western culture is more likely to orient to the future, whereas the Eastern culture is more likely to orient to the present. (2) Social factors can determine the quality of time orientation as positive or negative. For example, for dominantly future-oriented people from an individualistic culture, positive social conditions may highlight the positive quality of future orientation, whereas negative social conditions may highlight the negative quality of future orientation. In the same way, for predominantly present-oriented people such as those from an Eastern collectivistic country, positive social conditions may highlight a positive quality of the present orientation, while negative social conditions may highlight a negative quality of present orientation. This is supported by the evidence that the future importance of one's present behavior might only result in beneficial effects if people have an optimistic outlook toward their future (Van Calster, Lens, & Nuttin, 1987).

This study examines the hypothesis with a sample of adolescents from three countries with different cultural and social conditions: Lithuania, Belgium and Japan. Lithuania seems

to have a culture similar to Belgium in terms of religion (Catholicism) and can be described as belonging to an individualistic culture in comparison with Japan. This notion is supported by Watkins, Yau, Fleming, Davis-Zinner, Tam, Juhasz, & Walker (1997) who suggested that Lithuania might be an individualist country in terms of self-construal. Japan is considered to be a collectivistic culture which emphasizes interdependence (Trommsdorff, 1995). Japan is viewed as having a present orientation that has originated from the Buddhist tradition. Nakamura (1961) described that the Japanese disposition tends to place a greater emphasis on sensible, concrete events, intuitively apprehended, than on universals.

In terms of socio-economic conditions, Lithuania is more transitional than the other two countries. Lithuania was formerly a state of the USSR that proclaimed its independence in 1990. The political and economic upheavals and hardships may cause uncertainty for the future, which results in a narrow future outlook and an avoidant approach towards the future. Gailine & Domanskiene (1995) indicated that the changes towards a more democratic society resulted in a diminished suicide rate (35.8 in 1984 to 25.1 per 100,000 in 1986). However, in the period of economic hardships, the rate of suicide has increased up to 42.0 per 100,000 in 1993. This suggested that socio-political changes, secularization and anomie in the early 1990s in Lithuania had a negative psychological impact on the people. In particular, Sovietization has been imposed externally in 1944 after two decades of independence. The economic stresses in 1993 occurred against the background of external control and personal insecurity (while an economic minimum was guaranteed) and little opportunity to formulate or to realize personal and individual aspirations. Thus the dichotomy of economic security vs. insecurity after the collapse of the Soviet Union is partially true, but oversimplified. The writings of the Estonian social psychiatrist Heino Noor provide information on the stresses of living under the Soviet system and some of their psychiatric sequelae. International comparison also confirmed such increased psycho-social stress in Lithuania. Kristenson, Kucinskiene, Bergdahl, Calkauskas, Urmonas, & Orth-Gomer (1998) indicated that Lithuanian men showed lower coping, abilities, self-esteem and sense of coherence, higher risk proneness, vital exhaustion and depression as compared with Swedish men. Thus the impact of economic hardships on people in Lithuania was clearly different from that on the other two nations.

In summary, the purpose of this study was to clarify how cultural and social factors can interact with each other to influence the time orientation by examining the hypotheses mentioned above with a sample of adolescents from three countries that are different in terms of cultural and social conditions: Lithuania, Belgium and Japan.

Method

Participants

One hundred and twenty Lithuanian (50 for male and 70 for female), two hundred and fifty four Belgian (111 for male and 143 for female) and three hundred and two Japanese adolescents (116 for male and 186 for female) participated in this study. They were undergraduate students from a national university in all countries and also from the higher institute for advanced vocational training for Belgian and Japanese samples. The Institutions were located at Kaunas and Vilnius in Lithuania, at Leuven in Belgium and at Sendai in Japan. Kaunas and Vilnius are the most important cities in Lithuania but Leuven and Sendai have important status in a political sense for the respective country. The mean age of respondents was 20.7 years (SD = 1.17;

range 19–25) in Lithuania, 19.8 years (SD = 1.15; range 18–25) in Belgium and 19.4 years (SD = 0.72; range 19–25) in Japan. Belgian and Japanese samples had a sufficient response rate for all items to be analyzed. The study was carried out in September and October 1993 in Lithuania, October and November 1991 in Belgium and May and July 1992 in Japan.

Instruments

The Time Orientation Questionnaire (TOQ) (Shirai, 1996) measured the time orientation that referred to the preferential direction in a subject's behavior and thought insofar as it was predominantly oriented toward objects and events in the past, the present, or the future (Nuttin & Lens, 1985). Subjects were asked about their time orientation with the following open-ended question: «Which is the most important time for you, the future, the present, or the past? Please write down why you choose it and why you did not choose the others.» Those who chose the future were assigned to «future orientation», and then the reasons for their choice were examined if they implicated the connection of the present with the future. If there was a connection the code was characterized coded as «positive future orientation (PF)», if not, it was coded as «negative future orientation (NF)». Examples of PF were: I prefer the future «because I can get a meaningful life when I pursue goals» or «because I am bearing hardships for my benefit in the future.» On the other hand, examples of NF were: I preferred the future «because the future is uncertain» or «because I wish to see the future.» The same procedure was adopted for those who chose the present, which was classified as «present orientation». Positive present orientation (PP) was assigned to those who connected the present with the future, while negative present orientation (NP) was assigned when there was no perceived connection to the future. Examples of PP were: I chose the present «because my getting along brings a benefit for the future» or «because I am living in the present with all my might.» On the other hand, examples of NP were: I chose the present «because it is in the present for us to live in» or «because I have no hope.» Those who chose the past were coded as «past orientation» only. The procedure was carried out to classify the answers on TOQ into 22 categories and then coded into one of 5 types of time orientation. Lithuanian and Japanese data were coded by a Japanese professor, while the Belgian data were coded by a Belgian professor.

The Time Beliefs Scale (TBS) measured time belief, which belongs to a category of time orientation. Time belief is defined as a belief system about the relation between the future and the present (Shirai, 1996). It is one kind of control orientation (Trommsdorff, 1994), which motivates and regulates individual behavior. This scale was composed of three subscales: (1) unconcern for the future (e.g., «It is no use thinking about the future because it is uncertain» and «It is more important to enjoy the present activity rather than to think about its future consequences.»); (2) attachment to the present (e.g., «This moment when we can feel alive is the most important for us» and «The present which will not come back is important.»); and (3) delay of gratification (e.g., «We have to put up with a hard times for our benefit in the future» and «As long as we live, we should persist in attaining our ambition.»). A five-point rating scale was used to assess the time orientation. The most positive response on the scale scored 5 and the most negative scored 1. This scale was originally developed in Japanese. A Lithuanian professor translated it in Lithuanian from English. A Belgian professor of Japanese translated it in Dutch from Japanese and English.

The Experimental Time Perspective Scale (ETPS) (Shirai, 1994, 1996) measures the time attitude that refers to a subject's positive or negative attitude toward the past, the present, and

the future (Nuttin & Lens, 1985). It is composed of four subscales: (1) hopefulness (e.g., «I am confident to be able manage my future» and «My future seems to be dark [a reversal item]»); (2) goal-directedness (e.g., «I have a plan of the future life in outline» and «I do not know what I will be in ten years [a reversal item]»); (3) fulfilment (e.g., «I feel that my life is meaningful» and «The daily routine bores me [a reversal item]»); and (4) acceptance of the past (e.g., «I can accept my past experiences» and «I do not remember my past so much [a reversal item]»). The scoring system and the method of translation were the same as for the TBS.

Results

Reliability of the Scales

Alpha coefficients for all subscales for the Japanese version ranged from .60 to .95. Those for the Belgian version also ranged from .63 to .94 except for the delay of gratification (.48), the attachment to the present (.37) and hopefulness (.51). Thus the attachment to the present for the Belgian version yielded a very low coefficient and factor analysis did not yield a separate factor for this scale for the Belgian version. This might indicate that commitment to the present among Belgians had a different meaning than for the Japanese.

The Lithuanian version yielded adequate coefficients: .59 for unconcern for future, .63 for hopefulness, .57 for fulfilment, but low coefficients, .41 for attachment to the present, .17 for delay of gratification, .05 for goal-directedness and .18 for acceptance of the past. Since the last three scales of the Lithuanian version had extremely low coefficients, they were excluded from the analysis of variance model. These low coefficients suggest the further necessity to examine the meaning of items in different cultural context.

Type of Time Orientation

Table 2 shows the distribution of types of time orientation by gender and nation. Statistically significant relationships were obtained between time orientation and gender by nation ($\chi^2 = 90.32$, df=20, p< .01). The proportion of PF was greater in Belgium than in Japan, and the proportion of PP was greater among Japanese females than among Belgian males. NF was greater for Lithuanian females and Japanese males than for Belgian females. NP was more prevalent for Japanese males than for Lithuanian females. Past orientation was more prevalent for Lithuanian males than Japanese females. These results suggest that Belgians might orient more to the future, while Japanese might orient more to the present.

Since the proportion of NF was greater among Lithuanian females and Japanese males than among Belgian and Japanese females it can surmised that even though the Japanese orient to the future, they have a negative sense due to the predominantly present oriented context in Japan. In Lithuania, NF tended to be preferred because of the predominantly negative perception towards the present and to some extent anxiety regarding the future; for example, «I do not know what will happen in the future how I will be able to live if the prices will increase as quickly as they do now and if the salaries will remain as low. I do not know how I will live after my marriage with such low salaries.» (Female, 22 years old). At the same time, even if the descriptions expressed hope about the future, they had a passive implications; for example, «I am waiting for things to go better in the future, in the past we were satisfied, now we are more or less hungry, but we hope that we will be happier in the future.» (Female, 21 years old).

Table 2. *Distribution of the types of time orientation*
among Lithuania, Belgium and Japan

Type of time orientation		Lithuania		Belgium		Japan	
		M	F	M	F	M	F
	N	39	69	111	143	116	186
Positive future orientation	n	12	21	44**	45[+]	19*	28**
	%	30.8	30.4	39.6	31.5	16.4	15.1
Positive present orientation	n	11	24	31**	55	39[+]	110**
	%	28.2	34.8	27.9	38.5	33.6	59.1
Negative future orientation	n	4	10**	4	2**	14**	6[+]
	%	10.3	14.5	3.6	1.4	12.1	3.2
Negative present orientation	n	8	9*	25	37	38**	39
	%	20.5	13	25.5	25.9	32.8	21
Past orientation	n	4[+]	5	7	4	6	3*
	%	10.3	7.2	6.3	2.8	5.2	1.6

Results of residential analysis: [+] p< .10, * p< .05, ** p< .01

It was noted that Lithuanian males were more oriented to the past than Japanese females. They stated, for example, «I felt many pleasant events in the past, but I can't predict my future and change my present» (Male, 21 years old). Thus the past orientation relates to a negative sense about the future and probably reflects the political upheavals and economic stringency in Lithuania.

In summary, these results suggest that Belgians tend to orient to the future in comparison with the Japanese who orient to the present. Lithuanians tend to orient to the future but in a negative sense that may be caused by the socio-economic hardships.

Time beliefs and attitudes

Table 3 shows the summary of statistics of the gender x nation analysis of variance.

Table 3. *F values and dfs of gender by nation ANOVA of time beliefs*
and experiential time perspective

			Gender	Nation	Interaction of gender by nation
Time beliefs	unconcern for future	F	0.11	10.49	0.33
		df	1 669	2 669	2 669
	attachment to present	F	2.86	29.74*	0.40
		df	1 669	2 669	2 669
Experimental time perspectives	hopefulness	F	4.03	8.61	6.38
		df	1 668	1 668	1 668
	fullfilment	F	0.06	51.24*	3.17
		df	1 668	1 668	1 668

*p<0.5.

Table 4 shows the means of the subscale scores by gender and nation.

Table 4. *Mean scores, SDs and numbers of samples for time beliefs and experimental time perspectives in Lithuania, Belgium and Japan*

| | | | Lithuania | | Belgium | | Japan | |
			M	F	M	F	M	F
Time beliefs	unconcern for future	M	2.79	2.83	2.63	2.55	2.93	2.91
		SD	0.55	0.68	0.66	0.66	0.89	0.73
		n	49	70	111	143	116	186
	attachment to present	M	3.72	3.75	3.56	3.72	4.12	4.24
		SD	0.69	0.77	0.72	0.66	0.84	0.67
		n	49	70	111	143	116	186
Experimental time perspectives	hopefulness	M	3.82	3.41	3.89	3.93	3.74	3.76
		SD	0.60	0.77	0.54	0.52	0.86	0.73
		n	48	70	111	143	116	186
	fulfilment	M	3.19	2.98	3.77	3.99	3.16	3.20
		SD	0.64	0.72	0.71	0.65	1.06	0.91
		n	48	70	111	143	116	186

Range of mean scores is 1 (disagree) to 5 (agree)

The main effect of nation was statistically significant for attachment to the present and fulfilment. Group multiple comparisons indicated statistically significant differences between the following; Japanese tended to rate higher attachment to the present than Lithuanians and Belgians; Belgians tended to rate higher fulfilment than Lithuanians and Japanese. In summary, the findings suggest that the Japanese orient more to the present than Belgians and Lithuanians, although Lithuanians are similar to the Japanese, with a more negative attitude towards the present than Belgians.

Discussion

It is noted that the scores obtained in the three countries are not far apart. This is not surprising, given the fact that the participants are well matched and that the socioeconomic and the political system in the three countries is quite similar, with presumably great similarity in values. The findings of this study support the hypothesis that culture may determine which time orientation is most important and that social factors can determine the quality of time orientation as positive or negative.

First, Belgians show a more positive future orientation. In addition, they have positive perception in all temporal dimensions. This can be explained by the fact that they are likely to live under better social conditions, and also in terms of cultural context, because they have a Western tendency to emphasize self-enhancement, self-actualization and self-fulfillment and to discard from the self aspects which are not positively evaluated (Watkins et al., 1997).

Second, Japanese show a more positive present orientation and a higher level of regard to the present than the two Western nations. This confirms that Japan is more likely to have a cultural context for a present orientation. In addition, the Japanese showed a positive perception of the future but not of the present. Japanese constantly fluctuated around a neutral level on a scale of life satisfaction while the West European nations fluctuated around a high value (Diener, Oishi, & Lucas, 2003). This suggests that the Japanese dissatisfaction with the present and the past is related to subjective factors such as the extent to which these relate to social factors. For this reason, contrary to Western self-enhancement, the Japanese are more likely to anticipate

an ideal state far from the present state in comparison with a desired state and this tends to cause the dissatisfaction with the present that they then try to improve to attain the goal in the future. Moreover, there are gender differences indicating that males have a more negative type of future orientation. It can not be predicted by the hypothesis but may be interpreted from the results that the predominantly present oriented context of Japan may appear negative to a male future orientation. At the same time, Japanese males showed a more negative type of present orientation. Tsuzuki (2000) indicated that although there was not a big gender difference overall male adolescents have a less positive attitude to the future in some domains such as independence and way of life than females. This might suggest that Japanese male adolescents more than their female counterparts tend to perceive greater difficulties in the future.

Third, Lithuanians show a more negative future orientation. At the same time, although Lithuanians have a high level of hope, the content analysis reveals fear of the future. The fear may reflect the socio-economic hardships, Liberska (2002) who conducted research in Poland from 1987 to 1999 in a period of economic changes from a socialist to a free market economy found that fears seemed to be more sensitive to the threats in the new contexts of life and development than goals. This suggests that Lithuanians are more likely to hold a cultural influence on the dimension of future orientation but socio-economic hardship may give a negative quality to the future orientation and even bring the appearance of past orientation. Lithuanians also show more negative perceptions of the present and of the past than the Belgians and the Japanese. Watkins et al. (1997) also explained that this might be due to the low self-esteem in Lithuania, which was likely to have been exacerbated by the political upheavals and economic stringency. Thus this study also confirmed that economic hardships can cause uncertainty and fear of the future.

Suggestions regarding future research include the need for systematic comparisons between the different cultural contexts, which are confounded in the present samples. Given that the support for the hypotheses was at the .05 level, the study should be replicated, especially since it reflects the sociopolitical and the socioeconomic situation at the time of data collection, which, above all in Lithuania was subject to rapid transformation. Balaisis, Draguns, & Miezitis (2004) found these university students in Lithuania who were well adjusted, which tended to have an internal locus of control, idiocentric self-orientation and perceived social support, although about a third of these also reported significant financial problems and difficult living arrangements. At the same time, although it is generally true that both Belgium and Lithuania are more individualistic than Japan, more information should be provided on the level and change across time in collectivism-individualism in the three countries. Hofstede (2001) suggests that in Japan there has been a shift toward greater individualism in the course of the last few decades. Trommsdorf & Essou (1998) also indicate ongoing value changes of Japanese adolescents. A significant decrease of traditional group oriented values can be observed, while at the same time individualistic values in the areas of family, school, and work are gaining more importance. These suggestions point to the need to replicate the study.

Second, although few gender differences were found, Japanese males showed a less positive present orientation and a more negative future orientation than Japanese females. This can be explained by the attempt of males to be independent which may raise some contradictions in the predominately present-oriented context. This explanation also requires further examination.

Third, some of the scales showed low reliability especially those for time beliefs such as attachment to the present. This may indicate a culture-specific aspect of time orientation,

namely the indigenous feature of Japanese present orientation. However, considering the validity across cultures, this scale should be developed further to ensure the universal validity of this concept. The scales that were excluded owing to the extremely low alpha coefficients should be also examined. The standard procedure is the translation from the original language, followed by the back translation into the original language, and resolution of any discrepancies in conference. With several languages, it is also desirable to check the several translations for any slippage in meaning, e.g. Japanese vs. Lithuanian, Dutch vs. Lithuanian.

Finally, time perspective reflects not only the social situation but also reduces the negative effect of social hardships. Bobak, Pikhart, Rose, Hertzman, & Marmot (2000) analyzed cross-sectional data from seven post communist countries including Lithuania between 1996 and 1998 and found that perceived control appeared to mediate some of the effects of material deprivation. In addition, sharing of time perspective among people or co-navigation (Nurmi, 2001) may be useful to reduce helplessness and encourage people to change the situation. Further studies to investigate the issues mentioned above are needed.

In summary, Belgians and Lithuanians are likely to orient to the future in comparison with Japanese who are more likely to orient to the present. Lithuanian economic hardships may influence their time orientation and tend to cast it in a negative light. Thus an one-dimensional differentiation on the basis of culture alone can not adequately account for cultural differences (Trommsdorff, 1995) and it is necessary to consider the interaction of culture and social changes to clarify how time orientation varies in social settings.

Note 1: When examining the effect of social class on time orientation, there were no statistically significant difference for Belgium and Japan (Shirai, 1996).

Acknowledgment

References

Balaisis, M., Draguns, J. G., & Miezitis, S. (2004). Students' adjustment at Vilnius University: The role of self-orientation, locus of control, social support and demographic variables. *Baltic Journal of Psychology, 5*(1), 33–45.

Bobak, M., Pikhart, H., Rose, R., Hertzman, C., & Marmot, M. (2000). Socioeconomic factors, material inequalities, and perceived control in self-rated health: Cross-sectional data from seven post-communist countries. *Social Science & Medicine, 51*, 1343–1350.

Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology, 54*, 403–425.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.

Gailine, D., Domanskiene, V., & Keturakis, V. (1995). Suicide in Lithuania. *Archives of Suicide Research*, *1*, 149–158.

Gallimore, R. (1981). Affiliation, social context, industriousness, and achievement. In R. H. Munroe, R. L. Munroe & B. B. Whiting (Eds.), *Handbook of cross-cultural human development* (pp. 689–715). New York: Garland STPM Press.

Kluckhorn, F. R., & Strodtbeck, F.L. (1961). *Variations in value orientation*. Evanston: Row, Peterson and Company.

Kolesovs, A. (2002). The relation between time perspective and locus of control in high school students. *Baltic Journal of Psychology, 3*(2), 7–19.

Kolesovs, A. (2004). Gender differences time perspective of high school students in Latvia. *Baltic Journal of Psychology, 5*(1), 14–20.

Kristenson, M., Kucinskiene, X., Bergdahl, B ., Calkauskas, H., Urmonas, V., & Orth-Gomer, K. (1998). Increased psychosocial strain in Lithuanian versus Swedish men: The LiVicordia study. *Psychosomatic Medicine, 60*, 277–282.

Liberska, H. (2002). Life perspectives of adolescents in the context of social and economic changes in Poland. In J. Trempala & L.-E. Malmberg (Eds.), *Adolescents' future orientation: Theory and research* (pp. 51–63). Frankfurt am Main: Peter Lang.

Meade, R. D. (1968). Realism of aspiration levels in Indian and American college students. *The Journal of Social Psychology, 75*, 169–173.

Meade, R. D. (1971). Future time perspectives of college students in America and in India. *The Journal of Social Psychology, 83*, 175–182.

Nakamura, H. (1961). Time in Indian and Japanese thought. In J. T. Fraser (Ed.), *The voices of time: A cooperative survey of man's views of time as expressed by the sciences and by the humanities* (pp. 77–91). New York: George Brasiller.

Nurmi, J.-E. (1991). How do adolescents see their future? A review of the development of future orientation. *Developmental Review, 11*, 1–59.

