THE CULTURAL QUOTIENT SCALE: IN SEARCH FOR A CONSISTENT PREDICTOR OF ACADEMIC PERFORMANCE

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Abstract

This study aims to establish a scale to measure the intensity of cultural habits in our target population. Cultural habits refer to the consumption of cultural artifacts, such as fictional and non-fictional books or films, and the attendance to cultural events, like museums, theaters, concerts or art exhibits. The scale should help us explore what and how much our audience reads, and how it deals with art, history, or music. In order to generate the scale, we presented to the participants a set of items that explored their cultural habits. Then, we run a factorial analysis to identify patters in their responses. Based on the outcomes, we were able to establish a scale of 10 items with two clearly identified components. In the second phase of the project, and after we run the validation process, we tested the scale in a larger study that identified factors associated to academic performance, such as GPA, school attitude, educational values, academic risk, and external locus of control. The outcomes were significant. The cultural quotient scale showed a positive correlation with the variables associated to academic success: higher GPA, positive school attitude and stronger educational values.

Keywords: academic performance, cultural quotient, scale validation, cultural habits, media usage, school attitude, educational values.

1 INTRODUCTION

One of the paradoxes of modern age is that, while we are publishing more books than ever, we are reading less than ever. The world population produces between 700,000 and one million books every year (Watson, 2022). Still the data generated by the OCDE surveys shows that in developed countries with high levels of literacy, the reading habits of the population seem to be in decline (OEDC, 2019). To this worrying trend, we must add the declining trend in humanities programs at high educational institutions. Programs in contemporary and classical languages, philosophy, literature and art studies are vanishing from the academic programs of many institutions. And even if the program does not disappear, the number of faculty keeps shrinking (Barshay, 2021).

The decline of humanities is a phenomenon that appears in a very specific time. Together with other social, social psychological and political phenomena. The rise of new digital media, the decline of traditional media on print and broadcast, the globalization, the rise of populism. Some authors use the term of post-history to refer to this particular historical period. In 1989, just a few months before the fall of the Berlin Wall, Francis Fukuyama published in the journal The National Interest an article with the title: The End of History, which had relative impact on the academic world. Three years later, the author published a book with the same title, The End of History – plus an addition – And the Last Man. The book had a stronger eco worldwide. The concept of the end of history became popular. It was added to a series of concepts in the field of political or social sciences that start with the same prefix: Post-modernity, Post-truth, Post-Materialism (Inglehart, 2016).

The world welcomed in the early 1990ies the concept of Post-history. The Fall of the Berlin Wall, which ended 40 years of Cold War and an imminent nuclear thread, generated a historical optimism. The Western world was open for the idea of a world that had no place for historical catastrophes, a world in which nothing relevant should actually happen – maybe with the exception of international sport events. The decade of the 90ies soon cooled the enthusiasm with the wars in the former Yugoslavia and the first Gulf War. The international community rapidly rushed to proclaim that Fukuyama missed when he prophesied the end of the history. This reaction clearly shows that those who made such claim, had not read Fukuyama's book – and certainly had not understood any of his theses. Fukuyama never stated that history was going to stop, or that the human species would stop producing events that would not deserve to go down in history.

In the first place, Fukuyama does not invent the concept of the end of history, let alone to claim its authorship. As a matter of fact, the most important part of his famous book is a re-reading (reinterpretation) of Alexandre Kojève's work (1993), which, in turn, is an interpretation of a section of Hegel's Phenomenology of the Spirit.

Peter Sloterdijk borrows one line from Mozart's opera "Le nozze di Figaro" to describe this new time: "tutti contenti"(2014, p. 237-238). Humans' driving force, the Thymos, has been buried, so that it nowadays it is not even necessary to reach excellence in the professional performance to achieve recognition. Every single human being, just for the mere reason of being born, can claim a right for recognition. Individual freedom, the right to pursue happiness, elemental human rights are gratis for the new men and women of the post-history. The technological progress provides us with a significant amount of free time, which demands an own industry to fill it with, in keeping with Sloterdijk, "art, sexuality and nonsense" (2006, p. 238).

The Western political and social system, in conjunction with a liberal economy, provides its citizens with a wide range of individual freedom, a frantic scientific process and a generalized material comfort. It liberates humanity from the scourges of extenuating physical labor, the cold and the heat, geographical and social immobility and the pain. We are living in the sphere of comfort. Sloterdijk, in order to describe the space of prosperity and nonchalance, refers to Dostoevsky and his metaphor of the Crystal Palace (2006, p. 265).

