



Profile of computer use by Polish and Ukrainian students from the perspective of transactional analysis – research study

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Abstract:

The article presents research which compares computer use by students from Poland and Ukraine in the scope of such activities as entertainment, work/study, practical activities, hobbies and communication. The research was carried out using the diagnostic survey method, with the help of the questionnaire technique, in a group of 286 people in total (166 from Poland and 120 from Ukraine). Since the research tool contained questions related to the concept of transactional analysis, it allowed for analysing the profile of ego states examined at the level of functional analysis and drivers. Due to this, it was possible to indicate not only differences in the manner of using new technologies, but also to determine their sources. The use of transactional analysis in research related to human functioning in the world of new media is the original initiative of the author of this article.

1. Introduction

Since new technologies provide opportunities for entertainment, learning and work, help in dealing with daily duties and facilitate keeping in touch with other people, they have dominated the reality surrounding modern humans. The young generation, born and raised under their influence, are particularly effective in using them. There is ongoing research which analyses their use by people of different ages. In Poland, the Scientific and Academic Computer Network with M. Tanaś (2017), as well as research initiatives of J. Pyżalski (2018) constitute a significant contribution to such studies. The present research project compares computer use by students from Poland and Ukraine (such devices as smartphones, tablets, etc. have also been included under the term “computer”). In addition, the research has utilised transactional analysis (TA), a very dynamically developing concept, which originated from psychotherapy, and is currently widely employed in counselling, organizations and education, as well. Apart from practical applications, it is also increasingly used in scientific analyses. In this study, two concepts from TA have been used: structural analysis (at the functional level) and drivers. Structural analysis assumes that every human being has three basic ego states. I. Stewart and V. Joines write: “When I am behaving, thinking and feeling as I did when I was a child, I am said to be in my *Child ego-state*. When I am behaving, thinking and feeling in ways I copied from parents or parent-figures, I am said to be in my *Parent ego-state*. And when I am behaving, thinking and feeling in ways which are a direct here-and-now response to events around me, using all the abilities I have as grown-up, I am said to be in my *Adult ego state*’ (Stewart, Joines 2009, p. 11). The basic division into the *Parent*, the *Adult* and the *Child* involves the so-called first degree structural analysis, which provides a rudimentary understanding of the concept of ego state division, but is insufficient for deeper analyses. That is why, in transactional analysis, there is a possibility to employ further divisions. One of them is the so-called functional analysis, which focuses primarily on



how the individual uses his or her ego states. The functional model deals with the following ego states (after Pierzchała 2013, p. 38):

- The Controlling Parent – its positive aspect involves directing behaviour towards certain accepted norms of conduct, values or moral principles. It provides messages which may concern surrounding people or direct one's own behaviour; its negative aspect manifests itself in overcontrolling, criticising, humiliating oneself or someone else;
- The Nurturing Parent – its positive aspects entail the feeling of empathy, understanding, compassion and respect for another person or oneself; its negative aspects encompass overprotectiveness, limiting the possibility of acting, diminishing competences and/or value of another person;
- The Adult – it is not subject to further divisions. In the case of this state, its positive and negative aspects are usually not mentioned. Its function, consisting in the most effective gathering and processing of information, is emphasized;
- The Free Child – its positive aspect involves the function which consists in free expression of feelings, satisfying own needs and pleasures; its negative aspect entails similar reactions as the positive, but they do not fit the situation and cause harm both to the individual and his or her environment;
- The Adapted Child – thanks to its positive aspects, people can act automatically, in accordance with anticipated norms and principles, without exposing themselves to social disapproval; negative aspects of this state can manifest themselves in two ways – either in excessive submission and subordination, or in unreasonable rebellion and opposition. In the first case we deal with the Subordinate Child, in the other, with the Rebellious Child.

In addition to the analysis of the respondents' profile of ego states, the present study has examined their dominant drivers. The concept of drivers is associated with the concept of miniscript introduced by T. Kahler (1974), in which we deal with a list of behaviour sequences, which can be observed and which largely determine the manner and quality of our relations with the environment (including new technologies). These sequences comprise:

- Be Perfect – is associated with the feeling that there is no right to contentment and satisfaction until perfection is achieved;
- Please (Others) – focuses on the needs and well-being of other people defying or ignoring one's own;
- Try Hard – involves the inner conviction that it is necessary to put the maximum effort continuously, although the goal is far away;
- Be Strong – do not feel and never show weakness;
- Hurry Up – is associated with constant anxiety, rushing oneself and others, and a sense of ever-running time.