Nurmi, J.-E. (2001). Adolescents' self-direction and self-definition in age-graded sociocultural and interpersonal contexts. In J.-E. Nurmi (Ed.), *Navigating through adolescence: European perspectives* (pp. 229–249). New York: Routledge.

Nuttin, J., & Lens, W. (1985). *Future time perspective and motivation: Theory and research method*. Leuven: Leuven University Press /LEA.

Pinquart, M., & Silbereisen, R. K. (2004). Human development in times of social change: Theoretical considerations and research needs. *International Journal of Behavioral Development*, *28*, 289–298.

Raynor, J. O. (1982). Self-possession of attributes, self-evaluation, and the future orientation: A theory of adult competence motivation. In J. O. Raynor & E. E. Entin (Eds.), *Motivation, career striving, and aging* (pp. 207–226). Washington, D. C.: Hemisphere Publishing Corp.

Seginer, R. (2003). Adolescent future orientation: Intergenerational transmission and intertwining tactics in cultural and family settings. In W. Friedlmeier, P. Chakkarath, & B. Scwarz (Eds.), *Culture and human development: The importance of cross-cultural research to the social sciences*. Lisse, the Netherlands: Swets & Zietlinger Publishers.

Seginer, R., & Schlesinger, R. (1998). Adolescents' future orientation in time and place: The case of the Israeli Kibbutz. *International Journal of Behavioral Development, 22*, 151–167.

Shannon, L. (1975). Development of time perspective in three cultural groups: A cultural difference or an expectancy interpretation. *Developmental Psychology, 11*, 114–115.

Shirai, T. (1994). A study on the construction of Experiential Time Perspective Scale. *The Japanese Journal of Psychology, 65*, 54–60.

Shirai, T. (1996). Unterschiede in der Zeitorientierung bei belgischen und japanischen Jugendlichen. [Differences of time orientation between Belgian and Japanese adolescents.] In G. Trommsdorff & H.-J. Kornadt (Eds.), *Gesellschaftliche und Individuelle Entwicklung in Japan und Deutschland* (pp.289-298). [*Societal and individual development in Japan and Germany.*] Konstanz: Universitats-verlag Konstanz.

Shirai, T. (1999). Time orientation in developmental and cultural context: The meaning of being predominantly present-oriented in middle age and in non-western context. German Japanese Society for Social Sciences (Ed.), *Social and psychological change of Japan and Germany: The last decade of the 20th century* (pp. 289–302). Tokyo: Waseda University Press.

Silbereisen, R. K. (2005). Social change and human development: Experiences from German unification. *International Journal of Behavioral Development, 29*, 2–13.

Simons, J., Vansteenkiste, M., Lens, W., & Lacante, M. (2004). Placing motivation and future time perspective theory in temporal perspective. *Educational Psychology Review, 16*, 121–139.

Sundberg, N., Pool, M. E., & Tyler, L. (1983). Adolescents' expectations of future events: A cross-cultural study of Australians, Americans, and Indians. *International Journal of Psychology, 18*, 415–427.

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology, 54*, 323–338.

Trommsdorff, G. (1994). Future time perspective and control orientation: Social conditions and consequents. In Z. Zaleski (Ed.), *Psychology of future orientation* (pp. 39–62). Lublin : Towarzystwo Naukowe KUL.

Trommsdorff, G. (1995). Parent-adolescent relations in changing societies: A cross-cultural study. In P. Noack, M. Hofer & J. Youniss (Eds.), *Psychological responses to social change* (pp. 189–218). Berlin: Walter de Gruyter.

Trommsdorff, G. & Essou, C. A. (1998). Japanese and German adolescents' control orientation: A cross-cultural study. In G.Trommsdorff , W. Friedlmeier, & H.-J. Kornadt (Eds.), *Japan in transition: Sociological and psychological aspects* (pp. 198–211). Lengerich: Pabst Science Publishers.

Tsuzuki, M. (2000). *Study of the process of changes in time perspective along with career choice among undergraduates*. A research report of project funded by Grant-in-Aid for Scientific Research (C)(2) of Japan Society for the Promotion of Science.

Van Calster, K., Lens, K., & Nuttin, J. R. (1987). Affective attitude towards the personal future: Impact on motivation in high school boys. *American Journal of Psychology, 100*, 1–13.

Watkins, D., Yau, J., Fleming, J., Davis-Zinner, N., Tam, A., Juhasz, A. M., & Walker, A. (1997). Gender differences in the basis and level of adult self-esteem: A cross-cultural perspective. *Psychologia, 40*, 265–276.

Primary and Secondary Teachers:
Beliefs and Performance Related Self-Perceptions
about Engaged Learning

Anita Pipere

University of Latvia

Relationships between Latvia's primary and secondary teachers' beliefs and performance-related self-perceptions were examined in a constructivist context of engaged learning (EL). The survey was designed and administered to 30 primary teachers and 30 secondary teachers. The content of the survey is based on the following categories of EL developed by Jones, Valdez, Nowakowski, and Rasmussen (1995): vision of learning, tasks, assessment, instructional model, learning context, grouping, teacher roles, student roles. It was found that:
1) both groups of teachers believe in and account for the implementation in their classrooms of a fairly consistent hierarchy of elements of EL;
2) there is a noticeable difference in priorities in both groups of teachers when comparing beliefs and their implementation: believing in the child's central role in the learning process, in real life, both primary and secondary teachers place themselves in the center of the educational experience;
3) there is no statistical difference in the consistency between the beliefs and performance related self-perceptions of primary school and secondary school teachers;
4) primary teachers are more attuned to reporting the implementation of elements of EL in their classrooms than secondary teachers.[*]

Keywords: primary teachers, secondary teachers, beliefs, performance related self-perceptions, engaged learning.

The need to articulate and introduce a valid conception which could serve as a general approach to teaching/learning in Latvia's schools guides the direction of this research on teachers' beliefs about innovations related to constructivism and the correspondence between teachers' instructional beliefs related to innovations and their classroom performance. Since constructivism has become an integral component of the education systems in other countries, albeit with different degrees of success, it could be helpful to provide a picture regarding Latvian teachers' orientation toward elements of constructivism before the formal introduction of this paradigm both in educational documents and teacher preservice and inservice training.

When introducing innovations in education, both the limitations set by real life contexts typical for all educational institutions and the restrictions determined by the peculiarities of specific levels of education have to be considered. The educational philosophies underpinning teaching and learning in primary, middle and secondary schools differ and represent three rather distinct education systems. However, in order to support the students' needs and thereby improve their learning achievement, a coherent educational philosophy informing classroom practice from preschool to the secondary school level needs to be agreed upon.

---

[*] Author's note. Correspondence concerning this article should be addressed to **Anita Pipere**, e-mail: *pitons@dau.lv*

Teacher Beliefs and Teacher Performance

A review of the literature related to effective teaching and learning shows that during the last decades the focus of research has changed from teachers' instructional practice in the classroom and its impact on learning outcomes to the teachers' cognitive qualities, including their thinking, beliefs, philosophy, and others that are not directly observable, that guide teachers' behaviour and practices. The next task was to test the degree of congruency between teachers' classroom performance and their beliefs. An attempt to explain, both through external and internal factors, the current issue of congruency that exists between teachers' beliefs and performance demands a widening of the knowledge base obtained in different educational contexts (e.g., Latvia's educational system) and in different categories of teachers.

Teachers' instructional beliefs have become an important issue in education. Those beliefs have a strong impact on teaching and learning (Handal, Bobis, & Grimison, 2001, cited in Handal, 2004; Lovat & Smith, 1995). Teachers' beliefs have been conceptualized as a set of assumptions that teachers hold on various educational processes such as curriculum, schooling, students, teaching and learning, and knowledge (Lovat & Smith, 1995). The term *teachers' beliefs* has been used to represent teachers' conceptions, practical knowledge, personal knowledge and experiential knowledge (Anderson & Bird, 1995; Marland, 1994; Pajares, 1992).

Despite their variety in focus, empirical studies have yielded quite consistent findings with regard to two generalizations. First, teachers' beliefs appear to be relatively stable and resistant to change (e.g., Brousseau, Book, & Byers, 1988; Herrmann & Duffy, 1989, cited in Kagan, 1992). Kagan (1992) argues that even experienced teachers are unlikely to modify their belief systems without some dramatic disequilibrium. Second, a teacher's beliefs tend to be associated with a congruent style of teaching that is often evident across different subjects and grade levels (e.g., Evertson & Weade, 1989; Martin, 1989, cited in Kagan, 1992).

Some research on teachers' thinking reveals that teachers hold well-articulated educational beliefs that in turn shape instructional practice (Buzeika, 1996, cited in Handall, 2003; Frykholm, 1995, cited in Handall, 2003; McClain, 2002; Stipek, Givvin, Salmon, & MacGyvers, 2001; Thompson, 1992). Internal and external factors mediate beliefs and practice (Pajares, 1992). This can have important implications for the implementation of curricular innovations because teachers' beliefs may not match the belief system underpinning educational reform. Even if teachers' beliefs match curricular reform, very often the traditional nature of educational systems makes it difficult for teachers to enact their espoused progressive beliefs (Handal, 2003).

Studies on the relationship between pedagogical beliefs and instructional behaviour have reported different degrees of consistency (Frykholm, 1995, cited in Handall, 2003; Thompson, 1992). While the nature of this relationship seems to be dialectical in nature (Wood, Cobb, & Yackel, 1991) it is not clear whether beliefs influence practice or practice influences beliefs (McGalliard, 1983, cited in Handall, 2003). This is in fact a complex relationship (Thompson, 1992) where many mediating factors determine the direction and magnitude of the relationship (Handal, 2003).

The inconsistency between teachers' beliefs and their practices is not unexpected. Contextual factors can have powerful influences on teachers' beliefs and, in effect, affect their classroom practice. For example, although teachers are able to articulate their beliefs about reading outside the classroom, their actual practices are governed by the nature of instruction and classroom life (Duffy & Anderson, 1984).

Davis, Konopak and Readence (1993) suggested that the differences in the degree of inconsistency between beliefs and practices also could stem from varying psychological, social and environmental realities of the participants' respective schools that either create an opportunity for or constrain teachers from implementing their beliefs in their instructional decision-making.

Another source of inconsistency reported in these studies may be attributed to the measures used in the research. Central to this is the issue of construct validity. Most of these studies used research-determined statements or categories, with which the participants involved in the studies may not be familiar (Fang, 1996). Different levels of consistency exist in research using the same categories for both groups of participants.

Constructivist-Compatible Instruction

Constructivist-compatible instruction is based on a theory of learning that suggests that understanding arises only through prolonged engagement of the learner in relating new ideas and explanations to the learner's own prior beliefs.

A second critical element of constructivist-compatible instruction deals with the role of teacher and student. In constructivist teaching, the natural starting point for instruction is not the material to be taught, but the students' interests, prior experiences, and current understandings. Not all students begin at the same point, and they seek answers to different questions. Thus, the content and activities of students' work will vary within a classroom depending on their individual needs. The teacher's role, in this approach, is to facilitate student-designed tasks or targets. This is more demanding than merely preparing and then presenting to students a pre-ordained body of content.

Third is the importance of systematically created social structures for learning. Debates between students, cooperative group projects, and other activities involving the articulation of students' own ideas in concrete contexts are valued by constructivists for their power to further the individual's understanding.

In summary, a constructivist teaching approach attempts to make learning a more self-directed, personally-responsive, and socially-mediated process in which a learner's own motivation and effort are just as important, if not more central, to a student's education than the content or facts learned (Ravitz, Becker, & Wong, 2000). All three critical elements of constructivism (theory of learning, role of teacher and student, social structure for learning) have been integrated in the list of indicators of engaged learning created by Jones, Valdez, Nowakowski, and Rasmussen (1994) (see Table 1).

Engaged learning is a strategy which supports students in constructing knowledge in meaningful ways by allowing them to establish their own learning goals, explore appropriate resources and work together in groups to research real life issues which are meaningful to them, multidisciplinary in nature, and in which teachers serve as guides, coaches, facilitators and co-learners (New Times Demand New Ways of Learning, No Date).

Even when teachers hold constructivist beliefs, they often are unable to enact them due to limitations coming from (a) the stress of being responsible for entire classrooms of individual students at the same time, (b) inadequacies in their own knowledge of content or pedagogy, (c) competing objectives that they may have themselves, or (d) external pressures regarding what they must do in the classroom. All of these forces interfere with the implementing

a constructivist philosophy. What is implemented tends to be based on what is relatively easy to implement and is less susceptible to interference from competing forces. It often bears only a superficial resemblance to the philosophy that a teacher may espouse (Ravitz et al., 2000).

Table 1. *Indicators of Engaged Learning*
(Jones, Valdez, Nowakowski & Rasmussen, 1995)

Category	Indicator	Indicator Definition
Vision of Learning	Responsible for learning	Learner involved in setting goals, choosing tasks, developing assessments and standards for the tasks; has big picture of learning and next steps in mind.
	Strategic	Learner actively develops repertoire of thinking/learning strategies.
	Energized by learning	Learner is not dependent on rewards from others; has a passion for learning.
	Collaborative	Learner develops new ideas and understanding in conversations and work with others.
Tasks	Authentic	Pertains to real world, may be addressed to personal interest.
	Challenging	Difficult enough to be interesting but not totally frustrating, usually sustained.
	Multidisciplinary	Involves integrating disciplines to solve problems and address issues.
Assessment	Performance-based	Involving a performance or demonstration, usually for a real audience and useful purpose.
	Generative	Assessments having meaning for learner; may be produce information, product, service.
	Seamless and ongoing	Assessment is part of instruction and vice versa; students learn during assessment.
	Equitable	Assessment is culture fair.
Instructional Model	Interactive	Teacher or technology program responsive to student needs, requests (e.g., menu driven).
	Generative	Instruction oriented to constructing meaning; providing meaningful activities/experiences.
Learning Context	Collaborative	Instruction conceptualizes students as part of learning community; activities are collaborative.
	Knowledge-building	Learning experiences set up to bring multiple perspectives to solve problems such that each perspective contributes to shared understanding for all; goes beyond brainstorming.
	Empathetic	Learning environment and experiences set up for valuing diversity, multiple perspectives, strengths.
Grouping	Heterogeneous	Small groups with persons from different ability levels and backgrounds.
	Equitable	Small groups organized so that over time all students have challenging learning tasks/ experiences.
	Flexible	Different groups organized for different instructional purposes so each person is a member of different groups; works with different people.
Teacher Roles	Facilitator	Engages in negotiation, stimulates and monitors discussion and project work but does not control.
	Guide	Helps students to construct their own meaning by modeling, mediating, explaining when needed, redirecting focus, providing options.
Student Roles	Explorer	Students have opportunity to explore new ideas/tools; push the envelope in ideas and research.
	Cognitive Apprentice	Learning is situated in relationship with mentor who coaches students to develop ideas and skills that stimulate the role of practicing professionals (i.e., engaged in real research).
	Teacher	Students encouraged to teach others in formal and informal contexts.
	Producer	Students develop products of real use to themselves and others.

Observation of the different ways of implementating a constructivist approach at various school levels shows that primary teachers more so than secondary teachers appear to be attuned to the reform movement in educational field (Hirsh, 1996). However, this could be related to the peculiarities of primary school philosophy than to the more advanced beliefs of primary teachers (Archer, 1999).

Comparing upper elementary (i.e., those who teach grades 4 to 6 in elementary schools) to middle school and high school teachers reveals that elementary teachers often are more constructivist in their philosophies and agree with «traditional» transmission instruction views of good teaching less often than their colleagues in secondary schools (Ravitz et al., 2000).

This could be explained partly by their having a greater interest in child development per se and a lesser attachment to the knowledge base of the particular subject matter. That is, the average elementary teacher may be more attentive to the mechanisms that produce learning and less interested in the transmission of knowledge than the average secondary teacher. Another reason may be related to structural differences in their work environment. Most elementary teachers are responsible for one group of students for most of the school day. In these self-contained classes they have greater opportunity for flexibility in their teaching (Ravitz et al., 2000). This leads to the assumption that, when comparing the consistency between teachers' beliefs and instructional practice, primary teachers might show a higher degree of consistency than secondary teachers.

Studies examining elements of constructivist teaching indicate that student teachers who perceive themselves as having a more child-centred approach to teaching, in reality, practice a more teacher-centred approach (Fung & Chow, 2002).

Many researchers who observe teachers in day-to-day practice are quite suspicious of survey methodology for accurately measuring teacher beliefs or practices. Cuban (1993), in particular, argues that in-depth observations of teachers in classrooms yields the conclusion that typical practice is much more traditional and fact- and skill-oriented than is suggested by teachers' survey responses.

However, teachers' responses to research measures vary a great deal depending on the specific practices that they are asked about. The research by Ravitz et al. (2000) with 4,083 respondents generated evidence that teachers' survey self-reports may present a fairly honest reflection of their teaching practice, and that despite having fairly constructivist beliefs about what constitutes good teaching, most teachers employ few teaching strategies in pursuit of a constructivist teaching philosophy.

The aim of this study was to discover which elements of the constructivist paradigm are valued more highly by teachers and which of them are actively implemented in their classroom practice, taking into account the fact that educational reforms and school culture in Latvia still reflect a high degree of ambiguity with regard to the incorporation of the main principles of constructivism.

The categories and indicators of engaged learning were used as the operationalized elements of constructivism. The beliefs and practice of in-service elementary and secondary teachers were explored, most of whom were educated when this orientation was not integrated in the teacher training programs.

This study continues the exploration of beliefs and performance related self-perceptions of Latvia' s teachers, focusing on the comparison of previously obtained data on primary school teachers (Pipere, 2004) with those from a sample of secondary school teachers. Few studies compare the primary and secondary level teachers' constructivist beliefs and reported practices. This comparison is necessary if we are going to design pre-service and in-service teacher training curriculum which are oriented towards these changes and take into consideration the continuum spanning primary and secondary education.

The present study offered a forced choice situation where teachers were provided with a set of pre-established beliefs about engaged learning with the aim of assisting them in the comparison and evaluation of their implementation. It was assumed that teachers have knowledge about these elements and apply at least some of these elements in their classroom practice.

The more specific research questions were:

- To what degree, if any, do primary and secondary teachers differ in their hierarchy of beliefs regarding the categories and indicators of EL?
- To what degree, if any, do primary and secondary teachers differ in their hierarchy of performance-related self-perceptions regarding the categories and indicators of EL?
- What is the consistency between the hierarchy of significance of these beliefs and the self-perception of performance for primary and secondary teachers regarding categories and indicators of EL?
- Which group of teachers shows the higher degree of consistency between their beliefs and self-perception of performance?
- Which group of teachers shows the higher level of performance-related self-perceptions regarding the indicators of EL?

Method

Participants

The participants comprised 30 primary and 30 secondary in-service teachers from different regions of Latvia. The range of teaching experience for primary teachers was 1 to 36 years (M = 15.2, SD = 9.63) and for secondary teachers 1 to 29 years (M = 8.9, SD = 8.9). Primary teachers volunteered to participate in the survey during a one-day national conference on assessment in primary school. Secondary teachers completed the EL survey as part of a practical experience during a Master course in Educational Psychology. All participants were female.

Instrument and procedures

The content of the survey is based on 8 categories and 25 indicators of EL developed by Jones, Valdez, Nowakowski, and Rasmussen (see Table 1). The survey was divided into two sections. In section one teachers rated the significance of the indicators on a scale of 1 = most important indicator to 4 = least important indicator for a given category. The 5-point Likert scale was used in section two, with 1 = not relevant in my classroom practice, 5 = highly relevant to my classroom practice. All the data were collected anonymously.

Results

The results are presented in four parts. The first two parts contains the analysis of the differences in the hierarchy of beliefs and performance-related self-perceptions in relation to categories and indicators of EL for both groups of teachers. Pearson correlations as well as qualitative data analysis are presented. The third part discusses the consistency between the primary and secondary teachers' beliefs and self-perceptions of performance regarding categories and indicators of EL and compares the degree of consistency in both groups of teachers. Pearson correlations were presented to reflect the consistency of beliefs and performance related self-perceptions for each group of teachers, while z-scores were used to compare the correlations of both groups of teachers. The fourth part contains the analysis of the descriptive data about the level of performance-related self-perceptions regarding the indicators of EL for both groups of teachers. Because of the anonymous nature of the data, the correlations provided in the result section are calculated using the average results of the teacher sample instead of the data on individual teacher beliefs and self-perceptions.

The hierarchy of primary and secondary teachers' beliefs regarding the categories and indicators of EL

Relationships between primary and secondary teachers' belief structures of EL categories are statistically significant (r_S (8) = .89, p < .01). Thus, the hierarchy of EL belief categories of elementary and secondary teachers is similar. *Student roles*, *assessment* and *vision of learning* take the first three places for both groups, while *teacher roles* and *instructional model* take the last two places for both primary and secondary teachers.

Relationships between primary and secondary teachers' beliefs on EL indicators are statistically significant (r_S (25) = .65, p < .01), indicating that the hierarchy of EL beliefs related to the indicators is similar.

