School for Sociological
Doctoral Studies

COLLECTION OF THESES

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Media multitasking
On new generations' changing habits of media consumption and communication
Ph.D. Thesis

Tutor:

Mihály GÁLIK, CS.c

Budapest, 2013

Institute of Sociology and Social Policy

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I. INTRODUCTION TO THE CONCEPTUAL FRAMEWORK OF THE RESEARCH AREA

From researches conducted in the field of media consumption and communicational habits, the conclusion can be drawn that the generation socialised in the digital age is different from its predecessors not only in its habits but also its thinking and paths of acquiring knowledge. One of the features of the transformation, happening mainly among the young generation, is that activities that were earlier clearly separable from each other are becoming increasingly intertwined; specialist literature labels this phenomenon "multitasking".

While Prensky (2001) considers multitasking one of the important characteristics of young generations, general assessments of other international empirical researches, such as Hulme (2009), Carrier et al. (2009), Vandewater and Lee (2009), Kenyon (2008), Roberts and Foer (2008) or Hundley and Shyles (2010) also stress the heavily increased presence of multitasking among younger age groups.

Both interpretations of youth generations such as Generation Y or Z researches dealing with multitasking with an emphasis on young generations address the question whether a "multitasking generation" actually exists and if the answer is yes, where do the notion's borderlines lie?

Although the definition of certain generations in specialist literature is usually based on the year of birth, several competing definitions using other cohorts of birth are also in use. In my present study, I seek to assess the effects of age and generational influence on the basis of empirical data, concerning parallel media consumption and the extent of media consumption in general.

Despite the fact that psychologists have been examining the effect of simultaneous activities on the cognitive system for a long time now, the "coalescence" of parallel, multi-channel media consumption and digital communication through infocommunications devices has begun stimulating the interest of researchers only in the past few years. This enhanced attention is without doubt due to infocommunications technology increasingly becoming part of our lives. The convergence of man and machine and the domestication of technology (Silverstone – Haddon, 1996) are apparent in several areas.

Infocommunications technology not only provides a broad array of possibilities to consume various media contents and communicate with our friends or even strangers in a variety of ways, but we can also become the participants of an individually moldable digital ecosystem – maybe this has already happened – in which the consumption of contents and communication are simultaneous activities. At the same time, however, transformations provoked by the development of infocommunications technology are not limited to media consumption, meaning that the question can be raised: does multitasking exceed the boundaries of the media world? It has been hinted that the extent of multitasking is dependent upon the nature of media (Roberts – Foehr, 2008) and the activity (Baron, 2005) in question. In my research, I seek to identify the meaning of parallelism in our various activities, be they mostly recreational such as media consumption or connected to functions such as learning or vocation.

II. METHODOLOGICAL FRAMEWORK

The chief question in connection with the agents of socialisation and features typical of age and generation that form the framework of multitasking is whether today's youth possesses empirically provable generational characteristics that also affect media consumption. Although it is possible to get a comprehensive picture of the area on the basis of various approaches to the issue, the examination of whether it is the generational or age aspect of differences apparent in various forms of media use such as parallel media consumption that is stronger is generally absent. Therefore, the chief question my research raises is whether features of media consumption such as parallelism, most common among young people, are specific of age or is the youth of the digital age the carrier of qualitative change, meaning that the effect is typical of an entire age group or generation. To put it more simply: with the progression of age, does the behaviour of today's "revellers" eventually organically fit into the texture of media consumption handed down by older generations or not?

Empirical data at our disposal enables the examination of mainly Generation Y and its predecessors. The last data collection in Hungary for the World Internet Project[20] which extended to the age group between 14 and 17 years of age was completed in 2007, meaning that the youngest respondents of the survey were born in 1993. Under the 2009 data collection, questions were put only to those eighteen years old or above. When collecting data for the *Hungarian Youth 2012*[21] survey, prepared with the use of an 8000-member sample also encompassing the youngest age group, young people between the ages of 15 and 29 were defined as having been born between 1983 and 1997. From the regular large-sample questionnaire survey conducted by *Kutatópont* and targeted specifically at media consumption habits, data for the Autumn 2012 phase is currently available, but because the target group of this survey were those who had already reached 18 years of age at the time of data collection, figures representing the youngest age group can only be drawn from *Magyar Ifjúság 2012 [Hungarian Youth 2012].*

The examination of databases of surveys conducted in various periods serves as a background for monitoring; in other terms, the existence of generational features which endure as years pass can be verified by attempting to identify generational characteristics seemingly appear in one set of answers with the results of another survey. In again different wording and approaching the question from another angle, the effect of time and thus changes affecting the entire society, such as features brought on by the marginalisation of traditional media and the expanding online media scene, can be kept under control by applying surveys conducted in different periods.

The fundament of the procedure used to test the generation-age dilemma is linear regression, in which the dependent variable is constituted by the quantity of the consumption of a given type of media (e. g. hours/week), the assessment of the importance of each type of media and – in the case of parallel consumption – the multitasking index ($MI_{0\text{-}100}$)[22], while the independent variable is age in years. When examining the hypothesis, it is especially important to study whether a linear connection between the variables can be proven. In the case of a significant linear connection, one can emphasise the role of age, while if linearity in the simple regression model is weak, it is worthwhile to study the phenomenon's generational attributes[23].

Taking stock of earlier researches, it can be said that only a small number of attempts seek to interpret parallel media consumption on the basis of the typology of activities; in my study, I aim to examine this area with quantitative and qualitative methods alike. The chief question raised by my research is whether parallel use differs in relation to the type of activity and whether those intensively engaged in communicational and media multitasking apply parallelism (and to what extent) in tasks that put an increased strain on the cognitive system, such as work or studying?