Each of these is signalled by a distinctive set of words, tones, gestures, postures and facial expressions (Stewart, Joines 2009, pp. 155-158; Pierzchała 2013, pp. 78-81).

To sum up – the present research concerns the profile of new technology use by students from Poland and Ukraine. The concept of transactional analysis used in the research has enabled the observation of relationships related to the students' personality traits and the way they function in the society.

2. Methods, techniques and data collection process

The present research project aims at comparing differences in the use of new technologies by students from Poland and Ukraine in such areas as entertainment, work/study, practical activities, hobbies and interests, as well as communication and maintaining contacts with others. The comparison also encompasses the profile of the subjects' ego states and their dominant drivers. Therefore, the following research questions have been posed:

1. What is the difference between students from Poland and Ukraine in computer use?
2. What are the differences between ego state profiles depending on the nationalities of the respondents?
3. What are the differences between dominant drivers depending on the nationalities of the respondents?
4. What relationships can be differentiated between ego state profiles and computer activities undertaken by the respondents depending on their nationality?



5. What relationships can be differentiated between dominant drivers and computer activities undertaken by the respondents depending on their nationality?

The research questions have a diagnostic character to a great extent, and the conducted research should be considered exploratory (Babbie 2009, pp. 107-109). At the same time, available literature on the topics discussed here is very poor. K. Rubacha notes that ‘we should [...] limit hypothesis formulation to theoretical studies in which we deduce the consequences of general statements deductively, or, in other words, we look for the consequences of a theoretical statement in the world of empiricism’ (Rubacha 2008, p. 99). Therefore, it has been decided not to formulate working hypotheses corresponding to the research questions enumerated above.

The research was carried out using a diagnostic survey method. The chosen technique was a questionnaire. The researcher used the tool that was constructed for the needs of the project described in the monograph *New Technologies – New Times – New Generations. Characteristics of New Media Users from the Perspective of Transactional Analysis* (Łęski 2018). The monograph contains the content of the tool (Łęski 2018, pp. 177-188) and the description of the procedure employed for creating and evaluating it (Łęski 2018, pp. 94-96). In Poland the research was conducted in the electronic form, while in Ukraine, the questionnaires were distributed to students during the academic internship of the author of the article in 2018 at one of the Ukrainian universities. As a result, a total of 286 questionnaires were obtained, 166 from Poland and 120 from Ukraine.

3. Analysis and outcomes of the obtained data

The analysis of the collected data focused, inter alia, on declarations concerning the respondents’ self-assessment of skills in using new technologies. It intentionally focused on declarations without undertaking the construction of objective tests of the respondents’ computer skills since a subjective assessment of the user and related to it attitudes and emotions depend on the manner in which a person treats the computer and how this fact can affect his or her everyday functioning. The respondents conducted self-assessment marking their level of computer use on a –2 to +2 scale, where –2 meant low, 0 – average, +2 – high.

Table 1. The level of computer use declared by the respondents (source: own research)

		Nationality		Total		
		Polish	Ukrainian			
[low – high] Mark on the scale how you assess your level of computer use	–2	Size	3	1	4	
		% of the total	1,0%	0,3%	1,4%	
	–1	Size	6	0	6	
		% of the total	2,1%	0,0%	2,1%	
	0	Size	21	0	21	
		% of the total	7,3%	0,0%	7,3%	
	+1	Size	63	37	100	
		% of the total	22,0%	12,9%	35,0%	
	+2	Size	73	82	155	
		% of the total	25,5%	28,7%	54,2%	
	Total		Size	166	120	286
	% of the total			58,0%	42,0%	100,0%

The obtained results are presented in Table 1. The distribution of answers seems to be puzzling. Statistical calculations indicate a statistically significant relationship at the level of 0.28 (Spearman’s rho coefficient). It can be observed that the students from Ukraine rate their skills noticeably higher than Polish students. At this



point, it is hard to determine the possible reasons for such a distribution of responses. Better access to new technologies in Poland and better equipment in Polish universities should condition the reverse distribution from the one observed. It seems that the tendency described here should be analysed more closely in subsequent research initiatives. Despite the observed differences, it should be emphasised that in the vast majority, the respondents of both compared groups declare a high or rather high level of computer use.

