Societal Influences on Children's Psychology: The Schools in Iceland and Singapore Promote Prosocial Values, Positive Self-Concepts, and Achievement in Young Adolescents

Deborah A. Stiles

School of Education

Webster University

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Abstract

In most ways the island nations of Iceland and Singapore could not be more different from each other: Iceland is sparsely populated, located near the Arctic Circle, and a very free and individualistic democratic society; Singapore is densely populated, located near the equator, and a very regulated and collectivist meritocracy. But both nations promote the optimal education and development of children. These two countries are child-centered and responsive to the physical, psychosocial, and cognitive development of young people. This monograph describes the societal conditions, cultural values, and school contexts in Iceland and Singapore that have led to prosocial values, enthusiasm for learning, and academic achievement among young adolescents. Sources of information were observations, interviews, questionnaires, drawings, cultural experts, academic studies, and international government reports. In international comparisons, adolescents from Iceland scored second of twenty-eight countries and significantly higher than youth from the USA on measures of reading engagement. Adolescents from Singapore scored first of forty-one countries and significantly higher than adolescents from the USA on tests of mathematics. Surveys and drawings were collected from 791 young adolescents in order to understand their values, ideals, and school experiences. The participants were 380 Icelanders (mean age = 13.9) and 411 Singaporeans (mean age = 13.2). Icelandic youth expressed desires for positive interpersonal relationships, learning, enjoyment, and individuality and Singaporean youth valued positive interpersonal relationships, hard work, seriousness, and family harmony. The final section of the paper suggests implications for the USA.

Societal Influences on Children's Psychology: The Schools in Iceland and Singapore Promote Prosocial Values, Positive Self-Concepts, and Achievement in Young Adolescents

Two of the world's best educational environments for young people are in the island nations of Iceland and Singapore. Youth in Iceland have especially strong interests in reading and interdisciplinary creative thinking; youth in Singapore excel in mathematics and sciences. In this descriptive study a psychologist from the USA seeks to explain the societal conditions and cultural values that have led to prosocial values, high aspirations, enthusiasm for learning, and academic excellence in young adolescents from Iceland and Singapore. In international comparisons, youth from Iceland scored significantly higher than youth from the USA on measures of reading engagement and interdisciplinary problem-solving and youth from Singapore scored significantly higher than youth from the USA on measures of educational aspirations and tests of mathematics and science. The first part of this monograph describes societal conditions, cultural values, and school contexts in Iceland and Singapore, the second part describes the psychological views of young adolescents in Iceland compared with Singapore, and the third part suggests implications for the USA.

Societal Conditions, Cultural Values, and School Contexts

Iceland

Located near the Arctic Circle, Iceland is a northern island (between 60 degrees north and 70 degrees north latitude). It is cold, windy, and icy in Iceland. The country of Iceland is the most sparsely populated country in Europe and has a population of 275,000, of which about half lives in the capital Reykjavik and the surrounding area. Iceland is a wealthy country, the main economic resources include fishing, farming, and geothermal energy. Due to natural energy resources, there is almost no pollution in Iceland. The life expectancy is 79.7 years. According to United Nations statistics from 2002, Iceland's GDP per capita is 29,750. Iceland ranks high (7 of 177 countries in 2002) on the Human Development Index (HDI)

published by the United Nations. The population is homogenous in culture and origin. Most Icelandic citizens are of Nordic descent; many Icelanders can trace their ancestry back to the Vikings. The largest religious denomination is the Evangelical Lutheran Church. Education and learning are highly valued in Iceland; the literacy rate has been 99.9% for decades. According to a Canadian television series, "Literacy is said to be the lifeblood of the Icelanders. The nation of Iceland has the highest literacy rate in the world, with more books, periodicals and newspapers published per capita than anywhere else in the world."

Iceland is the oldest continuous democracy in the world; the national assembly was first established in 930. Icelanders have long been committed to equality, including gender-role equality. Vigdís Finnbogadóttir was elected as President of Iceland in 1980; she was the first woman in the world to be elected a constitutional Head of State. She served as President of Iceland for sixteen years, until 1996. Although she was president of a nation, she was equal to the other citizens. During her presidency she did not have a chauffeur, did not live in a mansion, and she shoveled the snow on her own walk.

In 1985 I had an opportunity to teach at Webster University's campus in Keflavik, Iceland. I went to Iceland with the knowledge that the country had a reputation as one of the most literate and linguistically advanced nations in the world. I visited several public schools in Iceland and I was impressed that the kindergarten children could speak to me in English. Older students also spoke English as well as Icelandic, Danish, and other languages. The English of the Icelandic adolescents was so good that they helped me with translation and interpretations of research results.

My first research projects took place in the 1980's. Based on my visits to schools, I wrote about educational psychology in three middle schools in Iceland (Stiles, 1986). In another study, the rankings of 49 Icelandic adolescents were compared with 92 US adolescents on the importance of ten qualities of the ideal man or woman (Stiles, Gibbons, Hardardottir, & Schnellmann, 1987). I continued to visit Iceland and conduct research in the

early 1990's and again in 2004-2005.

Sources of information

In my attempt to understand the cultural values and school contexts in Iceland, I have relied on observations, interviews, questionnaires, cultural experts, poetry, academic studies published in English, and international government reports. The most valuable international comparisons for studying Iceland have been sponsored by the Organization for Economic Co-operation and Development (OECD); unfortunately Singapore has not been part of these studies. In order to provide a perspective on the results from Iceland, comparisons have been made between Iceland and international averages or between Iceland and the USA.

Cultural Values Emphasized in Iceland

Many cultural values including freedom, nature, and individuality are expressed in poetry of Icelanders. "We have asked for freedom, we have asked for freedom to love the land, to love the hillside" are words from a poem by M. Johannessen (1980, p.133). "This is your life" begins a poem by S. A. Magnusson (1980, p. 117). Poetry has more cultural significance in Iceland than elsewhere in the world according to Magnusson who translated the poems of 28 Icelandic poets and contributed seven of his own poems to The Postwar Poetry of Iceland. Early forms of Icelandic poetry may date back to the fourth century AD; the Poetic Edda manuscript dates back to the early 13th century. In most of the world, shorts stories, plays and novels are much more popular than poetry, but in Iceland more books of poetry than fiction were published in the modern era. When Iceland gained home rule in 1904, its first minister was a poet. "Poetry is a potent factor of the cultural life of the nation" according to Magnusson (1980, p. xlii). Many websites and travel guides claim that the rate of poets per capita is higher in Iceland than anywhere else in the world. Icelandic values are expressed in the themes of Icelandic poetry: identity, inner struggle, individuality, freedom, nature, landscape, love, and grief (Magnusson, 1980).

Having strong sense of individualism is one of the most important values in Iceland

(Einarsdottir, 2002; Olafsson, 2003; Tomasson, 1980). In his international studies of values, Hofstede (1980, 2001) describes some of the important cultural dimensions on which nations tend to differ; individualism is one of the five dimensions studied by Hofstede (2001, p. xix), "People carry 'mental programs' that are developed in the family in early childhood and reinforced in schools and organizations…these mental programs contain a component of national culture. They are most clearly expressed in the different values that predominate among people from different countries. Individualistic societies (High IND) tend to emphasize identity based on the individual or the individual person and his or her nuclear family; collectivist societies (Low IND) tend to emphasize identity based on the social network and the extended family. Also associated with individualism are independence, self-reliance, individual expression, personal choice, love of freedom, and the pursuit of the exciting and enjoyable life (Hofstede, 2001;Triandis, 1996). Wanting to be independent and self-reliant, Icelanders also value hard work (Olafsson, 2003).

Icelandic values also include a love of nature and a commitment to equality. Iceland has a magnificent landscape including volcanoes and glaciers; nature and the outdoors are highly valued. "I have had a land for a friend" is the title of a poem by Johannessen. Icelanders care about preserving the environment and allowing for wildness of spirit and the land (Einarsdottir, 2002). Another strongly held value is equality including socioeconomic, gender-role, and student-teacher equality. "Icelanders place a great emphasis on equality in all its dimensions: equality of status, equality of the sexes, equality of opportunity and to a considerable extent equality of conditions" (Ólafsson, 2003, p.2).

School contexts in Iceland.

In the Icelandic government document "Even Better Schools than Before: Their right—our duty" [Enn betri sko´li. Theirra re´ttur—okkarskylda, in Icelandic] the Ministry of Education, Science and Culture (1998) calls for still better schools guided by the principles of cooperative democracy. In keeping with Icelandic values, this document supports the

"education of stronger and more independent individuals." Wanting still better schools is in part a response to Iceland's average scores on TIMSS 1995, but it also recognizes the heritage of Iceland as a world leader in democracy and literacy.