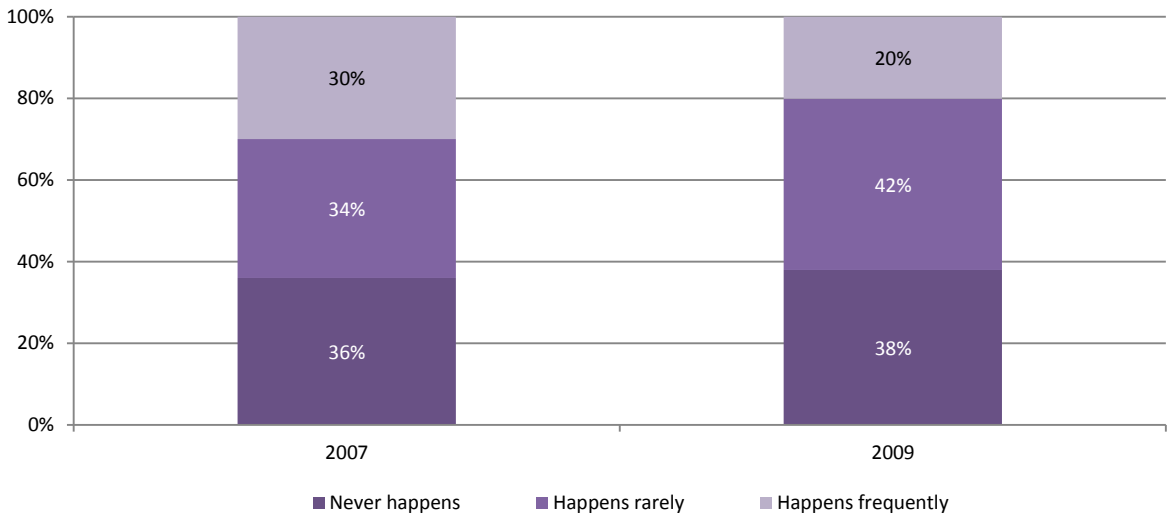
In my analysis of the question, I use both quantitative and qualitative approaches. I apply the quantitative approach largely on the basis of the *Hungarian Youth 2012* survey, which included questions on resource-enhancing activities alongside media and communicational multitasking. In order to study the differences manifesting in the nature of activities, I use two research materials conducted with qualitative methodology, namely a focus group survey on young people's parallel media consumption compiled at the *Corvinus University of Budapest* and the results of a further focus group research, which also extends to parallel use at the workplace[25].

III. RESEARCH OUTCOMES

AGE AND GENERATIONAL EFFECTS

Statistics produced by the World Internet Project for Hungary reflect that almost two-thirds of the Internet-using population tends to consume another type of media while online. Results for 2007 and 2009 show a remarkable similarity taking into account that the youngest age group (15 to 17-year-olds) were left out of the survey. It is possible to identify a smaller group that frequently engages in multitasking (20 to 30 per cent), a group that less often consumes media simultaneously (30 to 40 per cent) and a group of similar size that stays away from multitasking altogether.

1. graph: Prevalence of consuming other types of media while using the Internet (Source: WIP, 2009)



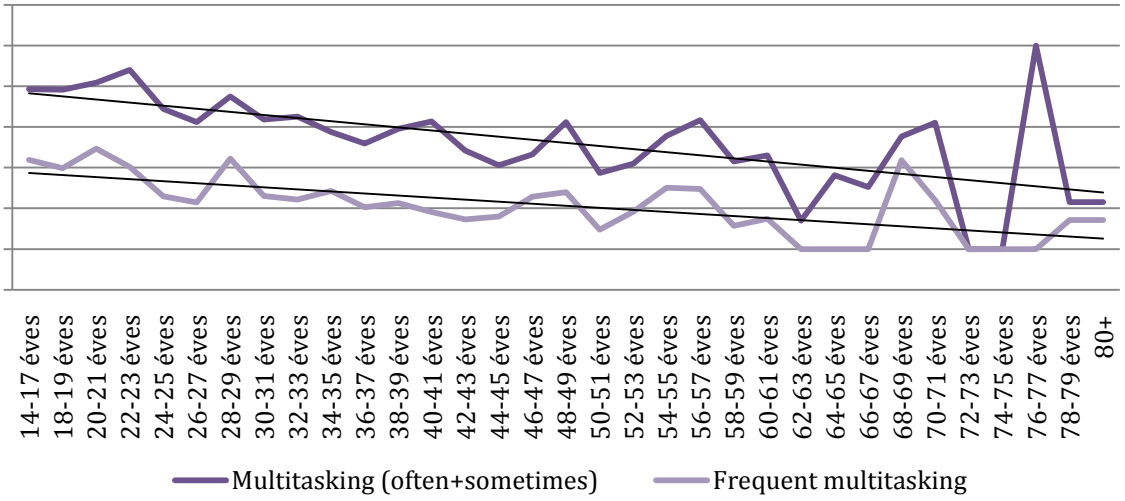
In earlier researches based on the findings of the World Internet Project for Hungary (Pintér – Székely, 2006; Székely 2006; 2007) we have already dealt with the connection between media consumption and age. In the course of these surveys, the characteristics of certain age groups were compared with each other, proving that young people's (teenagers') media consumption differs profoundly from more senior members of society; the extent of this discrepancy is such that today's young generation may redefine the world of media consumption as we know it.

Young people's media consumption differs from that of older generations both with regard to the time spent using a given medium and the frequency of consumption. The "generational breakpoint" concerning time spent with certain media can be found in many cases among people in the second half of their twenties (in 2012, the beginning of their thirties) (Pintér – Székely, 2006).

With regard to multitasking, analysis of data produced by the 2007 World Internet Project covering young age groups shows first of all that the proportion of those engaging in other activities while using the Internet is significantly higher among younger age groups. Study of age-related characteristics of multitasking while using the Internet proves that substantial differences can be detected between the multitasking behaviour of 14 to 17-year-olds and those aged 30-31 or above. In the case of frequent simultaneous activities, this discrepancy is already apparent in comparison to the age group of 25-26-year-olds[26]. Approaching the situation from another angle, it can be observed that the average age of those frequently engaging in parallel activities is twenty-nine, which differs significantly from the average age of people not pursuing such activities, which is thirty-eight.

Based on the above considerations, we can ascertain that connections between multitasking while using the Internet and age reflect a similar correlation to results produced by the analysis of media consumption. It is clearly visible from the below graph that although the extent of parallelism in various age groups appears to be varied, the trend line points in a unequivocal direction. From the simple linear model of multitasking in relation to age, we can come to the conclusion that the effect of age is substantial, with adjusted R square faring at 23 per cent as opposed to the 25 per cent with regard to age groups, similarly serving to prove the interrelation between multitasking and age.