The process of "Entlastung" (easing of burden of life / relief of life strains), one of the key concepts in Arnold Gehlen's anthropology (1969), has been steadily developing/evolving in the last decades, since World War II. The absence of pain and, above all, extenuating physical labor create spaces of freedom for the individual. Such a level of comfort could be reached, just a couple of decades ago, only by a small group of the population who had an army employed in their domestic service. Still, even those privileged few could not escape from pain and illness. Inside the Crystal Palace, every citizen, even the most insignificant one, can claim access to a decent work that would not be degrading or torturing.

The post-historical process of "Entlastung" has transferred to the sphere of education. With the expression of "The Coddling of the American Mind", Jonathan Haidt and Greg Lukianoff (2019) gave expression to a pedagogical current with influence in practically the whole Western civilization. Trying to protect the students at all costs, to shield them from the inevitable bad experiences and from any idea that might create discomfort, the education in the U.S. has been deteriorating. And one of the symptoms of this decline is the fading of humanities from the schools' curriculum.

Education is, in addition to a solid middle class, one of the apparent conditions to maintain stability in a democratic society. The health of a democracy seems to be dependent on the ability of the population to participate in the political process in a concerned, responsible and competent fashion. This is one of the values the educational system should be nurturing. Humanities have been contributing for decades to foster this concept of citizenship. They have been an essential part of the educational system in Western societies. In the last years, a series of phenomena occurring in Western countries, such as the rise of populism or the dramatic increase of abstentionism in electoral processes, could be perceived as warning signals of the deterioration of this ideal of functioning citizenship.

The fundamental goal of this study is to establish and validate a scale that would allow us to measure the intensity of the cultural habits of our student population. Once validated, we test how the cultural quotient correlates with factors associated to the academic performance, such us school attitude, academic risk, educational values, external academic locus of control.

2 METHODOLOGY

This study happened in two phases. In the first one, we developed and validated the cultural quotient scale. In the second one, we tested the scale, as well as the sub-scales, in a study of the correlation of our target population's cultural habits with some indicators of their academic performance: School attitude, educational values, academic risk, and GPA.

2.1 Participants

In the first stage of the process, the development and validation of the scale, we gathered data from a poll of 147 students at Central Connecticut State University. Students were recruited through a random sampling procedure in face-to face interviews in areas of the campus that we assumed could be frequented by all the students, regardless of the programs they may be pursuing (student center, student cafeteria, university library).

In the second step of the project, a total of 311 undergraduate students participated in the study. Most of the participants (228) were recruited through the university's SONA platform and completed the

survey online. We completed the sample approaching the groups of the student population who were underrepresented in the sample: Latinos and African-Americans.

2.2 Materials

The process of generating the cultural quotient scale started with a brainstorming of cultural activities our students may engage in. Students had to signalize to which extent they agreed or disagreed with a series of 20 statements, on the basis of a five range Likert scale (1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree). The statements referred to the cultural habits in different categories: Reading habits, interest in cinema, music or art exhibits. The statements referred to their preferences (for instance if they enjoy watching black and white movies, listening to classical music, or reading novels, philosophy, or travel books). An exploratory factor analysis using a principal components factor extraction was conducted to determine the factor structure of the different items. The resulting scale and sub-scales were subject of reliability analysis to determine the Cronbach alpha value.

In order to establish the academic performance of our students, we used different parameters. The privacy of the participants in the process was one of our priorities. For this reason, we asked the students to self-report their GPA.

We used validated scales in social and psychological sciences to establish the parameters related to other aspects of academic performance. School attitude was tested with the School Attitude Assessment Survey (SAAS) developed by McCoach (2002). The educational values scale was validated by Moni et al (2017). The academic Locus of control was measured with the scale validated by Trice (1985). The scales used to establish the parameters of academic performance, school attitude, educational values, academic risk, external locus of control, are also based on the Likert model ranging the response options from “strongly disagree” to “strongly agree”. The willingness to engage in cognitively challenging activities has also been use as an indicator of good academic performance. To measure the individual need for cognition we use the classic scale by Caccioppo and Petty (1982).

The five scales showed robust reliability values: Attitude toward school, 20 items $\alpha = .96$; academic risk, 5 items, $\alpha = .89$; academic locus of control, 8 items, $\alpha = .80$; educational values, 7 items, $\alpha = .84$; need for cognition, 18 items, $\alpha = .85$

3 RESULTS

The factorial analysis helped us identify the items that most loaded in the factor that we defined as cultural quotient. The final scale consists of 10 items with two clearly identified components. In a second phase, we run correlations of both the principal scale and the sub-scales with the parameters used to evaluate academic performance.