Developing an appreciation for culture and art is a goal and has always been a goal of Icelandic education. Poetry, an art form celebrated in Iceland, is considered to be the highest form of linguistic intelligence by H. Gardner the American psychologist who developed the theory of multiple intelligences (Gardner, 1983). Because poetry is a "potent factor" in Iceland, the schools exhibit portraits of the Icelandic poet of the month.

The educational system in Iceland consists of preschools, the compulsory primary and lower secondary schools, and an upper secondary level. The main purpose of compulsory schooling is to prepare young people to live and work in a democratic society. There is no tracking or ability grouping in the lower secondary schools; every individual learner is valued.

In the lower secondary schools all pupils study Icelandic, mathematics, English, Danish, natural sciences, social studies, life skills and physical education. The student-teacher ratio is eighteen to one; the atmosphere is informal and friendly and everyone is on a first name basis. In Icelandic schools there is relatively low supervision and no more rules than are absolutely necessary. There are only 160 instructional days per year and absenteeism is relatively high, due mostly to the Icelandic weather.

In a study Student engagement at school : A sense of belonging and participation, Willms (2003) reported on international comparisons sponsored by OECD; in this study 15-year-old students answered questions about their sense of belonging and participation. The positive atmosphere of Icelandic schools seems to be reflected in Icelandic students' feelings of belonging , being accepted and not being lonely. Icelandic adolescents had higher mean scores on belonging (M = 514, SD = 109) than American adolescents (M = 494, SD = 111). Icelandic adolescents scored higher on belonging than participation. Icelandic adolescents feel involved with their education and they actively participate at school. For this OECD study,

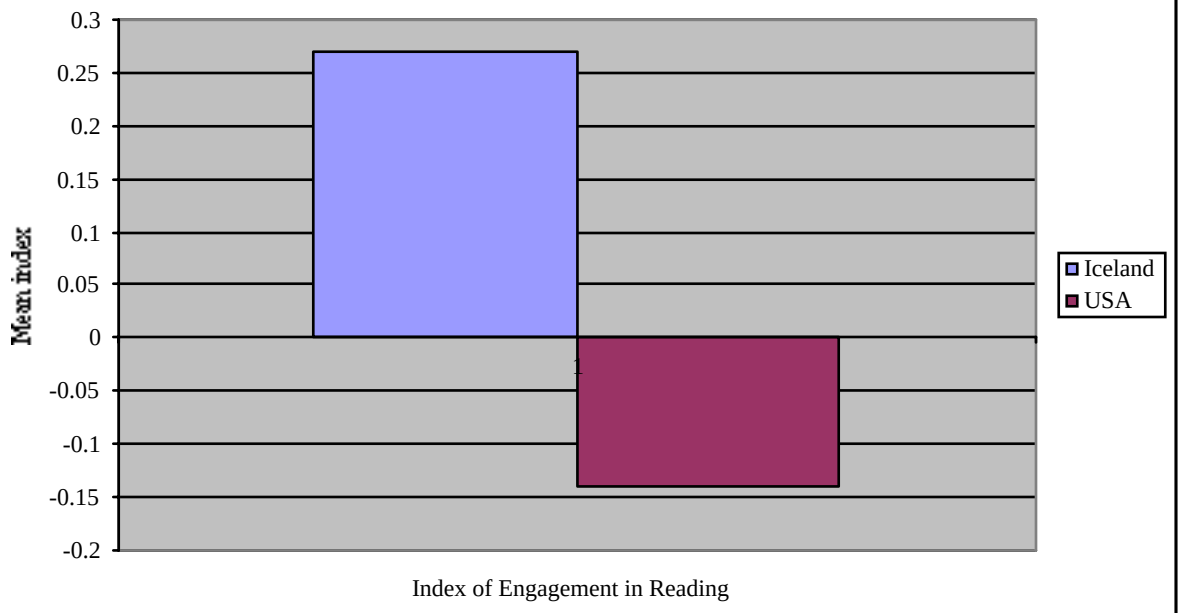
the category of participation was measured by absence and lateness in the two weeks before the test.

A source of stress for Icelandic adolescents at school may be feelings of being pressured to succeed. Icelandic adolescents scored high on achievement press, a category measured by agreeing with statements such as “The teacher wants students to work hard” and “Students have a lot to learn.” Icelandic adolescents’ education also takes place outside of school. This is especially important because Icelanders only attend school 160 days a year.

In Iceland there is a strong interest in reading and literature outside of school. According to the PIRLS International Report of 2003, a majority of students in Iceland (52%) report reading for fun outside of school, compared with 35% reading for fun in the USA. Children in Iceland read fiction outside of school; 44% report reading novels and stories every day or almost every day, compared with 34% in the USA. Icelandic parents report many books in the home; 40% of Icelandic parents report that they have more than 200 books in the home, compared with 20% of parents in an international average of 34 countries.

Engagement in reading includes reading practices (the amount of time spent reading for pleasure and the amount of time spent reading a diversity of materials) and reading attitudes (the levels of motivation and enthusiasm for reading). In Education at a Glance: OECD Indicators 2003 the Index of Engagement in Reading is reported; the index includes frequency of reading, diversity of reading, and interest in reading. Of 28 countries, Iceland had the second highest Index of Engagement in Reading. Figure 1 shows the mean Index of Engagement in Reading for Iceland compared with the USA. In Iceland the Index of Engagement in Reading was positive +.27; in the USA it was negative -.14.

Figure 1. The level of reading engagement among 15-year-old is higher in Iceland than in the USA (OECD, 2003).



In the USA 28.4% of students identified themselves as "not involved in diversified reading"; most of these students only read magazines in their free time or they did almost no reading; only 6.6% of Icelandic students fell into this category. Scores on reading literacy were not significantly different between the USA and Iceland; however, reading engagement may be more important for life long learning than reading literacy scores. Furthermore, reading engagement appears to counteract socioeconomic disadvantage. "Fifteen-year-olds whose parents have the lowest occupation status but who are highly engaged in reading achieve better reading scores than students whose parents have high or medium occupational status but who are poorly engaged in reading. All students who are highly engaged in reading achieve reading literacy scores that, on average, are significantly above the OECD mean, whatever their parents' occupational background" (OECD, 2003, p.107).

Icelandic students excel in creative, interdisciplinary, thinking. On the Program for International Student Assessment (PISA) 2003 "problem-solving is defined as an individual's

capacity to use cognitive processes to confront and resolve real, cross-disciplinary situations where the solution is not immediately obvious…" (NCES, 2004, p.22). Icelandic students significantly outperformed (M = 505) the American students (M = 477) on these problem-solving tests.

Singapore

Singapore is a small, equatorial, densely populated island near Malaysia; Singapore is located one degree north latitude. It is hot and humid in Singapore, with an average annual temperature of 80 degrees. With a population of 4,000,000, Singapore is a multiethnic, multilingual and multifaith society. The citizens of Singapore are 16% Malay, 7% Indian, 75% Chinese, and 2% other. Major languages include English, Chinese, Malay, and Tamil; English is the language of instruction and commerce. Major religions and spiritual philosophies include Buddhism, Taoism, Confucianism, Islam, and Hinduism. Considered to be one of the four economic dragons of Asia, Singapore has achieved remarkable economic growth in the last few decades. According to United Nations statistics from 2002, Singapore's GDP per capita is 24,040. The life expectancy is 78 years; the literacy rate is 92.5%. These factors contribute to Singapore ranking 25th of 177 countries in 2002 on the Human Development Index (HDI) published by the United Nations. In contrast to Iceland, a country with abundant natural resources, Singapore has almost no natural resources. It is an urban environment with no wilderness and very little green or open space, with the exception of a small green belt around the causeway. There is no litter due to heavy fines and chewing gum is illegal. Singapore has to import almost all of the energy and food it needs. The natural resources of Singapore are its young people.

In 1995 the U.S. eighth graders scored below the international average of 41 countries in mathematics. In 1997-8 I became interested in visiting schools in Singapore because I observed that in 1995 Singaporean youth scored first of 41 countries on in mathematics. I traveled to Singapore and conducted several studies there. Most of the data reported here were

gathered by Chinese and Malay youth organizations in Singapore. I gathered additional data from volunteers at a recreation center, and L. Tay, a native of Singapore, gathered data from schools (Tay and Gibbons, 1998).