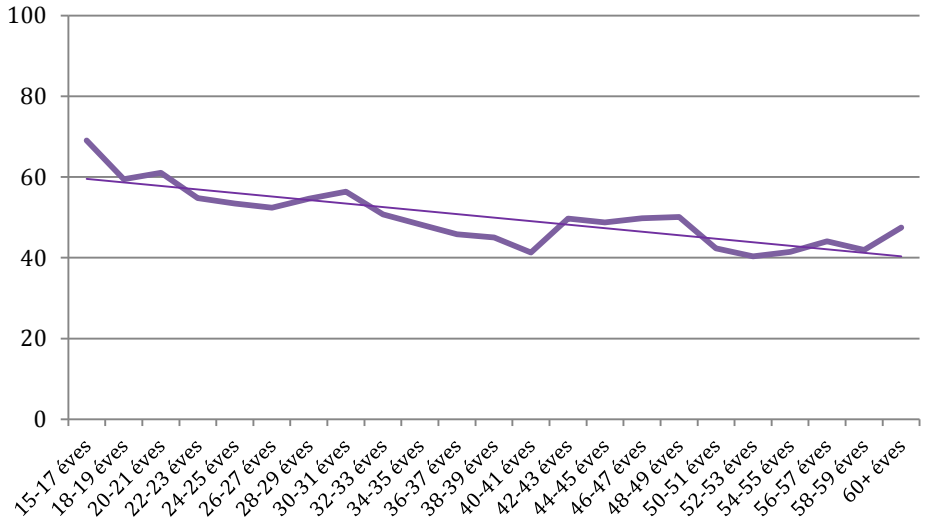
2. graph: The presence of multitasking while using the Internet in certain age groups (N = 1338; WIP, 2007)



Applying data produced by an online survey conducted in 2008 which saw questions put to 1000 respondents, I summarised the frequency of multitasking in a cumulated multitasking index ($MI_{0\text{-}100}$)[27], containing both online-offline and online-online multitasking. Analysis of the index along various social demographic traits produces the following results:

Age bears the strongest explanatory power, meaning that the younger the respondents were, the more frequent simultaneous activities are. In addition to this, a dividing line can be detected around the 20-21-year-old age group. Among those above the age of twenty-one, self-assessed multitasking significantly less common than in the age group comprising young people below the age of twenty. Taking into account a relevant ascertainment of an earlier, already cited research (Pintér – Székely, 2006), the appearance of this age group is only partially a surprise. On the basis of this, the generational breakpoint apparent media consumption shifts to an earlier age with respect to the same reference group, encompassing 15 to 17-year-olds.

3. graph: The MI0-100 index in age group breakdown (N = 1000; Source: ITTK-NRC, 2008)



Having regard for the above considerations, I have applied two different methodologies in my study, namely both the separate analysis of data produced by the various surveys and an integrated database. Although the latter solution results in several methodological limitations, its advantage lies in the evening out of minor distortions in individual databases and the high number of items (over 22 000 cases). In the case of both classifications, I dealt with the time spent with five separate types of media – the Internet, books, television, radio and newspapers - , as well as the importance of these sources in relation to age.

Separately conducted analyses of various databases have shown a significant connection between time spent with the media outlets in question and their position of importance on the one hand and age on the other in almost all instances, in the case of both simple linear connections and interrelations within age groups. A comparison of researches compiled in different period reflects the transformation of media consumption, the marginalisation of traditional media and the upsurge of the Internet. While listening to the radio or reading the newspaper as activities have suffered constant decline since the turn of the millennium until the present day, the extent of Internet use has increased continually during this period. While there is almost no difference in this respect between the explanatory power of regressive models testing the age and generational effects, the lack of stability in generational breakpoints is apparent, largely due to the fact that during the time past between researches, media consumption underwent fundamental changes independently from age too.

A review of surveys conducted from 2001 until present raises the legitimate question that if the passage of time plays such an important role, how enduring can generational characteristics possibly be. Use of an integrated database provides an opportunity to examine whether there is a statistically verifiable difference between figures recorded in a period spanning several decades, thus enabling us to decide whether media consumption has underwent significant change in relation to the analysed features. By applying the method of two-way analysis of variance, it is possible to ascertain any displacements that have taken place in identical age groups spanning the period between 2001 and 2012; in other words, are today's teenagers,

twenty-somethings, etc. different from the teenagers, twenty-somethings and so on of ten years ago.

Analyses of variance constitute a smaller or greater but substantial proportion of variance explained in relation to age[29] and time[44], which is the most significant in the case of the importance of the Internet (44 per cent). The effect of age can be generally considered stronger, chiefly with respect to listening to music, multitasking, watching television and the combined importance of television and the Internet. Owing to the fact that a substantial proportion of variance explained could be identified in all of the above activities except watching television, it can be stated that the role of age has remained a defining member despite the passage of years; at the same time, the effect of time is stronger concerning the extent of Internet use and the assessed importance of traditional media, meaning that the difference between various age group has become greater during the time past than what appears with regard to age in cross-section studies conducted in individual years.

1. table: Results of the analyses of variances

Media consumption	Proportion of variance explained (R Squared)	Strength of the age effect (Beta)	Strength of the time effect (Beta)
Reading books	0,01	0,08	0,05
Reading newspapers	0,02	0,13	0,08
Listening to the radio	0,03	0,13	0,11
Watching television	0,14	0,37	0,03
Using the Internet	0,05	0,24	0,05
Reading books	0,27	0,28	0,31
Importance of books	0,04	0,18	0,21
Importance of newspapers	0,06	0,11	0,19
Importance of the radio	0,07	0,11	0,20
Importance of television	0,09	0,23	0,11
Importance of the Internet	0,42	0,44	0,31
Multitasking	0,23	0,41	0,11

Having regard for each of these considerations, it can be stated that media consumption is determined by age in many aspects, reflecting a similar situation to that of a decade ago. At the same time, however, it is important to emphasise that in some cases – such as printed media (books and newspapers), as well as the radio or the Internet – major changes have occurred in the course of the examined decade, resulting in the declining global significance of traditional media and the growing role of online content.

With regard to the analysis of the issues raised in the present study, the above statements imply that it makes sense to speak of the enduring role of age concerning media consumption in general. The effects of age and generation could also be examined by comparing the explanatory powers of regressive models as described above; however, the difference between these is so slight that is cannot be stated with certainty that the model assuming generational divisions is better suited to describe the particularities of media consumption.

