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Sherri McCarthy, Victor Karandashev, Michael Stevens, Andrew Thatcher, Jas Jaafar, Kate Moore, Annie Trapp, and Charles Brewer

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This book is dedicated to our students who, thanks to colleagues from around the world represented here who devote time and energy to bringing together information about the similarities and differences of teaching and practicing psychology throughout their respective countries, will learn to practice as international psychologists with sensitivity and understanding for all people, everywhere as they develop a dedication to maintaining a positive quality of life for everyone in a sustainable, safe environment around the globe.
THE EFFECTS OF TRANSNATIONAL STUDENT ONLINE COLLABORATION ON ETHNOCENTRISM AND INDIVIDUALISM/COLLECTIVISM

HERMANN KURTHEN

Abstract

This study analyzes the effects of transnational online collaboration on ethnocentrism, vertical collectivism, and horizontal individualism using a non-random, quasi experimental control group pretest-posttest design with undergraduate students from Saginaw Valley State University, Michigan U.S.A and Poznan Technical University in Poznan, Poland. Findings indicate that online collaboration and the constructs of horizontal individualism and vertical collectivism are not significant predictors affecting students' ethnocentrism. Overall ethnocentrism levels were somewhat lower among American students. No statistically significant country differences could be observed for horizontal individualist and vertical collectivist cultural attitudes. Regression analysis of the scales with demographic control variables indicates a significant gender effect among American and Polish students. Church attendance and political attitude also were good predictors of ethnocentrism.

Background

Research Question

Two concepts of cultural psychology, 'ethnocentrism' and 'collectivism/individualism,' have frequently been applied to the study of intercultural communication. With the global revolution in e-learning in recent years, the question has been raised whether transnational student online collaboration results in a reduction of ethnocentric and collectivist attitudes (Brislin, 1993) and whether such a reduction is an easier task in so-called 'individualistic' cultures (Hofstede, 1991). Supporters of student online collaboration across borders argue this method has a multitude of advantages in accomplishing important pedagogical, economic, and political goals. First, it is a promising tool to prepare and train students for jobs in a globalizing world. This point is central for students, funding agencies, college administrators and employers. Second, online collaboration provides students with opportunities for personal interaction with learners abroad. Third, online collaboration has the potential to reach out to large groups of students as a feasible mass-alternative to study abroad programs. Fourth, it can help to break down cultural barriers, ignorance, and stereotypes and help students to re-evaluate their own perspectives. Fifth, it is a relatively easy, cheap and accessible method to foster intercultural learning and understanding. Sixth, it is a very flexible mode of teaching offering a great variety of tools based on an ever expanding communication technology. Seventh, it has the advantage to be adaptable to any topic, curriculum, and student population. Eight, online collaboration is possible among all nations as long as the learners share one common language.

While some of the advantages mentioned above can be deduced from the ever increasing literature about online research (Furstenberg, Levet, English & Maillet, 2001; Weisband, 2002; Armstrong & Cole, 2002; Kurthen, 2008), some of the claimed benefits are not based on empirical proof but rest on anecdotal evidence. For example, the notion that increased global connectivity of individuals through the Internet, and in particular, transnational online student collaboration, breaks down cultural barriers and reduces ethnocentrism (Cramton & Hinds, 2005; Boehm & Jedrzejek, 2006) is not unambiguously supported in the literature. For example, O'Dowd (2003) warns against the assumption that contacts between cultures, including virtual intercultural contact, "automatically leads to intercultural learning and to the development of positive attitudes toward the target culture" (O'Dowd, 2003, p. 118). Instead, she cautions that "intercultural exchanges which fail to function properly can lead to a reinforcement of stereotypes and a confirmation of negative attitudes" (O'Dowd, 2003, p. 138) and may even end in "culture shock, 'I-told-you-so' negative attitudes, or dismissal of foreign ways as 'strange' or 'typical'" (O'Dowd, 2003, p. 121).

Another assumption derived from cross-cultural psychology states that learners from individualist cultures have a higher propensity to embrace tolerance of diversity and are less likely to be ethnocentric compared to those coming from a more collectivist cultural background (Triandis, 1995; Neuliep, 2002, p. 213; Neuliep, 2006). In other words, while there seems to be a consensus that ethnocentrism is universal and thus "a barrier to effective and competent intercultural communication" (Neuliep, 2002,
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p. 203; Neuliep & McCroskey, 1997, p. 389), there is also a recognition that the "magnitude of ethnocentrism may be mediated by culture." (Neuliep, 2002, p. 202).

With regard to individual respondent characteristics, studies found statistically significant gender differences, with women being less ethnocentric (Neuliep, Chaudoir & McCroskey, 2001, p. 205; Liu & Rancer, 2003, p. 142; Goldstein & Kim, 2006, p. 516). This has been attributed to personality differences like openness and trust.

So far, the hypothesis about a positive effect of online collaboration on cultural awareness has received scant attention. In addition, the research about the relationship between ethnocentrism and the collectivism/individualism scales used by Triandis and others is inconclusive. According to O'Dowd "most data have failed to support the hypothesized links . . . [and] despite the plethora of descriptive reports on intercultural e-mail projects, little appears to be known about what students actually learn from the interaction with their virtual peers in other cultures" (O'Dowd, 2003, p. 118, as quoted in Müller-Hartmann, 2000).

In other words, the dynamics of international distance education "in the limited life-span of an e-mail exchange between groups of foreign . . . learners" (O'Dowd, 2003, p. 118) need more detailed investigation, particularly the effect of student online collaboration on fostering intercultural awareness measured by ethnocentrism and the relationship of ethnocentrism to individualist/collectivist cultural styles and the characteristics of learners.

