

Comparing the Cognitive Functioning of Polish-Americans Residing in the United States

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ABSTRACT

Objective: Minimal research has been completed examining the Polish population. This study sought to discover differences in neuropsychological test scores between Polish people who moved to the United States as children (younger than 25 years old) and Polish people who moved to the United States as adults (older than 25 years old). It was hypothesized that the younger group would be more successful in most areas of cognitive functioning due to increased exposure to American culture.

Methods: Retrospective and current clients were asked if they would be willing to offer their data for the study. Approximately 70 were asked and only 17 participants (eight male, nine female), with the mean age at the time of testing being 62.65 years old, agreed to sign a consent form. Seven participants were obtained through returning the consent via mail; 10 were acquired through direct intervention while in the clinic.

Results: The results indicated that the older group had fewer cognitive difficulties than the younger group; the older group also had higher levels of education.

Conclusion: It was very difficult to obtain consents from Polish immigrants evidencing why research of this group is so minimal. Nevertheless, this limited research resulted with valuable points for those clinicians that work with this population. Clinicians who read this paper will have deeper understanding not only about Polish culture but also how immigration impacts Polish people.

keywords or MESH terms

Cognitions, Emotions, Immigration, Culture, Polish, Hardship.

Introduction

The Wegierek Psychology Center, Inc. (WPC) began in 1998. WPC employs qualified psychotherapists who are specially trained to provide individualized services. Currently, the center has two Polish-speaking clinical psychologists and two diagnostic doctoral psychology students who are the engine of this research. The primary services of WPC include neuropsychological and psychological testing as well as psychotherapy, all of which are offered in English and Polish.

The concept of publishing research focused on the Polish population has become a necessity, as most psychologists working with the Polish population have little scientific information about their

patients. In fact, when WPC's students initiated the administration of psychological testing for this study, there was little to no information published about first-generation populations from Poland. The students had to rely on the expertise of WPC's clinical psychologists to gain an understanding of the Polish population in order to provide psychology services and to administer culturally valid, comprehensive assessments.

This article depicts the cognitive functioning differences found between Polish descendants, which in this article are distinguished as two groups of immigrants who came to the United States from Poland as children and as adults. This article also describes the current Polish sample, including their general cognitive and emotional functioning. Lastly, this research illustrates the difficulties the researchers endured in obtaining the current research data and the reasons for those difficulties. This article was

published with the intention that the information would help other psychologists and neuropsychologists conduct evaluations and provide psychotherapy through a more defined and well-rounded cultural lens.

Methods

Participants

This study consisted of Polish-speaking adults who came to the clinic for various reasons. As mentioned previously, the clinic provides two-fold services: the completion of neuropsychological and psychological testing and psychotherapy. WPC receives referrals from neurologists from all over the United States. Because the on-site psychologists speak Polish, patients have flown from various places, such as New York and Los Angeles, to the clinic in Chicago. Most of the neuropsychological evaluations at this site involve interviews, testing and diagnoses, as well as feedback and recommendations regarding various cognitive disorders. This clinic also specializes in the completion of the N-648 form: A Medical Certification for Disability Exceptions. Psychological evaluations are mainly completed for adults seeking clarification regarding their emotional functioning and who claim hardship within the United States.

WPC is paperless, its entire database is carefully stored and protected through various security measures, and the database is made available for students and psychologists to use. Thanks to this system, the data in this article was retrospective, obtained from a few days to a few years prior to the testing. Due to this, WPC sent out consent forms to potential participants in mailed envelopes. The envelopes also included a folded pre-stamped return envelope so the participants could send back their consent form for free. The consent forms stated the purpose of the study, the researchers involved, what the data would be used for, and a statement about keeping the participants' identity confidential. Thirty-eight letters were sent out; seven responded and consented.

The researchers also asked current clients if they would be willing to offer their data for the study. Those who agreed were asked to sign a consent form upon their departure from the clinic. Ten participants were obtained through this method. These participants seemed more willing to consent than those who received the letters in the mail. Limitations and difficulties with obtaining all Polish participants are discussed in the 'Discussion/Observations' section of this article.