Sources of information

In my attempt to understand the cultural values and school contexts in Singapore, I have relied on observations, interviews, questionnaires, cultural experts, academic studies, and international government reports. The most valuable international comparisons for studying Singapore have been sponsored by the Trends in International Mathematics and Science Studies (TIMSS); unfortunately Iceland has not been part of these studies since 1995. To provide perspective on results, Singapore has been compared to international averages and to the USA. Results from TIMSS are available online from Trends in International Mathematics and Science Study (TIMSS) & Progress in International Reading Literacy Study (PIRLS) from the International Study Center, International Association for the Evaluation of Educational Achievement (IEA), Lynch School of Education, Boston College. Comparisons between the USA and other countries are available from the National Center for Education Statistics (NCES).

Cultural Values Emphasized in Singapore

Collectivist values are very important in Singapore (Chang, Wong & Koh, 2004; L. W. H. Tan, 1999). Collectivist societies tend to emphasize identity based on the social network and the extended family. Also associated with collectivism are interdependence, group harmony, strong family ties, filial piety, loyalty to the in-group, indirect communication, conformity, and the belief on collective decisions (Hofstede, 2001; Triandis, 1996) . Proper behavior for a Singaporean includes being prudent, courteous, well-mannered, patient, and “morally upright” (Chang et al., 2004, L.W .Tan, 1999). Additional work-related values characteristic of Singaporeans include being hardworking, industrious, serious and disciplined (Chang et al., 2004, E. Tan, 1989). A good citizen in Singapore should participate in multicultural harmony and national solidarity (Chang et al., 2004; E. Tan, 1989; L. W.

H.Tan, 1999). Singapore is atypical of collectivist countries in that it is a wealthy country and a modern society; Singapore prides itself on being forward thinking and concerned about the 21st century.

Singapore is a fast-moving society and it appears that the younger generation has adopted some distinctive values. Studies of older adolescents have found that Singaporean youth tend to be materialistic and pragmatic (Yeo & Chow, 1997).

School contexts in Singapore

According to the Ministry of Education, "education is a vital component of nation-building in Singapore…the aim [is to] nurture talent and develop individual potential to its fullest" (Ministry of Education, 1996, p.1). In 1995 the educational system in Singapore was working so well that the eighth grade students scored first in the world on international tests of mathematics and science. Instead of maintaining all of the existing educational practices, educational improvements were proposed. Wanting to prepare for the demands of the 21st century, in 1997 the Ministry of Education launched several new initiatives including making greater use of information technology, "reducing the curriculum content, improving assessment modes, teaching creative thinking skills, revamping and increasing career paths for teachers, stressing national education (values/responsible citizenship), and giving schools more resources and greater autonomy" (Tan, 1999, p.124). The new vision for Singapore's education is Thinking Schools/Learning Nation (TSNL); the goal is to accomplish this while maintaining cohesiveness and civic harmony. In keeping with collectivist values, the TSNL vision encourages commitment to "self, family, community, and nation to bring about social cohesion…" (L.W. H. Tan, 1999, p.127).

The main purpose of schooling in Singapore is to shape the future. At the secondary level the courses of study include mathematics, English, English literature, Mother Tongue, science, history, geography, arts and crafts, design and technology, home economics, physical education, music, and critical and creative thinking skills. Average class size is large; the

student-teacher ratio is thirty-six to one; the atmosphere is courteous, pleasant, and strict. There are more than 200 instructional days per year and absenteeism is very low.

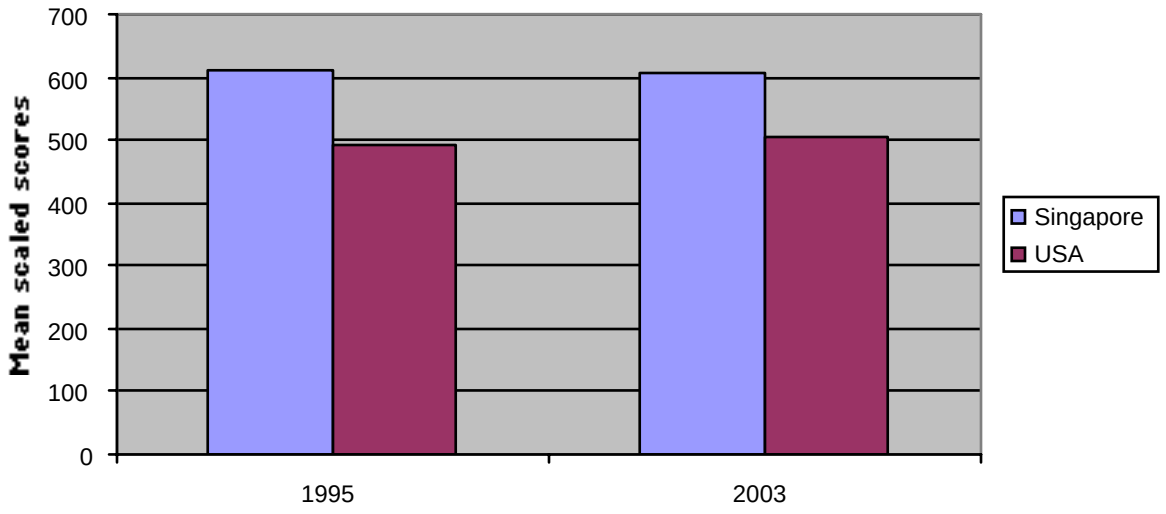
Unlike Iceland, Singapore has ability grouping and an educational system that is a meritocracy. An academic focus is evident in Singapore's schools. In one of my school visits I paused to study the trophy case in the central hall; instead of the typical sports trophies, this school displayed prizes for math and science. U.S. schools emphasize sports achievements; Singaporean schools emphasize academic achievement.

According to the report on TIMSS 1995, many students in Singapore have very positive attitudes towards mathematics. In Singapore, eighth grade students scored high (M = 2.76) on perceived difficulty of mathematics (compared with M = 2.59 from the USA). On the percentage of absenteeism, Singapore's students scored low, 1.82% (compared with the international average 3.74%). Of all the nations studied, Singaporean adolescents score the highest on educational aspirations; according to the report on TIMSS 1995, mean scores were 2.97 for Singapore and 2.47 for the USA.

As with Icelandic adolescents, Singaporean adolescents may feel under pressure to succeed at school. Whatever pressure they may feel, it has not detracted from Singaporeans enjoyment of mathematics. According to the report on TIMSS 2003, 33% of students from Singapore reported high levels of enjoying mathematics (compared with only 22% from the USA), 63% of students from Singapore reported high levels of valuing mathematics (compared with 58% from the USA), and 38% of students from Singapore reported high levels of time spent on mathematics homework (compared with 31% from the USA).

Figure 2 shows the mean scaled scores in mathematics from TIMSS in 1995 and 2003. In both years Singapore's eighth graders significantly outperformed U.S. eighth graders.

Figure 2. In 1995 and 2003 Singapore's eighth graders ranked first in the world on TIMSS mathematics and significantly better than U.S. eighth graders



Shen (2001) studied predictors of cross-national differences in mathematics and science achievement using the data from eighth grade students in TIMSS 1995 and found that societies' values in education accounted for considerable cross-national variance in achievement. The study showed that "high economic development does not automatically raise students' achievement in mathematics and science" (Shen, 2001, p.215). Factors such as students' perceived difficulty of mathematics were strong predictors of their achievement cross-nationally. As was found through the analyses of the OECD studies of reading engagement, analyses of TIMSS have shown that students' attitudes and cultural values may be even more important than socioeconomic factors in determining academic achievement.

Cultural Values and Educational Practices Common to Both Iceland and Singapore

Prosocial values and behavior

Of particular interest for this cross-cultural comparison are prosocial values and behavior; these include kindness, giving, helping, and sharing. Prosocial values are

emphasized in both Icelandic and Singaporean cultures. Though not part of Hofstede's study, Iceland would be classified as Low MAS (Einarsdottir, 2002; Hofstede, 2001). According to Hofstede (2001, p. 299), a "relationship orientation" and "sympathy for the weak" are characteristic values of Low MAS countries. According to Einsdottir (2002, p. 8) "Icelanders express a high level of caring and invest a great deal of energy in helping others." Singapore is classified as Low IND; according to Hofstede (2001, p, 227), a "we" consciousness (rather than the "I" consciousness of individualism) and "emphasis on belonging" are characteristic values of Low IND countries.