Conceptual Framework

The concepts of ethnocentrism and individualism/collectivism are some of the most used and researched topics in social and cross-cultural psychology (Kitayma & Cohen, 2007). Cross-cultural research has applied both concepts to a range of topics, which has advanced the understanding of human interaction in a variety of settings. Therefore, in this study 'ethnocentrism' is defined as a viewpoint that uses one culture, usually that of the home culture, as the standard for judging others. A variety of empirical measurements and tests are available. Because of its reliability and validity, the Generalized Ethnocentrism (GENE), scale as developed by communication researchers James McCroskey and James Neuliep in 1997 was applied. The scale was created to measure individual differences in ethnocentrism, regardless of cultural background. Neuliep conducted an assessment of the GENE scale in 2002, assessing both its reliability (consistent results over repeated usages) and its validity (whether the instrument actually measures the concept it intends to measure). He concluded that "the revised GENE scale appears to be a reliable instrument" (Neuliep, 2002, p. 207), with reliability scores ranging from .82 to .92 using Cronbach's alpha method. Other studies have reported similar strong validity for the GENE scale in diverse fields of application ranging from communication to study abroad contexts (see Neuliep, Chaudoir, & McCroskey, 2001; Neuliep, Hinz & McCroskey, 2005; Liu, Rancer & Trimbitas, 2005; Wrench et al. 2006; Goldstein & Kim, 2006).

Since the 1960s when Hofstede first measured individualism and collectivism across cultures (Hofstede, 1980, 1984, 1991, 1997), the original two-dimensional conceptualization has been a successful predictor of behavioral patterns (Triandis & Gelfand, 1998; Wheeler et al., 1997) and is now considered useful for the understanding of cultural values (Triandis, 2004; Triandis et al., 1988). These traits can be understood as a description of the degree of acted upon and perceived interdependence/independence and hierarchical relationship between individuals and their surrounding social world.

To refine the individualism/collectivism distinction, Triandis (1988, 1995) distinguished four patterns: (a) 'horizontal collectivism' (HC) with an emphasis on egalitarian in-group cooperation, common goals, and sharing without regard to cost and benefit from (b) 'vertical collectivism' (VC), i.e., a 'conservative' emphasis on hierarchy, authority, power inequality, and submission/duty to a collective, be it family, race, class, nation, or state; (c) 'vertical individualism' (VI) stressing competition, independence and inequality, and (d) 'horizontal individualism' (HI) highlighting the egalitarian 'liberal' and 'secular' desire to be non-conformist and unique among equals of comparable power and status. For a variety of interpretations, see Singelis, Triandis, Bhawuk & Gelfand, 1995; Vandello & Cohen, 1999, p. 279; Triandis, 2001; Triandis & Su, 2002; Koerner, 2003; Griffin, 2006.

The individualism and collectivism typology has been used in a number of studies across cultures and societies (e.g., Gouveia, Clemente & Espinosa, 2003; Kashima et al. 1995; Sagy, Orr & Bar-On, 1999) and also as a measure to investigate variations within one culture or society on the aggregate and individual level, assuming these traits are present in any given society and among individuals in different ratios (Vandello and Cohen, 1999; Oyserman et al. 2002, p. 33). Depending on the purpose of the research, either orthogonal multidimensional (Kagitcibasi, 1987), or unidimensional polar interpretations (Chan, 1994) of the above four patterns have been employed. For a critical assessment, see Voronov & Singer, 2002.
According to Triandis (1995):

The relationship between individualism-collectivism and prejudice and discrimination is extremely complex. There are two contradictory tendencies that increase prejudice and discrimination. The collectivists are more likely to identify with their cultural group and thus be more ethnocentric, and the vertical individualists are more likely to put down groups that are different from their own, in an effort to be ‘distinguished’ and to win the ‘competition in the market place.’ The horizontal individualists are probably the least likely to be prejudiced and to discriminate [and]....vertical collectivists feel more comfortable seeing themselves as different from other groups. (p. 125)

Therefore, Triandis ranks those scoring high on vertical collectivism as highest on prejudice (often representing status-insecure persons in high social mobility societies), with horizontal individualists ranked relatively lowest, notwithstanding the fact that other factors also influence attitudes, including national history, ethno-racial homogeneity, socialization, socioeconomic class, residence, minority/majority status, and religion. Triandis observes, for example, that on average U.S. Protestants score higher on vertical individualism compared to U.S. Catholics, and perhaps are therefore also more prejudiced (Triandis, 1995, p.126). Given the available data from two student samples, this study employs a unidimensional and individual-level interpretation of the two most opposite patterns of the original four orthogonal scales, namely vertical collectivism (VC) in contrast to horizontal individualism (HI).

**Hypotheses**

Based on previous literature and observations from ongoing virtual collaborations between U.S. Midwestern and Polish university undergraduates since 2004 (Boehm & Jedrzejk, 2006), the following hypotheses were derived:

H1: Participation in transnational online collaboration reduces ethnocentric attitudes in college students.

H2: Participation in transnational online collaboration leads to an increase of horizontal individualist (HI) and a decrease of vertical collectivist (VC) attitude patterns.

H3: Ethnocentrism is positively correlated with vertical collectivist (VC) and negatively correlated with horizontal individualist (HI) attitude patterns.

H4: More secular and urban students are in general less ethnocentric and have higher levels of HI and lower levels of VC.

H5: Compared with the U.S. student sample, ethnocentrism levels are on average higher among the Polish student sample because of Poland's history and less diverse population and culture.

H6: Compared with the U.S. student sample, horizontal individualism (HI) levels are on average lower and vertical collectivism (VC) levels higher among the Polish student sample because of Poland's history and less diverse population and culture.

H7: As a result of transnational online collaboration, one can observe among secular and urban students a greater reduction in ethnocentrism compared to rural and less secular students.

H8: As a result of transnational online collaboration, the average ethnocentrism scores decrease relatively more among U.S. students because of their comparatively stronger horizontal individualist culture (HI).