With the aim of learning more about the subjects, the questionnaire comprised an item concerning the respondents' emotional attitude to working with the computer. As in the case of the declared skills in new technology use, the respondents marked their choices on a scale ranging from 'annoying duty' through 'indifference' to 'pleasure'. The distribution of answers is presented in Table 2. The observed differences between the groups were small and not statistically significant. The vast majority of the respondents declared that working with the computer was a pleasure or rather a pleasure.

Table 2. The respondents' emotional attitude to work with the computer (source: own research)

			Nationality		Total	
			Polish	Ukrainian		
When you spend time at the computer performing activities that you most often do using it, you usually feel:	annoying duty	Size	1	4	5	
		% of the total	0,3%	1,4%	1,7%	
	rather annoying duty	Size	6	0	6	
		% of the total	2,1%	0,0%	2,1%	
	indifference	Size	27	14	41	
		% of the total	9,4%	4,9%	14,3%	
	rather pleasure	Size	75	58	133	
		% of the total	26,2%	20,3%	46,5%	
	pleasure	Size	57	44	101	
		% of the total	19,9%	15,4%	35,3%	
	Total % of the total		Size	166	120	286
				58,0%	42,0%	100,0%

To sum up – the respondents constituted a group of students from Poland and Ukraine, who, in the vast majority, declared a positive attitude to work with the computer and a high or at least rather high level of skills in computer use.

Table 3 presents computer activities undertaken by the students from Poland and Ukraine. There are five categories here:

1. Entertainment – e.g. games, listening to music, watching movies, etc.
2. Work/study – i.e. all activities aimed at helping to work or study
3. Practical activities – i.e. those activities that help in the everyday life of the user – e.g. online banking, online shopping, etc.
4. Hobby – activities related to the development of interests and hobbies
5. Communication – all activities for maintaining and establishing contacts – e.g. social networking, messengers, etc.



Table 3. Computer activities of the respondents (source: own research)

Activities	Entertainment		Work/study		Practical activities		Hobby		Communication	
	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland	Ukraine	Poland
not at all	1 0,3%	3 1%	0	0	3 1%	6 2,1%	1 0,3%	5 1,7%	2 0,7%	2 0,7%
less than once a week	3 1%	6 2,1%	1 0,3%	3 1%	6 2,1%	20 7%	5 1,7%	17 5,9%	0	1 0,3%
once a week	14 4,9%	7 2,4%	0	3 1%	5 1,7%	11 3,8%	1 0,3%	13 4,5%	2 0,7%	4 1,4%
several times a week	6 2,1%	12 4,2%	7 2,4%	35 12,2%	10 3,5%	45 15,7%	24 8,7%	33 11,5%	4 1,4%	12 4,2%
less than 1 hour daily	35 12,2%	19 6,6%	5 1,7%	18 6,3%	20 7%	39 13,6%	26 9,1%	21 7,3%	26 9,1%	29 10,1%
from 1 to 2 hours daily	23 8%	38 13,3%	28 9,8%	32 11,2%	25 8,7%	18 6,3%	38 13,3%	40 14%	47 16,4%	37 12,9%
from 2 to 5 hours daily	24 8,4%	52 18,2%	32 11,2%	51 17,8%	33 11,5%	19 6,6%	18 6,3%	27 9,4%	16 5,6%	41 14,3%
above 5 hours daily	14 4,9%	29 10,1%	47 16,4%	24 8,4%	18 6,3%	8 2,8%	7 2,4%	10 3,5%	23 8%	40 14%

Table 4. Relationship between the subjects' nationality and their computer activities (source: own research)

	Entertainment	Work/study	Practical activities	Hobby	Communication
Nationality	<i>-0,177</i>	<i>0,311</i>	<i>0,347</i>	0,109	0,075

Table 4 presents the results of statistical calculations regarding possible relationships between the nationalities of the respondents and the activities undertaken at the computer. Statistically significant coefficients are highlighted in italics and in red. The first concerns the 'entertainment' category. In this case, the negative value is so low that it cannot indicate even a very small relationship between the observed variables. The remaining statistically significant results relate to the 'work/study' and 'practical activities' categories. To present them in a clearer way, they are shown on line charts: work/study – Figure 1; practical activities – Figure 2.