For primary school teachers *vision of learning* (responsible for learning), *assessment* (seamless and ongoing) and *assessment* (generative) took the first three ranks, while for secondary school teachers the first places were allotted for *student roles* (cognitive apprentice), *assessment* (generative) and *tasks* (authentic). *Assessment* (equitable) and *teachers' roles* (facilitator) took the last two places for both primary and secondary teachers. The most striking difference became apparent for the indicators designating *student roles* (teacher), *vision of learning* (responsible for learning), *tasks* (authentic), which are much more important for primary school teachers. The only indicator that is allocated greater significance by the secondary school teachers is *vision of learning* (collaborative).

The hierarchy of primary and secondary teachers' performance-related self-perceptions regarding the categories and indicators of EL

There were no statistically significant correlations between the rating of EL categories as performance-related self-perceptions for primary and secondary school teachers (r_S (8) = .52). This suggests that in their classrooms teachers tend to implement different behaviours. For primary school teachers the first three highest ranks were assigned to *tasks*, *learning context* and *grouping*, whereas secondary school teachers ranked *instructional model*, *teacher roles* and *learning context* highest. Both primary and secondary teachers ranked the category *student roles* as least relevant. The largest difference in ranking can be seen for the following two categories: *instructional model* is ranked higher by secondary teacher and *tasks* is valued more highly by primary school teachers.

A statistically significant positive correlation emerged between the rating of EL indicators as performance-related self-perceptions for primary and secondary school teachers (r_S (25) = .84, p < .01), suggesting that both groups of teachers assign rather similar hierarchies to indicators of their classroom practice.

For primary school teachers, *teacher roles* (guide), *tasks* (authentic) and *assessment* (seamless and ongoing) took the first three ranks. For the secondary teachers, the first three ranks also were allotted for *teacher roles* (guide), *tasks* (authentic) and *vision of learning* (collaborative). The least frequently cited indicators for secondary teachers were performance based (*assessment*), equitable (*assessment*), producer (*student roles*), and responsible for learning (*vision of learning*).

The largest differences were noted for indicators of *grouping* (heterogeneous) and *instructional model* (generative) which were much more important for secondary school teachers. For primary school teachers, *grouping* (flexible) was more important than for secondary teachers.

Consistency between the primary and secondary teachers' beliefs and self-perception of performance regarding categories and indicators of EL

Statistically significant negative correlations were found between the rating of EL categories related to the beliefs and performance-related self-perceptions of secondary teachers (r_S (8) = -.86, p < .05) but not for primary teachers r_S (8) = -.58 (ns). However, the calculation comparing the strength of these correlations was .90 (p> .05). Therefore these coefficients are not statistically different. There was no statistically significant correlation between the rating of EL indicators denoting beliefs and performance-related self-perceptions for secondary teachers (r_S (25) = .37) or for primary teachers r_S (25) = .48 (ns). These coefficients also are not statistically different (z= .33, p > .05).

Table 2 shows the correlations between the ratings of beliefs and scores of performance perception for each of 25 indicators of EL for primary and secondary teachers as well as the p value for z-scores when comparing of the statistical difference for these correlations.

Table 2 shows statistically significant correlations for primary teachers in relation to the following indicators: producer and cognitive apprentice (*student roles*), responsible for learning (*vision of learning*), collaborative (*learning context*), generative (*instructional model*), and flexible (*grouping*). Other indicators had statistically non-significant intercorrelations with the lowest coefficients for interactive (instructional model), authentic (*tasks*), strategic (*vision of learning*).

Table 2. *Comparison of correlations between beliefs and performance-related self-perceptions in relation to indicators of EL*

Category	Indicator	r		p value for z-score
		Secondary teachers	Primary teachers	
Vision of Learning	Responsible for learning	-.10	.48*	.02*
	Strategic	-.09	.01	.71
	Energized by learning	.01	.19	.50
	Collaborative	-.15	.21	.18
Tasks	Authentic	.05	-.01	.02*
	Challenging	.14	.13	.97
	Multidisciplinary	-.05	.23	.30
Assessment	Performance-based	.53*	.39	.51
	Generative	.32	.34	.93
	Seamless and ongoing	.26	.32	.81
	Equitable	.42*	.37	.83
Instructional Model	Interactive	-.16	-.10	.82
	Generative	.13	.45*	.19
Learning Context	Collaborative	.03	.46*	.49
	Knowledge-building	.05	.15	.14
	Empathetic	.19	.09	.71
Grouping	Heterogeneous	-.02	.06	.77
	Equitable	-.25	.15	.14
	Flexible	.12	.40*	.26
Teacher Roles	Facilitator	-.21	.18	.15
	Guide	-.29	.32	.02*
Student Roles	Explorer	.03	.30	.30
	Cognitive apprentice	-.36	.62*	.00**
	Teacher	-.21	.07	.30
	Producer	-.21	.67*	.00**

* p< .05; ** p< .01

For secondary school teachers, only two statistically significant correlations, performance based (*assessment*) and equitable (*assessment*), were found. The correlations among the other indicators were not statistically significant. The lowest coefficients were found for cognitive apprentice (*student roles*), guide (*teacher roles*) and equitable (*grouping*).

The comparison of the coefficients calculated from data of both groups of teachers indicates that statistically different correlation coefficients are observed for responsible learning (*vision of learning*) (p<. 022), authentic (*tasks*) (p< .017), guide (*teacher roles*) (p< .021), cognitive apprentice (*student roles*) (p< .000) and producer (*student roles*) (p< .000).

Comparison of performance-related self-perception regarding the indicators of EL for primary and secondary teachers

Table 3 shows the descriptive data on performance-related self-perceptions in relation to indicators of EL for primary and secondary teachers.

Table 3. *Descriptive data on performance-related self-perceptions in relation to indicators of EL for primary and secondary teachers*

Category	Indicator	Primary school teachers		Secondary school teachers		t
		M	SD	M	SD	
Vision of Learning	Responsible for learning	3.30	1.24	2.20	1.27	-3.39*
	Strategic	3.33	1.09	2.73	0.94	-2.27*
	Energized by learning	3.07	0.98	2.73	1.20	-1.17
Tasks	Collaborative	3.90	0.71	3.93	1.01	0.15
	Authentic	4.03	0.96	3.97	0.93	-0.27
	Challenging	3.77	1.01	3.13	1.04	-2.40*
Assessment	Multidisciplinary	3.27	0.87	2.77	1.36	-1.70
	Performance-based	3.10	1.06	2.50	1.14	-2.11*
	Generative	3.83	1.02	3.53	1.07	-1.11
	Seamless and ongoing	4.00	0.83	3.43	1.07	-2.02*
Instructional Model	Equitable	2.67	1.42	1.47	1.55	-3.22*
	Interactive	3.63	0.93	3.40	1.28	-0.81
Learning Context	Generative	3.53	0.97	3.60	1.00	0.39
	Collaborative	3.63	1.03	3.57	1.14	-0.24
	Knowledge-building	3.40	1.10	3.17	1.12	-0.81
Grouping	Empathetic	3.90	0.96	3.53	0.90	-1.53
	Heterogeneous	3.53	1.20	3.77	1.36	0.71
	Equitable	3.50	0.94	2.93	1.23	-2.01*
Teacher Roles	Flexible	3.87	1.31	3.03	1.45	-2.34*
	Facilitator	3.13	1.01	2.67	1.49	-1.42
Student Roles	Guide	4.07	1.03	4.23	0.97	0.77
	Explorer	3.33	0.92	3.27	1.14	-0.25
	Cognitive apprentice	3.57	1.17	3.47	0.97	-0.36
	Teacher	3.53	1.14	2.77	1.14	-2.61*
Producer		3.13	1.11	2.5	1.43	-1.92
Total average:		3.54	1.04	3.19	1.17	3.2**

* p < .05
** p< .01

Primary teachers have significantly different average values on nine of the 25 indicators of EL. They reported more intensive implementation of the following indicators of EL: responsible for learning (*vision of learning*), strategic (*vision of learning*), challenging (*tasks*), performance-based (*assessment*), seamless and ongoing (*assessment*), equitable (*assessment*), equitable (*grouping*), flexible (*grouping*), and teacher (*student roles*).

The average mean score of the 25 indicators of EL regarding the performance-related self-perception was 3.54 for primary school teachers, and 3.19 for secondary school teachers (t = 3.2, p< .01) suggesting that primary school teachers in general evaluate themselves higher than secondary school teachers on the implementation of the indicators of EL.

Discussion

The data obtained lead to four main conclusions: 1) both groups of teachers believe in and report on the implementation in their classrooms of rather consistent hierarchy of elements of EL; 2) there is a noticeable difference in priorities in both groups of teachers when comparing beliefs and their implementation: believing in the child's central role in the learning process, in real life, both primary and secondary teachers place themselves in the center of the educational experience; 3) there is no statistical difference in the consistency between the beliefs and performance related self-perception for primary school and secondary school teachers; 4) primary teachers are more attuned to report the implementation of elements of EL in their classrooms than secondary teachers.

Both groups of teachers believe in nearly the same child-centered hierarchy of EL elements. This could be explained by the fact that primary and secondary teachers have been socialized in similar ways and have been influenced by various sources in their professional environment, which focus on a child-centered learning environment. The comparative analysis of specific indicators of EL shows that, for primary teachers, the active role of students and tasks from real life are more valuable than for secondary teachers. The lowest ranking of equitable assessment and teacher as facilitator in both groups confirmed the prevalence of cultural differences in classrooms and the strong desire not to give up control in the classroom.

Correlations of the hierarchies of performance-related self-perceptions in both groups of teachers show non-significant correlations for the categories and significant correlations for the indicators of EL. The similarity of indicators can probably be explained in terms of the school system and educational policy in Latvia, which supports one kind of indicators while inhibiting others (e.g., supporting the role of teacher as a guide and inhibiting the students' role as a producer). The larger differences for the categories could be rationalized by various educational philosophies at the primary and secondary educational levels.

Student roles which were considered to be the most important occupy the lowest ranks both for primary and secondary teachers. This suggests that these are not indicative of a particular school level but that they are an expression of teachers' idiosyncratic practices. This reversal of the hierarchy is less obvious for primary than for secondary teachers. For primary school teachers, this inconsistency probably is softened by the educational demands of the primary school where the child is expected to be the center of the instructional process, while the secondary school teachers traditionally have been oriented toward subject matter. These findings concur with data reported by Fung & Chow (2002) with student teachers demonstrating that they perceive themselves as having a child-centred approach to teaching, when in reality their practices reveal a more teacher-centred approach.

The data regarding the consistency between teachers' beliefs and performance related self-perceptions showed significant negative correlations between the ratings of EL categories related to the beliefs and performance-related self-perceptions of secondary teachers. This finding supports the idea that the introduction of constructivist elements for secondary classrooms is more difficult than for primary classrooms. The study did not confirm the assumption that primary school teachers demonstrate a higher degree of consistency than secondary school teachers. Although the correlation coefficients were different, the differences were not statistically confirmed. This finding could be explained by the high level of professional motivation in both groups of teachers oriented towards professional development.

There is a statistically confirmed difference in the consistency between beliefs and performance-related self-perceptions of primary and secondary teachers for to the following indicators of EL: responsible learning (vision of learning), authentic (tasks), guide (teacher roles), cognitive apprentice (student roles) and producer (student roles). Only in the case of authentic (tasks) the consistency was higher for secondary teachers. All other indicators were more consistent for primary teachers. This discrepancy can be explained both by the motivational peculiarities of primary school children and the particular role of the teacher in primary school allowing to devote more time for the support of individual children.

As expected, the primary teachers appeared more constructivist oriented in their accounts of their instructional practice than secondary teachers. One of the reasons for this difference could be related to the organizational peculiarities of primary and secondary schools: while primary school teachers are responsible for the same class of students for many years, secondary school teachers meet their students only in subject specific lessons. Furthermore, in their delivery of the curriculum, secondary teachers are required to adhere to time limits, which leaves limited time to utilize constructivist practices, especially those that foster the active role of the student. The differences on such indicators as performance-based, seamless and ongoing, and equitable assessment can be connected to the above mentioned context, while age peculiarities of primary school students can trigger their responsibility for learning and the development of their thinking strategies. Primary school teachers could be more concerned with the cognitive and social well-being of their young students than secondary teachers. Primary teachers care more for flexible and equitable grouping and want to provide the possibility for the students to perform the role of teacher for their classmates, therefore boosting the self-esteem of children.

The study raises many questions. For example, does the length of teaching experience and school level have an impact on the consistency that exists between teacher beliefs and performance-related self-perception? What results could be obtained from different subject teachers working in secondary schools? How can the process of change of beliefs be organized taking into account, that beliefs are resistant to change? What kind of teacher pre-service and in-service training could assist in developing higher consistency between the beliefs and instructional behaviour?

Limitations of the study

The limitations of this study can be described in terms of a possible bias inherent in the data. First, the primary teachers were attending a conference on assessment at the time of the study, while the secondary teachers were Master degree students doing their practical assignments. In studies of this kind the situational context of the sample could be an important category of

research. Although in both situations the teachers were highly motivated to participate in the study, the different contextual categories could confound the validity of the data. Second, an intervening variable could be seen in the differences in average teaching experience of primary and secondary teachers. While the research shows (Handal, 2002) that, in general, teachers' beliefs, are insensitive to traditional differential categories in education, such as gender, faculty position and teaching in certain socio-economic areas, and that categories such as academic and teaching qualifications have little impact on teachers' espoused beliefs, the consistency between beliefs and performance could be related to the teaching experience of participants. The assumption could be made that teachers with a longer teaching experience could have a larger consistency between beliefs and performance than the teachers with a shorter work experience.

In conclusion, the present study revealed similar ratings of the elements of constructivist learning from both primary and secondary teachers in Latvia and confirmed the previously observed trend that primary teachers, judging by their reports, have achieved a higher degree of success in the implementation of these elements and higher consistency between beliefs and practice.

References

Anderson, L. M., & Bird, T. (1995). How three prospective teachers construct three cases of teaching. *Teaching and Teacher Education, 11(5),* 479–499.

Archer, J. (1999, November-December). *Teachers' beliefs about successful teaching and learning in mathematics.* Paper (ARC99491) presented at the combined meeting of the Australian Association for Research in Education and the New Zealand Association for Research in Education, Melbourne, Australia.

Brousseau, B. A., Book, C., & Byers, J. (1988). Teacher beliefs and the cultures of teaching. *Journal of Teacher Education, 39 (6),* 33–39.

Cuban, L. (1993). *How teachers taught: Constancy and change in American classrooms: 1890-1990* (2nd ed.). New York: Teachers College Press.

Davis, M. M, Konopak, B.C., & Readence, J. E. (1993). An investigation of two chapter 1 teachers' beliefs about reading and instructional practices. *Reading Research and Instruction, 33 (2),* 105–133.

Duffy, G., & Anderson, L. (1984). Teachers' theoretical orientations and the real classroom. *Reading Psychology, 5 (1-2)*, 97–104.

Evertson, C. M., & Weade, R. (1989). Classroom management and teaching style: Instructional stability and variability in two junior high English classrooms. *Elementary School Journal, 89*, 379–393.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research, 38 (1),* 47–64.

Fung, L., & Chow, L. P. Y. (2002). Congruence of student teachers' pedagogical images and actual classroom practices. *Educational Research*, *44 (3),* 313–321.

Handal, B. P. (2002, August). Teacher's mathematical beliefs and gender, faculty position, teaching socio-economic area, teaching experience and academic qualifications. *Programme and Abstracts of the Self-Concept Enhancement and Learning Facilitation (SELF) Research Centre International Conference, Sydney, Australia.* Retrieved March 25, 2004, from page 38 at http://self.uws.edu.au/Conferences/2002_Abstracts.pdf.

Handal, B. (2003). Teachers' mathematical beliefs: A review. *The Mathematics Educator, 13 (2),* 47–57.

Handal, B. (2004). Teachers' instructional beliefs about integrating educational technology. *Electronic Journal of Instructional Science and Technology, 17(1).* Retrieved January 7, 2005, from http://www.usq.edu.au/electpub/ejist/docs/Vol7_No1/Commentary/Teachers_ins_beliefs.htm

Hirsch, E.D. (1996). *The schools we need and why we don't have them.* New York: Doubleday.

Jones, B. F., Valdez, G., Nowakowski, J., & Rasmussen, C. (1994). *Designing learning and technology for educational reform.* Oak Brook, IL: North Central Regional Educational Laboratory.

Jones, B. F., Valdez, G., Nowakowski, J., & Rasmussen, C. (1995). *Plugging in: Choosing and using educational technology.* Retrieved December 11, 2004, from North Central Regional Educational Laboratory Website http://www.ncrel.org/sdrs/edtalk/toc.htm

Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist, 27(1),* 65–90.

Lovat, T. J., & Smith, D. (1995). *Curriculum: Action on reflection revisited.* Australia: Social Science Press.

Marland, P. W. (1994). Teaching: Implicit theories. In T. Husen, & T. N. Postlewaite (Editors-in-chief), *The international encyclopaedia of education* (pp. 6178–6183). New York: Pergamon.

McClain, K. (2002). Teachers' and students' understanding: The role of tools and inscriptions in supporting effective communication. *The Journal of the Learning Sciences, 11(2&3),* 217–249.

New Times Demand New Ways of Learning (No date) Retrieved January 28, 2004, from North Central Regional Educational Laboratory Website http://www.ncrel.org/sdrs/edtalk/newtimes.htm..

Pajares, M. F. (1992). Teacher's beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, *62 (3),* 307–332.

Pipere, A. (2004). Engaged learning: Primary teachers' beliefs and performance-related self-perception. *Proceedings of the Second International Conference «Sustainable Development. Culture. Education»,* April 14–16, Tallinn, Estonia, TPU. 527–544.

Ravitz, J. L., Becker, H. J., & Wong, Y. T. (2000). Constructivist-compatible beliefs and practices among U.S. teachers. *Teaching, learning, and computing: 1998 National Survey.* Center for Research on Information Technology and Organizations, University of California, Irvine and University of Minnesota.

Stipek, D., Givvin, K., Salmon, J., & MacGyvers, V. (2001). Teachers' beliefs and practices related to mathematics instruction. *Teaching and Teacher Education, 17 (2),* 213–226.

Thompson, A. G. (1992). Teachers' beliefs and conceptions: A synthesis of the research. In D. A. Grows (Ed.), *Handbook of Research on Mathematics Teaching and Learning (pp.127–146).* New York: Macmillan.

Wood, T., Cobb, P., & Yackel, E. (1991). Change in teaching mathematics. *American Educational Research Journal, 28 (3),* 587–616.

Aggression and anxiety of intellectually gifted Russian adolescents in Latvia

Ļubova Černova

University of Latvia

This article examines the issue of aggression and anxiety in 11–15 year-old intellectually gifted Russian adolescents in Latvia. One hundred and sixty six 11–15 year-old pupils participated in this study. They were selected by the Wechsler Intelligence Scale for Children (WISC-R). Sixty two gifted adolescents had WISC-R IQ scores above 129 and 104 non-gifted adolescents had WISC-R IQ scores between 85 and 115. The participants completed the Personality Anxiety Scale and the Buss-Durkee Inventory. Results indicated that the intellectually gifted adolescents aged 11 to 15 are less anxious compared to their non-gifted peers. Eleven to twelve year-old intellectually gifted adolescents report a lower negativism level than their peers within the intellectual norm.*

Keywords: aggression, anxiety, giftedness, gifted adolescents, personality.

Introduction

High aggressiveness and anxiety is one of the most topical problems in modern society (Calsyn, Winter, & Burger, 2005; O'Leary & Slep, 2003). Different forms of aggression and anxiety occur in most children. Longitudinal research (Huesmann, 1988, cited by Smirnova & Huzeyeva, 2002) shows that aggressiveness and anxiety during childhood can become stable traits and remain present throughout the person's lifetime. As a result, the child's potential decreases, communication abilities lessen, personality development is deformed and the realisation of the child's potential is reduced. This is a major loss both for society as whole and for the child him/herself (Sinyagina & Chirkovskaya, 2001).

Many psychological studies and observations (Yurkevich, 2003) show that in general, a significantly greater number of intellectually gifted children are happier and more successful than other children: they have fewer learning problems, have better communication with peers, and adapt better to new situations. Interests and personality inclinations that have developed in early childhood serve as a good basis for professional choice and corresponding achievements. However, these children can also have problems if their higher capabilities are not noticed and studying becomes too easy or there are no possibilities for the development of their creative potential.

Gifted adolescents are a special category of children (Bireley & Genshaft, 1991; Buescher, 1991; Howard-Hamilton & Franks, 1995; Stormont, et al, 2001). This age group are often prone to certain risks: they can lose their giftedness («going-by giftedness»), as well as they may manifest antisocial behaviour (Tieso, 1999; Ushakov, 2000). Some sources claim that contradiction is a typical gifted adolescent behaviour: they care for their peers' company, but often have problems contacting other people due to their noncomformism, high standards, egocentrism, etc. (Buescher, 1991; Bogoyavlenskaya & Shadrikov, 2003; Stormont, et al, 2001).

---

* Author's note. Correspondence concerning this article should be addressed to **Ļubova Černova**, e-mail: *lchernova@hotmail.com*

Therefore quite a number of gifted adolescents may refuse to admit or even reject their giftedness, trying to conceal the outstanding abilities in order to be accepted by peers (Buescher, 1991; Kleine & Short, 1991).