**Method and Instruments**

The purpose of this exploratory quantitative research was to investigate the effect of transnational online student collaboration and its interaction with ethnocentric attitudes, as well as the role of cultural factors, such as a person's degree of collectivism/individualism and other demographic factors such as age, gender, residence, religiosity, and political attitudes of respondents. To measure the above concepts, Neuliep's & McCroskey's (1997) GENE ethnocentrism scale and Triandis' (1995) Individualism/Collectivism scales were employed, as previously mentioned.

Because random sampling was not possible and intact groups had to be maintained, a quasi experimental non-equivalent control group pretest-posttest design was used where experimental (treatment) groups and control groups are measured twice - once before a treatment and once after. This sampling method introduces the possibility of assignment bias but it is reduced by the pre and post measurement. In addition, because of
the quasi-experimental design and relative small experimental groups (N=20), in particular, assumptions of perfect linearity cannot be rigidly assumed and findings must be interpreted cautiously. The statistical findings should not imply an unwarranted impression of precision given the inflated Type I error inherent in the statistical evaluation method chosen.

On the other hand, though the quasi-experimental design is not as strong as a true experimental design, it was a viable option for this study because the control and experimental subjects were all undergraduate students from similar cohorts (see below). Altogether 328 undergraduate students from SVSU - Saginaw Valley State University/Michigan and 118 undergraduate students from PUT - Poznan Technical University/Poland were surveyed between Fall 2006 and Spring 2008.

SVSU participants were mostly rural or small-town first-generation-college students enrolled in either Freshman Composition or an upper-level Writing in the Professions course. Few had previously traveled to other countries.

PUT students were primarily second or third year students from western or central Poland studying in different technology faculties (e.g., physics, computer science, and engineering) and enrolled in English classes for lower- to high-intermediate language proficiency levels. Most had previously traveled within the European Union.

The demographic characteristics of the SVSU sample included 119 (36.3%) males and 209 (63.7%) females. Only 13 students (4%) considered themselves non-White. The sample included 185 (56.4%) first year students, 65 (19.8%) second year students, 51 (15.5%) third year students, 24 (7.3%) fourth year students, and 3 (0.9%) individuals who did not specify their university standing. The mean age was 20.39 (SD = 0.16) with a range from 17 to 57. The political leaning was relatively evenly distributed with 24% considering themselves more left, 38% middle of the road, and 32.3% more right, and 4.9% undecided or other. In the sample, 25.9% identified with a religion and 27.4% said they regularly attend (daily or weekly) a church, 34.8% occasionally (monthly), 23.8% rarely, and 14% never. Of these students, 72.9% students claimed a home residence in districts with a population of less than 50,000; 45.4% majored in a ‘hard science’. The mean family size of SVSU respondents (excluding the respondents) was 4.37 persons (SD = 0.06) with a range from 1 to 10. Among SVSU students, 27.4% said they used broadcast/cable TV as their most used media source, in contrast to 34.1% who named the Internet.

The demographic characteristics of the PUT sample included 92 (78%) males and 26 (22%) females. All students were of Polish Caucasian origin.

The sample included 60 (50.8%) first year students, 33 (28%) second year students, 22 (18.6%) fourth year students, and 3 (2.5%) individuals who did not specify their university standing. The mean age was 20.63 (SD = 0.09) with a range from 19 to 25. The political leaning was toward the center with 18.6% considering themselves more left, 48.3% middle of the road, and 19.5% more right, and 13.5% undecided or other. In the sample 39% identified with a religion and 38.1% said they regularly (daily or weekly) attend a church; 22% attend occasionally (monthly), 24.6% rarely, and 15.3% never. Of these students 55.9% claimed a home residence in rural districts with a population of less than 50,000 and 100% majored in business or a ‘hard science’, a majority in management or mechanical engineering. The mean family size of PUT respondents (excluding the respondents) was 3.57 persons (SD = 0.06) with a range from 2 to 7. Among PUT students only 8.5% said they used broadcast/cable TV as their most used media source, in contrast to 53.4% who named the Internet.

In contrast to the control groups, American and Polish students from the experimental groups were involved in a six week transnational online collaboration using a Sakai course management system to carry out joint asynchronous and synchronous virtual tasks via discussion boards, email, wiki, virtual chat, and occasional Skype Internet phone (Boehm and Aniola-Jedrzejek, 2006). Collaborative projects and PowerPoint group presentations ranged from analyses of cultural contrasts in politics, energy, the job market (SVSU freshmen students) to the development of problem-solving case studies on complex cultural issues such as immigration/emigration, workplace ethics, and systems of education (SVSU upper-level students). The size of each experimental group was generally limited to about 14-20 students in each country, since only one class in each country participated each semester. Anecdotable observations strongly suggested students were developing cross-cultural awareness as a result of the transnational virtual teamwork in small groups of 4-5 students, though the collaboration effect on ethnocentrism and its

The survey questionnaire consisted of an anonymous identifier to match pre and post questionnaires, the GENE ethnocentrism scale with 22 questions, and the Triandis self-evaluation individualism/collectivism scale with 32 questions. In addition eleven demographic questions were asked about respondents’ sex, age, year in college, ethno-national and residential background, use of news sources, political leaning, religious affiliation, attendance at religious services, family size, and study major.

After a brief explanation by instructors about the voluntary and anonymous nature and purpose of the survey, students in the experimental and control groups were asked to fill out questionnaires in the classroom
during the first week of the online collaboration. At the end of six weeks of the online collaboration, the identical questionnaires were administered again to the same experimental and control groups using the previously assigned anonymous identifier. The final sample consisted only of those students who participated in both the pre- and post-surveys.