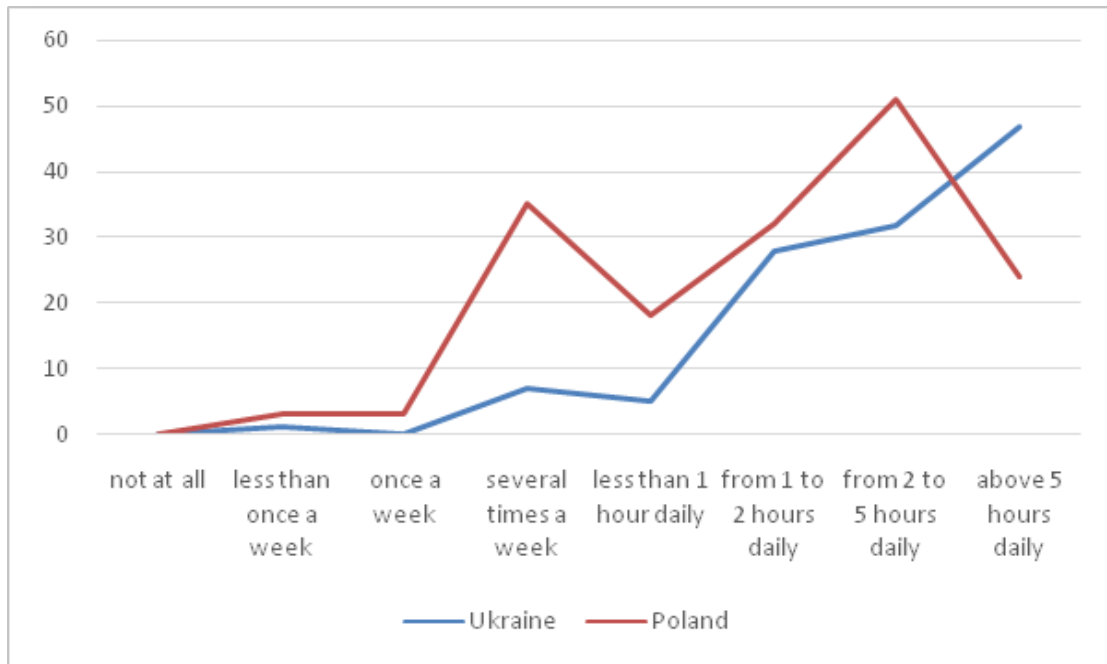


Figure 1. Work/study (source: own research)

