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Car-related mobility patterns of Polish Y generation – implications for future urban transport

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Abstract

Demographic changes, including generational changes, determine the development of new mobility patterns, supported by modern technologies. However, the car is still the dominant mean of transport in cities, mainly because of travel comfort, shorter travel times and no need to switch to other modes of transport. The aim of the article is to present the results of research on mobility patterns of representatives of the Polish generation Y, to compare them with published research results of other researchers, and to create their own classification of these models. The first part of the paper presents results of a literature review. The next part characterizes survey method, chosen for carrying out scientific research. The following section mentions research results. The end of the article includes conclusions, research contribution, limitations and further research plans and guidelines. The study allows identifying the behaviour and attitudes of people representing the Y generation in Poland, as well as the expectations of urban and suburban transport. The characteristics of mobility patterns presented by representatives of Generation Y were compared with the findings of other individual researchers and research centres. As a result of the comparative analysis, the author concludes that representatives of Generation Y are characterized by different patterns of mobility than other groups surveyed by other researchers, although there are many common characteristics for them, such as the approach to environmental issues, the tendency to save on operating costs.

Keywords: mobility; mobility patterns; urban transport; city; transportation; y generation; maas; travel behaviour; travel demand; travel choices

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1. Introduction

Transport problems in cities lead to the introduction of new solutions for handling the flow of people within the city and between the city and the suburban areas (Cervero, 2013). Sustainable urban mobility plans aim at streamlining this flow and integrating the different areas of urban management in order to develop space for residents, city workers, and tourists. Besides, the car is still seen in some societies as a symbol of material status. In addition, within the group of car users, there are several specific groups that differ in priorities and preferences, such as Greenovators, High-frequency Commuters, Silver Drivers (Szmelter & Woźniak, 2016). Generation Y is one of the cohorts identified firstly by Strauss and Howe (1991) as a group of people born after the Second World War, namely groups of them, forming few generations: Traditionalists, Baby Boomers, X's, Y's and Z's. Firstly, cohorts characteristics were used to describe work attitudes and priorities of particular age groups (Bednarska-Wnuk & Januszkiewicz, 2013; Stojanová, Tomšík & Tesařová, 2015), but over time, researchers began to identify and describe their other features, for example, mobility choices (Hilgert et al., 2016; Szydło, 2017). Demographic trends were identified in order to explain changes in the global society and in particular countries to adjust social, transport and education policies to the needs cohorts, especially so-called 'young adults' (Goodwin &Van Dender, 2013; Bednall et al., 2012; Sobol, 2016). Metz (2013) argues that these trends can be more important than technological change and Szmelter & Woźniak (2016) that they can be primary to these technological changes.

The main objective of this paper is to explore the evidence of car-related mobility patterns of Y generation in Poland to check if they can be translated into implications for developing public transport service portfolio. The best of the researcher's knowledge, this area has not been empirically studied specifically for Y generation in Poland. In addition, literature review made to prepare this paper did not point to such sources. Hence, the first objective of this article is to explore the characteristics of mobility choices of Polish Y generation, in fact, of the younger part of this generation. The second objective is to assess possible interactions between possible determinants of mobility choices of young adults. The paper addresses two research questions:

1) What are characteristics of mobility of Polish young adults?
2) How should urban transport change to meet their requirements?

The paper is organized as follows. The first section gives a review of the literature on the studied topic, according to chosen literature review procedure and search criteria. The second part of the paper presents the methodology of the main research, namely survey. The third section contains research results. The main part of this section is a statistical analysis of the collected data. The last one part concludes the paper, presents its limitations and specifies areas for future research.

2. Literature review

2.1. Method

The article was prepared with use of two main research methods, one qualitative and one quantitative. A preliminary review (literature review), including also the identification of potential research gaps, was carried out with use of a systematic literature review, using the approaches of Tranfield, Denyer and Smart (2003) and Denyer and Tranfield (2009), which are proper for exploratory socio-economic research. According to Denyer and Tranfield (2009), a systematic review of literature in economic sciences is heuristic, so the results of research are largely some principles, trends. Their purpose is to interpret and explain the studied objects, including phenomena, often in order to know, how empirically verify the identified features of phenomena. Boolean logic was used in the literature selection in nine identified literature search engines. This selection was intentional, based mainly on the criterion of abstract content (AB), title elements (TI) and text elements (TX). Search and selection have been strengthened by the empirical context (research domain, economy sector), publication year (up-to-date literature after 2010) and accessibility (full-text records, see Table 1).