Measuring prosocial behavior is a difficult task and the United Nations statistics on charitable aid do not include the countries of Iceland and Singapore. More information about antisocial behavior is available than prosocial behavior. It is widely recognized that antisocial behavior is more prevalent in the USA than in Iceland or Singapore. Unfortunately many international reports exclude either Iceland or Singapore or calculate crime rates differently. Despite these limitations, it is certain that compared with the USA, crime rates are lower in Iceland and Singapore. For instance, according to the United Nations Surveys of Crime Trends and Operations of Criminal Justice Systems, the rates of adults convicted of robbery per 100,000 population in 1998 were .73 in Iceland, 4.72 in Singapore, and 15.98 in the USA. In the same year the rates per 100,000 of convicted intentional homicides were 0 in Iceland, 0 in Singapore, and 6.78 in the USA. Among school age children, rates of intimidation of teachers and thefts in schools were lower in Iceland and Singapore than in the USA according to TIMSS 1995 (The only year that both Iceland and Singapore participated was 1995). According to school reports on the percentage of schools dealing with school behavior problems at least monthly in eighth grade, reports of intimidation of teachers were 8% in Iceland, 8% in Singapore, and 18% in the USA. According to the same report, thefts were 1% in Iceland, 4% in Singapore, and 11% in the USA.

Prosocial values in school curriculum and educational practices

Iceland. A new curricular development in Iceland is called Life Skills; students from grades four to ten study life skills. The curriculum teaches prosocial values and behavior. It "aims to enhance the general development and maturity of children, their physical health and psychological strength. It should increase their social maturity, moral values and respect for themselves and others. It also aims to increase their initiative, creativity and ability to adapt to demands and challenges in daily life…. The [life skills] curriculum deals with factors linked to participation in a democratic society, being a member of a family, having friends, working with others and be able to see things from other people's point of view. It addresses issues such as social skills, expressing ideas, arguing one's case, setting goals and taking initiative" (0lafsson & Nordfjord, 2002, p.3).

Singapore. A new curricular development since 1992 is called Civics and Moral Education; this curriculum also teaches prosocial values and behavior and is slanted towards nation building. The underlying theme is that of citizenship training; the program strengthens the ability of the school system to transmit national values (Oon, 1998). The goals of the curriculum include nurturing interpersonal relationships, fostering cultural and religious appreciation, promoting community spirit , and helping students to become better citizens who are committed to building the nation of Singapore. The program seeks to cultivate strength of character and to help each individual to maximize his or her potential.

Interdisciplinary problem-solving in school curriculum and educational practices

Iceland. Innovation Education is a subject in the national curriculum in Iceland. It is both a separate curriculum and it is integrated with all school subjects. Nurturing creativity and developing thinking skills are the goals. According to a brochure, Innovation Education: an integrated approach, "It is an approach to education in primary and secondary schools that encourages children and young people to apply the knowledge they have acquired from all subjects in the curriculum in solving real problems."

Singapore. The Ministry of Education completed its introduction of creative and critical thinking skills to all secondary schools in 2000. Singapore (like Iceland) is one of few nations to have a program to enhance critical and creative thinking implemented in schools. In her forward to Issue 3 (December 2004) of the Asia-Pacific Forum on Science Learning and Teaching, Chang-Cheong explains why such a program is essential for the future of Singapore, "In the last decade, we have witnessed financial crises, SARS, avian flu and terrorism. These events arrived silently without warnings and students need to be prepared for future and unpredictable mega-problems. They need to think critically and creatively to solve problems in order to survive. To do this they need broad-based knowledge and thinking skills…".

Psychological Views of Young Adolescents from Iceland Compared with Singapore

According to Piaget (1967, 1969) thinking takes wings during the formal operational stage that emerges during early adolescence. With their new intellectual capacities young adolescents can go beyond the real and imagine the ideal. How do adolescents envision the ideal person? Their attitudes, beliefs, and hopes for the future are embodied in their views about the ideal man or woman (Gibbons and Stiles, 2004). A young adolescent's image of the ideal person represents his or her own psychology as well as the values of the greater culture he or she lives in. According to Block (1973), the projection of the values of a culture can be seen in the cultural definition of the ideal man and woman. Another intellectual development that emerges in early adolescence is the capacity to think about thinking. Young adolescents can examine their own thoughts and think critically about their environment. During school classes, adolescents may be thinking about learning and school subjects, but their thoughts may also be concerned with their peer group and free time activities. For the young adolescent, thoughts during school represent his or her own psychology as well as the classroom environment and cultural values. It was the purpose of this study of 791 adolescents

to learn more about the psychological views of youth from Iceland and Singapore.

Method

Participants

On anonymous questionnaires, participants indicated gender, age, nationality, and parents' occupations. In Iceland the participants describing the ideal person were 380 young adolescents ages 11-17 (mean age = 13.9) including 167 boys and 213 girls. Many Icelandic participants (42%) did not provide parents' occupations that could be coded as professional or non-professional. Of those students providing their fathers' occupations, 52% were professional and 48% were non-professional. In Singapore the participants describing the ideal person were 411 young adolescents ages 11-17 (mean age = 13.2) including 212 boys and 199 girls. Many Singaporean participants (47%) did not provide parents' occupations that that could be coded as professional or non-professional. Of those students providing their fathers' occupations, 57% were professional and 43% were non-professional. Participants were volunteers from public schools in Iceland and public schools, independent schools, and Chinese and Malay youth organizations in Singapore.

In addition to the ideal person questionnaire, 223 Icelandic and 242 Singaporean adolescents described their thoughts at school and drew pictures of their classrooms. From this group 100 participants from Iceland and Singapore were selected to be equivalent on the basis of gender, age, and socioeconomic level to youth from the USA, South Africa, Mexico, and Switzerland. (See Gibbons and Stiles, 2004). Using gender, age, and father's occupation as matching criteria, the Icelandic participants describing school classroom experiences were 25 boys and 25 girls ages 12-15 (mean age = 13.2), 38% professional fathers and the Singaporean participants describing school classroom experiences were 25 boys and 25 girls ages 12-15 (mean age = 13.5), 37% professional fathers.

Materials

Seven hundred and ninety one participants rated ten qualities of the ideal from - 1 - not

at all important to - 7 - very important. Then ten qualities were derived from of modified version of an American questionnaire by Clifford, Grandgenett, & Bardwell, 1981. The items on the ideal man or woman included the following: he/she is kind and honest, likes kids, is fun, has a good job, is very intelligent, has good looks, has average height and weight, is sexy, is popular, and has a lot of money. (See Gibbons and Stiles, 2004 for more details about the questionnaire).

On the reverse side of the questionnaire participants drew a picture of the ideal "doing something" and wrote comments to explain the ideal's activities. Allowing the participants to express themselves in drawings minimized the effects of language differences. Another advantage of using drawings was that participants were given the freedom to create their own picture of the ideal; they did not have to rely on a predetermined definition of the ideal. Participants could choose to draw any activity they wished. (See Stiles and Gibbons, 2000 for more details about the ideal man and woman drawings).

Four hundred and sixty five participants also completed a brain diagram questionnaire that asked them to describe their thoughts at school. "Draw a map of your brain at school. What do you think about at school?" were the instructions (See Figure 7). On the reverse side of the questionnaire participants were asked to, "Draw a picture of a school classroom with people in it. Make everybody doing something. Please write comments to explain your drawing and the people in it". (See Gibbons and Stiles, 2004 and Stiles, 1995 for more details about the questionnaire).

Procedure

The adolescents from Iceland and Singapore were voluntary and anonymous participants. The Webster University IRB, schools and agencies in Iceland and Singapore, and the adolescents and their parents approved the research. Students in Iceland answered the questionnaires in Icelandic: students from Singapore answered the questionnaires in English. The Icelandic versions of the

questionnaires were translated and back-translated for verification. Participants were randomly assigned either an ideal man or ideal woman version of the questionnaire.

Data analysis

For the purposes of this two-country study, comparisons were made between Icelandic and Singaporean adolescents' ideas about the ideal man and woman. T tests were used to study country differences on the ratings of the characteristics of the ideal and Chi square tests were used to study differences in the activities shown in the ideal person drawings. (See Gibbons and Stiles, 2004 for more details about other statistical analyses and comparisons among many countries). The studies of the classroom drawings and the brain diagrams compared three countries, the USA, Iceland, and Singapore. To study students' thoughts at school, a grid containing 224 squares was placed on top of the brain diagrams and the number of squares devoted to academic thoughts was counted. ANOVA's and post hoc tests were used to compare the number of squares devoted to academic thoughts by adolescents from Singapore, Iceland, and the USA. Chi square tests were used to study differences in the school classroom drawings. (See Gibbons and Stiles, 2004, Stiles and Gibbons, 2002, and Stiles, 2003 for more information about methodology, reliability, and validity).