3.1 Factorial Analysis

The factorial analysis helped us identify possible patterns of cultural habits in different media types of behavior. An exploratory factor analysis using a principal components factor extraction was conducted to determine the factor structure of the different items. As rotation method, we used an Oblimin rotation with Kaiser normalization. The resulting pattern matrix identifies 10 components with absolute values .50 or higher. The analysis clearly differentiates 2 components.

The first component groups following three items:

“I plan to visit an art exhibit in the next year.”

“I plan to visit an art museum in the next year.”

“I plan to visit the theater (plays, Broadway musicals, community theater) in the next year.”

Common to these three items is the social element. Those activities usually involve social interactions with friends or colleagues.

The second component clusters following items:

“I enjoy reading fictional books (novels, poetry, comics), also as ebooks.”

“I enjoy reading non-fictional books (historical or political books, biographies, travel books, etc.), also as ebooks.”

"I try to get involved in discussions about books I like."

"I can differentiate different styles in music and art (surrealism, expressionism, baroque, romantic, etc.; not genres)."

"I have a solid knowledge of the classic authors of my culture."

"I regularly read books by foreign authors (fiction, essays, poetry, etc)."

"I try to get involved in discussions about art."

In addition to the items with an explicit reference to reading different literary genres, this component groups activities that belong to what we could denominate "high culture". High culture relates to cultural activities and events that require some type of sophisticated training before the subject can start enjoying them.

The reliability analysis of the main cultural quotient 10 items scale proved to be very strong, with a Cronbach's alpha value of .909. Further reliability analyses showed that the items grouped in the two factors formed satisfactory sub-scales. The "social element" sub-scale had a Cronbach's alpha of .888. The "high culture" sub-scale, .884.

Table 1. Cultural Habits Factorial Analysis.

Cultural Habits – Structure Matrix	***Factor Loading***	
	1	***2***
I regularly read books by foreign authors (fiction, essays, poetry, etc).	.891	
I try to get involved in discussions about books I like.	.856	
I have a solid knowledge of the classic authors of my culture.	.823	
I enjoy reading non-fictional books (historical or political books, biographies, travel books, etc.), also as ebooks.	.783	
I enjoy reading fictional books (novels, poetry, comics), also as ebooks.	.777	
I try to get involved in discussions about art.	.716	
I can differentiate different styles in music and art (surrealism, expressionism, baroque, romantic, etc.; not genres).	.591	
I plan to visit an art exhibit in the next year.	.532	.947
I plan to visit an art museum in the next year.	.533	.940
I plan to visit the theater (plays, Broadway musicals, community theater) in the next year.	.532	.793

3.2 Correlations with Academic Performance

After running the reliability test on both the cultural quotient scale and the two sub-scales, we introduced them in a larger and more ambitious project. Working with universities in Spain, Germany and South Korea, we are investigating the penetration of social media into the life of our current college generation, and how this penetration may affect the consumption of traditional media, their academic performance and mental health. We decided to use the U.S sample to test how both the cognitive quotient scale and the two sub-scales correlate with the parameters we identified to assess the academic performance.

The main cultural quotient scale moderately correlates with the self-reported GPA of our students ($r(310) = .14$, $p = .01$). The positive correlation with school attitude and educational values is stronger. The higher the score in the cultural coefficient, the more positive the school attitude and the solider the educational values appear to be (School attitude: $r(310) = .20$, $p < .001$); educational values ($r(310) = .20$, $p < .001$).

Table 2. Pearson's Correlation Coefficients: Cultural Quotient and Academic Performance Variables

	1	2	3	4
1. Cultural Quotient				
2. GPA	.14*			
3. School Attitude	.20**	.35**		
4. Educational Values	.20**	.23**	.63**	

*Note. N = 311. *p<.05; **p<.01 (2-tailed)*

The two sub-scales seem to follow the same pattern. Both the social component and the high culture sub-scales show a moderate correlation with the self-reported GPA (social component: $r(310) = .15$, $p = .01$; high culture: ($r(310) = .15$, $p = .03$). The correlation with school attitude and educational values is likewise stronger in a positive direction (school attitude and social component sub-scale: $r(310) = .17$, $p = .003$); educational values and high culture sub-scale: ($r(310) = .19$, $p < .001$).