Nonetheless, it is still possible to claim on the basis of analyses that alongside the age effect, the generational effect is also intense, resulting in long-term tendencies in the extent of youth

Internet use and the importance of the Internet. In the case of older generations such as Generation X or baby-boomers, the dominance of reading the printed press and watching television can be identified in relation to the time spent with these activities. Based on statistical figures, the generational boundaries already introduced could be more or less verifiable. As a result of analyses, certain distinctive generational features seem to have emerged, of which I provide a summary in the following table:

2. table: Generations of media consumption

Generations	Generational boundaries
Veterans	born before 1938-1939
Baby-boom generation	born between 1940-1941 / 1968-1969
Generation X	born between 1970-1971 / 1978-1979
Generation Y	born between 1980-1981 / 1991-1993
Generation Z	born after 1994-1995
Generation Alpha	non-identifiable

Reversing the logic of the analysis, it is also possible to examine whether the above classification is more suitable to explain media consumption than other groupings based on the year of birth. Analyses of variances performed on a combined sample show greater explanatory power only in some cases (the quantity of Internet use, the importance of the Internet and books) than the result produced under the application of five-year age groups; consequently, the conclusion is that the Internet contributes to the greatest extent to generational character. In contrast, models analysing parallel media consumption do not detect a difference, meaning that the linear effect of age may even be considered a primary factor in this case.

3. table: Results of analyses of variance based on age

Media consumption	Strength of the age effect corrected by the control of the time effect (Beta)	Strength of the generational effect corrected by the control of the time effect (Beta)
Reading books	0,08	0,06
Reading newspapers	0,13	0,10
Listening to the radio	0,13	0,11
Watching television	0,37	0,36
Using the Internet	0,24	0,24
Reading books	0,28	0,32
Importance of books	0,18	0,20
Importance of newspapers	0,11	0,11
Importance of the radio	0,11	0,11
Importance of television	0,23	0,24
Importance of the Internet	0,44	0,49
Multitasking	0,41	0,42

The combined database is also suitable to experiment with testing the strength of the generational effect from a different angle; we may also approach the basic question by asking whether a substantial difference exists between e. g. the quantity of time spent using the Internet or the assessment of the importance of television among those born in 1979 in the face of data received in 2001, 2004, 2007 or 2012. The above results show that such a difference doubtlessly exists, but by assuming that this could have occurred only because of the passage of time, the effect of time can be reduced to the minimum while maintaining internal structure

through the method of standardisation. Organising figures according to year of birth, a simple analysis of variance performed on the integrated database – where standardised variants of variables concerning media consumption constituted the dependent variable and phases of data collection formed the independent variable – in the face of several thousand F-statistics proves that the above generational categorisation did not fare poorly.

With respect to the generation of Veterans, an average of two of the thirteen variables (amount of media consumption by type of media, assessment of the importance of various types of media and the frequency of multitasking) studied by year of birth produced a result significantly different (sig. > 0.01) in comparison to earlier waves of research, reflecting a change of behaviour within the studied generation. While the same occurred an average of four times in the case of the baby-boom generation and three times with regard to Generation X, seven such instances could be registered for Generation Y, the last which we are able to study. (The analysis of Generation Z was not possible because only 2012 figures are available for this age group, resulting in the absence of a basis of comparison.)

The above arguments prove that despite the methodological restrictions of the combined database, generational features are present in media consumption. This claim is supported by the fact that by and large, there is no significant difference along the studied criteria between data received from surveys conducted in a variety of years, save the global effect of time, meaning that the generations studied generally maintain their characteristics in relation to media consumption. However, this method of analysis also draws attention to the highly similar results produced if generational boundaries are altered by a couple of years; consequently, the methodology is either not suitable for defining more exact boundaries or such distinction may even not exist.

MULTITASKING IN RESOURCE-ENHANCING ACTIVITIES

Analysis of the quantity of media consumption in relation to engaging in multitasking reveals significant differences in the extent of consumption, especially with regard to listening to music, talking over the phone or using the Internet. Those frequently engaged in multitasking while using the Internet spend an average of 13 hours listening to music, 15 hours on the Internet and over three (3.2) hours on the phone per week, as opposed to people refraining from multitasking, who listen to music and surf the Internet for an average of 7-8 hours per week and spend a weekly average of somewhat over two (2.3) hours talking on the phone. A further significant, although weaker connection can be detected in the quantity of time spent reading books or playing video games, while as for reading newspapers and listening to radio programmes, no difference is apparent in comparison to figures received in 2007.

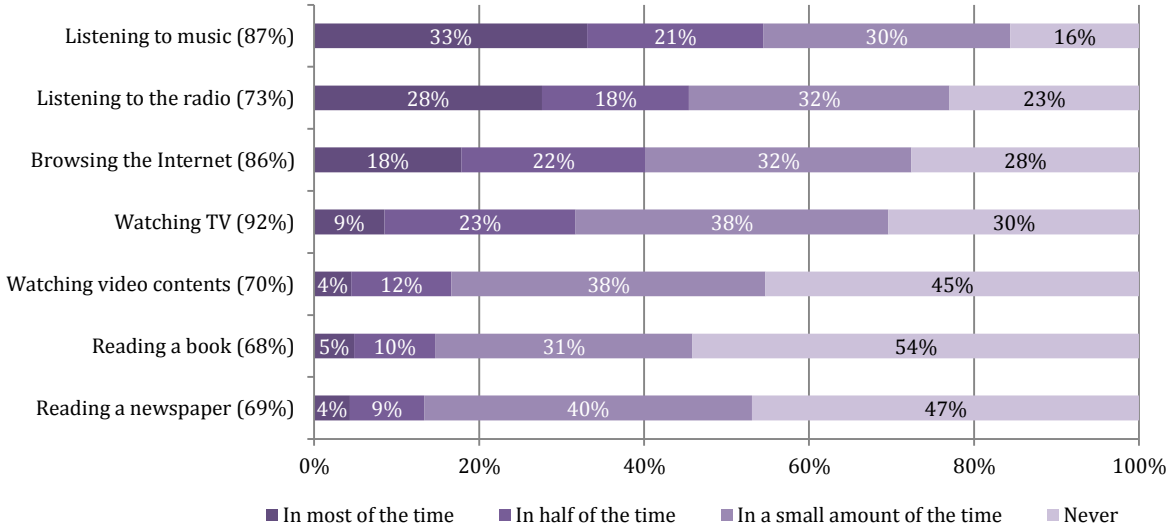
4. table: The quantity of media consumption by the practice of multitasking (N = 1338; WIP, 2007)

	Happens often	Happens sometimes	Never	Total
Browsing the Internet	14,9	10,6	7,5	10,8
Reading books	4,3	3,7	4,7	4,2
Playing video games	4,8	4,5	2,9	4,2
Listening to music	12,6	8,7	7,3	9,5
Reading newspapers	3,0	2,9	3,2	3,0
Listening to the radio	13,3	12,0	13,2	12,8
Talking on the phone	3,2	2,8	2,3	2,8
Watching television	13,0	12,7	13,6	13,1

Analysing figures produced by the aforementioned latest large-sample youth survey, it is possible to draw conclusions not only in connection with media and communicational multitasking but also research-enhancing activities. Given that age is among the most significant explanatory factors of multitasking, with the frequency of the parallel occurrence of activities declining as age progresses, examination of youth behaviour opens the door to broader analysis of the issue. Figures cited in the *Hungarian Youth 2012* survey reveal that multitasking is present, if only periodically, in the case of the majority of Hungarian young people between the age of 15 and 29 who pursue certain media-related activities.