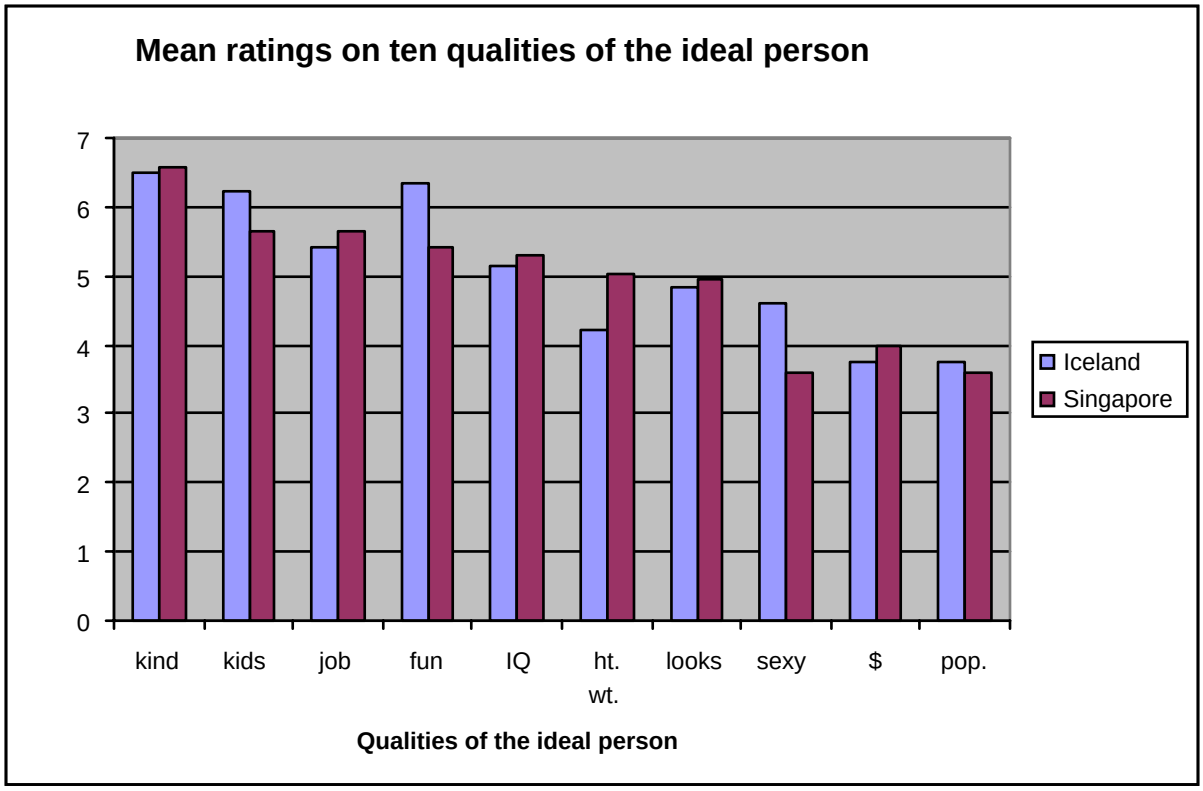
Results

Ideal man and woman

Figure 3 shows the mean ratings of ten qualities of the ideal person. Overall, adolescents from Iceland and Singapore rated the characteristics of the ideal person similarly. Highly rated characteristics for the ideal man and woman were "He/She is kind and honest"; "He/She likes kids"; and "He/She is fun. " On a seven point scale mean ratings for being kind and honest given by adolescents from Iceland equaled 6.50 (SD = 1.03), from Singapore, 6.56 (SD = 1.00); for being very intelligent, (M = 5.16, SD = 1.35) for Iceland and (M = 5.30, SD = 1.34) for Singapore, for being good looking (M = 4.85, SD = 1.82) and (M = 4.94, SD = 1.54), respectively, and for being popular (M = 3.75, SD = 1.79) and (M = 3.58, SD = 1.65),

and for having a lot of money (M = 3.75, SD = 1.80) and (M = 3.97, SD = 1.65), respectively. None of these differences was statistically significant.

Shown here is Figure 3.



Icelandic adolescents placed more importance than Singaporean adolescents on three of the ten qualities. Icelandic adolescents gave significantly higher ratings to the quality, He/She is fun (M = 6.36, SD = 1.08) than Singaporean adolescents (M = 5.41, SD = 1.47), t = 10.37, $p < .001$ (two-tailed), $df = 750$. Icelandic adolescents gave significantly higher ratings to the quality, He/She is sexy (M = 4.59, SD = 2.07) than Singaporean adolescents (M = 3.59, SD = 1.92), t = 7.05, $p < .001$ (two-tailed), $df = 786$. Icelandic adolescents gave significantly higher ratings to the quality, He/She likes kids (M = 6.21, SD = 1.34) than Singaporean adolescents (M = 5.65, SD = 1.50), t = 5.57, $p < .001$ (two-tailed), $df = 786$.

Singaporean adolescents placed more importance than Icelandic adolescents on two of the ten qualities. Singaporean adolescents gave significantly higher ratings to the quality, He/She has a good

job (M = 5.63, SD = 1.51) than Icelandic adolescents (M = 5.40, SD = 1.53), t = 2.09, $p < .05$ (two-tailed), $df = 785$. Singaporean adolescents gave significantly higher ratings to the quality, He/She has average height and weight (M = 5.02, SD = 1.52) than Icelandic adolescents (M = 4.22, SD = 1.71), t = 6.97, $p < .001$ (two-tailed), $df = 786$.

Table 1 shows the activities of the ideal person depicted in the drawings of young adolescents from Iceland and Singapore.

Table 1.
Activities of the Ideal Person (Percentage of Drawings)

Activity	Iceland	Singapore
Work in a job or occupation	16.2%	26.8%*
Leisure, play	50.0%	18.3%***
Homemaking including child care	16.9%	15.8%
Studying, thinking, reading	16.2%	14.0%
Nature, outdoors	21.2%	8.6%**
Art, music, dance	14.1%	4.9%**
Sports	19.2%	8.5%**
Helping others	13.9%	24.8%***
Reversed gender-roles	16.5%	10.8%*
Adult responsibilities	38.2%	38.1%
Ideal depicted with others	19.4%	30.4%**

Note. * indicates significant Iceland - Singapore difference at $p < .05$,
** $p < .01$, *** $p < .001$

Country differences on activities shown in the drawings of the ideal person were

consistent with individualism/collectivism dimensions and other cultural values. In Iceland compared with Singapore, a significantly higher proportion of drawings showed leisure activities (X^2 (2, N = 262) = 29.28, $p < .001$), nature or the outdoors (X^2 (2, N = 263) = 8.48, $p < .01$), art, music or dance (X^2 (2, N = 263) = 6.91, $p < .01$), sports (X^2 (2, N = 263) = 6.39, $p < .05$), and reversed gender-roles (women in traditionally masculine roles and men in traditionally feminine roles) (X^2 (2, N = 735) = 5.38, $p < .05$). In Singapore compared with Iceland, a significantly higher proportion of drawings showed working in a job (X^2 (2, N = 263) = 3.99, $p < .05$), helping others (X^2 (2, N = 748) = 14.27, $p < .01$), and the ideal person depicted with other people (X^2 (2, N = 735) = 31.51, $p < .001$).

Also consistent with individualism/collectivism dimensions and other cultural values were many of the comments expressed on the young adolescents' drawings. Table 2 shows examples of comments relating to cultural values.

Table 2.
Examples of cultural values characteristic of Singapore or Iceland and expressed in adolescents' comments on drawings of the ideal man or woman.

Icelandic values	Icelandic adolescents' comments	Singaporean values	Singaporean adolescents' comments
Independence, individualism	He wants to be himself.	Interdependence, collectivism	The ideal man is my father.
Independence, individualism	A woman I would admire would be strong and not like everybody.	Interdependence, collectivism	[The ideal woman] waits for her younger sister.
Independence, individualism	She does what she wants to do. She is very independent.	Interdependence, collectivism	A loving father and husband.
Freedom, wildness	The woman… is very free. She lives	Proper behavior, well-mannered	This is the ideal woman I would like

	in a wild world.		to be…obedient, loyal, humble.
Freedom, wildness	[He's] thinking of freedom.	Proper behavior, well-mannered	[He] must be trustworthy, clever, and obedient.
Enjoyment, leisure	He's happy, flipping a coin, and smiling at the world.	Seriousness, industry	[He's a] serious worker.
Enjoyment, leisure	She enjoys sports. She's healthy, energetic, and fun.	Seriousness, industry	He must earn money for his family.
Gender-role equality	The women are equal to the men.	Traditional gender-roles	[She must] act like a real lady.
Gender-role equality	All are very good fathers. They are the "soft" type.	Traditional gender-roles	[My ideal man] is advising me in terms of work and Islam.
Prosocial values	She's doing volunteer work in Third World countries and teaching people self-sufficiency	Prosocial values	[The ideal man] is helping an old woman carry her bag.