To measure if the experimental and control groups for each semester and each college came from populations with the same distribution, an Independent t Test was used to check the null-hypothesis that there is no observable difference between GENE horizontal individualism and vertical collectivism scales. This assumption was confirmed with the following two exceptions:

The HI mean for the SVSU Fall 2007 'pre' experimental group (M = 52.11, SD = 16.03) was significantly lower than the mean for the 'pre' control group (M = 60.41, SD = 8.68) at the p < .05 level (t = -2.20, df = 20.07). Because the variances were significantly different, a t test that did not assume equality was conducted.

The VC mean for the SVSU Spring 2008 'pre' experimental group (M = 45.53, SD = 8.73) was significantly lower than the mean for the 'pre' control group (M = 52.65, SD = 10.60) at the p < .05 level (t = -2.98, df = 34.76). Because the variances were significantly different, a t test that did not assume equality was conducted.

### TABLE 1: Descriptive Statistics of Study Measures

<table>
<thead>
<tr>
<th>Scales used</th>
<th>N*</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>Alpha</th>
<th>Item Range obtained</th>
<th>Item Mean</th>
<th>Item Range obtained</th>
<th>Item Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENE-UO</td>
<td>892</td>
<td>31.22</td>
<td>7.24</td>
<td>15 to 58</td>
<td>.69</td>
<td>1.68 to 4.59</td>
<td>2.55</td>
<td>1.68 to 4.59</td>
<td>2.55</td>
</tr>
<tr>
<td>GENE-SYS</td>
<td>656</td>
<td>29.95</td>
<td>7.00</td>
<td>15 to 58</td>
<td>.71</td>
<td>1.68 to 4.59</td>
<td>2.50</td>
<td>1.68 to 4.59</td>
<td>2.50</td>
</tr>
<tr>
<td>GENE-PITI</td>
<td>256</td>
<td>34.52</td>
<td>6.67</td>
<td>15 to 58</td>
<td>.71</td>
<td>1.68 to 4.59</td>
<td>2.72</td>
<td>1.68 to 4.59</td>
<td>2.72</td>
</tr>
<tr>
<td>GENE-SYS</td>
<td>892</td>
<td>57.77</td>
<td>10.50</td>
<td>8 to 80</td>
<td>.78</td>
<td>5.83 to 7.91</td>
<td>7.22</td>
<td>5.83 to 7.91</td>
<td>7.22</td>
</tr>
<tr>
<td>GENE-PITI</td>
<td>656</td>
<td>58.39</td>
<td>10.76</td>
<td>8 to 80</td>
<td>.82</td>
<td>5.70 to 8.07</td>
<td>7.00</td>
<td>5.70 to 8.07</td>
<td>7.00</td>
</tr>
<tr>
<td>GENE-PITI</td>
<td>256</td>
<td>56.03</td>
<td>9.54</td>
<td>8 to 80</td>
<td>.70</td>
<td>5.20 to 8.62</td>
<td>7.04</td>
<td>5.20 to 8.62</td>
<td>7.04</td>
</tr>
<tr>
<td>Vertical Collectivism (8 items)</td>
<td>892</td>
<td>48.32</td>
<td>10.63</td>
<td>8 to 80</td>
<td>.77</td>
<td>5.13 to 8.38</td>
<td>7.22</td>
<td>5.13 to 8.38</td>
<td>7.22</td>
</tr>
<tr>
<td>Vertical Collectivism (8 items)</td>
<td>656</td>
<td>48.66</td>
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<td>8 to 80</td>
<td>.75</td>
<td>5.04 to 8.40</td>
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<td>5.04 to 8.40</td>
<td>7.04</td>
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<tr>
<td>Vertical Collectivism (8 items)</td>
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<td>9.21</td>
<td>8 to 80</td>
<td>.67</td>
<td>4.86 to 8.31</td>
<td>7.02</td>
<td>4.86 to 8.31</td>
<td>7.02</td>
</tr>
</tbody>
</table>

*N includes 'pre' and 'post' measures for each respondent.
The GENE - Generalized Ethnocentrism Scale developed by Neuliep and McCroskey (1997) uses a specific formula to calculate scores from 22 Likert items, with choices ranging from (1) "strongly disagree" to (5) "strongly agree." Fifteen of these items are scored; the remaining seven items are used as distractors. Scores above 55 reflect the ethnocentric perspective that one's own culture is superior to others and should be used as the standard by which other cultures are judged. As mentioned earlier, the scale has been tested as a "reliable and valid measure of generalized ethnocentrism" (Neuliep, 2002, p. 213), and other scholars verified that it can be used in differing cultures.

GENE scale means, standard deviations, possible and obtained scale ranges, and alpha reliabilities are listed in Table 1 and can be considered within the acceptable ranges. Alpha reliabilities for the PUT samples are lower than the threshold of .07 because some samples were smaller than N=20. In addition, it was found that lower alpha reliability scores for the Polish samples in the first three semesters were likely related to a lack of English language fluency, particularly among the Polish control group respondents. Thus, for the fourth semester (Spring 2008), the questionnaire was translated into Polish. Translation increased the reliability of Alpha scores on the GENE scale and the Horizontal Individualism/Vertical Collectivism scales in the Polish control group to an acceptable level. An additional Independent Samples t-test evaluation of Polish control group differences in mean ethnocentrism scores before and after translation to measure the translation effect was statistically significant (t(118) = 3.100, p<.05). The GENE mean of pre-translation was significantly higher (M = 37.09, SD = 7.00, assuming equality of variances) than afterwards (M = 33.35, SD = 5.41) for the nonparametric Mann-Whitney Independent Samples T-Test as well as for the parametric. Significant similar effects were found for the HI scale (t (118) = 2.609, p <.05, not assuming equality of variances). In the case of HI, the outcome was not significant but very close to significance (t (118) = -1.814, p=.05).

For the statistical country comparison of GENE and GENE pre-post scores, standardized z-scores were used, calculated separately for each country and for experimental and control groups.