Overall, 17 participants consented to have their neuropsychological data used in the study (eight males, nine females). Two participants were excluded in the final analysis due to incomplete information. The mean age at the time of testing was 62.65 years old, and the mean number of years of education was 11.69 years. The participants were split into two groups based on the age they entered the United States. One group included participants who moved to the United States as adults (older than 25 years old), and the other group was formed of participants who moved to the United States as children (younger than 25 years old). For the purpose of this article and for the convenience of the reader, participants who

moved to American between the ages of 0-25 years are referred to as children. Four participants fell into the children group with a mean age of 56.25 years old (Age range: 36-72 years old) at the time of testing. Thirteen participants were in the adult group with a mean age of 64.61 years old (Age range: 44-88 years old) at the time of testing. The mean ages of participants' arrival to the United States were not calculated due to the fact that exact ages were rarely available to the researchers. The adult group obtained an average of 12.08 years of education, and the child group had obtained an average of 10.5 years of education.

The research for "Comparing the Cognitive Functioning of Polish-Americans residing in the United States" was completed in accordance with the Helsinki Declaration and the Illinois School of Professional Psychology, Chicago campus' IRB.

Measures

The data consisted of scores from multiple neuropsychological and psychological assessments. The tests used for this study included the Wechsler Adult Intelligence Scale (WAIS-IV; Polish edition), Benton Visual Memory Test (Polish version), Finger Tapping Test (FTT), Grooved Pegboard, Judgment of Line Orientation (JLO), Clock drawing, Stroop Color and Word Test, Trail Making Test (A and B; Polish versions), California Verbal Learning Test (CVLT; Polish edition), Rey Complex Figure Drawing, Wisconsin Card Sorting Test (WCST; Polish version), Test of Memory Malingering (TOMM), The b Test, Verbal Fluency, and Boston Naming Test (BNT). Also assessed were computerized tests, which measured various levels of functioning such as visual memory, attention, psychomotor speed, cognitive flexibility, executive functioning, complex attention, and composite memory.

All tests were conducted in Polish and they were scored and interpreted using Polish norms except for the Verbal Fluency, which is not available in the Polish language. Phonemic and semantic verbal fluency was assessed based on previous works [1], and the letter "K" was chosen because in Polish, words beginning with this letter have high frequency.

Statistical Measures

All data was entered into a Microsoft Excel spreadsheet, with demographic information including the participant's estimated age upon arrival to the United States, age at the time of testing, gender, years of completed education, and estimated amount of time spent living in the United States. Once all data was obtained, the demographic data and test scores were transferred to SPSS 20 to conduct further statistical analyses.

A one-way Analysis of Variance (ANOVA) was completed in order to assess the differences between the adult group and the child group. Post-hoc tests were not completed due to the various areas of missing data within each test column (not all participants completed the same psychological tests).

Results

Polish individuals who had moved to the United States as children

generally obtained a slightly lower score ($m= 91.25$) on the WAIS-R, PL - FSIQ than Polish people who had moved to the United States as adults ($m= 93.08$). Participants who moved to the United States as children also attained lower scores on the WAIS-R, PL, -Verbal IQ index ($m= 91.25$) when compared to participants who moved to the United States as adults ($m= 95.75$). However, participants who moved to the United States as children obtained a slightly higher score in the Nonverbal IQ - WAIS-R, PL index ($m= 91.25$) when compared to participants who moved to the United States as adults ($m=90.41$).

The one-way ANOVA was conducted to compare the effect of age of arrival to the United States on cognitive functioning scores between child and adult groups. Results from this analysis are listed in Table 1. The one-way ANOVA indicated that there were no statistically significant differences found between the adult group and the child group on any of the tested measures. However, two scores approached statistical significance. The first of these was the Digit Span from the WAIS-R, PL, $F(2, 13) = 3.12, p = .077$. Adults who moved to America seemed to perform better on this measure of attention and working memory than children who moved to the United States. The second score in which slight differences were found was on the Stroop Interference, $F(1, 6) = 3.74, p = .101$. Children who moved to the United States seemed to perform better on this executive functioning/inhibition task when compared to adults who moved here.

Table 1: One-way ANOVA Results.