Among the figures received, only the role of television can give cause for surprise; watching television, which in the experience of international researches is one of the most intensively "divided" activities, rather fits into the mid-range on the basis of results produced by the *Hungarian Youth 2012* survey. A certain ranking of sensory organs also appears to shine through, with parallelism connected predominantly to hearing (music, radio) and single-channel consumption being more typical of vision (reading); mixed contents stimulating both visual and auditory senses (videos, the Internet) are to be found between these two values.

4. graph: The frequency of the occurrence of media multitasking activities* (N = 8000; Source: Hungarian Youth 2012)

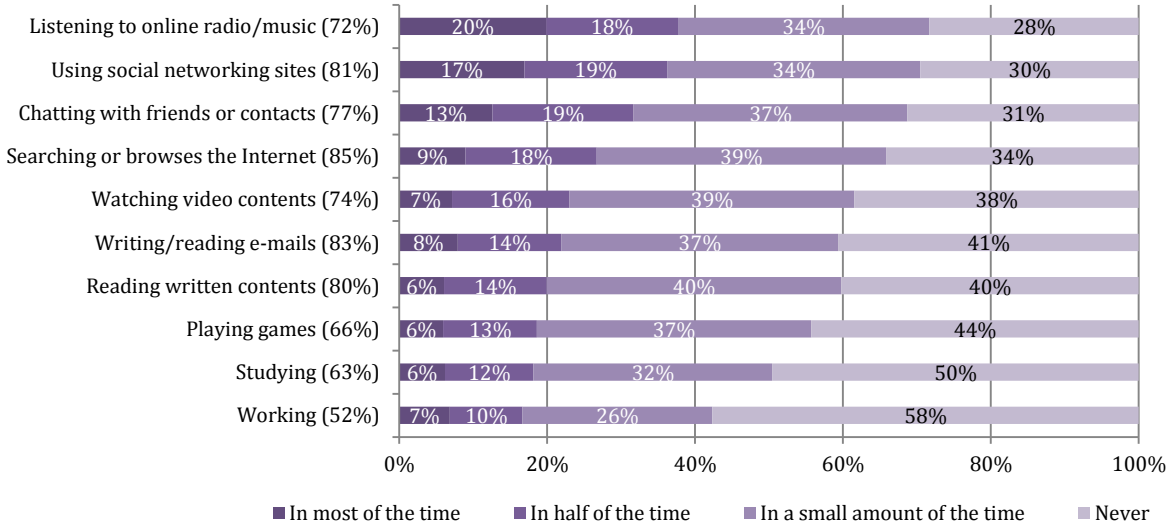


* In brackets: the proportion of respondents engaging in the given activity

The above experiences are also valid in the case of online, not exclusively media-natured activities. Among online activities, parallelism can be identified most frequently in listening to music and radio broadcasts, while among activities closely linked to the media, the level is the lowest in the case of consuming written contents. The use of social networking sites and cumulative consumption while chatting online is especially interesting and may provide an opportunity for deeper analysis in the area of research studying "written verbality"[31].

It is also worth observing than online environments do not necessarily result in the greater intensity of multitasking, given that the presence of other activities while consuming video contents linked to computers and the Internet does not markedly differ from experiences drawn in the case of the entirety of video contents. Taking into account the spread of multitasking, all this could mean that the frequency of simultaneous activities is growing also in offline environments.

5. graph: The frequency of the occurrence of online multitasking activities* (N = 8000; Source: Hungarian Youth 2012)



* In brackets: the proportion of respondents engaging in the given activity

On the basis of results, it can be clearly stated that the intense presence of online parallel activities (mostly media consumption) is typical of entertainment, relaxation and chatting (i. e. recreational activities); in the case of more serious (resource-enhancing) activities demanding greater concentration, the number of those paying attention to additional pursuits diminishes. Consequently, it is of no surprise that respondents engage in other activities to the greatest extent while listening to radio broadcasts or music through a computer or chatting using instantaneous messaging programmes. In contrast, activities related to work or studying are usually not accompanied by other pursuits.

In the *Hungarian Youth 2012* survey, which saw the participation of 8000 young people between the age of 15 and 29, I examined online activities in previously unprecedented detail, while bearing in mind the division of parallel consumption according to contextual characteristics, namely recreational activities (mainly media consumption), communicational activities and the enhancement of resources (the latter covering work linked to the use of a computer or the Internet and online education). Results reflect that the practice of multitasking in the online environment differs according to the nature of the activity. One can observe that other activities are present mostly in the case of listening to music or radio broadcasts online, with one-fifth (20 per cent) of young people engaging in this form of activity (almost three-quarters of the entire age group) pursuing a further activity in the majority of time spent listening to the radio or music online. In contrast, this proportion during activities of resource enhancement such as studying or working stands at six to seven per cent, leading to the conclusion that parallelism is not independent from the nature of certain activities.

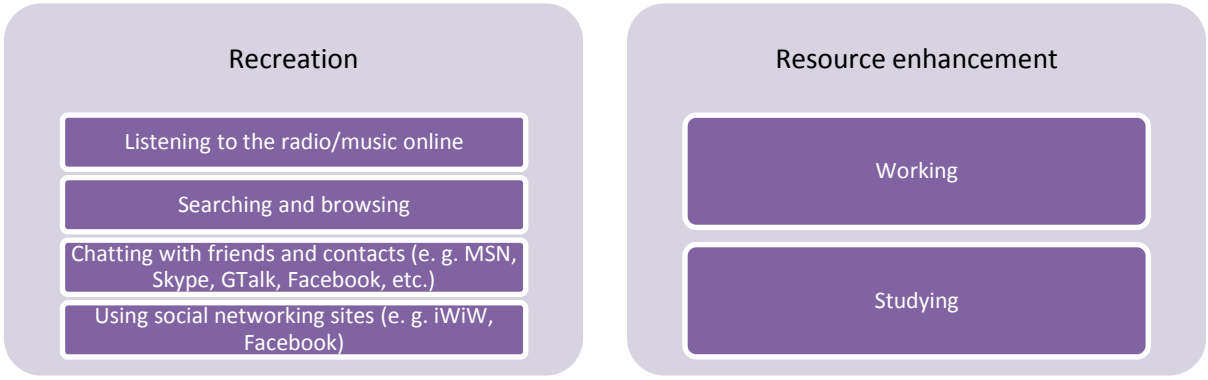
Factor analysis is one of the applicable statistical methods of verifying the conclusion by displaying the differences between the nature of activities entering multitasking. Serving to reveal latent structures, factor analysis ultimately orders the effects of multitasking linked to the examined seven (traditional and online) types of media into a chief component while ignoring

listening to the radio and music[32], resulting in the conservation of somewhat over half (56 per cent) of the total information content.