The Triandis VC - Individualism/Collectivism scale is based on a 32-item, ten-point, Likert-type scale ranging from (1) "strongly disagree" to (10) "strongly agree." For the purpose of this research only standardized 'horizontal individualist' (HI) and 'vertical collectivist' (VC) attitude scales were used, because they reflect two opposite sides of a continuum of attitudes. Measures representing the above mentioned cultural orientations included statements such as "I often do 'my own thing:'" (HI item) and "I usually sacrifice my self-interest for the benefits of my group" (VC item). HI and VC means, standard deviations, possible and obtained scale ranges, and alpha reliabilities can be found in Table 1 and can be considered within acceptable range. Alpha reliabilities for the PUT samples are lower than the threshold of .07 as a result of the reasons elaborated above when discussing the GENE scale. As in the case of the ethnocentrism scale, for country comparisons standardized z-scores were used, calculated separately for each country and for experimental and control groups.

Results

HI: The first hypothesis predicted that participation in transnational online collaboration would lead to a reduction of ethnocentric attitudes in college students measured by the GENE scale. The survey was administered at the beginning and at the end of the six-week online collaboration period and assumed that the experimental and control groups came from a population with the same distribution. It was expected that if intercultural learning is taking place as a result of student online collaboration, the GENE scores would be statistically significant and relatively lower for the experimental group after the collaboration in comparison to the scores of the control group.

A paired-samples t-test comparing pre and post-test scores for each semester and each group revealed no statistically significant difference except for the following groups:

- The mean GENE score increased for the Polish control group of Fall 2006 from 35.62 (SD = 7.72) on the pre-test to 40.38 (SD = 7.68) on the post-test. The difference between the two means was statistically significant at the .05 level (t = -2.14, df = 12).

- The mean GENE score also increased for the Polish experimental group of Spring 2007 from 31.44 (SD = 6.71) on the pre-test to 34.69 (SD = 7.27) on the post-test. Again, the difference between the two means was statistically significant at the .05 level (t = -2.10, df = 15).

- The mean GENE score increased for the American control group of Fall 2007 from 29.76 (SD = 6.40) on the pre-test to 31.40 (SD = 7.64) on the post-test. The difference between the two means was statistically significant at the .05 level (t = -3.24, df = 98). However, an Independent Samples t-test on pre-post 'gain' scores comparing experimental and control groups for those three groups found no statistical significant 'gain' score difference between the samples.

It was concluded from the above findings that the three groups out of 16 tested subgroups do not put into question the overall finding that the
original hypothesis has to be rejected. In other words, participation in a six-week student online collaboration had no statistically significant effect on decreasing ethnocentrism levels in either the American or the Polish student sample.

H2.1: The first part of the second hypothesis predicted that participation in transnational online collaboration leads to an increase of horizontal individualist (HI) attitude patterns in college students. A paired-samples \( t \)-test comparing pre and post-test scores for each semester and each country discovered no statistically significant difference except for the following groups:

- The mean HI score decreased for the Polish experimental group of Fall 2006 from 59.14 (SD = 10.14) on the pre-test to 50.71 (SD = 6.29) on the post-test. The difference between the two means was statistically significant at the .05 level (\( t = 2.69, df = 13 \)).

- The mean HI score decreased for the Polish control group of Fall 2006 from 56.23 (SD = 7.66) on the pre-test to 51.38 (SD = 9.00) on the post-test. Again, the difference between the two means was statistically significant at the .05 level (\( t = 2.93, df = 12 \)). Furthermore, an additional independent samples \( t \)-test on pre-post 'gain' scores comparing experimental and control groups for different semesters and countries found no statistically significant 'gain' score difference between the samples.

Given above findings and considering the small samples (see Table 2), it was concluded that the original hypothesis had to be rejected. Participation in six-week student online collaboration had no statistically significant effect on an increase in horizontal individualist (HI) attitude levels in either the American or the Polish student experimental group.

H2.2: The second part of the second hypothesis predicted that participation in transnational online collaboration leads to a decrease of vertical collectivist (VC) attitude patterns in college students. A paired-samples \( t \)-test comparing pre and post-test scores for each semester and each group discovered no statistical significant difference except for the following groups:

- The mean VC score increased for the American control group of Fall 2006 from 48.70 (SD = 10.46) on the pre-test to 51.96 (SD = 17.10) on the post-test. The difference between the two means was statistically significant at the .05 level (\( t = 2.55, df = 26 \)).

- The mean VC score decreased for the Polish experimental group of Fall 2006 from 47.71 (SD = 6.45) on the pre-test to 43.36 (SD = 5.72) on the post-test. The difference between the two means was statistically significant at the .05 level (\( t = 2.85, df = 13 \)).

- The mean VC score decreased for the Polish control group of Spring 2007 from 50.92 (SD = 6.49) on the pre-test to 45.77 (SD = 7.24) on the post-test. The difference between the two means was statistically significant at the .05 level (\( t = 2.19, df = 12 \)). Furthermore, an independent samples \( t \)-test on pre-post 'gain' scores comparing experimental and control groups for different semesters and countries found no statistically significant score difference between the samples. Since the previously mentioned limitations apply to the VC attitude analysis too, it was concluded that in general the hypothesis had to be rejected. Participation in six-week student online collaboration had no statistically significant effect on a decrease in vertical collectivist (VC) attitude levels in either the American or the Polish student sample.

H3: The third hypothesis stated that ethnocentrism is positively correlated with vertical collectivist (VC) and negatively with horizontal individualist (HI) attitude patterns. If one defines ethnocentrism as pervasive and rigid ingroup-outgroup distinction involving stereotypical attitudes as well as a hierarchical, authoritarian view, a positive significant correlation of GENE with VC and a negative between GENE and HI (the opposite attitude pattern) was expected. This is supported by Neuliep's statement that one would theoretically expect that ethnocentrism is "closely associated with a collectivist (i.e., group related) orientation" (Neuliep 2002, p. 213). Previous research about the relationship between GENE and the collectivist and individualist 'self-construal scales used by Triandis and others has, however, been inconclusive and "most data have failed to support the hypothesized links between cultural orientations and self-construals" (Neuliep 2002, p. 213).