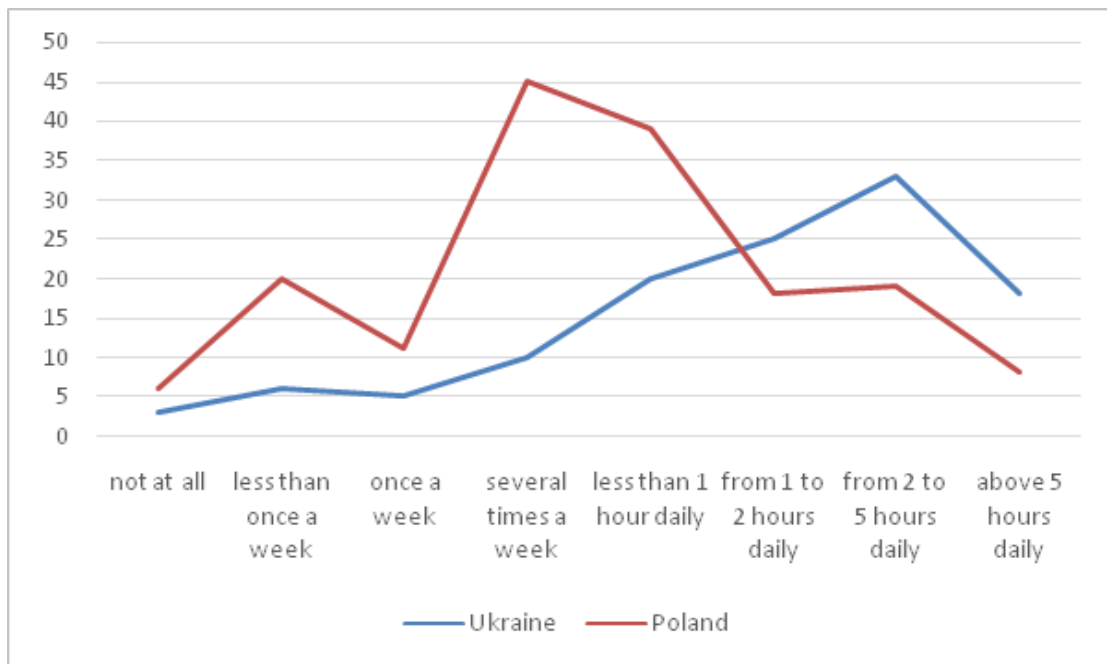


Figure 2. Practical activities (source: own research)

The results obtained in the course of the research indicate that the students from Poland use new technologies to work and/or study regularly, however, not as much as the students from Ukraine. In Poland, the most frequently indicated time intervals are *several times a week* and *from 2 to 5 hours daily*. In the case of Ukraine, however, we can observe a regularly growing line, which reaches the highest value on the level of *above 5 hours daily*. The category of practical activities was more frequently indicated by the Polish respondents – they usually chose the option *several times a week*. Higher values, which denote using the computer at least one hour every day were more often chosen by the Ukrainians. *From 2 to 5 hours daily* was the dominating option for the students from Ukraine.

As mentioned earlier, the research has used the concept of transactional analysis. Figure 3 presents the profile of ego states (functional analysis) distinguishing between the students from Poland and Ukraine, while Figure 4 shows their dominant drivers. Although the values responsible for the height of individual bars in

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the presented charts are not entirely the same depending on the nationalities of the respondents, the differences are not large, and the distribution trends are similar. The calculations have not shown any statistically significant relationships here. The profile of ego states shown in Figure 3 indicates the well-developed Adult and Nurturing Parent. The Adapted Child is the least noticeable ego state. The advantage of the Nurturing Parent over the Controlling Parent and the advantage of the Free Child over the Adapted Child indicate empathy, protectiveness, knowledge of norms and principles, creativity and natural joy. At the same time, the well-developed Adult allows for assuming that the respondents are able to analyse the reality surrounding them and to reasonably activate their remaining ego states.

Conversely, the drivers *Try Hard* and *Be Perfect* dominate in Figure 4, which may stem from the subjects' functioning in the educational reality (emphasis on grades and results, competition, etc.).