On the basis of the ten separate multitasking activities linked to an online environment[33], a bifactor structure extending to altogether six criteria (gaming, video contents, writing and reading e-mails, and reading news and other contents in text format were left out of the model) was finally established. The two factors explain somewhat over half (53 per cent) of the total variance, with the first factor contributing 35 per cent and the second 17 per cent of explanatory power.

The latent structure described by the completed factor analysis practically verifies the separation of resource-enhancing and recreational activities.

6. graph: The factor structure of online activities



The established factor structure is explained to a varying degree by criteria concerning lifestyle and life situations[34]. Although the age segment of the Hungarian Youth 2012 survey encompasses exclusively the 15 to 29-year-old age group, a significant connection between certain age groups and the established factors can nevertheless be identified. Among one-way analyses of variance, a significant model can be detected in the case of the recreation factor, albeit with very weak explanatory power[35]. The latter refers to the increasing frequency of parallelism in online recreational activities as research progresses to ever younger generations. Age does not constitute a significant explanation in the case of the online research-enhancing factor.

Similarly to age, the model compiled on the basis of the division between those currently pursuing studies and those not in education boasts only weak explanatory power; the latter example reveals that parallelism in the case of online activities is more typical among those currently in education than those not studying. The two-way ANOVA model, also capable of displaying interactional connections between age and studying, can be considered significant in relation to resource-enhancing activities. The connection implies that the direction of age-related characteristics observed earlier among those currently in education appear to be reversing, meaning that increase in the frequency of parallelism is connected to the progress of age[37]. This phenomenon can easily be explained by the different studying habits of secondary and tertiary education students.

Consequently, it is sensible to make a distinction between resource-enhancing and recreational activities with regard to parallelism.

These experiences are reinforced also by results produced by various qualitative researches. On the basis of experiences drawn from a qualitative focus group research conducted at the Corvinus University of Budapest among 14 to 23-year-olds, young people widely take use of the opportunities provided by the Internet, not only for communication or entertainment but also in the case of studying and work, of which it has become an important instrument. Certain differences, however, can be identified, but these are explained mainly by age: work (seeking employment) is typical mainly of those of a more elevated age, while studying (searching for information related to studying) is general among the younger age group.

Our research on the habits of people working in offices with infocommunications devices revealed that employees demand without exception the use of appliances at the workplace for non-professional, private purposes, including the use of the Internet where this is physically possible (access is not blocked). On the whole, it can be stated that employees admit to engaging in activities loosely or closely related to professional tasks in the majority of working hours. Parallel activities are present in the case of every respondent, almost without exception. It is common to have several windows open and an average of five-six applications running at once, which are mainly connected to work. One of the limits of divided attention is when windows become superimposed on each other, making them impossible to tell apart.

Employees at companies with an international background agree that mastering the application of multitasking is a necessity. According to the general assessment, division of attention is a defining feature of their entire lives. Expectations of high-quality work and multitasking simultaneously exert pressure upon employees. *"Who is able to pay attention to only one thing can't stand ground here."* All this surfaces visibly during the training of newly recruited employees, who often find it impossible to keep up with the pace of work.

Activities forming part of the world of work but unrelated to professional tasks (largely media consumption) can serve to facilitate work, especially if it involves performing monotonous tasks. In such cases, focus group participants mainly reported listening to music from online sources such as YouTube or interrupted professional activity with browsing social networking sites, playing games or reading news. However, the majority refrains from parallel activities when conducting tasks demanding the most attention.

Therefore, it can be established that media and communicational multitasking linked to research-enhancing activities is present in the life of the examined 14 to 23-year-old age group, although a very diverse pattern of individually unique practices can be identified. Among activities of communication pursued while studying, it is important to emphasise the role of chat messaging; as pointed out by several authors, this not only provides a further venue for entertainment and keeping contact with friends but is also widely employed during studying for being able to recreate the realistic process of problem-solving much more effectively than solitary exercise. In several cases, information is obtained from "others" in this manner (finding the equivalents of foreign-language words or checking homework).

Media consumption while studying appeared much more frequently in the group regularly engaged in multitasking. However, consciousness in users' behaviour is strongly present, resulting in separation from other recreational activities even among people frequently

performing parallel activities, leading to the conclusion that multitasking observed during various activities does not take place spontaneously but is rather the planned and deliberate result of individual strategy.

Focus group surveys prepared among young people and office workers have ascertained that parallel activities are also present in the course of resource-enhancing activities, there role is much slighter than during recreational pursuits.

SUMMARY OF THE RESULTS OF TESTING HYPOTHESES

In my study, I established altogether six in connection with the questions raised by my research concerning simultaneous multi-channel communication, of which two were main hypotheses and an additional two for each field were subordinated to the former. All of these have been successfully verified to a lesser or greater degree.

Hypotheses drawn up concerning one of the most important questions raised by my research – namely whether peculiarities in young people's media consumption are specific of age as opposed to the prevalence of the generational effect – can only partially be considered as proven, given that alternative explanations cannot be discarded. Although it can be established that generational effects can be verified in connection with the observed characteristics of media consumption and communicational habits, the exact definition of generational boundaries by year of birth is impossible. Additionally, the explanatory power of generational adherence is hardly greater than that of the age and time factor.

Hypotheses related to the second main question dealt with in my research – whether a difference in parallel use according to the nature of activities exists – can be considered verified. Quantitative analysis revealed the significant discrepancy between the extent of multitasking linked to recreational and research-enhancing activities, a finding also supported by focus group experiences.