In this study the expected relationship also was not evident and the link remains unconfirmed. A Pearson correlation coefficient was calculated for the relationship between GENE and HI and in the case of the U.S. sample, a weak negative and non-significant correlation was found (r = -.066); the same for the relationship between GENE and VC (r = -.022). The results for the Polish sample were similar. Here a weak negative and non-significant correlation was found for GENE and HI (r = -.003). The relationship between GENE and VC was weak but positive and non-significant (r = .010).

H4: The first part of the fourth hypothesis assumed that more secular and urban students were on average less ethnocentric and had higher levels of HI and lower levels of VC. A Multiple Linear Regression was calculated to predict subjects' ethnocentrism based on respondent demographic characteristics.
### Table 2: Mean GENE Efficacitost Pre & Post Scores by Group, Gender, Semester & Course

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Group</th>
<th>Pre-study Mean</th>
<th>Post-study Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2006</td>
<td>PUT Pol.</td>
<td>Control Group (N=12)</td>
<td>35.62</td>
<td>35.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Experimental Group (N=13)</td>
<td>35.68</td>
<td>35.88</td>
</tr>
<tr>
<td>Winter 2007</td>
<td>SVUCISA</td>
<td>Control Group (N=12)</td>
<td>35.64</td>
<td>35.84</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Experimental Group (N=13)</td>
<td>35.70</td>
<td>35.90</td>
</tr>
</tbody>
</table>

#### Other Information
- .....
The second part of the fourth hypothesis assumed that more secular and urban students in general have higher scores on horizontal individualist (HI) attitudes.

- For the American sample (N=656) a significant but weak regression equation was found \( F(11,644) = 1.929, p < .05 \), with an Adjusted \( R^2 \) of .015. Respondents' predicted HI was equal to 53.60 - .465 (SEX with 1=male) + .232 (AGE, \( p < .05 \)) + .682 (RESIDENCE with 1=urban 50,000 population) + .200 (FAMILY SIZE) + 1.204 (RACE with 1=Caucasian) + 1.751 (MEDIA PREFERENCE with 1=Broadcast/Cable TV) + 1.042 (MEDIA PREFERENCE with 1=Internet) + 1.851 (POLITICAL LEANING with 1=Left) + .004 (DENOMINATION with 1=No religion) - 2.545 (CHURCH ATTENDANCE with 1=regularly, \( p < .05 \)) - .010 (STUDY MAJOR with 1=Business, Management, Education, Social Science, Social Work, Political Science, and Criminal Justice). Age and church attendance were significant predictors. Sex, race, political leaning, and religious membership were not significant but their direction - except for residence - point in support of the hypothesis.

- For the Polish sample (N=236) a non-significant regression equation was found \( F(9,226) = .633, p > .05 \), with an Adjusted \( R^2 \) of .014. Gender, age, residence, family size, media preferences, political leaning, denomination, or church attendance could not be used to predict HI scores.

The third part of this hypothesis stated that more secular and urban students have in general lower scores on vertical collectivist (VC) attitudes.

- For the American sample (N=656) a significant regression equation was found \( F(11,644) = 3.712, p < .001 \), with an Adjusted \( R^2 \) of .044. Respondent predicted VC was equal to 48.784 - .468 (SEX with 1=male) + .097 (AGE) + .649 (FAMILY SIZE, \( p < .05 \)) - 1.122 (RACE with 1=Caucasian) - 1.238 (MEDIA PREFERENCE with 1=Broadcast/Cable TV) + .231 (MEDIA PREFERENCE with 1=Internet) - .092 (POLITICAL LEANING with 1=Left) - 4.242 (DENOMINATION with 1=No religion, \( p < .001 \)) + 1.751 (CHURCH ATTENDANCE with 1=regularly) + .856 (STUDY MAJOR with 1=Business, Management, Education, Social Science, Social Work, Political Science, and Criminal Justice). Family size and religious membership were significant predictors. Age and church attendance were significant predictors. Age, race, political leaning, and religious membership were not significant but their direction - except for sex and residence - point in support of the hypothesis.

- For the Polish sample (N=236) a significant but weak regression equation was found \( F(9,226) = 1.933, p < .05 \), with an Adjusted \( R^2 \) of .035. Respondents' predicted VC was equal to 27.604 - 1.030 (SEX with 1=male) + .962 (AGE, \( p < .05 \)) + 1.452 (RESIDENCE with 1=urban 50,000 population) + .259 (FAMILY SIZE) - 4.127 (MEDIA PREFERENCE with 1=Broadcast/Cable TV) + 273 (MEDIA PREFERENCE with 1=Internet) - .431 (POLITICAL LEANING with 1=Left) + .040 (DENOMINATION with 1=No religion) + 3.523 (CHURCH ATTENDANCE with 1=regularly, \( p < .05 \)). The variables RACE and STUDY MAJOR were not included because of missing variance. Age and church attendance were significant predictors. Political leaning and religious membership were not significant but their direction - except for sex, residence, and religious membership - give tenuous support to the hypothesis.

H5: The fifth hypothesis assumes that ethnocentrism levels are on average higher among the Polish student sample compared to the U.S. because of Poland's more 'collectivist' history and less diverse population and culture. The means of GENE scores are higher in Poland (\( M = 34.82, SD = 6.67 \)) compared to the U.S. (\( M = 29.93, SD = 7.00 \)). But to test this hypothesis across cultures, an Independent-Samples t Test with ethnocentrism z-scores was done. It confirmed that the Polish group had significantly higher ethnocentrism levels (\( M = .4970, SD = .922 \)) compared with the American group (\( M = -.1788, SD = .967 \)). The difference between the two means was statistically significant at the .001 level (\( t = 9.322, df = 890 \)). These findings were confirmed additionally by a one-way ANOVA.