Brain diagrams and classroom drawings

On the brain diagrams, differences in the mean proportion of the brain devoted to academic thoughts in Iceland, Singapore, and the USA were statistically significant according to ANOVA, F (2, 149) = 13.89, $p < .001$. According to Scheffe post hoc tests, significantly more academic thoughts were depicted in Singapore (M = 100.98, SD = 72.22) and Iceland (M = 71.88, SD = 60.75) than the USA (M = 37.86, SD = 43.29), $p < .05$. Differences between Iceland and Singapore were not statistically significant ($p = .06$). (The mean proportion of brain devoted to academic thoughts in the USA was previously illustrated in a graph in Gibbons and Stiles, 2004). On the classroom drawings, differences in the mean number of students depicted in Iceland, Singapore, and the USA were

statistically significant according to ANOVA, F (2, 149) = 8.87, $p < .001$. According to Scheffe post hoc tests, significantly more students were depicted in Singapore (M = 12.04, SD = 9.01) than in Iceland (M = 7.88, SD = 5.34) and the USA (M = 6.76, SD = 4.61), $p < .01$.

Classroom drawings and comments were also scored for the depiction of eight additional categories and proportions were compared using Chi square tests. (See Table 3). Significant differences were found on the depiction of a positive tone or any positive aspects, (X^2 (2, N = 150) = 6.06, $p < .05$), learning depicted as interesting, stimulating, challenging, or worthwhile (X^2 (2, N = 150) = 12.20, $p < .01$), students shown working together, socializing or cooperating ,or enjoying each other, (X^2 (2, N = 150) = 21.50, $p < .001$), student fighting or hitting, (X^2 (2, N = 150) = 6.86, $p < .05$), and the size of the teacher compared with the students (X^2 (2, N = 150) = 12.88, $p < .01$).

Table 3.
Qualities Depicted in School Classroom Drawings (Percentage of Drawings)

Quality of classroom experience:	Iceland	Singapore	USA
Positive elements shown	70%	74%	52%*
Worthwhile, interesting	56%	38%	22%**
Boring, tedious	42%	56%	38%
Student activities:			
Socializing, working together	46%	74%	28%***
Fighting or hitting	6%	20%	6%*
Teacher:			
Represented or mentioned	76%	70%	54%
Larger than students	58%	34%	24%**
Smiling, teaching enjoyable	28%	20%	24%

Note. * indicates significant differences at $p < .05$,
** $p < .01$, *** $p < .001$

Discussion

Many adolescents from Iceland and Singapore described the ideal man or ideal woman in ways consistent with individualism/collectivism dimensions and other cultural values.

Figure 4 shows a 15-year-old girl's drawing of the ideal woman. In this Icelandic adolescent's drawing the ideal woman is canoeing or kayaking over a waterfall and "She is living life." This drawing is very Icelandic in that it shows the exciting and enjoyable life, a woman in a non-traditional role, nature and the outdoors, a sports activity, an individual pursuit, freedom, and wildness. Here is Figure 4.

The 15-year-old girl who drew this picture indicated that it was very important for the ideal woman to be kind and honest, but less important for her to have a lot of money. In Iceland the highest rating were assigned to “kind and honest” and the lowest to “has a lot of money”. The ideal woman was drawn in a leisure activity; in previous research, the proportion of leisure activities was found to be correlated with individualism (Gibbons and Stiles, 2004). In this previous research, the best predictor of whether an adolescent came from an individualist country or a collectivist country was the rating on “He/She is fun.” The second best predictor of individualism versus collectivism was “He/She is sexy.” (Gibbons and Stiles, 2004).

Figure 5 shows a 16-year-old Singaporean girl’s drawing of the ideal man. In this

Singaporean adolescent's drawing of the ideal man with his family, the mother is thinking, "What about bringing some cookies for them." The father is a "person who is willing to sacrifice his time to teach his children when he is free". Here is Figure 5.

This drawing is typically Singaporean in that it illustrates family harmony, traditional gender-roles, collective efforts, seriousness, industry, and well-mannered proper behavior. The 16-year-old girl who drew this picture thought it was very important for the ideal man to be kind and honest and relatively less important for him to be fun. Valuing seriousness and hard work was characteristic of Singaporean questionnaires and drawings.

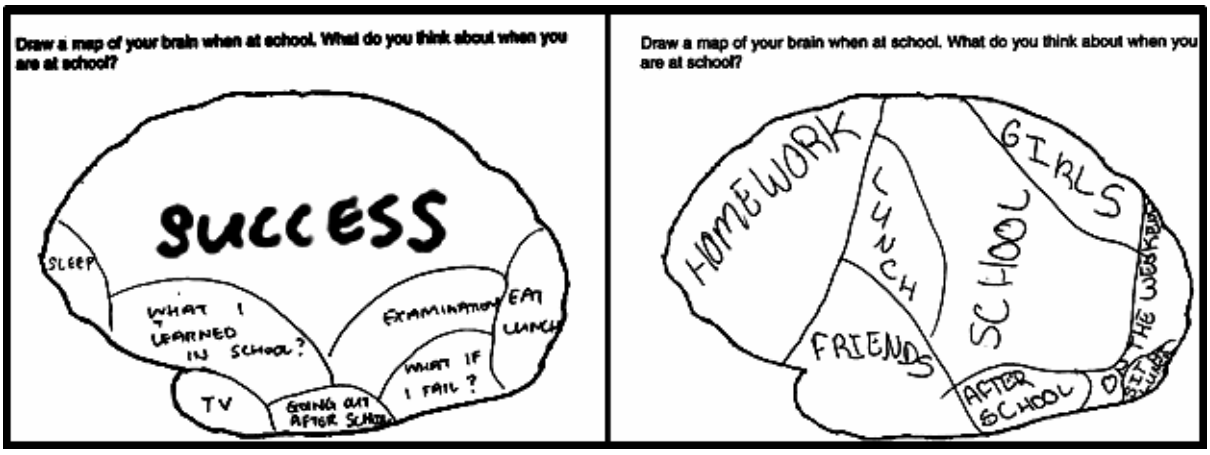
National values are reflected in young adolescents' views of the ideal. As can be seen from studying examples of the ideal person drawings, the ratings of the 10 qualities of the ideal man and woman, the activities depicted in the drawings, and the examples of comments on the drawings, Icelandic and Singaporean youth both endorse prosocial values and behavior. Consistent with previous research (Gibbons and Stiles, 2004; Stiles et al., 1987), Icelanders strongly endorsed the importance of liking children and being kind and honest. Another study

found that Icelandic adolescents were the highest of twenty countries in their views on the importance of the rights of the child at home. Adolescent participants could draw a picture of the ideal person engaged in any activity; many Icelandic adolescents drew the ideal person liking children. Consistent with previous research (Gibbons and Stiles, 2004), Singaporeans strongly endorsed the importance of being kind and honest and drew pictures of the ideal person helping others. In the present study one in four Singaporean (mean age = 13.2) chose to show the ideal helping, caring for, or nurturing others. In her study of adolescent work values in Singapore, E. Tan (1989) also found that altruism was very important to younger adolescents, but declined by junior college. See Figure 6 for examples of liking children in Iceland and helping others in Singapore. Here is Figure 6.

Each adolescent participant is a unique individual, yet when they are grouped together they most often endorse the importance of positive interpersonal relationships. (See Figures 3. 5, and 6 and Tables 1 and 2). Of course, some youth expressed different ideas. For example, there were a handful of drawings depicting distasteful images, but the predominant values expressed in both countries were positive. When they are grouped together by country, more Icelanders tend to prefer independence and freedom and more Singaporeans tend to prefer interdependence and group harmony. Overall, young adolescents have cultural mental

programs and as Hofstede (2001, p. xix) stated in the introduction to his book Cultures consequences: Comparing values, behaviors, institutions, and organizations across nations , "these mental programs contain a component of national culture."