5. table: Results of the study of hypotheses

Hypotheses	Method used for the study of hypotheses	Result of the study of hypotheses
H1: Alongside characteristics related to age, generational effects also have an influence on media consumption, meaning that groups identifiable on the basis of year of birth (generations) maintaining their characteristic habits of media consumption exist.	Quantitative, linear regression and analysis of variance	Partially verifiable
H1.1: Generational breakpoints are present in relation to both the extent of media consumption and the level of parallel consumption.	Quantitative, linear regression and analysis of variance	Partially verifiable
H1.2: The generational boundaries of parallel consumption do not coincide with generational breakpoints concerning the degree of consumption.	Quantitative, linear regression and analysis of variance	Partially verifiable
H2: The nature of a given activity is an important explanatory factor of the extent of parallelism; the intensity of multitasking accompanying various types of activity is different.	Quantitative, factor analysis	Verified
H2.1: Multitasking plays a more important role in recreational (media and communicational) activities than in resource-enhancing (work, study).	Quantitative (factor analysis) and qualitative (focus groups)	Verified
H2.2: In most cases, multitasking activities during various activities are planned, deliberate and dependent upon individual strategies rather than spontaneous.	Qualitative, focus group results	Verified

SUMMARY AND CONCLUSIONS

Analyses along certain approaches detailed above have demonstrated that age is a major, if not the most important, explanatory factor of media consumption and media and communicational multitasking in a broader sense. The conclusion can be drawn that although the relevance of certain categorisations by generation is doubtless, generational boundaries are defined rather vaguely and arbitrarily. While it can be proven in detail that generational breakpoints are present in relation to the extent of both media consumption and parallel activities, it should also be established that the linear connection between age and parallel consumption is similarly suitable to describe the relation. The difference between the explanatory power of models testing the age and generational effects is almost non-existent, meaning that it is impossible to determine clear generational boundaries on the basis of parallel media consumption.

On the basis of empirical experiences applying quantitative and qualitative approaches, it can be ascertained that a recurring feature of cognitive approaches, the negative effects of dividing attention, cannot be proven in most cases due to the different features of the objectives and nature of activities entering multitasking. Empirical evidence reflects that the intensity of parallelism typical of certain activities is uneven. In the case of recreational activities and (mostly online) communication, multitasking plays a significantly more important role than in resource-enhancing activities.

My researches on media and communicational multitasking have revealed that it is an everyday activity pursued more or less often by the majority of people. Situations in which we divide our attention while consuming media are common, as are activities involving communication during which we also engage in other (often media-related) pursuits.

In connection with the foreseeable future of media and communicational multitasking, it can be said that it will definitely continue to expand due to stimulation by at least three factors: (1) the entry of new generations; (2) the spread of mobile appliances; (3) the strategies of advertiser,

media proprietors, as well as producers of contents and appliances. Advertisers and media proprietors are expected to tackle the challenges multitasking raises by stimulating the activity to a still greater degree, offering consumers an even greater array of linked contents, which in turn will further spur the use of mobile appliances. Similarly to those engaged in the advertising industry, other related branches of the economy will also market increasingly sophisticated services more and more suitable for multitasking.

IV. MAIN REFERENCES

Anderson, J. Q. – Rainie L. (2012): Millennials will benefit and suffer due to their hyperconnected lives, Pew Research Center's Internet & American Life Project, Washington, D.C.

Baron, N. S. (2006): Adjusting the Volume: Technology and Multitasking in Discourse Control. Manuscript

Bannister, F. – Remenyi, D. (2009): Multitasking: the Uncertain Impact of Technology on Knowledge Workers and Managers. The Electronic Journal Information Systems Evaluation Volume 12 Issue 1, 1 – 12.

Hundley, H. L. – Shyles, L. (2010): US teenagers' perceptions and awareness of digital technology: a focus group approach. New Media & Society 12(3), 417-433.

Kenyon, S. (2008): Internet Use and Time Use: The importance of multitasking. Time Society 17 (2-3), 283-318.

Nagy, Á. – Trencsényi, L. (2012): Szocializációs közegek a változó társadalomban - A nevelés esélyei: család, iskola, szabadidő, média (Ifjúságszakmai Társaság Alapítvány, Budapest)

Ophir, E. O. – Nass, C. – Wagner, A. (2009): Cognitive control in media multitaskers. Proceedings of the National Academy of Sciences, 106(37):15583-15587.

Prensky, M. (2001): Digital natives, digital immigrants. On the Horizon - MCB University Press, Vol. 9 No. 5, October 2001, 1-6.

Roberts, D. F. – Foehr, U. G. (2008): Trends in Media Use. The Future of Children. 18(1), 11–37.

Roberts, D. F. – Foehr, U. G. – Rideout, V.J. (2005): Generation M: Media in the Lives of 8-18 Year Olds. Menlo Park, CA: Kaiser Family Foundation, 2005

Síklaki, I. (2011): Viszonyulás a tudáshoz. Információs Társadalom 9(1-4), 155-161.

Schroeder, R. (2010): Mobile phones and the inexorable advance of multimodal connectedness. New Media Society 12(1) 75-90.

Spink, A. – Alvarado-Alvertorio, F. – Narayan, B. – Brumfield, J. – Park, M. (2007): Multitasking information behaviour in public libraries. A survey study. Journal of Librarianship and Information Science 39(3), 177-186.

Turkle, S. (2011): Alone Together: Why We Expect More from Technology and Less from Each Other Basic Books; 1 edition (January 11, 2011)

Vandewater, E. A. – Lee, S-J. (2009): Measuring Children's Media Use in the Digital Age: Issues and Challenges. American Behavioral Scientist 52(8), 1152-1176.

Vega, V. (2009): Media-Multitasking: Implications for Learning and Cognitive Development in Youth. Background Paper for the Seminar on the Impacts of Media Multitasking on Children's Learning & Development. Stanford Universitiy, 2009

Wallis, C. (2010): The impacts of media multitasking on children's learning and development: Report from a research seminar, New York, NY: The Joan Ganz Cooney Center at Sesame Workshop.

V. OWN PUBLICATION IN THE SUBJECTS

Nagy, Á. – Székely, L. (2013): Beyond School and Family: The Basis and the Structure of the Tertiary Socialization Field and the "Youth-Affairs" as an Autonomous Area (in: Trejos-Castillo, E. /ed./: Youth: Practices, Perspectives and Challenges. Nova, 137-158.)

Székely, L. – Urbán, Á. (2011): Over the Innovators and Early Adopters: Incentives and Obstacles of Internet Usage (in: Pierson, J. - Mante-Meijer, E. - Loos E. /ed./: New Media Technologies and User Empowerment. Peter Lang, Frankfurt am Main, 195-209.)