H6: According to the sixth hypothesis, the Polish horizontal individualism (HI) levels should be comparatively lower and vertical collectivism (VC) levels higher, indicating that Polish student respondents on average give group goals more primacy over individual goals.

- Means of HI scale scores are only a little higher in the U.S. (\( M = 58.39, SD = 10.76 \)) compared to the Polish group (\( M = 56.03, SD = 9.54 \)). To test this hypothesis across cultures, an Independent-Samples t Test with z-scores from both countries was applied. Now the Polish group had lower scores (\( M = -.0048, SD = 4.61 \)) than the American group (\( M = .000, SD = .533 \)). The difference between the two z-score means was not statistically significant (\( t = .012, df = 890 \)). The findings of non-significance were confirmed using a one-way ANOVA. Overall these results lead us to reject the first HI part of the hypothesis.

- Contradicting the hypothesis, the VC scores are a little lower in Poland (\( M = 47.36, SD = 9.21 \)) compared to the U.S. group (\( M = 48.66, SD = 11.08 \)). An Independent-Samples t Test with z-scores found no statistically significant differences in means (\( t = .000, df = 890 \)) between
the Polish and American groups (SVSU M = .000, SD = 4.83; PUT M = .000, SD = 4.13). These findings were confirmed using a one-way ANOVA. Overall the second VC part of the hypothesis is also rejected.

H7: The seventh hypothesis stated that on average one should observe among secular and urban students the greatest ethnocentric attitude reduction as a result of online participation. To test this hypothesis, the difference between the pre and post GENE gain scores was calculated for each country separately using a Multiple Linear Regression to predict subjects’ ethnocentrism difference (gain) based on respondent demographic characteristics. The regression was non-significant for the American sample (N=328, F (5,322) = .979, p > .05) with an Adjusted R² of .000, as well as for the Polish sample (N=118, F (5,112) = .377, p > .05), with an Adjusted R² of .027. Participation in online collaboration, urban residence, political leaning, denomination, and church attendance cannot be used to predict statistically reliable decreases in ethnocentrism scores.

H8: The final hypothesis assumed that as a result of transnational online collaboration, the average ethnocentrism scores decreased relatively more among U.S. students because of their comparatively stronger horizontal individualist culture (HI). To test this hypothesis, an Independent Samples t Test was used comparing the ‘gain’ scores of American experimental group members with those of Polish experimental group members. No significant difference was found (t(128) = -1.818, p > .05). The mean of the Polish experimental group (M = -1.64, SD = 5.78) was not significantly different from the mean of the American experimental group (M = .00, SD = 4.45). Another Independent Samples t Test was conducted comparing the gain scores of American control group members with those of Polish control group members. Again no significant difference was found (t(314) = -.396, p > .05). The mean of the Polish control group (M = -1.12, SD = 5.50) was not significantly different from the mean of the American control group (M = -.84, SD = 4.77). In addition, a Multiple Linear Regression was calculated to predict subjects’ ethnocentrism difference (gain) from their participation and their horizontal individualism z-scores. The regression (N=446) was not significant (F (3,442) = .812, p > .05), with an Adjusted R² of -.001. Neither participation in online collaboration, horizontal individualism (z-scores), or country predicted gains in ethnocentrism scores and this hypothesis also had to be rejected.

**Discussion and Conclusion**

The goal of this study was to examine the relationships among ethnocentrism, horizontal individualism, vertical collectivism, and demographic variables in the context of transnational student online collaboration. The results can be summarized as follows:

1. The hypotheses about a statistically significant impact of a six week Polish-American student online collaboration on ethnocentrism with respect to horizontal individualist and vertical collectivist attitude patterns were not supported by the four semester empirical investigation.

2. The assumed positive relationship between ethnocentrism and horizontal individualism and the negative relationship between ethnocentrism and vertical collectivism could not be confirmed.

3. More secular, left, female, and urban US student respondents generally have lower scores on ethnocentrism. A similar trend was visible in Poland but it was much weaker and excluded urban respondents. In accordance with previous research, this study also found statistically significant gender differences in ethnocentrism in both countries.

4. Secular, left, female and older respondents in the U.S. are more likely to have higher scores on horizontal individualism; in the case of Poland no such relationship between HI and demographic characteristics was observable.

5. Younger, religious, white, conservative, female and urban respondents in the U.S. were more likely to have higher scores on vertical collectivism. In Poland, older, church attending, conservative, female, urban, and non-religious respondents scored higher on VC. The original assumptions were only partially confirmed. Gender, residence, age, and religious membership do not seem to relate in a linear fashion related to either HI or VC cultural patterns, and more research is needed about how they are related to social characteristics.

6. National differences seem to exist when one compares levels of ethnocentrism. They were comparatively and statistically significantly lower among American students. In the case of the horizontal individualist (HI) and vertical collectivist (VC) cultural attitude patterns, however, no statistically significant differences were observed, rejecting the claim that Polish student respondents are culturally different from their American peers.

7. Online participation, secular attitudes, urban residence, and levels of horizontal individualism had no effect on the degree of change in ethnocentrism in either sample, supporting O'Dowd (2003) and others who warn against the assumption that contact between cultures, including
virtual contact, automatically increases intercultural awareness or leads to a decrease of ethnocentric stereotyping. Specific attention must be paid to directing the interaction in order to receive the desired result.

The current study has several limitations that could explain the lack of a measurable effect of a six-week transnational online collaboration on ethnocentrism. First, due to the limited number of classes available for study, methodological limitations such as non-random sampling as well as non-comparable, appropriately stratified sampling make it difficult to generate statistically reliable statements, generalize the findings, and make predictions. The quasi-experimental design has potential problems with differential history effects, differential instrumentation, differential testing effects, differential maturation, and differential regression. In an attempt to overcome some of the above mentioned limitations this study tested similar American and Polish student samples involved in virtual online collaboration over four consecutive semesters beginning in Fall 2006 with the same instruments.