M. Kle emphasises that adolescence is a turning point in intellectual development as early teens are characterised by a radical change of intellect indices (Kle, 1991). J.Gilbuh calls this phenomenon «extinguishing giftedness». According to her it can be caused either by lack of creativity components or by change in the environment. Growing up, a gifted adolescent as if gets into new cultural and educational settings, where his/her superiority status could be preserved only in case of continuous development of new advanced abilities (Gilbuh, 1991). Gifted adolescents may demonstrate rapid decrease in motivation; they gradually fall out of hard working and tend to be arrogant with their less capable peers (Gilbuh, Garnec, & Korobko, 1990). The cease of learning motivation may have undesirable consequences, such as a gifted adolescent's high anxiety level, aggressiveness, character accentuation and antisocial behaviour (Buescher, 1991; Tieso, 1999; Ushakov, 2000).

Research data on the emotional development of gifted adolescents are rather contradictory. According to some authors (Clark, 1997; Larionova, 2002; Silverman, 1998; Webb, 1993), gifted adolescents differ from their peers with respect to emotional and adaptation problems. Some authors (Norby, 1997; Whitmore, 1980) suggest that gifted and talented children can have serious problems in comparison with non-gifted adolescents, which demand special attention and help from teachers and psychologists (Moon & Thomas, 2003). Highly gifted children with dyssynchronous development may suffer from noticeable neurological disorders, marked personality disorders, excessive dominance, aggressiveness, or negativism. These adolescents may also have higher emotional disharmony and communication problems (Bogoyavlenskaya & Shadrikov, 2003). Some researchers suggest that gifted adolescents may have a tendency to isolation, low self-esteem, depression, suicide and hypersensitivity (Dixon & Scheckel, 1996; Jackson, 1998; Metha & McWhirter, 1997). Intellectually gifted adolescents can also exhibit more neurotic behaviour than their peers within the normal range. Excessively high standards both for themselves and for others cause gifted adolescents to be more sensitive, critical and more frustrated (Freeman, 1983; Webb, 1993).

However, other researchers (Luthar, Ziglar, & Goldstein, 1992; Milgram & Milgram, 1976/2001; Nail & Evans, 1997; Richards, Encel, & Shute, 2003) state that gifted adolescents are emotionally more stable, have strong character and adequate self-esteem, and are less anxious than their less talented peers. The data show that the emotional sphere of gifted adolescents develops rather unevenly: a high level of intellectual development is often accompanied by a lower level of social and emotional development or vice versa (Babayeva, 1997).

Aggression in intellectually gifted adolescents

Among aggressive adolescents, there are also intellectually and creatively gifted children. Some intellectually and socially well-developed children use aggressiveness as a means of raising their status or confirming their independence, maturity and autonomy. For others, aggressiveness is the behavioural norm in communication with peers. In every situation they aim at establishing a leading position, dominating and suppressing others. In conflict situations, they ignore their peers' concerns and needs, while focussing on their personal desires. Gifted adolescents who belong to this group are aware and recognise behaviour norms and rules, but violate them when it suits them. At the same time they seem not to pay attention to their own

aggressiveness; for them, their own way of behaving is normal, acceptable and the only possible means for achieving their goals (Buescher, 1991).

Some gifted adolescents use aggression as a means of attracting attention or eliciting an emotional response in others (peers, parents, and teachers) (Smirnova & Huzeyeva, 2002). However, there are also situations when intellectually gifted adolescents use aggressiveness to demonstrate protest or as a defence. In the classroom these adolescents are often outsiders, whose potential is not recognized («underachievers») (Clasen & Clasen, 1995; Seile, 2002). Another cause of gifted adolescents' aggressiveness could be lack of communication skills as a consequence of dyssynchrony in their psychological development (Alsop, 2003; Norby, 1997; Terrasier, 1985). Some researchers suggest that aggression in gifted children is related to difficulties in learning social norms and rules (Veraksa & Bulyicheva, 2003). Gifted children, especially adolescents, are very sensitive to any kind of limitations imposed by their family or school.

Landau (2002) divided aggressive behaviour in intellectually gifted adolescents into four groups:

1) gifted children in the first group express aggression constructively (creative behaviour). These children are active; their behaviour is provocative and challenging. They adjust and adapt well to new situations;

2) gifted adolescents in the second group suppress conflicts, limiting their potential, and find solution in perfectionism and conformism (conforming behaviour);

3) gifted adolescents in the third group are the most difficult to influence (passive behaviour). Their aggression is introverted. For various reasons they cannot realise their potential, which causes passivity and apathy;

4) gifted adolescents in the fourth group (destructive behaviour) are those who tend not to co-operate. They always seek to be leaders, project their conflicts onto people around them and realise their potential through destructive behaviour (Landau, 2002).

Decreasing the destructive form of aggression and using it as a directing force for self-realisation is an unsolved problem in gifted children's upbringing and teaching.

Anxiety of intellectually gifted adolescents

In gifted adolescents, trait anxiety is caused by their suspicion, increased sensitivity and vulnerability (Alan & Gail, 2005; Baska, 1989; Clark, 1997; Janos & Robinson, 1985; Webb, 2000). This type of anxiety is a reaction to threats from something intangible that has no name, no concrete image. Such anxiety in gifted adolescents is related to an inner conflict between two contradictory drives, when something really important is repelling and attracting the adolescent at the same time. Anxiety driven gifted adolescents can become socially maladaptive, and immerse themselves in their inner world. They become «chameleons» according to the principle «I'll be like others» (Stormont, Stebbins, & Holliday, 2001). They can also become aggressive as aggression diminishes anxiety. This can be expressed in such behaviour as increased rudeness, impudence, arrogance etc.

Gifted adolescents' irregular development (desynchrony) could manifest itself in conflicting behaviour and increased level of anxiety (Bogoyavlenskaya & Shadrikov, 2003). A high anxiety level in gifted adolescents can be caused by failure in most significant spheres of activities

and communication with others. In such cases, anxiety often causes inner conflict between high expectations and lack of self-confidence. Anxiety can also be felt by gifted adolescents whose school achievement is good and whose attitude towards studies and school discipline is responsible. They typically seek to be the best in everything (perfectionism).

In this case increased expectations can become painful and lead to dissatisfaction with self and their own achievements. Often gifted children set goals for themselves that can be well beyond their real capabilities at their particular stage of development and educational level. This causes high stress and long-term worries about potential failure (Janos & Robinson, 1985; Silverman, 1993).

Research with intellectually gifted adolescents (Babayeva, 2003) revealed that many of them are very critical of themselves, which leads to low self-esteem. As a result they cannot realise their potential, and underachieve as students. In addition, it is suggested that gifted children can be vulnerable, oversensitive to anything that relates to them, and feel deeply hurt by failure.

Wallach and Kogan (1965), in their study with young children, found that very high creativity can have a destructive role, cause interpersonal and intrapersonal conflicts, as well as impede progress in school (Wallach & Kogan, 1965, cited by Holodnaya, 2002). The development of creative abilities in children could cause neurosis-like syndromes in the form of higher aggressiveness, wide mood swings, anxiety, overexcitement and depression (Druzhinin & Hazratova, 1994). The authors stated that as creativity level increases, functioning of psychological defences becomes disturbed, and the probability of emotional disturbances increases.

Ley, Spelman, Davies and Riby (1966) indicated that in the group of gifted children, the relation between anxiety and successful test performance was the opposite of that of normal children. Whereas in the non-gifted group the relationship between anxiety level and IQ was negative (i.e. the higher the anxiety the less successful the test result), in the group of gifted children with high IQ this correlation was positive (the higher the anxiety the more successful the test result) (Ley, Spelman, Davies, & Riby, 1966, cited by Holodnaya, 2002).

Increased reactivity expressed as an inclination toward turbulent affect is typical in gifted adolescents. The behaviour of these children can look like histrionics as they show marked infantile reactions in difficult situations, e.g. a critical remark can evoke immediate tears, and a small failure can cause despair. In other cases their emotionality is hidden, inner directed, resulting in shyness in communication, difficulties in falling asleep, and sometimes also in psychosomatic illness (Baska, 1989; Ushakov, 2000).

Analysis of their interaction with peers and adults can help to understand anxiety in gifted adolescents. Thus, because of irregular development a number of gifted children with high intellectual abilities frequently lack sufficiently developed and effective social skills and can have communication problems. These can be manifested as a tendency towards conflict seeking and an increased level of anxiety (Bogoyavlenskaya & Shadrikov, 2003). In general, we are speaking of a special maladaptive situation in gifted children, which can become very serious, resulting in their inclusion in a high-risk group.

Consequently, goal-directed intervention with intellectually gifted adolescents with increased levels of aggression and anxiety is needed to foster the development of self-reflection and stable positive self-esteem.

From the contradictory research data reviewed in this article, a conclusion can be drawn that there is no enough evidence on anxiety and aggressiveness in intellectually gifted adolescents.

Aims of the present study

This study examines aggression and anxiety of intellectually gifted adolescents aged 11 to 15 to determine:

1) if there are significant differences in aggression manifestations and anxiety of intellectually gifted adolescents (IQ scores above 129) and non-gifted adolescents (IQ scores between 85 and 15) in Latvia;

2) if there are significant differences in aggression manifestations and anxiety of 11–12 year-old and 13–15 year-old intellectually gifted adolescents.

Method

Participants

Participants were 166 Russian children aged 11 to 15, including 62 intellectually gifted adolescents (32 boys, 30 girls; mean age = 12 ½ years) and 104 non-gifted adolescents (54 boys, 50 girls; mean age = 13 years) studying at different secondary schools in Latvia. Participants were selected using the Wechsler Intelligence Scale for Children (WISC-R). The intellectually gifted sample consisted of thirty-five 11–12 year-old gifted adolescents (18 boys and 17 girls) and twenty-seven 13–15 year-old gifted adolescents (14 boys and 13 girls). The non-gifted sample consisted of fifty-eight 11–12 year-old (30 boys and 28 girls) and forty-six 13–15 year-old adolescents (24 boys and 22 girls). The intellectually gifted group had WISC-R IQs>129 (mean IQ = 135 for 11–12 year-old; mean IQ = 133 for 13–15 year-old) and the members of the non-gifted group had WISC-R IQs between 85 and 115 (mean IQ = 104 for 11–12 year-old; mean IQ = 102 for 13–15 year-old). The gifted and non-gifted groups were matched by age and gender.

Measures

Intelligence quotients (IQ) for both groups were obtained using the *Wechsler Intelligence Scale for Children* (WISC-R). The version of the WISC-R adapted in Russia (Filimonenko & Timofeyev, 1999) was not used, since this version had undergone important changes, while a new text structure was developed, that is different from both the original text and the Latvian version. A newly prepared Russian version of the measure was administered to Russian adolescents living in Latvia. This version was translated into Russian from the original American WISC-R using the «backwards-forwards» method, and was adapted to the Latvian WISC-R version. In the present study the WISC-R showed good reliability (reliability of the Full Scale IQ for the Russian WISC-R version was .78).

Personality anxiety was assessed by the *Personality Anxiety Scale* (PAS) (Prihozhan, 1983). The Personality Anxiety Scale consists of five scales (40-item self-report questionnaire): school anxiety (α= .78), self-esteem anxiety (α= .71), interpersonal anxiety (α= .78), magic anxiety (α= .87) and general anxiety (α= .90). Cronbach's alphas are fairly high for the five scales of the Personality Anxiety Scale.

Aggression manifestation, aggression and hostility were assessed with the Buss-Durkee Inventory (Buss & Durkee, 1957; Semenyuk, 1998). The measure consists of eight scales (75-item questionnaire): physical assault, verbal aggression, indirect aggression, negativism, the urge to irritate, suspicion, feeling hurt, and guilt. The inventory also yields a total aggressiveness index and a hostility index. The reliability of the results was tested using Kuder-Richardson formula

(KR-20). In the present study statistical analysis showed that the coefficient of reliability of the Buss-Durkee Inventory was .71. Statistical analysis of the data was performed with SPSS Version 10,0. The Mann-Whitney U-test and t-test were used to compare means of groups of gifted and non-gifted adolescents and 11–12 year-old and 13–15 year-old intellectually gifted adolescents. Separate analyses were carried out for the different ages.

Procedure

The WISC-R was administered individually to all respondents with their parents' consent. Data for the Personality Anxiety Scale and the Buss-Durkee Inventory were obtained in small groups. Feedback on the results of the psychological research was offered to every adolescent and their parents. Data were collected between 2001 and 2004.

Results

Table 1 contains a summary of data on the Buss-Durkee Inventory.

Table 1. *Descriptive and inferential statistics of the Buss-Durkee Inventory in the gifted and non-gifted adolescents' groups*

Groups	Physical assault		Indirect aggression		Urge to irritate		Negativism		Feeling hurt	
	M	SD	M	SD	M	SD	M	SD	M	SD
11–15 y.o. gifted (n=62)	6.31	2.62	4.83	1.92	5.45	1.85	2.64	1.32	4.45	2.09
11–15 y.o. non-gifted (n=104)	6.62	2.11	4.44	1.84	5.65	2.08	2.78	1.24	4.37	1.65
Inferential statistics	t= -0.76		t= 1.24		t= -0.61		t= -0.69		t= 0.25	
11–12 y.o. gifted (n=35)	6.23	2.39	4.87	1.93	5.32	1.89	2.22	1.15	4.65	2.39
11–12 y.o. non-gifted (n=58)	6.35	2.08	4.61	1.92	5.75	2.12	2.94	1.32	4.65	1.65
Inferential statistics	t= -0.25		t= 0.60		t= -0.91		t= -2.39*		t= -0.004	
13–15 y.o. gifted (n=27)	6.41	2.91	4.78	1.95	5.59	1.82	2.89	1.28	4.22	1.69
13–15 y.o. non-gifted (n=46)	6.91	2.13	4.26	1.76	5.54	2.06	2.61	1.13	4.07	1.62
Inferential statistics	t= -0.85		t= 1.17		t= 0.10		t= 0.97		t= 0.39	
11–12 y.o. gifted (n=35)	6.23	2.39	4.87	1.93	5.32	1.89	2.22	1.15	4.65	2.39
13–15 y.o. gifted (n=27)	6.41	2.91	4.78	1.95	5.59	1.82	2.89	1.28	4.22	1.69
Inferential statistics	t= -0.26		t= 0.18		t= -0.55		t= -1.36		t= 0.77	
11–12 y.o. non-gifted (n=58)	6.35	2.08	4.61	1.92	5.75	2.12	94.94	1.32	4.65	1.65
13–15 y.o. non-gifted (n=46)	6.91	2.13	4.26	1.76	5.54	2.06	2.61	1.13	4.07	1.62
Inferential statistics	t= -1.31		t=0.93		t= 0.47		t= 1.33		t= 1.75	

	Suspicion		Verbal aggression		Guilt		Aggressive-ness index		Hostility index	
11-15 y.o. gifted (n=62)	5.05	2.04	7.98	2.37	6.07	2.02	19.78	5.42	9.53	3.70
11-15 y.o. non-gifted (n=104)	5.58	1.71	8.06	2.37	6.47	1.82	20.26	5.35	9.92	2.76
Inferential statistics	t= -1.72		U=2734.0		U=2480.0		t= -0.54		t= -0.68	
11-12 y.o. gifted (n=35)	5.19	2.26	7.35	2.37	6.77	1.94	19.19	5.78	9.81	4.36
11-12 y.o. non-gifted (n=58)	5.82	1.47	7.92	2.42	6.76	1.69	19.98	5.33	10.41	2.52
Inferential statistics	t= -1.39		t= -0.62		U= 766.50		t= -0.63		t= -0.70	
13-15 y.o. gifted (n=27)	4.89	1.78	8.44	2.22	5.26	1.81	20.44	5.00	9.22	2.82
13-15 y.o. non-gifted (n=46)	5.21	1.90	8.22	2.32	6.15	1.92	20.57	5.41	9.37	2.94
Inferential statistics	t= -0.91		t=0.41		t= -1.96		t= -0.10		t= -0.21	
11-12 y.o. gifted (n=35)	5.19	2.26	7.35	2.37	6.77	1.94	19.19	5.78	9.81	4.36
13-15 y.o. gifted (n=27)	4.89	1.78	8.44	2.22	5.26	1.81	20.44	5.00	9.22	2.82
Inferential statistics	t= 0.56		t= -2.04*		t= 3.06**		t= -0.88		t= 0.60	
11-12 y.o. non-gifted (n=58)	5.82	1.47	7.92	2.42	6.76	1.69	19.98	5.33	10.41	2.52
13-15 y.o. non-gifted (n=46)	5.21	1.90	8.22	2.32	6.15	1.92	20.57	5.41	9.37	2.94
Inferential statistics	t= 1.94		U=1076.0		U=974.0		t= -0.54		t= 1.88	

t – t-test and U – Mann-Whitney test: * p<0.05, ** p<0.01,

According to Table 1, there was no significant difference on the aggression manifestation scales between 11–15 year-old intellectually gifted adolescents and their non-gifted peers.

However, 11–12 year-old intellectually gifted adolescents had significantly lower values on the negativism scale (t=-2.39, p< .05) than their peers within the intellectual norm. Differences in aggression manifestation scales between13–15 year-old intellectually gifted adolescents and their non-gifted peers were not significant.

Comparing differences between 11–12 year-old and 13–15 year-old adolescents in the intellectually gifted group showed that significantly higher scores were obtained on the guilt scale (t= 3.06, p< .01) by 11-12 year-old gifted adolescents than the 13–15 year-old. Among the intellectually gifted adolescents there were significant differences on the verbal aggression scale between 11–12 and 13–15 year-olds with statistically higher scores on the verbal aggression scale for the older group (t=-2.04, p< .05).

On the other aggression manifestation scales there were no significant differences among intellectually gifted adolescents and their non-gifted peers.

According to Table 2, scores on school anxiety scale (U=1981.0, p< .001), self-esteem anxiety scale (U=2440.5, p< .05), magic anxiety scale (U=2160.5, p< .01) and general anxiety scale (U=2249.5, p< .01) were significantly higher for the total sample of 11–15 year-old non-gifted adolescents than for intellectually gifted adolescents. However, there were no statistically significant differences on the interpersonal scale scores in these groups.

Table 2. *Descriptive and inferential statistics of the Personality Anxiety Scale in the gifted and non-gifted adolescents' groups*

Groups	School Anxiety		Self-esteem Anxiety		Interpersonal Anxiety		Magic Anxiety		General personality Anxiety	
	M	SD	M	SD	M	SD	M	SD	M	SD
11–15 y.-o. gifted (n=62)	10.11	5.17	10.65	4.69	12.00	5.45	7.31	6.09	39.87	17.09
11–15 y.-o. non-gifted (n=104)	14.21	7.23	13.30	7.14	13.53	7.53	10.91	9.38	52.91	28.18
Inferential statistics	U=1981.0***		U=2440.5*		U=2778.5		U=2160.5**		U=2249.5**	
11–12 y.-o. gifted (n=35)	11.03	5.69	11.71	5.24	12.66	6.05	9.34	6.75	44.43	19.19
11–12 y.-o. non-gifted (n=58)	15.94	8.01	15.16	7.57	15.04	7.71	14.71	9.73	60.78	29.56
Inferential statistics	t= -3.33***		t= -2.49*		t= -1.53		t= -3.02**		t= -3.11**	
13–15 y.-o. gifted (n=27)	8.93	4.22	9.26	3.47	11.15	4.52	4.67	3.84	33.96	11.79
13–15 y.-o. non-gifted (n=46)	12.28	5.75	11.24	6.06	11.85	7.03	8.80	7.99	44.17	23.99
Inferential statistics	t= -2.64**		t= -1.76		t= -0.52		t= -2.96**		t= -2.43*	
11–12 y.-o. gifted (n=35)	11.03	5.69	11.71	5.24	12.66	6.05	9.34	6.75	44.43	19.19
13–15 y.-o. gifted (n=27)	8.93	4.22	9.26	3.47	11.15	4.52	4.67	3.84	33.96	11.79
Inferential statistics	t= 1.67		t= 2.10*		t= 1.08		t=3.44***		t= 2.64**	
11–12 y.-o. non-gifted (n=58)	15.94	8.01	15.16	7.57	15.04	7.71	14.71	9.73	60.78	29.56
13–15 y.-o. non-gifted (n=46)	12.28	5.75	11.24	6.06	11.85	7.03	8.80	7.99	44.17	23.99
Inferential statistics	U=868.0*		t= 2.79**		U=897.5*		U=708.5***		U=775.5**	

t – t-test and U – Mann-Whitney test: * p< .05, ** p< .01, *** p< .001

The some trends were found for the younger and older subgroups with significantly higher scores for 11–12 year-old adolescents within the intellectual norm on school anxiety scale (t=-3.33, p< .001), self-esteem anxiety scale (t=-2.49, p< .05), magic anxiety scale (t=-3.02, p< .001) and general anxiety scale (t=-3.11, p< .01) than for the intellectually gifted adolescents in the same

age group. In the sample of 13–15 year-old adolescents within the intellectual norm, scores on school anxiety scale (t=-2.64, p< .01), magic anxiety scale (t=-2.96; p< .01) and general anxiety scale (t=-2.43, p< .05) were significantly higher than for intellectually gifted adolescents.