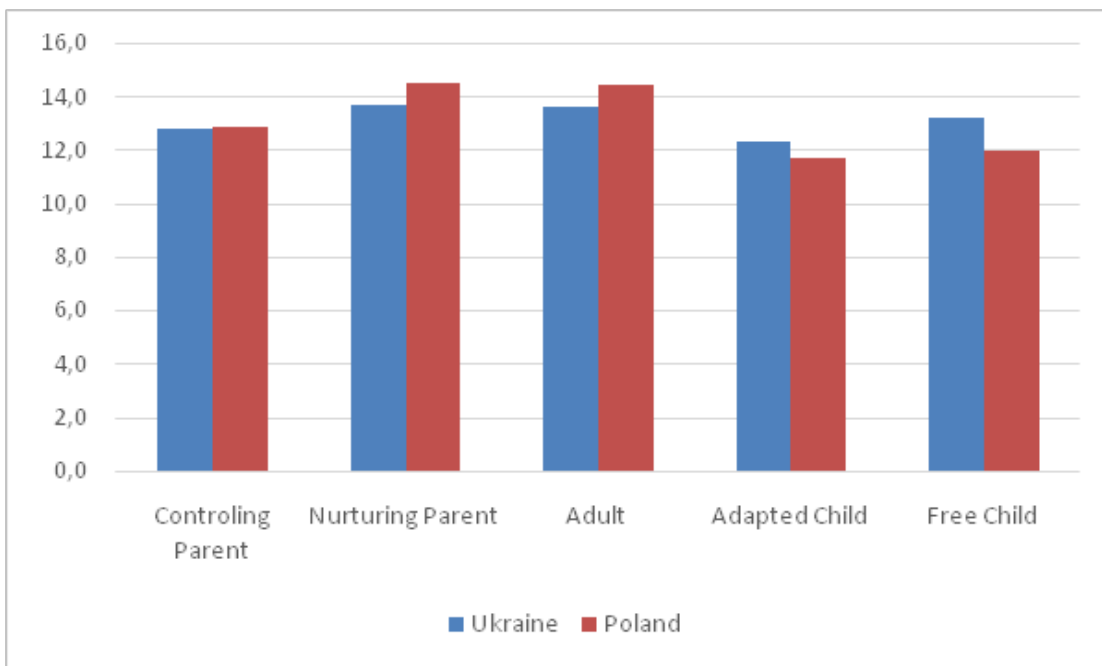


Figure 3. The subjects' profile of ego states on the level of functional analysis (source: own research)

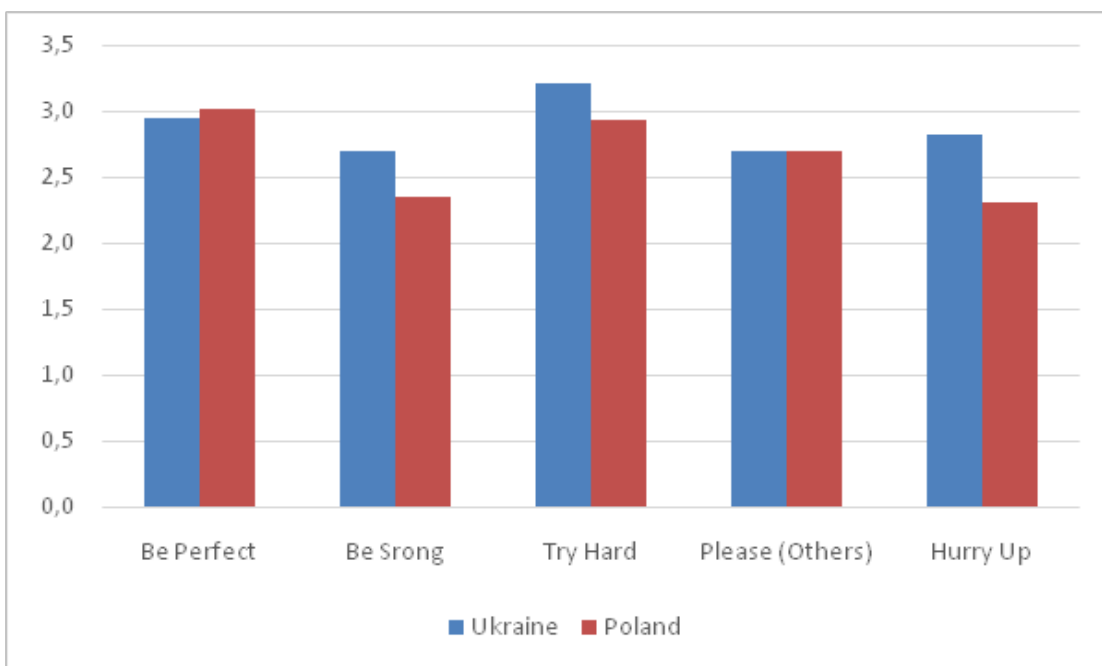


Figure 4. Dominant drivers of the subjects (source: own research)



Tables 5 and 6 show the results of statistical calculations for possible relationships between the subjects' ego states and their computer activities. Table 5 presents the results for the students from Ukraine, and Table 6 – from Poland. Statistically significant values are marked in italics and in red.

Table 5. Relationship between the ego state profile and the most frequent computer activities of the students from Ukraine (source: own research)

	Controlling Parent	Nurturing Parent	Adult	Adapted Child	Free Child
Entertainment	-0,028	0,052	-0,081	-0,233	-0,047
Work/study	-0,138	-0,156	-0,156	0,252	0,227
Practical activities	-0,013	-0,391	-0,269	0,068	-0,037
Hobby	0,339	0,292	0,236	-0,031	-0,139
Communication	0,216	0,082	0,179	0,183	0,180

Tabela 6. Relationship between the ego state profile and the most frequent computer activities of the students from Poland (source: own research)