Second, the measurement instruments used in this study (GENE, Horizontal Individualism, and Vertical Collectivism scales, demographic and control variables) could be insufficient to measure cultural differences as well as unable to assess the impact of online teaching on intercultural learning and ethnocentrism. Field observations and transcripts of virtual chats from the student collaboration indicate that the Triandis scale may not sufficiently reflect how cultural ‘baggage’ affects cross-national collaboration. For example, Polish students have a tendency to give priority to developing relationships before they start to collaborate. American students, on the other hand, are more likely to begin teamwork without a good knowledge of their partners and let relationships develop along the way (note by SVSU instructor Diane Boehm). Such intricate cultural differences cannot be sufficiently covered with survey research and require a more qualitative approach.

Third, it may be possible that short-time (six-week) transnational online collaboration projects in and of themselves do not effectively change student attitudes. According to O’Dowd (2003) they may even have a counterproductive effect under certain circumstances and promote ethnocentrism, stereotyping, and more prejudice (although the latter should be detectable using measures of ethnocentrism, and was not evident in this instance).

Fourth, intercultural learning depends on a number of respondent characteristics and environmental factors that were perhaps insufficiently measured in this study or whose effect (like that of gender and language) are yet not fully theoretically understood.

Fifth, the time factor may be of great importance since intercultural learning takes time to ‘sink in.’ Therefore it is recommended to perhaps repeat measurements at later time intervals after completion of the collaboration (3, 6, 12 or more months) to find out about long-term effects.

Sixth, intercultural learning is multifaceted and requires further stimuli, like intercultural awareness training and other follow-up activities, to have a lasting effect. It is known from Alport’s (1954) social contact hypothesis that both quantity and quality of contacts are important for a lasting effect. According to this hypothesis, contact must be sufficiently intimate to produce reciprocal knowledge and understanding; and members must share equal status and institutional support. A ‘culture of tolerance’ should be in place. Intergroup cooperation to achieve a goal is another important factor to reduce stereotyping and prejudice. It may be fruitful to do longer term case study research to investigate how online collaboration may foster follow-up travel/study abroad experiences, development of personal relationships, or continuous contacts across boundaries.

With regard to the technical aspect of virtual learning and collaboration, there is already an increasing literature that has elaborated on the most effective ways of interaction and has identified favorable environments, practices and tools (O'Dowd, 2003, p. 137; Belz, 2002, p. 70; Hamburger, 1990; Kramsch, 1993; Müller-Hartmann, 2000; Crampton & Hinds, 2005). Teaching environments, however, may not always be conducive to the implementation of these best practices.

Targeting the right student population is another challenge. More research is also needed to see how gender, age, secularism, residence, study major, language fluency, political leanings as well as cultural habits and attitudes affect a student’s learning and motivation.

To better understand intercultural effects on student online collaboration, it is suggested to undertake more evaluation research about this new teaching mode and investigate how to link curricula, learning goals, professional skills, project tasks/assignment, and learning media/technology of various academic disciplines with the objective to improve cultural awareness and tolerance of learners (Kurthen, 2008). Furthermore, we need to better understand how students learn to recognize and respect beliefs, traditions, abilities, and customs of other cultures; and finally, how effective intercultural communication works on a personal and professional level (Saachou, 2005, p. 15).

With regard to implementation, researchers should keep in mind the primary reason for the expansion of transnational online collaboration, namely the preparation of students to better cope with the economic and technological demands of globalization. College administrators, students,
funding agencies, and employers in most cases consider learning of intercultural tolerance and awareness as only a benign side effect of the main objective of job training and the teaching of specific occupational skills. Ultimately, the question remains open regarding whether transnational student online collaboration is a promising tool of global interaction and learning that promotes intercultural awareness and tolerance and helps to reduce ethnocentrism and stereotyping.

References


Saechou, T. (2005). *Verbal and nonverbal immediacy: Sex differences and international teaching assistants*. A Dissertation Submitted to the Graduate Faculty of the Louisiana State University Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The Department of Communication Studies.


AFTERWORD

BEST PRACTICES IN TEACHING PSYCHOLOGY FROM AROUND THE WORLD

WILLIAM GOMES AND WILBERT MCKEACHIE

It was not our intent to overlook updates on psychology teaching in South America. Relatively current information about Argentina, Brazil and Colombia appears in Volume 1 of this series and we plan to provide a complete update for these regions in our next volume. Unfortunately, other than the paper I co-presented with my colleague Claudio Hutz summarized in the last chapter, we had no work from South America to include in this volume. For now, though, here are some parting words on teaching psychology from William Gomes, of Universidade Federal do Rio Grande do Sul (UFRGS), Brazil. He co-wrote these parting words along with long-time psychology teacher-of-teachers par excellence, Wilbert McKeachie. Dr. Gomes has extensive teaching and research experience and recently served on a federal government committee for curricular reform for the training Brazilian psychologists. He spent his last sabbatical at the University of Michigan in the U.S., broadening his familiarity of teaching practices with Bill McKeachie, an internationally-known teacher of psychology for the last half-century and an active participant in the ICOPE group since even before our first conference in St. Petersburg in 2002. Here are their final words:

The relations between students and teachers are mediated by cultural traditions and historical backgrounds within every region of the world. Even in the same country, there are different patterns of relational interaction that change the communicational style of instruction according to the backgrounds and expectations of the participants in the learning process. Among the sciences, psychology appeared differently in each country according to the particular interests and characteristics associated with each culture in which it originated and the patterns by which it developed. The focus of this book concentrated on the history and practice of psychology education throughout the world. Key points which still need