Analysis of differences between 11–12 year-old and 13–15 year-old adolescents in the intellectually gifted group indicated higher scores on self-esteem anxiety scale (t=2,10; p<0,05), magic anxiety scale (t=3.44, p< .001) and general personality anxiety scale (t=2.64, p< .01) for the younger group. Similar age trends were found in adolescents within the intellectual norm.

On other anxiety scales there were no significant differences among the younger and older intellectually gifted adolescents and their non-gifted peers.

Discussion

The results of the study support the view that 11–12 year-old non-gifted adolescents show oppositional behaviour more often than the gifted, and protest more frequently against adult demands, rules and laws than intellectually gifted adolescents of the same age. These differences can be explained first, in terms of a conscious lack of acceptance of social norms among adolescents within the intellectual norm, and second, as unmotivated behaviour that is manifested as denial of established demands. It must be taken into account that an emancipation predisposition, opposition to adults, change of authority from adults to peers, the need for self-acknowledgement, increase in expectation level and emotional compensation reactions are the most important characteristics of psychological development in early adolescence. The results show that these characteristics are expressed more prominently among adolescents within the intellectual norm than among their peers with high intellectual development. One might assume that intellectually gifted adolescents in their early adolescence are characterised by better self-regulation and emotional control, and can adapt to changes in their social status faster and better, as well as tending to cooperate more and being better able to acknowledge themselves in a group of peers in a socially acceptable way.

The finding that intellectually gifted 13–15 year-old adolescents are more aggressive verbally and show less marked guilt than younger intellectually gifted adolescents can be explained in terms of an even more intensive search for their own identity combined with adolescents' egocentrism. This situation can be understood better in light of other research in this field (Dragunova, 1982; Semenyuk, 1998). Recent research on aggressive behaviour manifestations in different age groups has shown that verbal aggression is increasingly manifested in adolescence. The child's level of verbal aggression is increasing with age, the highest level being found at age 14–15 both in boys and girls. This result suggests that among intellectually gifted adolescents the developmental trends in verbal aggression behaviour are similar to those in peers within the intellectual norm. Heightened levels of criticism, dissatisfaction, hypersensitivity, vulnerability and perfectionism among intellectually gifted adolescents can be lead to verbal aggression. The results of this study don't show significant differences in verbal aggression between 11–12 year-old and 13–15 year-old non-gifted adolescents.

The results of this study indicating lower anxiety among intellectually gifted adolescents are similar to other research results (Milgram & Milgram, 1976/2001; Nail & Evans, 1997; Zeidner & Schleyer, 1999). It is interesting that adolescents within the intellectual norm feel more anxiety related to situations at school than intellectually gifted peers. This fact can be

explained in terms of the intellectually gifted adolescents' higher competence level for learning. Broad knowledge, a high level of information and high learning ability allow intellectually gifted adolescents to feel comfortable and confident in situations related to school and the study process.

In this analysis it was found that magic and mystical fears are characteristic of non-gifted adolescents at the age 11–15. We can assume that higher magic anxiety level is related to a lower level of information, upbringing peculiarities and a less realistic perception of life.

Higher self-esteem anxiety among 11–12 year-old adolescents compared to 13–15 year-old respondents can be explained by the specific developmental tasks of adolescence. Early adolescence is characterized by an intensive search for and strengthening of identity. In the case of lower self-esteem, it is typical for the adolescent to have higher anxiety, fear of negative assessment and higher sensitivity. This period is characterised by special interest in one's body and appearance and developing new contacts with peers. Thus we can assume that independent of intellectual level, early adolescence can be characterized by a raised level of anxiety.

Contrary to some of the previous findings (Clark, 1997; Jackson, 1998; Larionova, 2002; Silverman, 1998), the present research suggested that intellectually gifted adolescents mostly did not differ from their peers with intellect within the norm on aggressiveness and anxiety. Moreover, 11–12 year-old intellectually gifted adolescents have a lower negativism level than their peers within the intellectual norm.

The present findings fail to concur with those of previous studies (Alan & Gail, 2005; Webb, 2000) reporting emotional problems (aggressiveness, depression, high anxiety level) among intellectually gifted adolescents. The results of this study show that intellectually gifted adolescents are less anxious in comparison with adolescents of the same age within the intellectual norm. We can assume that in studying differences in anxiety, attention must also be paid to other influencing factors, such as differences in upbringing and peculiarities of family relations, as well as the economic, social and political situation in the country. Studies of the interaction of these factors could be a further step in research with gifted children.

The present results showed good levels of adaptation and integration among intellectually gifted adolescents in the social milieu of Latvia. It did not demonstrate problems related to increased aggression and anxiety. These findings support the theory of «optimal intelligence» (Hollingworth, 1942, by cited Burmenskaya & Sluckiy, 1991), according to which children with IQ 125–155 are self-confident and well balanced, and adapt well in the society.

It must be emphasised that the findings of this study should be interpreted with caution because the sample is not representative of all gifted adolescents in Latvia. There are several challenges for future research on the emotional development of intellectually gifted adolescents. These include the adaptation of instruments or the development of new and specialized instruments that are sensitive to the special needs, stresses and issues experienced by gifted adolescents and the inclusion of a broader gifted population (with different levels and types of giftedness). The methodology could be improved by including a larger sample and a population that was more representative of the general community in terms of family background and socio-economic status. Given the impact of environmental factors, the results might well be different if the sample were drawn from a school culture less accepting of giftedness.

Greater awareness of the characteristics, needs and problems of gifted children is needed for school psychologists, teachers, school administration and children's parents to support and enhance the development of intellectual resources in Latvia.

References

Alan, E. L., & Gail, E. A. (2005). Sensitivity: a double-edged sword for the pre–adolescent and adolescent gifted child. *Roeper Review, 27* (2), 69–77.

Alsop, G. (2003). Asynchrony: intuitively valid and theoretically reliable. *Roeper Review, 25* (3), 118–126.

Babayeva, Y. D. (1997). Dinamicheskaya teoriya odaryennosti (in Russian) [Dynamic theory of giftedness]. D.V. Bogoyavlenskaya (pod red.), *Osnovniyi sovremenniyi koncepciyi tvorchestva i odaryennosti* (str. 275–294). M.: Molodaya gvardiya.

Babayeva, Y. D. (2003). Sootnoshenie zhiteyskih i nauchnih predstavleniy ob odaryennosti (in Russian) [Correlation of everyday and scientific presentations about giftedness]. L. P. Duganova (pod red.), *Opit raboti s odaryennimi detmi v sovremennoi Rossii* (str. 46–54). M.: Svyaz-Print.

Baska, L. K. (1989). Characteristics and needs of the gifted. In J. Feldhusen, J. Van Tassel-Baska, & K. Seeley (Eds.), *Excellence in educating the gifted* (pp. 15–28). Denver: Love Publishing.

Bireley, M., & Genshaft, J. (Eds.). (1991). *Understanding the gifted adolescent: educational, developmental, and multicultural issues.* New York: Teachers College Press.

Bogoyavlenskaya, D. V., & Shadrikov, V. D. (pod red.). (2003). *Rabochaya koncepciya odaryennosti* (in Russian) [Work conception of giftedness]. M.: Ministerstvo obrazovaniya RF.

Burmenskaya, G. V., & Sluckiy, V.S. (Ed.). (1991). *Odaryenniyi deti* (in Russian) [Gifted children]. M.: Znanie.

Buescher, T. M. (1991). Gifted adolescents. In N. Colangelo, & G. A. Davis (Eds.), *Handbook of gifted education* (pp. 382–401). Boston: Allyn and Bacon.

Calsyn, R. J., Winter, J. P., & Burger, G. K. (2005). The relationship between social anxiety and social support in adolescents: a test of competing causal models. *Adolescence, 40* (157), 103–113.

Clark, B. (1997). *Growing Up Gifted* (5th ed.). New Jersey: Merrill-Prentice Hall.

Clasen, D. R., & Clasen, R. E. (1995). Underachievement of highly able students and the peer society. *Gifted and Talented International, 10*, 67–76.

Dixon, D. N., & Scheckel, J. R. (1996). Gifted adolescent suicide: the empirical base. *Journal of Secondary Gifted Education, 7*, 386–392.

Dragunova, T. V. (1982). Problema konflikta v podrostkovom vozraste (in Russian) [The issue of conflict in adolescence]. *Voprosi psihologii, 2, 25*–38.

Druzhinin, V. N., & Hazratova, N. V. (1994). Eksperimentalnoe issledovanie formiruyutzhego vliyaniya sredi na kreativnosty (in Russian) [Experimental research of environment's influence on creativity]. *Psihologicheskiy zhurnal, 15* (4), 83–93.

Freeman, J. (1983). Emotional problems of the gifted child. *Journal of Child Psychology and Psychiatry and Related Disciplines, 24* (3), 481−485.

Gilbuh, J. Z. (1991). *Vnimanie: odaryennie deti* (in Russian) [Attention: gifted children]. M.: Znanie.

Gilbuh, J. Z., Garnec, O., & Korobко, S. (1990). Fenomen umstvennoy odaryennosti (in Russian) [Phenomenon of intellectual giftedness]. *Voprosi psihologii, 4*, 147−155.

Holodnaya, M. A. (2002). *Psihologiya intelekta. Paradoksi issledovaniya* (in Russian) [Intelligence psychology. Paradoxes of researches]. SPb.: Piter.

Howard-Hamilton, M., & Franks, B. A. (1995). Gifted adolescents: psychological behaviors, values, and developmental implications. *Roeper Review, 17* (3), 186–191.

Jackson, S. P. (1998). Bright star – black sky: a phenomenological study of depression as a window into the psyche of the gifted adolescent. *Roeper Review, 20*, 215–221.

Janos, P. M., & Robinson, N. M. (1985). Psychosocial development of intellectually gifted children. In F. D. Horowitz & M. O'Brien (Eds.), *The Gifted and talented: Development perspectives* (pp. 104–115). Washington, DC: American Psychological Association.

Kle, M. (1991). *Psihologiya podrostka* (in Russian) [Psychology of adolescent]. M.: Pedagogika.

Kline, B. E., & Short, E. B. (1991a). Changes in emotional resilience: gifted adolescent boys. *Roeper Review, 13* (4), 184–187.

Landau, E. (2002). *Odaryennosty trebuet muzhestva* (in Russian) [Giftedness requires courage]. M.: Akademiya.

Larionova, L. (2002). Socialnaya adaptaciya odaryennih detey (in Russian) [Social adaptation of gifted children]. *Zhurnal prikladnoy psihologii*, 1, 32–37.

Luthar, S., Ziglar, E., & Goldstein, D. (1992). Psychosocial adjustment among intellectually gifted adolescents: the role of cognitive-developmental and experiential factors. *Journal of Child Psychology & Allied Disciplines, 33* (2), 361−373.

Metha, A., & McWhirter, E. (1997). Suicide ideation, depression and stressful life events among gifted adolescents. *Journal for the Education of the Gifted*, 20 (3), 284–304.

Milgram, R. M., & Milgram, N. (1976/2001). Personality characteristics of gifted Israeli children. *The Journal of Genetic Psychology, 129,* 185–194.

Moon, S. M., & Thomas, V. (2003). Family therapy with gifted and talented adolescents. *The Journal of Secondary Gifted Education, 14* (2), 107–113.

Nail, J. M., & Evans, J. G. (1997). The emotional adjustment of gifted adolescents: a view of global functioning. *Roeper Review, 20* (1), 18–21.

Norby, S. M. (1997). *A glossary of gifted education giftedness and education from the perspective of sociologic social psychology.* Extracted from http://members.Aol.com/ SvenNord/ed/ Gifted Glossary.htm [2003, September 23].

O'Leary, K. D., & Slep, A. M. (2003). A dyadic longitudinal model of adolescent dating aggression. *Journal of Clinical Child and Adolescent Psychology, 32* (3), 314–327.

Porter, L. (1999). *Gifted young children: a guide for teachers and parents.* Buckingham: Open University Press.

Richards, J., Encel, J., & Shute, R. (2003). The emotional and behavioural adjustment of intellectually gifted adolescents: a multi-dimensional, multi-informant approach. *High Ability Studies*, 14 (2), 153–164.

Seile, M. (2002). Apdāvināts bērns – laimīgais vai nolemtais? A. Auziņš, & I. Hadaņonoka (red.), *Skola visiem* [School for everybody](158–193 lpp.). Rīga: Skolu atbalsta centrs.

Silverman, L. K. (1998). *Gifted Children: What We Have Learned About Gifted.* Denver, CO: Love Publishing.

Semenyuk, L. M. (1998). *Psihologicheskie osobennosti agressivnovo povedeniya podrostkov i usloviya evo korrekcii* (in Russian) [Psychological peculiarities of adolescents' aggressive behavior and conditions of its correction]. M.: Flinta.

Sinyagina, N. Y., & Chirkovskaya, E. G. (2001). *Lichnostno-orientirovaniy uchebno-vospitatelniy process i razvitie odaryennosti* (in Russian) [Personal oriented educational process and development of giftedness]. M.: Vuzovskaya kniga.

Smirnova, E. O., & Huzeyeva, G. R. (2002). *Psihologicheskie osobennosti i varianti detskoy agressivnosti* (in Russian) [Psychological peculiarities and types of child aggression]. *Voprosi psihologii, 1,* 17−26.

Stormont, M., Stebbins, M. S., & Holliday, G. (2001). Characteristics and educational support needs of underrepresented gifted adolescents. *Psychology in the Schools, 38* (5), 413–423.

Terrassier, J. (1985). Dyssynchrony-Uneven Development. In J. Freeman (Ed.), *The psychology of Gifted Children* (pp. 265−274). Chichester: Wiley.

Tieso, C. (1999). Meeting the socio-emotional needs of talented teens. *Gifted Child Today Magazine*, *22* (3), 38–43.

Ushakov, D. (Ed.) (2000). *Psihologiya odaryennosti: ot teorii k praktike* (in Russian) [Psychology of giftedness: from theory to practice]. M.: PER SE.

Veraksa, N., & Bulicheva, A. (2003). Razvitie umstvennoy odaryennosti v doshkolnom vozraste (in Russian) [Development of intellectual giftedness in preschool age]. *Voprosi psihologii, 6,* 17–31.

Webb, J. T. (1993). Nurturing Social-Emotional Development of Gifted Children. In K. A. Heller, F. J. Mönks, & H.A. Passow (Eds.), *International Handbook of Research and Development of Giftedness and Talent* (pp. 532−538). Oxford: Pergamon Press.

Webb, J. T. (2000). Misdiagnosis and dual diagnosis of gifted children. Paper presented at the American Psychological Association Annual Convention, Washington, D.C., August 7, 2000. Extracted from http://www.sengifted.org [2005, March 15].

Wechsler, D. (1974). *Wechsler intelligence scale for children – revised*. New York: The Psychological Corporation.

Whitmore, J. R. (1980). *Giftedness, conflict and underachievement*. Boston, MA: Allyn & Bacon.

Yurkevich, V. (2003). *Lichnost i problemi odaryennogo rebyenka* (in Russian) [Personality and problems of gifted child]. Extracted from http://www.roditel.ru/odarennost [2003, July 14].

Zeidner, M., & Schleyer, E. (1999). Test anxiety in intellectually gifted school students. *Anxiety, Stress, and Coping*, *12,* 163–189.

Liverpool Stoicism Scale Adaptation

Anda Gaitniece-Putāne
University of Latvia

The goal of the present study is to adapt the Liverpool Stoicism Scale (Wagstaff & Rovledge, 1995) for use in Latvia. The study included 195 respondents (100 females and 95 males), 18–65 years of age. The results show that the Cronbach's alpha of the scale is .79, the test-retest coefficient is .79, p< .01. Each statement has a statistically significant correlation between .27 and .69, p< .01 with the total score on the scale. Results of factor analysis shows that it is better to use the test as a unidimensional research instrument in compliance with the original inquiry. Four and three factor models were also tested. The present version of the Stoicism Scale in Latvian has adequate reliability and can be used for research purposes in Latvia.*

Keywords: stoicism, validity, reliability.

Wagstaff and Rovledge (1995) designed the Liverpool Stoicism scale (LSS) based on the modern understanding of the notion of stoicism, which defines it as emotional non-involvement (e.g., «I do not get emotionally involved when I see suffering on television»), dislike of free expression of emotions (e.g., «I tend not to express my emotions»), and the ability to withstand difficulties (e.g., «One should keep a 'stiff upper lip'»).

Up to now, the construct of stoicism has rarely been used or studied in psychological research (Almberg, Grafstrom, & Winblad, 1997.; Becker, 2003; Colby, 2003; Furnham, 2003, 1992; Wagstaff & Rowledge, 1995). It is more often encountered in philosophy and in the context of mass media to refer to the human ability to keep calm in critical situations and withstand pain in a stoical way. In everyday use, the meaning of this word is quite positive. It must be mentioned that in the literature there is similar concept such as *hardiness* – the ability to bear difficult or severe conditions (Kobasa, 1984). However, the concept of hardiness is less focused upon emotions.

Research provides contradictory results and opinions on stoicism. Thus, Almberg, Grafstrom, and Winblad (1997) stated that among people who take care of their mentally retarded relatives and try to cope with stress, those who more often tend to use emotion-focused strategies, wish-directed thinking and stoicism as a strategy, suffer from the burn-out syndrome more often than those who use problem-focused strategies. Results of research by Colby (2003) showed that among patients who survived heart attacks, those who were willing to share their trauma, thought and spoke about it, worried about it and re-experienced it had post-traumatic stress seven months after the heart attack more often than those patients who kept calm and maintained a «stiff upper lip», thus demonstrating stoicism. Contradictory research findings suggest that additional research is needed to provide a clearer view on the influence of stoicism on people's thinking and behaviour. Since in Latvia, psychologists have not yet studied stoicism, the adaptation of the Liverpool Stoicism scale could provide an opportunity to investigate this phenomenon in Latvia and in cross-cultural research.

The authors of the scale defined the modern concept of stoicism on the basis of the philosophy of ancient Stoics such as Zeno (336–264 BC), Cleanthes (330–232 BC), Chrysippus (281/277- 208/205 BC), Seneca and Epictetus (~50.–138BC) (Čuhina, 1990). The main principle of Stoic ethics is to live in agreement with Nature, to live in agreement with the mind. Emotions, considered by Stoics to belong to the affective sphere, need to be controlled because they are a reaction to error in the process of thinking. To regulate one's behaviour, the person must learn to overcome emotions, not to be affected by worldly wishes. This is the only way for the person to achieve morality, which is considered to be the highest value. The ideal for the Stoics is a person, who is free from affects, drives and wishes, and therefore represents the «stoical position» (Rubenis, 1995). Stoics consider that indifference to pain and pleasure and strong self-control are the best road to happiness.

Based on these views on stoicism, Wagstaff and Rowledge (1995) present a modern definition which contains three main characteristics:

a) emotional non-involvement;

b) lack of emotional expressivity,

c) emotional control.

A similar view on modern stoicism is also held by Farnham, who defines it as rejection of emotions and their denial (Furnham, 1992). Thus, we can conclude that the modern concept of stoicism includes emotional non-responding in different situations, and control of emotional expressions.

In the process of designing the Liverpool Stoicism scale, its authors did not perform a factor analysis, since stoicism was defined as a unidimensional construct. In accordance with their approach, all the items were thought to measure one and the same dimension. However, in another study Furnham, Petrides, Sisterson and Baluch (2003) analysed the factor structure of the Stoicism scale. Using the principal components method with varimax rotation, they singled out four factors that together explained 47% of the variance. The first factor contains items that refer to showing no feelings (e.g., «Expressing one's emotions is a sign of weakness»), the second includes items on the ability to share one's problems (e.g., «A problem shared is a problem halved»), the third factor is about hiding one's emotions (e.g., «I tend not to express my emotions») and the fourth factor contains items about sentimentality (e.g., «I sometimes cry in public»). The article does not provide more detailed information regarding which items belong to which factor, and the present author did not succeed in obtaining this information. This is why it is difficult to assess the stability of this factor structure.

Meeting general demands for test adaptation (Oakland, 2000; American Educational Research Association, American Psychological Association & National Council on Measurement in Education, 1999; Hambleton, Merenda, & Spielberger, 2001) and based on the steps taken by the authors to design the Liverpool Stoicism scale the testing of the Latvian version of the Stoicism scale was carried out in the following way:

1) the inner coherence of the scale was determined (by the Spearman-Brown split-half reliability coefficient used by the authors, as well as the Cronbach alpha and the correlation of every item with the total scale sum;

2) descriptive statistical indices were determined;

3) convergent validity was tested, using descriptions for the three levels of stoicism created by the present author;

4) confirmatory factor analysis was performed.

Method

Participants

The group of respondents consisted of 195 people (100 women and 95 men), ranging in age from 18 to 65, 86% of them students from different higher education establishments and 14% people employed in different spheres. Initially, 201 test forms were returned, including 6 incomplete ones that were not included in the study. Of the 195 respondents, 30 participated in test-retest phase of the study and filled out the test along with descriptions for the three levels of stoicism.