Test Administered	Means		F-value	p-value
	Child	Adult		
WAIS Block Design	9.50	8.10	.624	.552
WAIS Similarities	9.50	8.82	1.138	.351
WAIS Digit Span	11.25	9.73	3.138	.077
WAIS Vocabulary	7.25	8.64	1.299	.306
WAIS Arithmetic	8.50	8.80	.128	.881
WAIS Information	8.00	9.73	.932	.419
WAIS Coding	8.25	8.91	.037	.963
WAIS Comprehension	6.75	8.18	1.532	.253
WAIS Verbal Index	91.25	95.75	1.109	.359
WAIS Nonverbal Index	91.25	91.41	.606	.560
WAIS FSIQ	91.25	93.08	.887	.435
BVMT Copy	10.67	10.00	.086	.789
BVMT Learn	41.00	39.00	.064	.813
BVMT Recall	31.00	29.00	.076	.797
BVMT Recognition	>16%	6-10%	2.00	.230
JLO	43.50	44.33	.095	.912
Stroop Word Reading	31.67	36.00	.096	.910
Stroop Color Naming	31.67	29.50	.104	.903
Stroop Color-Word	45.67	38.67	.803	.485
Stroop Interference	57.00	41.40	3.744	.101
Trail Making A	39.67	33.67	.536	.601
Trail Making B	36.67	33.56	.741	.501

CVLT Learn	2.67	3.60	.806	.471
CVLT Recall	3.67	3.33	.350	.713
CVLT Recognition	5.00	4.83	.164	.852
WCST Perseverative Responses	47.67	39.67	.356	.583
WCST Categories Completed	4.00	3.00	.161	.858
WCST Learning	11-16%	2-5%	1.800	.272
TOMM	41-49	41-49	.224	.644
Verbal Fluency Phonetic	31.00	26.40	.287	.615
Verbal Fluency Semantic	22.00	33.42	2.259	.184
BNT	29.17	39.33	1.970	.203

Notes: All WAIS-R, PL subtest scores are reported as scaled scores. All WAIS-R, PL index scores are reported as standard scores. All CVLT scores are reported as Sten scores (1-3=low, 4-6=average, 7-9=high). All TOMM scores are reported as the number of items completed correctly during the first and second trial of the test. All other scores are reported as T-scores.

Discussion/Observations

First and foremost, the authors decided to publish this research in spite of its limited number of participants not only because the research about this group is minimal but also because its results resemble the characteristics of Polish immigrants in America. In other words, more than 20 years of clinical work with this population is illustrated in this research.

In this current research, there was lower general cognitive functioning found among those who moved to the United States as children. The child group also had a lower education level. This can be accounted for by difficulties with acculturation, including struggles with language, peers, and parents.

The differences found in education attained between those who moved to the United States as children and those who moved here as adults may be accounted for by the difference in education between both countries or possibly by the emotional difficulties that those who move here as children undergo. The difference in education is well illustrated in Barshay's 2014 article as it is stated there that according to the Organization for Economic Cooperation and Development (OECD), "European countries put greater premium on rigor, focus, and coherence in their instructional systems." Curricula in the United States, by contrast, "run a mile wide but only an inch deep." It is highly possible that those who come here as children typically do not finish high school due to differences in education. One of the differences that authors are aware of and that may have an impact on learning is the difference in testing. In Poland there are fewer multiple question tests used and direct examination is more utilized. Additionally, in the Polish language there is no spelling that is so essential as in the English language [2].

Recruiting Polish participants for this clinical research was extremely difficult. Currently at the clinic, there is a lot of retrospective data dating back approximately 20 years. However, not all of it could be used because Polish individuals were hesitant to provide consent, most likely because they are not used to

participating in research. Also, many of the Polish individuals who have attended the clinic have either moved, retired, or relocated back to Poland. This was also illustrated as our multiple attempts using online search engines such as Google Scholar, ProQuest Central, and EBSCO yielded no results in regard to the recruitment of Polish participants for psychological/neuropsychological research. Hence, these factors contributed to the difficulties the researchers experienced in obtaining participants for the current research article and this is why they decided to publish it in spite of such a small sample.

The recruitment itself was difficult within this population in general, but it was more difficult to engage Polish people who moved to the United States as children to participate compared to Polish people who moved as adults. This could be explained by a possible cultural ‘openness’ among adults who willingly came to America. Those whose childhood was interrupted by moving to this country may be more reserved, emotionally enclosed, or challenged and hence may have been more hesitant to share information. Another hypothesis that may account for this is the cultural regard for authority figures perceived by Polish adults. In Poland, doctors are perceived as leaders who should be listened to and have their statements adhered to. This may explain why the older population was more willing to provide consent in this study.

When examining the number of participants and cases within the clinic, it was evident that greater numbers of older people come to the clinic for various reasons. The clinic’s patient population may be lacking people who moved here as children because they do not require Polish-speaking services. These young people may have learned English and hence may seek mental health resources in English. Conversely, those who came here as children and were unable to learn English due to intellectual disabilities are possibly the minority.