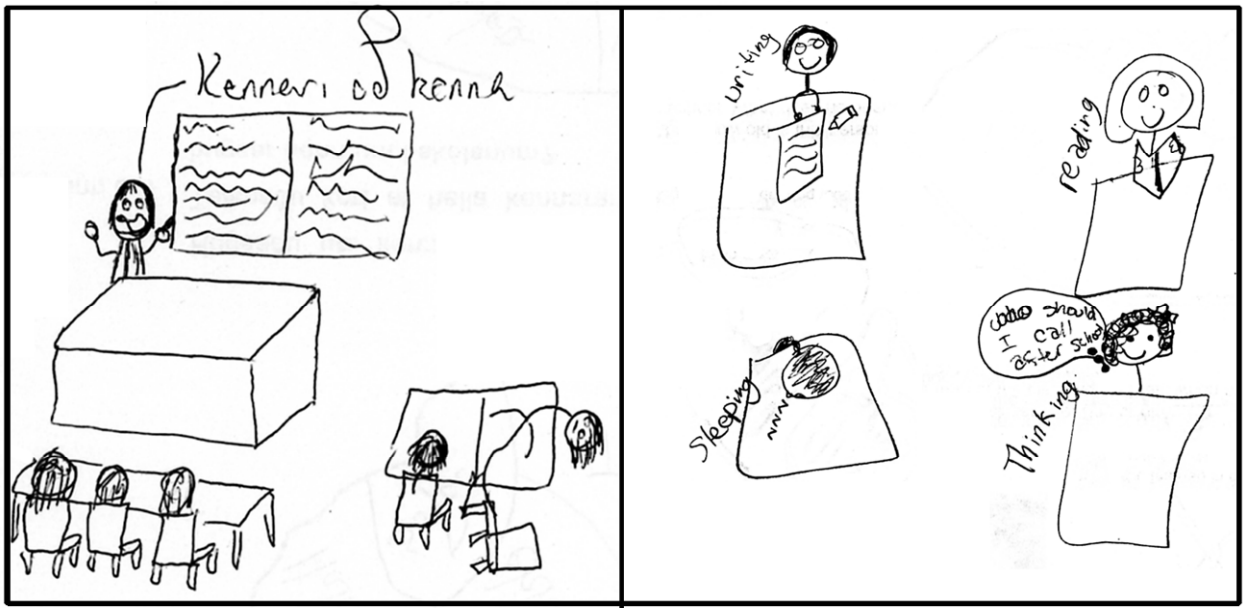
The brain diagrams and classroom drawings reveal attitudes towards education. Figure 7 shows two examples of the brain diagrams. The brain on the left comes from a girl from Singapore and the brain on the left comes from a boy from the USA. Singaporean and Icelandic adolescents indicated that they were thinking more about school subjects, academic goals and studying and learning in school compared with adolescents from the USA. Here is Figure 7.



The girl from Singapore is mainly thinking about success, examinations, "What if I fail?" and "What I learned in school?" Her dominant thoughts provide a good example of the thoughts of a young person who is living in a nation with the highest educational aspirations of any country studied in TIMSS. The young person from the USA is also thinking about school and homework, but he has more non-academic thoughts - about friends, girls, after school, on the weekend, lunch, and who he will sit with at lunch – and these thoughts take up

relatively more space.

Figure 8 shows two examples of classroom drawings. The drawing on the left is from Iceland; it shows a smiling teacher teaching and four students studying and learning. The fifth student seems to have fallen asleep and knocked over her chair. In this illustration learning is depicted as interesting and worthwhile for four students and boring and tedious for one. The drawing on the right shows four students from the USA. One student is reading, one student is writing, and one student is sleeping. A fourth student appears to be paying attention, but in fact she is thinking to herself, "Who should I call after school?" Here is Figure 8.



Many aspects of the classroom drawings reflect adolescents' classroom experiences in the Iceland, Singapore, and the USA. For example, Singapore has a larger average class size than Iceland and the USA and Singaporean adolescents put significantly more students in their classroom drawings. Perhaps due to larger class sizes, Singaporeans drew the most pictures illustrating positive and negative peer interaction. In Singapore there were comparatively more drawings showing working together and socializing and more showing and hitting and fighting.

Education seems to be viewed more positively in Iceland and Singapore than in the USA; the percentage of drawings containing a positive tone or any positive aspects was 70% of Icelandic drawings, 74% of Singaporean drawings, but only 52% of American drawings. The percentage of drawings containing interesting and worthwhile learning was 56% of Icelandic drawings, 38% of Singaporean drawings, but only 22% of American drawings. According to this study of classroom drawings and to international government studies, more engagement and enjoyment with learning is characteristic of Icelandic and Singaporean than U.S. youth. These findings are consistent with the OECD international studies of 15-year-olds that found that Icelandic adolescents had a significantly higher mean Index of Engagement in Reading than U.S. adolescents and with PIRLS studies that found that Icelandic youth did more reading for pleasure outside of schools than U.S. youth. In addition, international studies of eighth graders found that youth in Singapore had a greater enjoyment of mathematics and perceived math to be more valuable than youth from the USA (TIMSS, 2003).

Summary: Cultural Values, School Contexts and Psychological Development in Iceland and Singapore

In summary, cultural values and societal conditions influence environments for learning; all of these impact the psychological development of youth from Iceland and Singapore. It appears that Icelanders enjoy being self-educated. They don't merely read for school success, they read for knowledge and enjoyment. They seem to be truly independent learners with strong beliefs in themselves and their own abilities. These characteristics lead to life-long learning and may be more important than achievement scores. In their surveys and drawings Icelandic youth expressed desires for positive interpersonal relationships, creativity, learning, equality, and individuality. Singaporean youth valued positive interpersonal relationships, hard work, sacrifice, family harmony, collectivism, and achievement. Singapore has recently emerged as a powerful economic force. Singapore has no natural resources except young people. Educators in Singapore strive to “mould the future of the nation” through their

teaching of children. After 1995 when Singaporean eighth graders first scored first in the world in mathematics and science, the Ministry of Education launched a new effort (Thinking Schools/Learning Nation) to improve education even further by making more relevant to the 21st century.

Possible Implications for the USA

International studies of problem-solving, reading, mathematics, and science suggest that the wealthiest nation in the world does not have the best schools. International studies sponsored by OECD and TIMSS have shown that in comparison with other countries in the world, U.S. students generally score at or below international averages. Our very best students receive about the same math test scores as the average students in Singapore.

In the USA we tend to overemphasize the importance of socioeconomic factors in school achievement, but students' attitudes toward education can be even more important than their socioeconomic background. OECD studies found that students' levels of reading engagement were more predictive of their achievement than their parents' socioeconomic backgrounds. Analyses of TIMSS results found that indicators of a nation's social values better predicted student achievement than the nation's economy. My own research on the "brain diagrams" did not find significant effects for parents' occupations, but did find nationality effects with more thoughts about academics topics among adolescents from Iceland and Singapore than the USA.

High educational aspirations, interest in learning, motivation to learn, feelings of belonging, positive self-concept, and community support can lead significant achievement and life long learning. In most ways the countries of Iceland and Singapore could not be more different from each other, but they are both environments that support youth. The adolescents in Iceland and Singapore are supported at all levels - families, schools, communities, and the whole society. For example, all levels of Icelandic society support an interest in literature: Icelandic families have many books in the home; poetry is important in Iceland and Icelandic

schools exhibit portraits of the poets of the month; there are more bookstores per capita in Iceland than anywhere else in the world; and government officials have also worked as poets and writers. The same support at all levels of society is true for Singapore where youth have high educational aspirations and families and the larger society also have high educational aspirations for their youth. But U.S. students are not supported at all levels and they are not being adequately prepared for problem-solving and life long learning.

Promoting Life Long Learning in a U.S. School

Here are two examples of U.S. "success stories"; they come from two dedicated and inspiring seventh grade teachers who have worked for several years in collaboration with their colleagues to develop programs for their students that will foster academic understanding and life long learning. The first program encourages the love of reading; the second program encourages an appreciation of mathematics. These programs come from Hixson Middle School, a suburban St. Louis school. The demographics of the schools are as follows: 1.8% Asian, 25.6% Black, 71.6% White, and .9% Hispanic. There are 19.7% of students who are eligible for free and reduced lunch.

Love of Reading

As stated previously, the term "reading engagement" refers to attitudes towards reading (interest in reading and motivation to read) and reading habits or practices (frequency and diversity of reading). On the Index of Engagement in Reading, Iceland scores as the second highest country and the USA falls below the international average.

This is a travesty of education. It is critically important for their futures that American youth are involved in reading outside of homework assignments. They must prepare to be life long learners so that they can contribute to society.

The PISA term "least diversified readers" refers to youth who do no reading or limit most reading to magazines or comics. Only 6.5% of Icelandic males and 6.8% of Icelandic females fall into this least diversified cluster. In the USA 30.4% of males and 26.5% of females are in the least diversified group. Too many American youth don't read books or

newspapers. Too many don't read in their free time. Their habits will not prepare them for adulthood and responsible citizenry.

So, how can young adolescents become more engaged in reading? A "discovery" class program in a Missouri middle school increases students' reading motivation, interest, frequency, and diversity. The discovery class is called Reader's Workshop and it meets two to three times a week for twelve weeks. According to Ms. Lisa Sparks (personal communication, March 18, 2005), " We talk about reading, think about reading, and practice reading. I'm biased since I helped design the program, but I think it is fantastic. We have a 10-minute mini lesson at the beginning of each class, and then the rest of the period is devoted to reading. During that time I conference with individual students as they finish books. I co-teach with the English teacher on our team, Roni Hildreth, who spends time working on writing skills (this is a new element this year). This is our third year in and it has been very successful. We do a survey of each group at the end of the 12 week term, and most kids say they enjoy the quiet reading time the most."