Table 3. Pearson's Correlation Coefficients: Cultural Quotient and Academic Performance Variables

	1	2	3	4	5
1. CQ_Social					
2. CQ_High Culture	.63**				
3. GPA	.14*	.13*			
4. School Attitude	.17**	.19**	.35**		
5. Educational Values	.18**	.19**	.23**	.35**	

*Note. N = 311. *p<.05; **p<.01 (2-tailed)*

Interestingly, the parameters used in the survey as warning signal for weak academic performance, the academic risk scale and the external locus of control, do not seem to correlate with the cultural habits of the students. Academic risk refers to a series of warning signals, such as having low grades, needing the help of advisors, dropping classes or changing the focus of their studies. The academic external locus of control scale shows us whether students perceive themselves as being in control of the circumstances that might allow them to master their academic success. The perception that the own achievements depend on factors that are out of their area of influence can give us a clue about the academic competence of our participants.

We could perceive a slight negative trend in the three scales when correlated with academic risk and external locus of control. Yet, the outcomes were far away from reaching levels of statistical significance.

Table 4. Pearson's Correlation Coefficients: Academic Risk

	1	2	3	4	5
1. Cultural Q					
2. CQ_Social	.83**				
3. CQ_High Culture	.89**	.63**			
4. Academic Risk	-.06	-.11^	-.02		
5. External Locus	-.01	-04	-01	33**	

*Note. N = 311. ^p<.1 *p<.05; **p<.01 (2-tailed)*

Only those cultural activities that involve a certain amount of social interaction, such as visiting plays or art exhibits, moderately correlate with academic risk ($r(310) = .11$, $p = .051$). Those students who are more active in this cultural area may be less at risk in their academic endeavors.

This lack of significant findings may surprise, since all the factors associated to academic performance strongly correlate to each other.

Table 5. Pearson's Correlation Coefficients: Academic Performance

	1	2	3	4	5
1. GPA					
2. School Attitude	.35**				
3. Educational Values	.23**	.63**			
4. Academic Risk	-.32**	-.41**	-.38**		
5. External Locus	-.27**	-.38**	-27**	33**	

*Note. N = 311. ^p<.1 *p<.05; **p<.01 (2-tailed)*

Finally, the cultural habits scales were tested in correlation with the level of cognitive complexity. The scale provides a clue about the inclination of our participants to participate in intellectual activities that require a high degree of cognitive effort. A higher score in this scale appears to correlate with better performance in academic tasks (del Ama et al, 2021). The main scale strongly correlates with the willingness to engage in challenging tasks ($r(310) = .28$, $p < .001$)). The sub-scale with the social component only correlates moderately ($r(310) = .17$, $p = .003$), while the one encompassing by high culture activities shows a correlation close to the combined scale ($r(310) = .32$, $p < .001$).

Table 5. Pearson's Correlation Coefficients: Cultural Quotient and Need for Cognition

	1	2	3	4
1. Cultural Q				
2. CQ_Social	.83**			
3. CQ_High Culture	.95**	.63**		
4. Cognitive Comp.	.28**	.13*	.32 **	

*Note. N = 311. *p<.05; **p<.01 (2-tailed)*

4 CONCLUSIONS

The cultural quotient scale provides a tool that allows us to assess the cultural life of our target audience. The fact that the resulting scale and sub-scales positively correlate with factors associated to a positive academic performance, such as a higher GPA, a better school attitude or stronger educational values, could serve as an argument to support the creation and implementation of programs in different are of the humanities in the curriculum of schools and higher education institutions. Still, we should not rush to conclusion based on the results of this study.

First, the cultural quotient scale and the two subscales did not significantly correlate with the parameters used as warning signals of a poor academic performance: academic risk and external locus of control. Further studies should be designed to shed light on the matter. Since those factors strongly correlate with the parameters that seem to be associated with a good academic performance, school attitude and educational values, it would make sense to develop more complex mediation analyses to connect those groups of variables. The original hypothesis would be that school attitude could act as a mediator that helps us understand the relationship between the cultural quotient and the academic risk.

Furthermore, this exploratory, purely descriptive inquiry should be complemented with more sophisticated inferential analyses. The correlations show a solid pattern. Still, it is necessary to determine through a regression analysis to which extent we could use the assessment of the cultural habits of our target audience as a reliable predictor of the academic performance of the students or actual risks of failing in their academic endeavours.

Finally, the cultural habits of the current college generation could be regarded as one more aspect of a very complex social stream. In order to make sense of the whole picture we should study the cultural life of our students in conjunction with other relevant factors. It is important to consider the penetration of social media in the life of our audience, as well as how these new media impact their cultural habits. The new communication technologies may, on the one hand, contribute to the decline of the consumption of traditional cultural artifacts. On the other hand, they also open new paths for new cultural experiences that need to be studied yet.

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