Instruments

The Liverpool Stoicism Scale (Wagstaff & Rovledge, 1995) consists of 20 statements. The items were scored according to a 5-point Lickert scale, ranging from «absolutely agree» to «absolutely disagree». To avoid the effects of response bias, half of the items were formulated so that agreement indicated a high level of stoicism and for the other half disagreement indicated a high level of stoicism (answers to these questions were assessed in reverse). The minimum sum for the answers is 20 points, and the maximum 100 points. Forward-backward translation of the scale was carried out: from English into Latvian and afterwards from Latvian into English, (see Appendix 1).

The translation was carried out by two independent bilingual experts. A demographic questionnaire was added to the scale. In order to test the validity of the construct, descriptions of personalities characterized by three levels of stoicism were constructed: marked stoicism, average stoicism and low level of stoicism (see Appendix 2).

Procedure

Data were collected in groups of 10–50 people, as well as individually. Tests (including test-retest) were administered together with the descriptions of the three levels of stoicism between May 5 and December 11, 2004.

Results

Test reliability and validity

Spearman-Brown split – half reliability coefficient for the Stoicism scale Latvian version was .73, but for the original test it was .90 (n=62, p< .001) The Cronbach's alpha coefficient for the Latvian version was .79, hence the reliability of the scale is considered adequate. Test-retest reliability obtained from a sample of 30 people within a time frame of 9 weeks was r= .79, p< .01. In the original version of the test all the items had statistically significant correlations with the total scale sum (n=62, ranging from .28, (p< .03) to .78, (p< .001)). In the Latvian version of the test all the items also had statistically significant correlations ranging from .20 to .69 with the total scale sum (N=195, p< .01) (see Table 1.), confirming the inner consistency of the scale.

Descriptive statistical indices of the stoicism scale items

The mean of the original Stoicism scale in the British sample was 52.24 (SD = 13.22, n=62), whereas the mean of the Latvian version of the test was 68.31 (SD=9.14, N=195). The mean stoicism score in the Latvian sample is thus significantly different from the mean score of the British sample, (t=11.08, p< .05).

The mean for each statement also varies within the limits of 20% to 80% of the amplitude of item value (see Table 1).

Table 1. *Correlations of Stoicism scale Latvian version items*
with the total scale and descriptive statistics for the items and total scale

Item	Items correl. with scale total, for all r, p<.01	M	SD
1	.69	3.24	1.30
2	.56	2.91	1.26
3	.27	3.09	0.96
4	.52	3.30	1.06
5	.38	4.11	0.93
6	.41	3.24	1,00
7	.39	3.00	1.09
8	.41	2.85	1.03
9	.50	3.74	1.03
10	.36	3.57	0.89
11	.45	3.15	0.91
12	.42	3.65	0.97
13	.31	3.08	1.02
14	.52	2.96	1.01
15	.60	3.85	0.80
16	.20	3.02	1.18
17	.49	4.02	0.80
18	.40	3.68	0.95
19	.49	3.95	0.93
20	.55	3.97	0.96
Total	–	68.31	9.14

LSS factor analysis

Several researchers including Furnham, Petrides, Sistersonm and Baluch (2003) studied the factor structure of the scale using the principal components method with a varimax rotation. Performing a similar confirmatory factor analysis, we did not succeed in obtaining a satisfactory four factor structure for the Latvian sample. This is why the three factor model was tried. The three factor solution explains 37.92% of the variance. The cut-off criterion used to include a scale item was a factor loading of .35. The loading on the rest of the factors had to be below .35.

The results of the factor analysis are displayed in Table 2.

Items 7 and 13 have very low loadings. These items do not belong to any factor. Thus it appears from Table 3 that the obtained factors can not be interpreted homogeneously and the analysis does not yield a comparable factor structure for the scale.

Hence it is concluded that the Latvian version of the Stoicism scale should be used as a one-factor assessment instrument (see Table 3, column 2).

In the one-factor solution items 3, 13, 16 have very low loadings on the Latvian version of the scale. These items may have a different meaning not consistent with stoicism in the Latvian cultural context and hence should be omitted from the scale. In order to get a more reliable scale with a clearer factor structure, a repeated factor analysis without items 3, 13, and 16 was made (see Table 3, column 3).

Table 2. *Factors of Stoicism scale Latvian version*

Factor	Factor Loadings		
	1. fact.	2. fact.	3. fact.
1st factor			
12. I rely heavily on my friends for emotional support.	**.69**	-.05	.10
5. I like someone to hold me when I am upset.	**.61**	.04	-.12
17. I would not mind sharing my problems with a female friend.	**.61**	.23	.07
9. I would not mind sharing my problems with a male friend.	**.54**	.15	.16
15. I believe that it is healthy to express one's emotions.	**.53**	.24	.40
18. «'A problem shared is a problem halved.»	**.46**	.10	.14
20. Expressing one's emotions is a sign of weakness.	**.39**	.34	.32
2nd factor			
2. I sometimes cry in public.	.18	**.67**	.03
6. I do not get emotionally involved when I see suffering on television.	-.00	**.63**	.07
1. I tend to cry at sad films.	.51	**.58**	-.00
4. I tend not to express my emotions.	.13	**.57**	.25
19. I would not cry at the funeral of a close friend or relative.	.31	**.53**	-.10
8. I tend to keep my feelings to myself.	-.07	**.52**	.43
3. I do not let my problems interfere with my everyday life.	.06	**.47**	-.28
3rd factor			
16. Getting upset over the death of a loved one does not help.	.02	-.20	**.65**
11. I don't really like people to know what I am feeling.	.14	.26	**.58**
10. It makes me uncomfortable when people express their emotions in front of me.	.32	.00	**.50**
14. One should keep a 'stiff upper lip'.	.27	.30	**.40**
13. I always take time out to discuss problems with my family.	.24	.11	.12
7. I would consider going to a counsellor if I had a problem.	.21	.34	.06

Table 3. *Stoicism scale Latvian version one-factor matrix*

Item	Factor loadings for all items	Factor loadings for 17 items (without items with loading under .35)
1. I tend to cry at sad films.*	.73	.74
15. I believe that it is healthy to express one's emotions. *	.66	.65
20. Expressing one's emotions is a sign of weakness.	.60	.60
2. I sometimes cry in public.*	.59	.58
17. I would not mind sharing my problems with a female friend.*	.56	.57
4. I tend not to express my emotions.	.55	.55
19. I would not cry at the funeral of a close friend or relative.	.52	.52
14. One should keep a 'stiff upper lip'.	.52	.51
9. I would not mind sharing my problems with a male friend. *	.51	.52
11. I don't really like people to know what I am feeling.	.45	.45
12. I rely heavily on my friends for emotional support *	.43	.42
18. A problem shared is a problem halved.*	.40	.41
6. I do not get emotionally involved when I see suffering on television.	.39	.38
8. I tend to keep my feelings to myself.	.38	.38
5. I like someone to hold me when I am upset.*	.38	.38
7. I would consider going to a counsellor if I had a problem. *	.37	.37
10. It makes me uncomfortable when people express their emotions in front of me.	.36	37
13. I always take time out to discuss problems with my family.*	.24	x
3. I do not let my problems interfere with my everyday life.	.20	x
16. Getting upset over the death of a loved one does not help.	.09	x

* items to be scored in reverse

Convergent validity of the LSS

Assessment of validity requires testing the sample with another test that measures the same phenomenon. Since the author could not find another instrument for measuring stoicism, descriptions of three levels of stoicism were constructed for validation purposes.

Table 4 shows the results for the descriptions of three levels of stoicism and Stoicism scale scores.

Table 4. *Descriptive statistics for stoicism self-assessment questionnaire*

The chosen description of stoicism level	Percentage of respondents, who chose this description for themselves	Stoicism scale	
		M	SD
HL – high level	7	60	0
AL – average level	43	61.23	10.08
LL – low level	50	68.20	8.49

Results indicate that those respondents who chose the low level stoicism descriptions to characterize themselves, had the highest means on the Stoicism scale; those respondents who chose the high level stoicism description had the lowest means on the Stoicism scale (only two people from the total sample).

Since only two people chose the high description, it was not possible to perform an analysis of variance for all the three groups of respondents. In order to determine whether there were statistically significant differences between the means of the two groups that chose the 2nd and 3rd description, the t test was used (t=1.94, p> .05). The results indicate that the difference is not statistically significant.

Discussion

The results of the study showed that the Latvian version of the Stoicism scale has adequate internal consistency and reliability. Hence the scale yields a stable and reliable assessment of the construct in the Latvian cultural milieu. However, some items had low factor loadings for the Latvian sample and cannot be considered as valid measures of the construct of stoicism. These items could be omitted from the scale that would improve factorial validity.

One reason why the Latvian version of the factor analysis results did not yield a comparable factor structure, (the obtained factors can not be interpreted homogeneously), is that the items measure different subcategories, as suggested earlier by Furnham, Petrides, Sisterson, and Baluch.

The analysis of descriptive statistical indices for the scale items indicates that the Latvian mean is significantly higher than the original Stoicism scale mean in the British sample. One possible explanation for this discrepancy could be cultural influence. A mentality that does not allow for free and open expression of emotions produces higher Stoicism indices in the Latvian sample. The historical and cultural context reinforces stoicism in a people who survived centuries of oppression by invaders. In Latvia stoic values were passed on from generation to generation. Through folk tales, sayings and folk songs which sustained people's spirits during hard times (Vīķis-Freibergs, 1989).

The results of the Latvian respondent sample confirms that stoicism is nevertheless applicable concept which could be particularly interesting for further research in Latvia as well as for cross cultural comparison with other societies. This could provide further validation for the construct.

References

Almberg, B., Grafstrom, M., & Winblad, B. (1997). Major strain and coping strategies as reported by family members who care for aged demented relatives. *Journal of Advanced Nursing, 26,* 683–691.

American Educational Research Association, American Psychological Association and National Council on Measurement in Education. (1999). *Standarts for Educational and Psychological Testing.* Washington DC: American Psychological Association.

Becker, L. C. (2003). Human Health and Stoic Moral Norms. *Journal of Medicine and Philopsophy, 28*, 2, 221–238.

Colby, C. (2003). The return of Stoicism. *Citizens Centre Report, Vol.3,* 3–4.

Čuhina, L. (1990). Stoicisma filozofiskais mantojums. *Domas par antīko fiolozofiju.* [Ideas of ancient philosophy] (157.–173. lpp.). Rīga: Avots.

Furnham, A. (1992). Fortitude. In D. Anderson (Ed.), *The loss of virtue* (pp. 135–153). London: Social Affairs Unit.

Furnham, A., Petrides, K. V., Sisterson, G., & Baluch, B. (2003). Repressive coping style and positive self-presentation. *British Journal of Health Psychology, 8,* 223–249.

Hambleton, R. K., Merenda, P., & Spielberger, C. (Eds.). (2001). *Adapting educational and psychological tests for cross-cultural assessment.* Hillsdale, NJ: Lawrence Erlbaum Publishers.

Kobasa, S., C. (1984). Test for hardiness: how much stress can you survive? *American Health, 64.*

Oakland, T. (2000). International Guidelines to Assist in Adapting Tests. *Journal of Baltic Psychology, 1(*1), 68–76.

Rubenis, A. (1995). *Senās Romas kultūra.* [Culture of ancient Rome] Rīga: Zvaigzne ABC.

Vīķis-Freibergs, V. (1989). *Linguistics and poetics of Latvian folk songs: essays in honour of the sesquicentennial of the birth of Kr. Barons.* Kingston; Montreal: McGill Queens University Press.

Wagstaff, G., & Rowledge, A. (1995). Stoicism: Its relation to gender, attitude toward poverty, and reactions to emotive material. *Journal of Social Psychology, 135,* 181–184.

Appendices

Appendix 1. *The Latvian version of the Liverpool Stoicism scale*

1. Es mēdzu raudāt, skatoties bēdīgas filmas.
2. Es dažreiz raudu atklāti.
3. Es neļauju savām problēmām traucēt manu ikdienas dzīvi.
4. Es nemēdzu paust savas emocijas.
5. Man patīk, ja kāds mani atbalsta, kad esmu apbēdināts.
6. Es emocionāli neiesaistos, kad televizorā redzu ciešanas.
7. Ja man būtu problēma, es apsvērtu iespēju doties pie konsultanta.
8. Es mēdzu savas jūtas paturēt pie sevis.
9. Man nebūtu iebildumu dalīties savās problēmās ar draugu vīrieti.
10. Es jūtos neērti, kad cilvēki manā klātbūtnē pauž savas emocijas.
11. Man īsti nepatīk, ja cilvēki zina, kā es jūtos.
12. Es ļoti paļaujos uz manu draugu emocionālo atbalstu.
13. Es vienmēr atvēlu laiku problēmu pārrunāšanai ar savu ģimeni.
14. Cilvēkiem vēlams saglabāt aukstasinību.
15. Es ticu, ka ir veselīgi paust savas emocijas.
16. Bēdās, kad miris mīļotais cilvēks, neviens nevar palīdzēt.
17. Man nebūtu iebildumu dalīties savās problēmās ar draugu sievieti.
18. «Dalīta bēda ir pusbēda».
19. Es neraudātu tuva drauga vai radinieka bērēs.
20. Jūtu paušana ir vājuma pazīme.

Appendix 2. *Descriptions of the three levels of stoicism*

1. I feel discomfort and embarrassment if other people in my presence begin to react too emotionally. Everyone must cope with their problems on their own and should not share their problems. I also tend not to express my emotions. I do not understand it when others, e.g. when watching a film or reading a book, worry or even cry. It does not usually happen to me. I am a balanced person.

2. I sometimes feel discomfort if other people openly express their emotions and talk about their problems in my presence. In such situations I do not always know what to do. Though it has sometimes happened that I could not hold back and showed how I really felt, I try to avoid such situations. Though I am not an overly sensitive person, it has happened that while watching a film I had tears in my eyes. But it does not happen frequently.

3. I am willing to provide emotional support to other people when they have a difficult time and they are upset because of some problems. It is easier if one can share the problem and cry on a friend's shoulder. I am an open person and try not to hide my emotions from others. I usually also feel for those in films or books, I can laugh and cry together with them. And it happens frequently.

OPEN DISCUSSION: PERSPECTIVES ON EDUCATIONAL POLICIES AND PRACTICE

Two-dimensional education: Fostering the «Prepared Mind» for creativity

Arthur Cropley,
University of Hamburg

Iourii Gribov,
German Inventors' Society

Societies need innovative, creative minds capable of innovation in all areas. However, education concentrates on preservation and transmission of existing cultural knowledge and skills, and is thus one-sided or one-dimensional. Also needed is teaching aimed at promoting the *additional* knowledge, skills and personal properties needed for development of the creative mind, what we call «two-dimensional» education. This will involve establishing a culture, both within and outside school, in which creativity is encouraged and rewarded.[*]

Keywords: creativity, education.

Earlier discussions of creativity focused mainly on art, literature, music, dance, and similar areas, what we call «artistic» creativity. However, the situation changed with the successful launching in 1957 by the then Soviet Union of the first artificial earth satellite, Sputnik 1. In the USA and most North American-Western European societies this event led to a wave of self-criticism that centered mainly on the argument that the Western world's engineers had failed, *because they were not creative enough*. In the USA, the subsequent – and for modern ears almost bizarrely named – *National Defence Education Act* adopted a concept of creativity going beyond the artistic, and accepted it as an important practical means for making the nation strong and safe, thus launching the age of *socially useful* creativity. This was in sharp contrast with the individualistic, artistic orientation, which regarded creativity as the domain of artists and intellectuals dealing with questions of truth and beauty, often in an intensely private way.

In the face of rapid change that is technological (e.g., communications, transport, weaponry), biological (e.g., health, gene manipulation), environmental (e.g., global warming, gene modified crops), industrial (e.g., offshore manufacturing, globalisation), demographic (e.g., new patterns of family life, ageing of the population), social (e.g., integration of minorities, changing roles of work and unemployment), and political (e.g., integration into the European Union, fairness in international relations, enfranchising outsider groups), societies will stagnate, even perish, unless their leaders in all fields become more innovative. Thus, the ability to adapt to changing circumstances is important not only in industry and defence, but in all aspects of a society's life. Society needs creativity, but where does it come from?

---

[*] Author's note. Correspondence concerning this article should be addressed to **Arthur Cropley**, e-mail: *acropley@bigpon.net.au* and **Iourii Gribov**, e-mail: *IGribov@aol.com*

The importance of the already known

Although some writers (e.g., Hausman, 1984) have argued that «true» creativity is always so novel that it is unprecedented, and thus has no connection to anything that went before, others such as Bailin (1988) have shown that creative products are always conceived by both the creative person and external observers in terms of existing knowledge, even where the product is regarded as extremely novel. Much of Coleridge's imagery in The Rime of the Ancient Mariner, a poem that is regarded as «strange» and exotic, is taken from ideas he found in the course of his wide and eclectic reading. He did not invent the ideas, so to speak from nowhere, but adapted existing images to suit his new purpose. Weisberg (2003) showed that even an extraordinarily radical product such as Picasso's work Les demoiselles d'Avignon arose out of what Picasso had experienced up until the time he painted it. Thus, there is a link between production of novelty and the already known, even in artistic fields.

In fact, the importance of the already known in creativity was established early in the modern era: Rossman's (1931) study of inventors for instance, concluded that they «manipulate the symbols of … past experience (p. 82)» [our italics]. He also showed that they combined «known movements (p. 77)» [our italics], adding or subtracting known elements to a mix of ideas, until a happy combination was found. To take an obvious example, many of the inventions of one of the world's most distinguished inventors, Thomas Alva Edison, were improvements on existing technology or ideas. Edison worked with a large staff of engineers and technicians who constantly improved their own existing ideas: For instance, over the course of time they took out more than 100 patents for the constantly improving electric light bulb.

The Russian researcher, Altshuller (1988), emphasized the role of the already known in his procedure for finding solutions to problems – known as TRIZ (a transliteration of the Russian acronym for «Theory of inventive problem solving»). This procedure is based on an analysis of many thousands of successful patent applications, i.e., on effective novelty that is already known. It argues that all systems display the same «evolution trends», i.e., systematic patterns of change. Novelty is always the result of development according to these trends of what already exists. TRIZ identifies these systematic processes of novelty generation so that people working with a new problem can apply them to derive their own novel solutions. Thus, in terms of Kirton's (1989) increasingly popular model of the psychology of innovation, most innovations involve «adaptation».

Two case studies

In 1896, the French physicist, Antoine Becquerel, left a piece of photographic paper and a container with uranium salts in it in a drawer of his desk. On opening the drawer some time later, he noticed that the photographic plate had fogged. This unexpected event piqued his curiosity. He eventually concluded that the uranium had emitted some kind of radiation, which was responsible for the fogging. He then showed that this differed from X-rays in being deflected by electromagnetic fields, i.e., it was a previously unknown phenomenon. After initially being called «Becquerel rays», the radiation subsequently came to be known as «radioactivity». For this discovery Becquerel shared the 1903 Nobel Prize for physics with Marie and Pierre Curie.

Becquerel could not have capitalized on the opportunity chance presented him had he not possessed:

- the special knowledge that permitted him to realize that the fogging was more than a simple nuisance;

- the intuition that told him that this was something good or important;
- the scientific insight that told him that some kind of radiation had caused the phenomenon;
- the lively curiosity that led him to investigate the matter rather than simply throwing away the spoiled plate;
- the research skills that enabled him to clarify the whole situation;
- the courage to drop other work and pursue the interesting phenomenon;
- the trust in himself that led him to believe that the effort would be worth it.

Indeed, had Becquerel not already been engaged in relevant research, the uranium and the photographic plate would not have found themselves in the drawer together in the first place: Thus, he could be said not only to have been able to profit from chance because of his knowledge, skills and personal properties, but, in fact, by his own effort to have created the lucky chance in the first place!

As Edison – writing in Harper's Monthly in 1932 – put it, creativity is «1% inspiration, 99% perspiration». In a lecture in 1854, Pasteur explained the situation in a more psychological way by concluding that «chance always favours the prepared mind!». Among others, Diaz de Chumaceiro (1999) investigated properties of the «prepared mind»: In a sample of prominent women he observed curiosity, risk taking, self-confidence and competence. The properties of the «prepared mind» also include:

- relevant special and general knowledge;
- appropriate skills;
- curiosity;
- willingness to take a risk;
- self-confidence;
- competence.

A striking example of the unprepared mind involves the Latvian microbiologist and pathologist, Eižens Zemmers, who worked in the Institute of Veterinary Medicine in Riga. In 1870 Semmer published a paper in the widely-read German-language scientific journal, Virchows Archiv, reporting on the strange case of two horses that had been admitted to the clinic dying from what we would now call «infections». Despite a grave prognosis, the horses inexplicably got better. Zemmers investigated the case and found that at the clinic the horses had accidentally been exposed to spores of the mushroom penicillium notatum. In some strange and unknown way this had cured them! Amazingly for those with the wisdom of hindsight, the horses' recovery was seen by Zemmers as a problem that impeded his research on the pathology of disease: How can you conduct studies in pathology if the patients fail to die? In his paper he explained how he had got rid of the offending spores! Apparently, neither Zemmers himself nor any of the distinguished readers of the journal – which still specializes in pathology today – recognized that the curing of infection by the mushroom spores had introduced a novel (and as we now know, extremely effective) approach to fighting infection (i.e., antibiotics). Biology and medicine had to wait another 8 years for Pasteur to discover bacteria, and another 70 years for Fleming to discover penicillin.