Additionally, it has been observed at the clinic that the younger population does not have time to see a psychologist, most likely, because they are focusing on adapting to so many changes. Staff at WPC witness that mental health issues within the younger population may not manifest or are put aside until they are older because struggles with acculturation and adjusting to a new culture, school, friends, etc., is perceived as “normal” and it is not so alarming that the help of a mental health professional would be sought. Once they get older and their life is under control, they tend to reflect on the cultural traditions that they observed from their parents or participated in as children. Such reflections reappear around the time they have children and have to make decisions about raising their children. Those decisions include signing them up for Polish school, teaching them religion, etc. Most American-Polish children who have Polish-speaking parents attend Friday or Saturday Polish school. These schools provide eight grades of grammar school and four years of high school. Those parents who have to think about their eastern-like culture and raising their children in the western culture, at times, experience a dissonance between dominant culture (American culture) and minority culture (Polish heritage/culture) values. In other words, the Polish cultural

values of the young population immigrating to the United States is ‘inactive’ for a long period of time, as at that time they have other priorities. It is when they get older and plan their children’s future that they may consider Polish-speaking mental health professionals to examine the dissonance within their own family values, parenting styles, spending habits, and holiday celebrations.

In spite of this, the Polish population has had an engraved negative stigma about seeking psychological help. The negative stigma that is still quite prevalent comes from the fact that while psychological services have become popular within the last 20 years, previously psychiatric services were rendered by psychiatrists at an inpatient facility where the patients stayed for a very long time and such hospitalizations could be lifelong. Not to mention that those hospitals characteristically and unfortunately resembled jail-like buildings. For example, it is not uncommon for this writer to hear from patients that they had a sister who was mentally ill, was kept at home at all times, and most people in town had no idea that the sister existed. It was only 30 years ago that mentally ill children attended special schools and were not integrated into regular school systems. This only adds to the fact that these researchers had tremendous difficulties finding more subjects to include in this research as seeing a psychiatrist and/or psychologist is still problematic because many of those that are alive remember a near past in which mental illness was hidden, alienated, and left unspoken.

Research by Schwartz et al. discussed the possibility of international migrants who received more exposure to new cultural context reporting poorer mental and physical health outcomes. In regards to WPC’s research, this would only apply to the younger population that was tested. It is the younger population that had a more difficult time acclimating to new culture and possibly longed to return home where their friends were left [3].

Triandis explained that large numbers of immigrants from collective regions focus on the well-being of the family, clan, nation, or religion versus an emphasis on an individualistic approach focusing on the needs of the individual person [4]. As a result, there are gaps in cultural values between many migrants and their new societies. This is true for Polish immigrants who still prefer to maintain family well-being over the individual ego, which at times is diminished. A great example would be the fact that an individualistic approach seems to allow for self-appraisal and admiration while in Polish culture such regard is only allowed when it comes from someone else. For example, a Polish woman wearing a new dress would most likely wait for others to notice it and when noticed she would commonly respond, “It’s old,” rather than “Thank you.”

Via Schwartz et al. “Acculturation may be important for later-generation immigrants who reside in ethnic enclaves—areas where the vast majority of residents are from the same ethnic group.” Examples include Miami, the South Bronx, East Los Angeles, and the Chinatown neighborhoods in various American cities. In some of these enclaves, the heritage culture is preserved

so that migrants—especially those who arrive as adults and have not attended formal schooling in the society of settlement—can function in their day-to-day lives without interacting with, or acquiring the practices, values, or identifications of, the receiving society [5]. This mirrors the population WPC serves, and its research indicates that those who arrive in America as adults have better coping skills that help them adjust and make their lifestyle similar to their lives in Poland. Therefore, they tend to have better mental health in spite that fact that many of them reside in the United States without knowledge of the English language.

Another factor to consider with acculturation of Polish immigrants is the DREAM Act. The DREAM Act (short for Development, Relief and Education for Alien Minors Act) is a bill in Congress that granted legal status to certain undocumented immigrants who were brought to the United States as children and went to school here. Our research hypothesis was that if an individual immigrated to America as a child and fit under the DREAM Act, it would be expected that he or she would perform better on cognitive measures due to increased time in the United States, more ease with acculturation, and more educational options as it is well known that children learn easier. However, the present study does not provide evidence for these presumptions. Does this mean that children who did not make decisions to come to America: struggle, do not want to be here, resent their parents' decision and, in the end, are troubled emotionally and have worse cognitive functioning? This is exactly what we are trying to determine.