Molnár, Sz. – Kollányi, B. – Székely, L. (2008): Κοινωνικά Δίκτυα και η Κοινωνία των Δικτύων (in: Pintér, R. /ed./: Κοινωνία της Πληροφορίας. Θεσσαλονίκη, 85-111.)

Molnár, Sz. – Kollányi, B. – Székely, L. (2007): Social networks and the network society. (in: Pintér, R. /ed./: Information society – coursebook. Gondolat – Új Manátum, 62-79.)

Székely, L. – Nagy, Á. (2011): Online youth work and eYouth - A guide to the world of the digital natives. Children and Youth Services Review, 33(11), 2186-2197.

Csótó, M. – Székely, L. (2009): Indicators of Internet usage: does the Internet reflect regional inequalities within Hungary? NETCOM, 23(1-2), 49-62.

Székely, L. (2008): Youth in information society. (Report On The Hungarian National Youth Policies for Council of Europe (EC) Institute For Political Science Of The Hungarian Academy Of Sciences) Hungarian New Youth Review, 4(1), 79-86.

Urbán, Á. – Székely, L. (2009): Multitasking – new way of communication and media consumption among young people (in: Alan Albarran, Paulo Faustino and Rogério Santos /ed./: The Media as a Driver of the Information Society - Economics, Management, Policies and Technologies, MediaXXI/Formalpress - Publicações e Marketing Lda, and Universidade Católica Editora, Unipessoal, Lda, 2009)

Székely, L. – Nagy, Á. (2010): Virtual Youth Work and eYouth – A Guide to the World of the Digital Natives (in: Excenter Booklets VI., 57 p.)

Székely, L. (2011): A médiafogyasztás (át)alakulása az ezredfordulótól napjainkig (in: Tófalvy, T. – Kacsuk, Z. – Vályi, G. /szerk./: Zenei hálózatok – Zene, műfajok és közösségek az online hálózatok és az átalakuló zeneipar korában, L'Harmattan, Budapest, 354-367.)

Székely, L. (2010): Ifjúsági munka virtuális térben (in: Nagy, Á. – Földi, L.– Járosi, É. /szerk/: Ifjúságügy – ifjúsági szakma, ifjúsági munka Módszertani kézikönyv. ISzT–Mobilitás–ÚMK Budapest. III. 1-56.)

Diósi, P. – Székely, L. (2008): Az ifjúság megismerésének alapjai: az ifjúságkutatás (in.: Nagy, Á. /szerk./: Ifjúságügy. Palócvilág – Új Mandátum, Budapest. 465-489.)

Székely, L. – Rab, Á. – Nagy, Á. (2008): Virtuális ifjúsági munka (in.: Nagy, Á. /szerk./: Ifjúságügy. Palócvilág – Új Mandátum, Budapest, 420-445.)

Rab, Á. – Székely L. (2007): Változó ifjúság az információs társadalomban (in.: Nagy, Á. /szerk./: Ifjúságsegítés – Probléma vagy lehetőség az ifjúság. Belvedere – Palócvilág – Új Mandátum, Budapest – Szeged, 224-244.)

Pintér, R. – Székely, L. (2006): Bezzeg a mai fiatalok – a tizenéves korosztály médiafogyasztása a többségi társadalom tükrében. (in: Dessewffy, T. – Fábián, Z. – Z. Karvalics, L. /szerk./: Internet.hu – A magyar társadalom digitális gyorsfényképe 3. 137-160.)

Székely, L. (2010): Internetcsizma az iskolapadon – Esettanulmány egy régi vita margójára. Új Ifjúsági Szemle, 8(4), 79-87.

Székely, L. (2010): Útikalauz a digitális bennszülöttek világába. Új Ifjúsági Szemle, 8(3), 42-63.

Diósi, P. – Székely, L. (2009): Szakmai sztenderdek az ifjúsági kutatásokhoz. Új Ifjúsági Szemle, 7(1), 19-57.

Székely, L. (2008): Fogyasztás, gazdasági helyzet, kultúra, média, infokommunikáció – Civil Ifjúsági Jelentés 2006-2007. Új Ifjúsági Szemle, 6(2-3), 67-74.

Székely, L. (2007): Valódi virtuális közösségek – recenzió. Jel-Kép 2007/3, 91-97.

Székely, L. (2007): A jövő médiafogyasztói. Új Ifjúsági Szemle, 5(1), 82-92.

Kollányi, B. – Székely, L. (2006): Hátrányos helyzetű társadalmi csoportok az információs társadalomban. Információs Társadalom, 6(2), 48-67.

Székely, L. (2006): Másvilág – Fiatalok az információs társadalomban. Új Ifjúsági Szemle, 4(3), 35-45.

Székely, L. (2005): Magyar szó a végeken. Új Ifjúsági Szemle, 3(2), 31-57.

Székely, L. /szerk./ (2012): Magyar ifjúság 2012 kutatás első eredményei 10 kérdés az ifjúságról. Kutatópont, Budapest

Székely, L. – Hajdu, M. – Pintér, R. – Somi, G. (2011): Ügyfélkommunikáció és ügyfélszolgálat az információs társadalomban (in: Nagy, Á. /szerk./: Excenter Füzetek VII. Budapest, 91 p.)

Székely, L. – Szekeres, J. (2011): Internet a családban – az internethasználat családi reguláiról (in: Gabos Erika /szerk/: A média hatása a gyermekekre IV.; Nemzetközi Gyermekmentő Szolgálat Magyar Egyesület, 337-344.)

Székely, L. – Urbán, Á. (2009): A bevonódás útjai, avagy hogyan kezdtünk internetezni (in: Nagy, Á. /szerk./: Excenter Füzetek I., 58 p.)

Urbán, Á. – Székely, L. (2007): Kutatói kihívások a kommunikáció- és médiakutatásban (in: Infinit Hírlevél 2007.01.26.)

Fábián, Z. – Galácz, A. – Gerhardt, E. – Körner, J. – Kollányi, B. – Ságvári, B. – Székely, L. (2007): A digitális jövő térképe – Gyorsjelentés a World Internet Project 2007. évi magyarországi kutatásának eredményeiről. ITHAKA, 80 p.

Fábián, Z. – Galácz, A. – Gerhardt, E. – Kollányi, B. – Ságvári, B. – Székely, L. (2007): A digitális jövő térképe – Gyorsjelentés a World Internet Project 2006. évi magyarországi kutatásának eredményeiről. ITHAKA, 84 p.