It appears that Zemmers was highly competent and also skilful at microbiological analysis, yet he overlooked a discovery for which others later won the Nobel Prize. Where, then, did

the differences between Becquerel and Zemmers lie? They are summarized in psychological terms in Table 1. A plus sign indicates that a property was obviously present, a minus sign that it was apparently missing or was not given expression. These assessments of Becquerel and Zemmers are not based on formal data of any kind, but are inferences based on what we know about their responses to the situations described above.

Table 1. *A psychological comparison of Becqueral and Zemmers*

Characteristic	Becquerel	Zemmers
Intelligence	+	+
Knowledge	+	+
Technical Skill	+	+
Scientific Competence	+	+
Research Motivation	+	+
Curiosity	+	?
Openness	+	?
Recognition of the «good» problem	+	–
Insight	+	–
Motivation to seek the unknown (Risk taking)	+	–
Flexibility	+	–
Self-confidence	+	–

It is apparent that there are large overlaps between the two scientists – for example, both obviously possessed high levels of knowledge, strong interest in research, and technical skills relevant to their respective discipline. Without curiosity Zemmers would not have been provoked into investigating the horses' recovery. Without knowledge he would not have been surprised in the first place, without the necessary skills he would not have been able to detect the presence of mushroom spores, and without scientific ambition he would not have communicated his findings to other pathologists. Despite these similarities, whereas Becquerel made a momentous discovery when the opportunity arose, Zemmer missed his chance.

The decisive differences between the two men lie in factors like the way their curiosity motivated them (Zemmers was satisfied to discover why the horses had recovered, but Becquerel felt the urge to go beyond this), and their ability to recognize the «good» problem. Zemmers saw the mushroom spores as a nuisance: Had Becquerel done the same, he would have complained about the radioactive rocks spoiling his photographic plates and then thrown them away! Other differences involve the willingness to abandon the original project and follow insights into the importance of the annoying incident, risking ruining a research project, and the self-confidence to trust one's own feeling that something important had happened. It is our assertion that properties such as these are not part of traditional teaching.

Two-dimensional education

Baltic societies are experiencing the social changes listed above, and as a result an innovative democratic culture is emerging. This new form of society needs to provide radically new and effective conditions that will foster the liberation and development of human creative potential, even under the pressure of the global economy and the global market. The liberation and development of human creative potential reflects the basic intention of the whole of human

history (Gribov, 1988, 1989), and the emerging modern innovative democracy is one of the basic social conditions for this liberation. What new role must education play in this cultural revolution?

School is a basic instrument of enculturation and socialization for new generations that today exists in virtually all countries, regardless of their remote and recent history. It is controlled by society, and is seen as having a vital role to play in achieving peace, stability and prosperity. As Zajda (2004) among many others pointed out, this involves two functions: on the one hand «reproduction» (passing on what is already known and accepted), but on the other «resistance» (evaluating the known, criticizing the accepted). This leads to «production» (producing new ideas and practices–creativity). The reproductive function of the school is well known in Baltic countries, but resistance and eventual production are less commonly accepted. Put briefly, the answer to the question above is that the basic goal of education in the 21st century is that of building a predisposition to innovative democratic culture in schoolchildren, so that they will react like Becquerel and not like Zemmers, i.e., that they will display the «prepared mind». The educational processes through which this will be achieved are related to what Zajda called «production,» rather than «reproduction,» i.e., to creativity.

An initial problem is that the existing–now traditional–education system was established in conservative, undemocratic societies and had the complementary, natural task of building a conservative personality. The traditional educational culture (normative education) thus historically focuses mainly on reproduction of the «static» cultural dimensions–received cultural norms and knowledge. Thus, the revolutionary task (and new function) of education (especially of the school system) is systematic development in pupils and in their social behaviour (together with the ability to master traditional knowledge) of a predisposition to create and participate in both supporting and developing the emerging innovative culture. This requires establishment of an additional creativity dimension alongside mastery of traditional knowledge. This new dimension rests upon the foundation of «teaching to innovate», or «teaching to create».

Revolutionary conceptions of creativity and creative personality were already visible in the European Renaissance (Rotenstreich, 1983). They are connected today with the names of great geniuses who were carriers of the «culture of innovation» such as Leonardo da Vinci, Bach, Goethe, Einstein, Tolstoy, Picasso etc. At the beginning of the 20th century this conceptions were realized in a new innovation-oriented educational paradigm (e.g., the pedagogue Kerschensteiner in Germany; the writer Leo Tolstoy and the art critic Bakushinski in Russia, as well as John Dewey in the USA). Bakushinski (1925) wrote that «The basic purpose of … education is the culture of creative personality [our italics]». In the 21st century we should strengthen this progressive thesis and make it the basic purpose of education in general.

The two-dimensional approach to education

Cropley (2005) argued vigorously for the importance in creativity of conventional psychological factors such as knowledge of a field, ability and willingness to learn, persistence, and so on, and also drew attention to the dangers of unbridled divergent thinking. What this means in the present context is that school must preserve its «static» component of reproduction that is focused on mastering the common normative knowledge: The new creative component we are calling for here must be added to what already exists. What is needed is a two-dimensional approach (knowledge plus innovation), not a new kind of one-dimensional approach. Gribov and Cropley (2003) summarized what is needed in terms of teaching: a change from teaching

aimed at transmission of existing knowledge (T_{kn}-education) to teaching that gives equal emphasis to creativity (T_{in}-education). Adoption of a two-dimensional approach would reveal the existence of a gap in teachers' training, but we hope that it would also stimulate widespread pedagogical effort among creative teachers and experts in teaching methods. Teaching for innovation is more difficult than for normative knowledge, but it is necessary for the future «school of innovation».

The two-dimensional approach involves combining two relatively independent and very important aspects of education: reproduction (preservation) of existing knowledge, i.e. of normative information (I), on the one hand, and production, i.e. creativity (C), on the other. Figure 1 shows the relationship between the two in educational contexts.
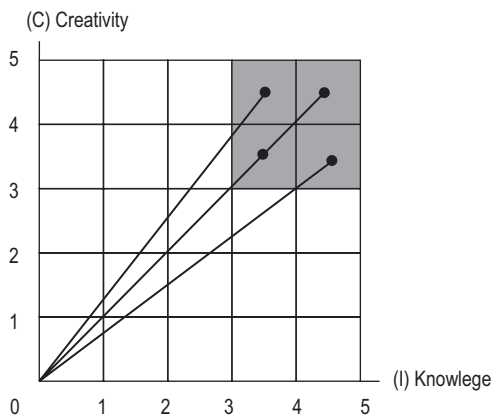

Figure 1. *Relationship between the two in educational contexts*

The values (1–5) on the X- and Y-axes represent the degree of intensity with which acquisition of existing knowledge (X-axis) or of creativity (Y-axis) is pursued. In current educational practice the field with the coordinates (5, 1) is unfortunately common, i.e., T_{kn} predominates over T_{in}. The fields we regard as desirable, however, are the ones that have been shaded, especially those in the upper righthand corner of the graph (equal, strong emphasis on both T_{kn} and T_{in}). The ideal trajectory, in which T_{kn} and T_{in} receive balanced emphasis, is represented by the central straight-line graph, while the upper and lower lines indicate the limits within which education should remain.

Fostering creativity in two-dimensional education

Discoveries and inventions that lead to new technologies and systems for satisfying the needs of modern society are the building blocks of a modern, prosperous, safe and humane society. Such a society will be based on an innovative knowledge culture, and its capital will be its innovative human beings like Becquerel, not money. A few examples of well known innovative individuals who have made significant contributions of the kind outlined here are Singer, Nobel, Bell, Siemens, Daimler, Benz, Gillette, Morita (Sony), Jobs (Apple), Gates (Microsoft), etc. Our position is that the creativity of a society's members is the key to future prosperity, and that developing creativity in children and young people is the primary task for education in the 21st Century.

Educators have become accustomed to large scale, international evaluative studies of the effectiveness of education such as the IEA (International Association for the Evaluation of Educational Achievement) studies and, more recently the Pisa (Programme for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study) studies. Unfortunately, these focus only on the preservation function and are thus not suitable for the new paradigm of the school of innovation. They focus almost exclusively on basic technical skills such as literacy, numeracy, scientific reasoning, or logical thinking. The importance of such skills cannot be denied and, indeed, we have already emphasized that we are advocating a two-dimensional approach, not a new form of one-dimensional education. However, we wish to argue here that the skills and knowledge, and the attitudes, values, motives and self-image that are favourable to reproduction (e.g., speed, accuracy, logic, goal-directedness, concentration, or drive to be correct), are not sufficient on their own as building blocks for developing creativity, as indeed Table 1 shows.

Neglect of creativity in education

Despite its importance, creativity is severely neglected in many educational systems. We find it astonishing that in the European Community guidelines for the development of education in the Community concepts like «innovation» or «creativity» simply do not exist, even in guidelines for programs bearing the names of famous innovators such as SOCRATES or LEONARDO! In Germany, the leading research institute for the development of talent in research in the social sciences, the Max Planck Institute for Human Development, has never supported a project on the topics of «creativity» or «innovation»!

In fact, a verbal-intellectual paradigm has been at the core of traditional education for a long time. It accepts as sufficient abstract, formal logical structures in thinking, and plays down the significance of the non-verbal, global, visual-spatial, emotional, and aesthetic aspects. In order to create a culture of innovation, children need innovation lessons in school, during which they can develop and try out their own ideas and inventions. In this way, school would become an «island of the innovative future.» The necessary content could form a subject in its own right, but could also be offered within the framework of all traditional disciplines. Indeed, innovation should be a principle that infuses all aspects of the curriculum, not an «add on» that is offered perhaps once a week for half an hour.

Those who will become citizens of future innovative societies should learn more than just a common language, music, mathematics, physics, etc. The innovative cultural vector requires for school pupils activities such as creating their own poetry and stories, etc. The innovative musical vector requires the experience of musical improvisation–creation of their own music and songs, etc by school pupils. The innovative mathematical vector requires, for example, development of their own mathematical ideas/conceptions, original ways of mathematical thinking, and problem solving. The innovative culture in physics means original investigations, experiments, conceptions, inventive creativity, using physical laws and technical ideas.

Out of school measure

The innovative culture means that pupils must also experience an innovative social climate outside school in the family, free time activities, etc. Japan has deliberately followed a pro-innovation strategy for 10 years or more. The political platform of the Japanese Democratic

Party published on June 6, 2000 formulated it as follows: «Those who own the rights to inventions own the world.» The Japanese strategy is based on the idea that the entire society benefits from a successful process of innovation, and has as one of its most important elements facilitation of the development of creativity in children and young people. Among other things, this involves inventors' clubs for children, that attempt to establish awareness of innovation and a positive attitude towards it in childhood, and to help these properties to persist into working life.

In Japan creative technical giftedness is fostered from early youth through a system of rewards, recognition and competitions. The 134 inventors' clubs for children and young people, «Hatsumai Kyokai», that have been established on a nation wide basis in Japan since 1973, is particularly impressive. The clubs possess outstandingly well equipped workshops in which young inventors can carry out experiments and build models based on their inventions. They are supervised by specially trained teachers, trades people and practising engineers, who work as volunteers. The clubs receive substantial support from business and major companies. Acceptance into one of these clubs is regarded as a great honour, especially since the patron is the Japanese Imperial Family. The clubs are attended in children's spare time. They introduce participants at an early age to mathematical and scientific thinking. The clubs have proved to be effective instruments for fostering innovative potential and establishing an innovation friendly climate.

To develop a positive climate for creativity and ingenuity in Germany, the federal Ministry for Education and Research (BMBF) has established a system of inventors' clubs within the framework of the INSTI–innovation-stimulating project for promoting inventive creativity in Germany. The goal was to create a positive climate for creativity and offer creative people a forum for an exchange of experiences, which could help to solve many problems in inventing. By the end of 2000 a network of 154 clubs with about 4000 members had been established.

Measures focused on schooling

At the level of research and teacher training we propose:

1. Establishment of a complex pedagogical-psychological project on the fostering of creativity and innovation in cooperation with private industry, universities, etc.
2. Development of an innovation fostering infrastructure in pedagogical science and in the professional education of school teachers. This would require especially close cooperation with USA, Germany, Japan and several other states.
3. Research on creative abilities of pupils and on fostering creativity and innovation in technical-scientific fields.
4. Retraining in methods that encourage creativity and innovation in school for schoolteachers and inventor-trainers (for example, existing teachers of physics and art).

National and international projects

At a more general level, we propose implementation of a national/international young inventors' club (YIC), whose purpose would be:

1. Stimulation of creative-inventive-aesthetic thinking in young people. Stimulating positive motivation to innovate.
2. Discovery and honouring of the most creative pupils in inventive/aesthetic creativity – providing positive sociocultural feedback, fostering pupils' inventive creativity.

3. Stimulating motivation to create in engineering, natural sciences and technology.
4. Stimulating the inventive creativity of all pupils, especially the gifted.
5. Creating a positive image of innovative thinking in engineering and natural sciences.
6. Exchanging ideas, experience, possibilities, and the like between schools and pupils.
7. Stimulating creative cooperation between schools and enterprise in inventive-design creativity.
8. Preparing schoolteachers and pupils to participate in future international competitions for young inventors.
9. Discovering and stimulating inventively gifted but «bad» or «naughty» pupils, who often ignore learning und are usually ignored by the school.
10. Providing exchange experiences between teachers (e.g., physicists) and trainers in the field of inventive creativity.
11. Creation of school-inventor newspapers as a new important element of the mass media, encouraging a culture of innovation in schools.

This YIC (as is common in sport) will help to promote discover and educate the best innovative potential for future creativity in science, engineering and technology in many countries. The modern lag in this strategically important area (typical for most countries) is very dangerous for the future economy and for democratic societies, and should be rapidly reduced in many school systems. The young inventors' competition would also initiate extended participation and concerned partnership of all elements of the world economy in innovation in school education. This will accelerate development of a free, creatively motivated personality, a basic condition for a future democratic, innovative civilization.

Organization of such activities could be not only in the hands of ministries of education, science, economics, etc, but also of political organizations, foundations, businesses, firms, and the like. The motivation for firms is their need for talented youth and future innovators, as well as concern about their public image. A number of potential sources of people who would staff such projects («innovation intermediaries») exist. These involve both new and existing resources. Existing creative human-capital resources for stimulating innovation in schools are teachers of natural sciences, physicists, etc., engineers, inventors, art teachers, designers, and parents with the appropriate inventing abilities, most of whom would work as volunteers. Unemployed or pensioned independent inventors–engineers and scientists with inventing experience–could also play a role. Volunteers from firms, whose time would be made available by the firm without charge for 1–3 hours per week would also be appropriate. Such firms must be able to see that they are receiving definite advantages for the free «innovative education» activity. This might well require new laws, for instance in order to provide financial incentives for sponsorship. Another example of a legislative framework would involve provision for early retirement on full pension for older inventors who wanted to work as innovation–mediators in schools (e.g., 10–20 hours/week).

Closing remarks

School and society interact, each affecting the other. Experience in fostering creativity in schools in the Soviet Union (Moscow) has shown that a traditional, conservative education system, totally supervised by the state, induces a dangerous socio-cultural phenomenon: growing collective aggression against personal creative self-expression (Gribov, 1988, 1989,

2002). This phenomenon explains why adults later display an almost reflexive aggression against innovative behaviour in others. This aggression works as an innovation blocker (at the level both of the individual person as well as of the group). It is clear that this aggression can only serve conservative, totalitarian societies. It is the root of the innovation blockade, not only in post-Soviet countries or in Germany, but also in most countries of the world. World school level education urgently needs changes in the basically conservative paradigms, and we have proposed both a new paradigm («two-dimensional education»), and also examples of practical measures for taking positive steps on the way to the culture of innovation that we believe should be implemented.

References

Altshuller, G. S. (1988). Creativity as an exact science. New York: Gordon and Breach.

Bailin, S. (1988). Achieving extraordinary ends: An essay on creativity. Dordrecht: Kluwer.

Bakushinski, A. V. (1925). Art, creativity and education [in Russian]. Moscow: New Moscow.

Cropley, A. J. (2005, in press). In praise of convergent thinking. Creativity Research Journal.

Cropley, A. J., & Gribov, I. (2003). Young people, schools and innovation: Towards an action plan for the school sector. Australian Government Commission on Teaching, Submission Number RTTE 191. Available at http://www.dest.gov.au/schools/teachingreview/submissions/Phase2submissions/Sub-mission191.pdf

Diaz de Chumaceiro, C. L. (1999). Research on career paths: Serendipity and its analog. Creativity Research Journal, 12, 227–229.

Gribov, I. A. (1988). Schöpferische Aktivität-Wesen und Voraussetzung vor dem Hintergrund der sowjetischen Hirnhemisphärenforschung [Creative activity – Its nature and preconditions in the context of Soviet brain hemisphere research]. Dynamische Psychiatrie [Dynamic Psychiatry], 106/107, 378-395.

Gribov, I. A. (1989). Psychological and educational conditions of development of creative self-expression of students and teachers [in Russian]. Voprosy Psikhologii, 2, 75–82.

Gribov, I. (2002). Creative predisposition and creative activity in the context of brain functional asymmetry. Internet-published-Dissertation, University of Bremen. Available at http://elib.suub.uni-bremen.de/cgi-bin/diss/user/catalog?search=sqn&sqn= 705&publishid= nobody, http://elib.suub.uni-bremen.de/publications/dissertations/E-Diss705_gribov.pdf

Hausman, C. R. (1984). A discourse on novelty and creation. Albany: State University of New York Press.

Kirton, M. J. (Ed.). (1989). Adaptors and innovators: Styles of creativity and problem-solving (pp. 56–78). London: Routledge.

Rossman, J. (1931). The psychology of the inventor: a study of the patentee. Washington: Inventors' Publishing Company.

Rotenstreich, N. (1983). Man and his dignity. Jerusalem: The Hebrew University.

Weisberg, R. W. (2003). On structure in the process: A quantitative case-study of the creation of Picasso's Guernica. Empirical Studies in the Arts, 22, 23–54.

Zajda, J. (2004). Introduction. International Review of Education, 50, 199–221.

VII INTERNATIONAL
BALTIC PSYCHOLOGY CONFERENCE

Riga, Latvia,
June 15–17, 2006

Foto: T. Grīnbergs, LU Preses centrs

Baltic Psychology in Global Context:
Where Do We Stand?

Hosted by:

> Department of Psychology, University of Latvia

In collaboration with:

> Union of Latvian Psychologists (ULP):
>> Latvian School Psychology Association (LSPA)
>>
>> Latvian Clinical Psychologists Association (LCPA),
>>
>> Latvian Society for Industrial and Organizational Psychologists (LSIOP),
>
> Association for Advancement Baltic Psychology (AABP)
>
> Psychology Students' Association of University of Latvia (PSAUL)

Welcome message

Dear Colleagues,

On behalf of the Organising Committee of the 7th International Conference of Baltic Psychologists which will take place in Riga, Latvia from June 15-17, 2006, we are honoured to extend this invitation. As expressed in the conference theme «Baltic Psychology in Global Context: Where do We Stand?», our conference will be both Baltic and global – with local and global thematic aspects, with participants including Baltic psychologists, and our colleagues and friends from other European and overseas countries. The central objective of the conference is to make possible for psychology researchers and professional psychologists to share and exchange ideas, information, professional experience and research results from the different fields and various approaches within contemporary psychology.

In each of the three Baltic countries during the Soviet period, there were impediments and restrictions which affected the teaching and practice of psychology to various degrees and within various time frames in Estonia, Latvia and Lithuania. Yet, in spite of these former restrictions, there have been many significant gains in Baltic psychology, and at present there is ample opportunity for psychologists from the Baltic countries to expand and increase their activities within the global context. Therefore, we suggest that at this point in time, 15 years after the actual gaining of independence of the Baltic countries, it is meaningful to look at the research and practice of psychology which is taking place. This includes discussion of traditional and innovative approaches, of practical issues concerning the legal regulations of psychology in our countries, and other significant issues.

We look forward to seeing you in Riga and enjoying your company!

Viesturs Reņģe, Chair, Organising Committee
Sandra Sebre, Chair, Scientific Committee

Committees

Organizing Committee

Chair: Viesturs Reņģe
Co-Chair: Malgožata Raščevska
Members: Anika Miltuze
               Baiba Martinsone
               Maija Pļaveniece
               Kristīne Mārtinsone
               Viktors Ozoliņš
               Sarmīte Voitkāne
               Anda Gaitniece-Putāne
               Zinta Biseniece
               Anda Upmane
               Kristīne Maslovska, Union of Latvian Psychologists
               Ieva Bite, Latvian Clinical Psychologists Association
               Uldis Pāvuls, Latvian Society for Industrial and Organizational Psychologists
               Ilze Paleja, Latvian School Psychologists Association
Coordinators from AABP: Solveiga Miezitis
Secretary: Kristīne Circene
Students' helpers: members of University of Latvia Psychology Students' Association.