When adults make the decision to move to America, their choice shows that they are motivated and willing to live here. However, when children move to America, they typically resent it because they are unwillingly moved away from everyone they love, as well as their friends and familiar places such as schools, etc. WPC's observations of patients who visit the clinic show that younger children tend to rebel against their parents' decisions and/or are victims of cruel anti-Polish-culture bullying causing them to drop out of school. The examined drop-out rates due to bullying correlate with the younger population's lower education levels in our sample.

Finally, another reason it is so hard to recruit Polish people to consent their blinded data for research is the fact that there are fewer Polish-only speaking people in the United States. Within the last couple of decades, many things have changed in America and in Poland. Most importantly, the European borders have been opened so that Polish people can now travel back and forth throughout the entirety of Europe. For instance, if they have difficulties finding work in Poland, they could work in Germany and be home on the weekends. This change in policy regarding Polish borders, which had affected Polish people for hundreds of years, altered the tradition of immigrating to the United States. Historically, immigration to America was the only hope for many families to earn a decent amount of money and support those who stayed back home. Currently, Polish people can seek employment anywhere in Europe. Therefore, those who immigrated to the United States and did not adjust have the choice of returning to

Poland to find jobs closer to their home. Also, the older population is decreasing and the younger population is replacing the old trends. Younger Polish immigrants move outside Chicago, venture around the United States, and become more Americanized. This gives them freedom to reside outside the Polish community in Chicago while remembering the Fourth Partition history and their cultural background.

Limitations

The largest limitation of this study was the sample size. The adult group was larger than the child group, which could have had an impact on the results and analysis. It is also highly possible that this clinic examines more adults than children because many of the children who went to school in America learned the English language at a young age and are therefore more likely to seek psychological help in English. Those who move here as adults may require more psychological aid at a later point in life due to the difficulties they faced with acculturation, language barriers, and older age cognitive difficulties.

Also, because all participants did not receive the same assessments, many scores were missing within different test analyses. Results may have been different if all participants completed the same tests and there was no missing data.

Conclusion

Polish people who move to the United States as children typically demonstrate lower general cognitive functioning abilities and lower education levels than those who moved as adults. Specifically, those who moved to America as children may demonstrate lower scores on measures of attention and working memory, but they tend to perform better on tests measuring inhibition and executive functioning.

In terms of emotional well-being, it is crucial to remember that those who immigrate as children tend to experience more psychological problems than those who come here as adults.

In summary, this research (while limited) disproved the well-known hypothesis that children adapt better. Specifically, it shows that younger Polish individuals' cognitive functioning would be worse than the cognitive functioning of those who immigrated here as adults. When counseling and/or completing neuropsychological tests with the Polish population, it is crucial to take into consideration that children who immigrate to the United States with their parents tend to demonstrate lower functioning rates than adults who immigrate to the United States. Furthermore, the younger immigrants tend to need more assistance and psychological intervention later in life.

In fact, this research illustrates how those who come to the United States as children can be exposed to cruel bullying, which can push them to drop out of school. Also, many of these young people tend to get involved in the "wrong crowd" and use drugs. While this refers to another area of research and is not the subject of this present study, it is very important to keep this in mind when

completing psychological services with Polish-speaking children. Lastly, it is crucial to remember and understand that those whose preferred language is Polish, and who completed most of their education in Poland, should be tested in Polish via Polish tests that have the appropriate norms. It is no longer appropriate to complete an English version of tests that is available abroad in Polish. Psychologists from WPC are prepared to answer any questions regarding the subject of this article and are willing to provide assistance regarding Polish patients and their treatment as serving Polish people in America is their expertise.

Plans

This research left WPC with plans for the future. First, WPC has already implemented appropriate forms of release of data in the Polish language for patients to sign in order to use this data for future research. WPC will also do everything in its power to appropriately and approachably recruit more data for future research at the day of appointment. WPC builds great supportive relationships with other Polish-speaking doctors to let them know about research, available services, and decreasing negative stigma about psychiatric services. WPC members have weekly radio appearances during which psychological problems are discussed. The psychologist working in our clinic publishes regularly in the Polish newspaper that is distributed around the Chicagoland area. All of this is done in hopes of diminishing stigma, developing proper information about this sub-population that is larger in

Chicago than Warsaw, and most of all increasing the well-being of our patients. With these efforts, there is a better chance to obtain a larger sample for future research. Future research will focus on vascular disease among Polish immigrants.

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