	Controlling Parent	Nurturing Parent	Adult	Adapted Child	Free Child
Entertainment	0,166	-0,184	-0,075	-0,074	0,030
Work/study	0,269	0,146	0,239	0,052	0,211
Practical activities	0,221	-0,043	0,029	0,060	0,114
Hobby	0,266	-0,022	0,139	-0,053	0,178
Communication	0,128	0,035	-0,070	0,139	0,190

The analysis of the data contained in tables 5 and 6 allows for observing a number of differences between Ukrainian and Polish youth. Looking at the subsequent rows in the tables, we can notice that entertainment-related activities have only a negative relationship with the Adapted Child ego state among Ukrainian youth. On the other hand, although there are statistically significant values in this row among Polish youth, they are so low that they cannot indicate any noticeable correlations. Work and/or study activities, in turn, in both groups, are associated with cognitive curiosity flowing from the Free Child. However, later, in the Ukrainian group there is a relationship with the Adapted Child (therefore, probably with a sense of coercion and perhaps fear of negative assessment). In the Polish group, on the other hand, there is a relationship with the Adult (which indicates well-considered choices and responsible decisions) and with the Controlling Parent (which indicates motivation deriving from parental messages – norms and rules). Practical activities related to everyday life of Ukrainian youth are associated with decisions taken at the level of the Adult and the Nurturing Parent (hence, the desire to take care of oneself or others). Conversely, in Poland they are associated with the Controlling Parent, and therefore arise rather from those parental messages that are focused on norms, principles, as well as ready schemes and patterns of behaviour. Developing hobbies and interests would seem to be associated primarily with the Free Child. Nonetheless, there is no such correlation in any of the compared groups. In the Ukrainian group, there are relationships with the Controlling Parent, the Nurturing Parent and the Adult, which implies conscious decisions supported by the desire to take care of oneself and/or others as well as parental norms, principles and patterns of conduct. In the Polish group, only a relationship with the Controlling Parent has been observed.

Activities connected with communication and maintaining contacts are associated with the Controlling Parent in the Ukrainian group. Other values that are marked as statistically significant are too low to be taken into account. In the Polish group, however, only the value responsible for the relationship with the Free Child is statistically significant, yet again, it is too low to signify any noticeable interdependence.

The results of statistical calculations for the relationships between the drivers of the respondents and the activities that they undertake are presented in Tables 7 (for the students from Ukraine) and 8 (for the students from Poland).



Table 7. Relationship between drivers and the most frequent computer activities – students from Ukraine (source: own research)

	Be Perfect	Be Strong	Try Hard	Please Others	Hurry Up
Entertainment	-0,120	-0,123	-0,247	-0,073	-0,366
Work/study	-0,115	0,108	0,130	0,249	0,320
Practical activities	-0,162	0,066	0,082	0,201	0,423
Hobby	0,338	0,104	-0,030	0,178	0,013
Communication	-0,013	-0,151	-0,025	0,047	-0,103

Table 8. Relationship between drivers and the most frequent computer activities – students from Poland (source: own research)

	Be Perfect	Be Strong	Try Hard	Please Others	Hurry Up
Entertainment	-0,130	0,168	0,027	0,082	-0,022
Work/study	0,209	0,217	0,241	0,258	0,191
Practical activities	0,075	0,098	0,141	0,138	0,198
Hobby	0,031	0,118	0,154	0,057	0,068
Communication	-0,001	0,026	0,138	0,201	-0,006

The analysis of the subsequent rows in the tables shows that in the case of the Polish students there are no values that would be statistically significant and high enough to take them into account for activities related to entertainment. However, in the case of the Ukrainian students, there is a negative relationship with the drivers *Try Hard* and *Hurry Up*. This result seems justified. For people with the driver *Hurry Up*, entertainment is a waste of time. It is similar for people with the driver *Try Hard*. In addition, spending time on entertainment may, in their opinion, take them further from the goal they are trying to achieve. In the case of work and/or study, the observed relationships differ depending on the nationalities of the respondents. In Ukraine, a correlation with the *Hurry Up* driver appears, which may indicate that Ukrainian students consider work and/or study with the computer faster and more effective. On the other hand, in Poland, there are relationships with the drivers *Be Perfect*, *Be Strong* and *Try Hard*. They seem to match the specificity of the Polish education system, where the emphasis is on the result and assessment. Consequently, a learner must constantly try to do better, regardless of the environment and conditions. In both groups there is also a relationship with the driver *Please Others*, which may indicate that for the respondents, work and/or study are related to the desire to make others happy and the achievement of goals is not always consistent with their own – learning because parents and teachers require it. This is the phenomenon of *overadaptation*, which has been studied and described by A. Pierzchała (2013).