Scientific Committee

Chair: Sandra Sebre
Co-Chairs: Ieva Bite
               Ivars Austers
Members: Solveiga Miezitis
               Juris Draguns
               Juri Allik
               Grazina Ginteliene
               Kadri-Ann Laar
               Ārija Karpova
               Ilze Gerharde

Address:

VII IBPC, Department of Psychology, Faculty of Education and Psychology, University of Latvia, Jurmalas gatve 74/76, Riga, Latvia, LV-1083
    Phone and Fax: +371 7034018
    e-mail: *kristine.circene@lu.lv*
    Home page: *www.ppf.lu.lv/ibpc*

Scientific Program

The Scientific Program will consist of a broad range of presentations including:
- Keynote presentations
- Symposia
- Paper Presentations – Thematic Sessions
- Workshops
- Poster Presentations
- Interaction Groups

Conference topic

The general theme of the conference is *«Baltic Psychology in Global Context: Where do We Stand?»*.
In the context of the general theme, the presentations will be grouped along the following indicative thematic domains:

Clinical Psychology	Neuropsychology
Cognitive Psychology	Personality
Counselling Psychology	Political Psychology
Cross-Cultural Psychology	Psychobiology and Psychophysics
Developmental Psychology	Psychological Assessment
Educational Psychology	Psychology of Language
Environmental Psychology	Psychometrics
Ethics in Psychology	Psychotherapy
Ethnic Relations	Social Psychology
Forensic Psychology	Sports Psychology
Gender and Diversity	Traffic Psychology
Health Psychology	Violence and Abuse
History of Psychology	Work and Organisational Psychology
Learning Disabilities	

Presidential Address

President of Latvia Vaira Vīķe-Freiberga has agreed to present the opening address at the conference (pending there are no overriding international or national governmental obligations which must be attended to at the time). As former professor of psychology at the University of Montreal, it is a very special honor to welcome the President of Latvia at the VII International Baltic Psychology Conference.

Keynote Speakers (preliminary list)

Lars-Goran Nilsson,	University of Stockholm, Sweden	Gene-Environment Interactions and Memory Function
Charles D. Spielberger	University of South Florida, USA	Cross-Cultural Research on Measuring Emotional States and Personality Traits
Imants Barušs	University of Western Ontario, Canada	Recent Advances in Consciousness Research

Panel of Experts

Juri Allik	University of Tartu, Estonia	
Grazina Ginteliene	University of Vilnius, Lithuania	Baltic Psychology in the Global Context: Where Do We Stand?
Viesturs Reņģe	University of Latvia, Latvia	
Juris Draguns	Pennsylvania State University, University park, USA	

Submission of proposals

The scientific committee welcomes proposals for symposia, paper presentations, workshops, poster presentations and interaction groups.

Symposia (120 minutes)

Symposia are directed by one chairperson, with 3 to 5 presenters. The symposium chair is encouraged to include a discussion at the end of the session. The chairperson needs to: (a) forward registration and abstract submission forms to symposium participants; (b) collect the individual abstracts, which should not exceed 250 words each; (c) send the title and the abstract of the symposium to the organizing committee, and (d) provide names and addresses of symposium participants as well as titles and abstracts of the symposium papers.

Paper presentations

Individual papers will be grouped into thematic sessions, lasting approximately two hours.

Depending on the number of papers, participants will have up to 20 minutes to present their papers, including discussion.

Workshops (120 minutes)

This format is provided for the development of specific skills. In the abstract, please identify the specific skills which will be presented and the expected learning outcomes for the participants.

Poster Presentations

Individual posters will be grouped thematically and displayed for two hours. A surface of 120 cm height × 80 cm width will be available for each poster. Poster presentations should include both text and a graphic display of research results. Presenting authors will be given half an hour to put up their posters and they will be responsible for dismantling them at the end of the poster session.

Important notice

- The name(s) of the presenting author(s) should be underlined in the abstract submission form.
- The abstracts will be published in the Abstract Book of the Conference. Publication of each abstract is conditional upon payment of the **registration fee by the presenting author**.
- The paper will be published in the Baltic Journal of Psychology. The papers will be reviewed by an international committee of experts. You may submit it during the conference or until one month later.
- Each participant may submit no more than two proposals.

Submission Process

Abstracts submitted for approval must be in English. The length of each abstract cannot be more than **250 words**. All abstracts must be submitted in MS Word format.

Electronic Submission

An on-line Electronic Abstract Submission Form is available on the University of Latvia website: *www. ppf.lu.lv/ibpc*

For more information about the scientific program, please contact the Organising Committee at *kristine.circene@lu.lv*

Diskette Submission

If electronic submission is not possible the abstracts may be submitted on diskette. All abstracts must be in Microsoft Word of PC format.

The «Abstract Submission Form», must be completed together with one printout of the abstract and mailed to IBPI at:

IBPC, Department of Psychology,

Faculty of Education and Psychology,

University of Latvia,

Jurmalas gatve 74/76, Riga, Latvia, LV-1083

Replacing or correcting an abstract submission

Any corrections should be made only by e-mail to the Conference Secretariat.

Abstract submission deadline

Abstracts should reach the Conference Secretariat no later than March 15, 2006.

Deadline for abstracts: March 15, 2006

Presenters submitting proposals by the March 15th deadline will be informed for acceptance by the end of March.

Interaction groups

Interaction groups provide an opportunity for conference participants to meet and talk informally in small groups about their work and other issues of common professional interest. They take place during lunch hours and do not interfere with other events. Group membership will be made up of participants from a diverse range of countries.

This year an effort will be made to organize interaction groups along the thematic domains of the scientific program. A student interaction group will also be formed.

Other Scientific Activities

Psychologists' associations in Baltic States Meeting

Meeting times will be listed in the program book and at the registration desk. The meetings are open to all participants.

Psychology Master Thesis Award

An award will be presented for a master's thesis in psychology, which has been defended within the last two years. Applicants should submit a scientific paper in English (up to 20 pages) based on their M. A. thesis. The paper should be submitted to Kristine Circene, Secretary of the Organizing Committee both by e-mail at *kristine.circene@lu.lv* and by regular mail (3 copies and electronic version) at the Conference secretary. Deadline: 15th May, 2006.

The papers will be reviewed by an international committee of experts.

Social Program

Opening ceremony and Welcome reception

Thursday, June 15 at 16.00

The Opening Ceremony will be held at the Large Hall of the University of Latvia at the centre of Riga, Raina bulvaris 19. (Approximately 2 hours).

The Welcome Reception will follow at the Small Hall of the University of Latvia at the centre of Riga, Raina bulvaris 19.

Free for all registered participants (included students) and registered accompanying persons. No registered accompanying persons: 13 euro or 9 Ls.

Farewell party

Saturday, June 17 at 18.30

A Latvian romantic evening with national food and dance in a location near Riga. A special bus will bring participants to the farewell party place from University, Raina bulv. 19, at 17.30 hrs. (the bus will return to Riga at 21.00 and 22.00 hrs. or participants may return individually by public transport).

Free for all registered participants and registered accompanying persons. No registered accompanying persons: 23 EUR or 16 LVL. Students: 15 EUR or 10 LVL.

General Information

Dates of the Conference: Thursday, June 15 – Saturday, June 17, 2006.

Conference Site:
The 2006 IBP Conference (except for the farewell party) will be held at the main building of the University of Latvia – Raina bulvaris 19, Riga. This building is very close to the International Bus Station and Riga Train Station (5–10 minutes walking) and easily accessible from the airport of Riga by taxi or bus (30–40 minutes)

Opening Ceremony:
Thursday June 15 at 16.00. The opening ceremony will take place at the main building of the University of Latvia, Raina bulvaris 19, in the Large Hall (Lielā aula) and the welcome reception in the Small Hall (Mazā aula).

Closing Ceremony: Saturday June 17 at 17.30.
The closing ceremony will be held at the Small Hall of University of Latvia.

Farewell party: Saturday, June 17, at 18.30. The farewell party will be held near Riga.

Language: The official language is English.

Travel and Local Information

Riga can be reached by air, rail, road and sea. The international bus station and rail station is located 500–800 m from the University of Latvia. The international airport is located 7 km from Riga centre and is directly linked to more than 25 cities in different countries worldwide. Bus No 22 and taxi services to and from the airport provide easy access directly to the Conference site and the centre of Riga.

Transportation within Riga:
Tram, bus and trolleybus lines connect the city center and the University of Latvia with other places in Riga. Most of hotels are located very near to Conference side, 5–15 minutes walking distance. Some hotels demand to go by public transportation about 5–10 minutes. Tickets cost 0.20–0.25 LVL (0.29–0.36 EUR). There are regular schedules from 06:00 to 01:00. For further details about travel to Riga please contact the Conference Secretariat.

Weather:
Weather in June is usually fairly sunny and warm (about 15–23 °C), sometimes raining.

Clothing: Informal, light clothing.

Electricity: 220 volts.

Currency:
Latvia uses LVL. There are many currency exchange bureaus in Riga (traditionally open from 9.00–18.00, but some work until to 24.00). Automatic cash dispensers in the city accept most international credit cards. Major credit cards are accepted in most hotels, shops and restaurants. It is common to pay in cash at the small cafe.

Visa:
Visas are not required for participants from most European countries and the USA. If in doubt, please contact your travel agent or the Latvian Embassy in your country.

Registration

Registration fees

	Early Registration Until March 1, 2006	Late Registration After March 1, 2006
Psychologists from Baltic countries, East-European and Russian countries*	EUR 75	EUR 95
Psychologists from other countries*	EUR 150	EUR 170
Members of Union of Latvian Psychologists	LVL 40	LVL 45
Students**	EUR 15	EUR 20
Accompanying Persons***	EUR 40	EUR 45

* Participants' full registration fee includes:
- Admittance to Opening Ceremony and Welcome Reception
- Admittance to Closing Ceremony and Farewell Party
- Conference documentation and Abstract Book
- Conference Bag
- Coffee-refreshments

**Students' registration fee includes:
- Admittance to Opening Ceremony and Welcome Reception
- Admittance to Closing Ceremony
- Conference documentation and Abstract Book
- Conference Bag
- Coffee-refreshments

***Accompanying persons' registration fee includes:
- Admittance of the Opening Ceremony and Welcome Reception
- Admittance to Closing Ceremony and Farewell Party
- City Tour (min 5 persons)

Confirmation of Participation

The Conference Secretariat will confirm registrations after receipt of both your Registration Form and payment fees.

Please note that your registration and abstract will not be considered final until the Organizing Committee has received payment from the presenting author.

Cancellation Policy

Written notification is required for all cancellations and changes to your registration. Registration fees and deposits will be refunded after charging an administration fee. Cancellations received up to May 15th, 2006, 50% Cancellation fee. Cancellations received after May 15th, 2006 will be at the discretion of the Organizing Committee.

Registration Desks-Registration on site

The registration will take place at the University of Latvia, in Entrance Hall. Site will be open on Thursday, June 15th from 09.00–18.00 and June 16–17th from 09.00–11.00.

Colloquium Bags and Badges

Standard Conference Bags will be distributed to all registrants as well as individual envelopes including badges, event tickets and other personal documentation.
For identification purposes and admission to the session halls, participants are requested to wear their badges. Admission to the Conference will not be allowed without them.

Accommodation

Accommodation will be available in hotels in the surrounding area.

	Hotels near Conference area*	E-mail un fax for reservation	Cat.	Single per night	Double (for two person per night)
1	Hotel de Rome	www.derome.lv e-mail: *reservation@derome.lv* Phone: +371 7087600, Fax +371 7087606 Address: Kalku str. 28, Riga, LV 1050	5****	EUR 142	EUR 156
2	Reval Hotel Latvija	www.revalhotels.com e-mail: *sabine.ozolina@revalhotels.com* Phone: +371 777 2222 Fax: +371 777 2221 Address: Elizabetes str 55, Riga, LV-1010.	3***+	EUR 119	EUR 119
3	Radi un Draugi	www.draugi.lv e-mail: *radi.reservations@draugi.lv* Phone +371 7820200 Fax: +371 7820202 Address: Marstalu str 1/3, Riga, LV-1050.	3***	EUR ≈ 60 or LVL 37	EUR ≈70 or LVL 46
4.	Hotel "Valdemārs"	www.valdemars.lv e-mail: *hotel.valdemars@apollo.lv* Phone +371 7334462, Fax: +371 7333001 Address: Kr. Valdemara iela 23, Riga, LV-1010	2**	EUR ≈ 35	EUR ≈ 55
4	Hostel for students	Please, contact with Conference Secretary *kristine circene@lu.lv*			

* Hotels within easy 5–10 minutes walking distance from Conference Site. All hotels include the breakfast in price.

Hotel Reservation

Please, independently connect with a hotel and book a room for self.
It is advisable to book as early as possible to ensure reservation of the preferred hotel.

Method of payment for Accommodation

You could reserve a room in internet and pay with Credit Card or different way, please ask this information in your preferred hotel.

Payment of registration fee

Payment should be made in EUR (or LVL for Latvian participants) without charges for the beneficiary as follows:

- **By bank transfer** to the order of Department of Psychology. If payment is made by bank transfer, please enclose a copy of the bank transfer voucher.

  Please state your name and IBPC title on the bank transfer.

For EUR:

Beneficiary: *The Treasury of Republic of Latvia*
Bank: *PAREX Bank*
Smilsu str. 3, Riga, Latvia, LV-1522
SWIFT: PARX LV 22
EUR IBAN: *LV17PARX0000624870001*

Please mark: For University of Latvia

Registration fee for _____(name), VII International Baltic Psychology Conference.

- **By Credit Cards** (MASTER /EUROCARD, VISA/AMERICAN EXPRESS). Your card number, expiry date, card and signature should be filled in on the Registration Form.

For LVL:

University of Latvia,
Reg. No: *LV 90000076669*
Address: *Raiņa bulvāris 19,*
Rīga LV-1586

Bank: *Valsts Kase,*
Code: *TRELLV21*
Latvijas Universitāte
IBAN: *LV90TREL2150100030100*

Registration fee for _____(name), VII International Baltic Psychology Conference.

- **By Credit Cards** (MASTER /EUROCARD, VISA/AMERICAN EXPRESS). Your card number, expiry date, card and signature should be filled in on the Registration Form.

Registration form

We suggest to use Internet Registration form: *www.ppf.lu.lv/ibpc*!

Surname _____

First Name _____

Accompanying person _____

Title _____

Institution_____

Address: _____ City _____

Country _____ Postal Code _____

Telephone_____ Fax _____

E-mail _____

Registration fee (total) _____ EUR or _____LVL

Payment by bank transfer _____ (yes, no), or Credit Card No._____

Datum _____

Signature _____

Send to address
VII IBPC, Department of Psychology,
Faculty of Education and Psychology,
University of Latvia,
Jurmalas gatve 74/76, Riga, Latvia, LV-1083
Phone and Fax: +371 7034018

Abstract Submission Form

We suggest to use the Internet Abstract Submission Form: *www.ppf.lu.lv/ibpc*!

Abstract Submission Deadline:

March 15, 2006

(Please write clearly the title of your abstract below. Maximum 100 characters, no addreviations)

Abstract Title _____

_____

Authors_____

Presenting Author's Surname _____

                    First Name _____

Title _____

_____

Affiliation _____

Address: _____ City _____

Country _____ Postal Code _____

Telephone_____ Fax _____

E-mail _____

Audiovisual equipment

All sessions will be equipped with projector for PC (windows ONLY , POWER POINT) and overhead projector. If necessary, you can request a slide projector, video player and/or audio recorder. Please write requested optional audio/visual equipment (if any)

Special equipment_____

Presentation Format Preference

(Please mark your preferred mode of presentation. Note: The final decision lies with the Scientific Committee):

Paper _____ Poster _____

Abstract Title
(*Should be written in English. Maximum 250 words.*
Characters: 12 points, single space.
Put an asterisk (*) after the name of the Presenting author)

Author (s)
Institutions, City, Country

Abstract text ……….

Send to address (with discette)

VII IBPC, Department of Psychology,
Faculty of Education and Psychology,
University of Latvia,
Jurmalas gatve 74/76, Riga, Latvia, LV-1083
Phone and Fax: +371 7034018

Notes on Authors

Danguole Beresneviciene

Habilitated doctor in psychology, professor of Vilnius Pedagogical University and Šiauliai University. Expert in Higher Education and Research Division of Council of Europe. Founded and edited international research journal of Vilnius Pedagogical University «Educational Psychology». Member of Editorial Board of research journals: «Skolotaj» (Latvian University), «Psichologija» (Vilnius University), «Pedagogika» (Vilnius Pedagogical University). Participated and made presentations in 38 International conferences and Symposiums. Published 7 books, more than 100 papers in Lithuanian and foreign journals, proceedings of International conferences.

Arthur Cropley

Was born in Australia. After seven years as a school teacher in Australia, England and Canada he attended the University of Alberta, obtaining his Ph.D in 1965. He subsequently worked in several universities, especially the University of Hamburg, before retiring in 1998 and returning to Australia. He is the author of 21 books on creativity, lifelong learning.

Anda Gaitniece-Putāne

Mg. psych., assistant in the Department of Psychology at the University of Latvia. Her fields of interests are gender psychology, social psychology and personality psychology. Her current research deals with relationship between Emotional Intelligence, Aggressiveness and Stoicism in male and female.

Juri Gribov

Graduated State Lomonossow University of Moscow, Physical faculty and Moscow State Pedagogical Institute, Art Education. Worked in physics, later in research of thinking and visual perception in faculty of psychology. 7 years worked as school teacher of art in Moscow, provided original studies in psychology of art and psychology of creativity. 1989-91 grant for project «Human creative potential» by the International Foundation for the Survival and Development of Humanity and later worked in University of Arts, Berlin. 1997 studied outstanding creativity in University of Chicago, laboratory of Prof. M. Csikszentmihalyi. 2002 Ph.D. in Bremen University with title: «Creative predisposition and creative activity in the context of brain functional asymmetry». Recent interests – fostering inventing creativity in school education and development the original quantum photostrings concept. As free inventor have more than 25 patent applications and as painter participated in 14 art exhibitions.

Aleksandrs Koļesovs

Received his Mg. psych. from the Department of Psychology, University of Latvia in 2002 specializing in clinical psychology. He continues his studies on social psychology in the doctorate programme. He is a lecturer at the University of Latvia. Member of the International Society for the Study of Behavioural Development. Research interests: time perspective, adolescence.

Anita Pipere

Doctor of psychology, is Associate Professor at the Daugavpils University, Department of Pedagogical Psychology, Faculty of Education and Management and researcher in Institute of Sustainable Education of DU. Since 2001, she is an editor-in-chief of international journal «Journal of Teacher Education and Training» issued by the Institute of Sustainable Education of DU. Dr. Pipere's specialization is in educational psychology, with research interests regarding constructivist learning, teacher identity issues, self-evaluation of learning achievements in primary school, qualitative research methods in education and psychology.

Toshiaki Shirai

Professor, Ph.D, Department of Psychology, Osaka Kyoiku University. Main topic of research is personality development in adolescence, especially time perspective. Other studies have been longitudinal more than 10 years and have examined how young people organize time perspective including both aspects of the future and the past along with experiencing several life-events in transition from adolescence to adulthood. Ph.D. was conferred by Tohoku University at 1995. He was a visiting professor, University of Leuven, Belgium, and Free University Berlin, Germany, at 1991. He was invited to take a lecture on cultural psychology in Vilnus Pedagogical University, Lithuania, at 2000.

Notes for Authors

The «Baltic Journal of Psychology» is published by the Department of Psychology, Faculty of Education and Psychology, University of Latvia. The journal publishes original papers on current issues in psychology as well as empirical, theoretical, and practical articles on broad aspects of psychology. It will appear three times a year.

Information for authors on submitting manuscripts:

Contributions, written in English, should follow the general style described in the Publication Manual of the American Psychological Association (5th ed. 2001).

Manuscripts should not exceed 7000 words, should be typed on (21×29,7 cm) white bond paper, double-spaced, with font size 12, and with margins of at least 2,54 cm on all four sides. Acceptable typefaces are Times Roman or Courier. Three copies of each manuscript including electronic version on disk should be submitted. Disks can be of any standard size, IBM compatible, written in Word for Windows. Manuscripts will not be returned to authors.

Title page for the manuscript should show the title of the article, the name(s) and affiliation(s) of the authors, running head and, at the bottom of the page, the name and address of the person (including postal code and electronic mail address) to whom proofs and reprint requests should be sent.

An abstract of up to 150 words should follow the title page on a separate page. A list of 3–10 key words should be provided directly below the abstract.

Each table should be numbered and referred to by number in the text. Each table should be typed on a separate page and have a descriptive title.

Each illustration (diagram, chart, photograph, and drawing) should be numbered and referred to by number in the text. Each table should be typed on a separate page and have a descriptive title.

References are given at the end of the text. All references cited in the text must appear in the reference list in APA format.

A summary of up to 500 words should be submitted by Latvian authors in Latvian, Lithuanian and Estonian authors in their own languages and English, and other authors only in English. The summary must include the subject of the research, the hypothesis and/or issues of the research, research methods (description of research, participants, tools, procedures if it is an experimental research), main theoretical inferences (in brackets mentioning references to leading publications) and main conclusions.

Authors should submit a brief biographical statement (8–10 lines) for inclusion in the section «Notes on Authors».

There is no payment for published papers. The authors will receive 3 reprints, free of charge.