I visited Ms. Sparks' seventh grade classroom. The bookshelves contained more than 100 books, mostly novels of interest to young adolescents. The Reader's Workshop began with students sitting at desks, but later they brought their books to relax and read on comfortable couches. The class began with a study of reading rates and each student calculated his/her number of words read per minute that day and recorded it for a bar graph. Ms. Sparks explained to the students that their reading rates would most likely increase over time. Then the students collected their self-chosen books and retired to the couches; relaxing music was played while they all read quietly. The quiet and peaceful atmosphere was impressive for a seventh grade classroom. "I love reading" one student remarked out loud. One student expressed dissatisfaction with his book and claimed it wasn't a "boy book." Ms. Sparks determined that he had given the book a fair chance – 60 pages - and she reminded him that he could "abandon" one book during the workshop. Other students made

recommendations and he decided to read another book instead.

Students become more interested in reading when they think about what they had read and discuss it with others, “Reader Response Journals” give students opportunities to reflect on their reading and form opinions. It is very motivating for seventh graders to choose their books. Two ingenious elements of the Reader’s Workshop maximize personal choice; these are called “Book Tasting” and “Reader’s Chair.” A Book Tasting allows students to sample five new books at a time by reading two pages. A student sitting in the Reader’s Chair does a short commercial for a book he/she has read. The audience asks questions and the student makes recommendations.

Each year the middle school students evaluate the Reader’s Workshop and make suggestions. Comments from last year’s seventh graders include, “I enjoyed reading the books because it was fun”, [Reader’s Workshop] “inspired me to read more’; “I liked reading quietly.” “I think the part that helped me the most was the Reader’s Chair. I gained two things, confidence in talking in front of the class and learning how to express what I read.”

It is obvious that this is an excellent program that will continue to be refined and improved. The Reader’s Workshop increases interest and motivation, develops good reading habits, and encourages students to read books rather than comics and magazines. The program helps prepare young people for learning throughout their lives.

Appreciation for Mathematics

In 2003 and other years Singaporean eighth graders scored first in the world on international tests in mathematics. The average student from Singapore received about the same score as the very best American students. The success of students from Singapore has been attributed to many factors including an in-depth mathematics curriculum, positive student attitudes, low absenteeism, high educational aspirations, and strong support from families and communities. In the USA student test scores have been closely monitored. Each year the Missouri Department of Elementary and Secondary Education administers the

Missouri Assessment Program (MAP) tests. Data is publicly available for the entire state of Missouri as well as individual schools and districts. In 2004, Hixson Middle School eighth graders scored third in Missouri on the mathematics portion of the MAP test. There has been a steady increase in performance among Hixson eighth graders from 2000 until 2004. In 2000, 51% scored proficient, advanced or nearly proficient and in 2004, 79% scored proficient, advanced, or nearly proficient. (The Missouri Department of Elementary and Secondary Education defines proficient as "the desired achievement level for all students"). I was very interested to know what might have led up to this accomplishment; I wondered how Hixson Middle School explained their students' mathematics performance. Did Hixson Middle School teachers introduce any new curriculum, teaching practices, or motivation techniques? According to math teacher Ms. Wendy Roundy, "I have lots to tell you abut how this was achieved - all positive - teaching not driven by the test" (personal communication March 17, 2005).

So how did Hixson Middle School improve in mathematics? According to Ms. Roundy, all the math teachers met together after school regularly for four years to study math learning and instruction. They examined students' thinking, studied math assignments, reviewed students' math work, and developed scoring rubrics. As a result of the intensive study, they gained a better understanding of the impact of the math curriculum and they made modifications accordingly. Working together, they developed close and collaborative professional relationships. "We share everything we do in our own math classes that they we feel works well – exercises, notes for students, ways to introduce problems, posting math goals, etc."

In addition to regular math classes, students at Hixson have "discovery" math classes and these classes teach creative problem-solving. As stated previously, on the international study of 15-year-old youth from 42 countries, students from the USA scored below the international average on problem-solving (defined as an individual's capacity to use cognitive

processes to confront and resolve real, cross-disciplinary situations). Having creative problem-solving abilities and skills and enthusiasm for learning are more important for life long learning and real world success than knowing how to answer achievement test items. Both Iceland and Singapore have curricular programs designed to enhance creative thinking and real life problem-solving.

I visited Ms. Roundy's seventh grade "discovery" math class. Students were working in small groups studying the results of a probability and statistics problem. Previously, students were given paper bags of colored game markers representing genetic information on the blood types of five fictitious people. Each small group of students acted as though they were a "scientific laboratory conducting an experiment." Students gathered data from each of the paper bags and then analyzed it, summarized it, and displayed it on posters. The goal, according to one seventh grader was to "find out which two of five people are related." When I visited, groups of students were making colorful bar graphs, decimal and fraction grids, line plots, pictograms and pie charts of their results. They explained to me their ideas of which two of the five people were related. Students were very engaged in their learning; they all worked together; and they were relaxed. "This is fun; I enjoy working in a group," remarked another seventh grade student. According to Ms. Roundy, students enjoy working together, solving problems, and learning math without pressure. In their evaluation of the twelve-week "discovery" math program, many students wrote that they most enjoyed working on the probability project groups.

Conclusion

The most obvious limitation of this study is that I am an American citizen who is seeking to understand two cultures that are entirely different from each other and from the USA. Despite this serious limitation, I feel that after 20 years of international study, I have learned one simple truth: what is emphasized matters. In Iceland they emphasize

individualism, freedom, democracy, creativity, and the love of language. Their youth have embraced these values. In Singapore they emphasize education, hard work, group harmony, and preparing for the future and their youth have embraced these values also.

Iceland's "Still better schools: their right - our duty" and Singapore's educational plan, "Moulding the Future of Our Nation" sound more forward looking that America's "No Child Left Behind" and "back to basics". In January 2002, President Bush signed the "The No Child Left Behind Act." This act includes new accountability measures for all public schools; it has the goal that all children will be proficient in reading and math by 2014. In a press conference on April 28, 2005, President Bush said, "Yes, I think it's working. And the reason why I think it's working is because we're measuring, and the measurement is showing progress toward teaching people how to read and write and add and subtract. Listen, the whole theory behind No Child Left Behind is this: if we're going to spend federal money, we expect the states to show us whether or not we're achieving simple objectives -- like literacy, literacy in math, the ability to read and write. And, yes, we're making progress. And I can say that with certainty because we're measuring."

Even though President Bush is completely confident "we're making progress", there are many problems with the No Child Left Behind Act. Schools' attempts to meet the goals of the No Child Left Behind Act can narrow the school curriculum and remove much of the joy from teaching and learning (Ryan & Brown, 2005). In this personal communication from Professor Marlene Birkman, Ph.D. (May 15, 2005), she explains a broader, better, and more joyful approach to "achieving simple objectives -- like literacy." She writes, "English/language arts studies can be a success story for all students. Listening, speaking, reading, writing, moving, viewing, and thinking spark the imagination, ignite the creative spirit. When students actively discover language through storytelling, drama, poetry, games, books, pictures, and technology, they learn in a social context similar to their language experience before entering school. They feel the joy, the wonder, and the power of the word. The arts must be integral to

English/language arts. They stimulate livers and lovers of language. They connect the global community of learners. Alfred Mercier's words summarize best: 'What we learn with pleasure, we never forget'."

A more exciting, worthwhile, and enjoyable approach to "math literacy" and "teaching people how to… add and subtract" is suggested by another Webster University professor, "Take a group of 15 kids; (well-fed, well-rested;) put them in a room with a teacher who loves mathematics and is skillful at teaching mathematics in a problem solving environment; keep all external pressures at bay (from administrators; parents; state/federal agencies etc.) and great things will happen." (Andrea Rothbart, Ph.D., personal communication, March 19, 2005).

Among the many other problems with the No Child Left Behind Act is that its focus is on short term progress - schools must raise test scores - rather than the long term goals of preparing young people for life and work in the 21st century. Better goals for U.S. education might include encouraging life long learning, fostering high educational aspirations, promoting interdisciplinary problem-solving, nurturing creativity, supporting families and communities, teaching youth to live in a democratic society, strengthening prosocial values and behavior, and preparing world citizens.

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Author Notes

Deborah Stiles, Ph.D. is a professor in the School of Education at Webster University.
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