Practical activities in the Polish group do not show any relationships that would be significant and high enough for considering. The value indicating a relationship with the *Hurry Up* driver is borderline, which may point to a certain tendency related to the desire to improve or accelerate everyday activities through the use of new technologies. In contrast, in the Ukrainian group, there is a very clear relationship in this case. Besides, a smaller but noticeable connection with the *Please Others* driver can be observed. The Ukrainian students take up activities connected with hobbies under the influence of the driver *Be Perfect*. Conversely, no significant and noticeable relationships were observed in Poland in this case. Finally, communication and maintaining contact with others have no statistically significant relationships in the Ukrainian group, while there is a small interdependence with the *Please Others* driver in the Polish group, which may indicate that at least some of the respondents in this group tend to keep in touch via new technologies, not necessarily because of their own needs, but because they do not want to offend other people.



4. Conclusions

To sum up, the research questions will be referred to one by one. The first concerns the difference in computer use between the students from Poland and Ukraine. The obtained research results indicate that statistically significant and noticeable differences involve activities related to work and/or learning as well as practical activities. The students from Ukraine work and learn using new technologies more often (they do it more than five hours a day). In contrast, the majority of the Polish students work and/or learn with the computer every day from 2 to 5 hours or several times a week. Significant discrepancies also concern practical activities, since the Polish respondents usually admitted that they performed them several times a week. In contrast, higher values, which denote using the computer at least one hour every day were more often chosen by the Ukrainians.

The second question deals with the differences between ego state profiles in relation to the nationalities of the respondents. The conducted research has not shown any statistically significant differences in this respect. At the same time, in both groups the profiles of ego states show harmonious personalities, which make good use of the Adult, can draw on the resources of the Nurturing Parent and the Free Child, while the Adapted Child is the ego state that is least used.

The next question is related to differences between dominant drivers, depending on the nationalities of the respondents. Similarly to the previous case, no statistically significant differences have been observed here, either. The drivers *Try Hard* and *Be Perfect* dominate, which may be related to requirements set by universities.

The fourth question concerns relationships between the profiles of ego states and computer activities undertaken by the respondents, depending on their nationality. The analysis has shown a number of discrepancies between the compared groups, which may indicate a disparate meaning attached to parental influences on the students' functioning, as well as different experiences gained in the course of individual development. The observed discrepancies also relate to the activities that were indicated as significantly different, depending on the nationality of the respondents in the answer to question 1. For the Ukrainian group, work and/or learning are activities taken primarily from the level of the *Adapted Child* and the *Free Child*, while in the Polish group, the *Controlling Parent*, the *Adult* and the *Adapted Child* are most important. Perceiving this issue from this perspective, it could be noted that the differences observed in the responses to question 1 are largely due to parental models, childhood experiences and individual development. Thus, they need not be necessarily associated with a different level of access to technology in both countries.

Finally, the last question deals with relationships between the dominant drivers and computer activities undertaken by the respondents, depending on their nationality. The differences between the groups are significant also in this case. Referring to the differences mentioned in the answer to question 1, in the Ukrainian group work and/or learning involve the drivers *Please Others* and *Hurry Up*, while in the Polish group, there are relationships with *Be Perfect*, *Be Strong*, *Try Hard* and *Please Others*. On the other hand, practical activities in the Polish group are not significantly and noticeably connected with any of the drivers, while in the Ukrainian group, there are interdependencies with *Please Others* and *Hurry Up*. Therefore, the way in which new technologies are used is largely determined by variables other than their availability.

Summing up, the present research initiative primarily aims at demonstrating the usefulness of the transactional analysis concept in research related to human functioning in the world of new technologies. Due to its application, it is possible to examine a number of interdependencies that are connected with subjects' internal traits related to their attitudes, experience, models, upbringing, etc. Consequently, the analysis becomes broader and more objective. The obtained research results have shown that significant differences in computer use are connected with discrepancies in ego state profiles or dominant drivers. Therefore, there is a different source of motivation to take specific actions.

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