2.2. Results

After the implementation of the literature review procedure, including removing duplicates and analysing the text of chosen literature, only 8 papers were identified as those strictly related to the studied subject and object.

The results of the literature review show several characteristics of the Y generation in the field of mobility, some of which have been verified and confirmed by more than one researcher (see Table 2). First of all, the differences between the sexes in the field of driving license or car use disappear. These differences are almost imperceptible (Kuhnimhof et al., 2012). Secondly, owning a car is no longer a priority for young adults, especially for the younger generation Y (Kuhnimhof et al., 2012; Parment, 2013; Hopkins, 2014; Oakil et al., 2016; Dewalska-Opitek, 2017). Thirdly, young couples, especially married couples with children, prefer to live in the city rather than in the suburbs (Oakil et al., 2016). Fourthly, the number of new driving licenses is stagnating or falling (Kuhnimhof et al., 2012), which, however, may be caused by the falling number of young people in societies - the result of long-term negative population growth and stagnating birth rate in the developed economies, like Germany and Netherlands. What is more, the driving license process itself depends on many factors (Hopkins, 2016). Fifthly, young people are open to car sharing solutions and multimodal urban and suburban transport. Nevertheless, they express dissatisfaction with the quality of urban transport services (Simons et al., 2014).

3. Research method

3.1. Survey method

The main research method was the survey method, more precisely an online survey with use of the questionnaire. This questionnaire contained closed (dominating), open and semi-open questions, 5 or 10-scale questions, disjunctive and conjunctive questions regarding attitudes, behaviours and opinions. It consisted of the headline, the main part and the metric. The questionnaire contained filtering questions about behaviour, attitudes, and classification questions. The questions were modelled on the available interview sheets and questionnaires in selected literature, presented in Table 2, and if that was impossible - based on the research results and conclusions described in these papers. Especially, the factors list for replication and reduction of auto mobility made by Hopkins and Stephenson (2014) was very useful to supplement the questionnaire. Conducting a survey among representatives of the Y generation was preceded by the pilot study among a purposefully selected group of 42 people born in 1997. After this study, corrections were made to the questionnaire to increase the readability of questions and answer variants for respondents in the main study.

To this main survey participants were recruited with use of a purposive strategy (Mason, 2002; Patton, 2002; Mazurek-Łopacińska, 2016) based on the inclusion criteria that the participant should be born between 1994 and 1997 and be a Polish citizen. In addition, a snowball sampling method (Biernacki & Waldorf, 1981; Noy 2008; Mazurek-Łopacińska, 2016), a nonprobability approach was used to increase the number of participants because reaching random sample group was difficult to implement. The questionnaire used in the study can be described as computerized (internet), anonymous, consumer opinion-related, multi-disciplinary. Aggregated details for the research sample are presented in Table 3. The survey lasted an average 12,5 minutes with a median value 13,4 minutes and ranging from 8 to 41 minutes. 202 people took part in the survey.

3.2. Data analysis

The data collected during conducting the survey was mainly qualitative, two- or multi-level data. Variables were described on nominal and ordinal scales. For this reason, to test the correlation between the identified variables, there was a need to use V-Cramer's and C-Pearson's coefficients (when the explained and explanatory variables were nominal), Kendall's tau-b (when they were ordinal) or chi-square independence test (when one was nominal and one ordinal; see Appendix A). An auxiliary tool for data analysis were tables of cardinality expanded by percentage indicators in order to identify the types of responses of particular subgroups in the research sample. All the data were analysed with use of the PQStat software.

Table 1. The process of literature database creation

Search criteria	Publication search engine								
	BazEkon	DOAJ	EBSCOhost	EMERALD	Infona	JSTOR	ScienceDirect	Wo S	Google Scholar
„y generation" and „mobility" (TI or AB) and „car" (TX); publication year: 2010 and later, English language, full-text	76	1	9	1	2	8	8	26	9
After abstracts verification	3	1	9	1	2	3	4	1	8
After removing duplicates					20				
After text analysis					8				

Table 2. The results of the literature review

Paper	Method	Main attribute	Y generation	Country	Age of resp.	Results
Kuhnimhof et al. (2012)	Qualitative and quantitative, reports review, surveys	Travel demand	1977-1995	Germany	18-29	Number of car licences stagnated, car ownership decreased, multimodality increased, gender differences disappeared in comparison with older generations
Parment (2013)	Qualitative, interviews, quantitative, survey	Purchasing behaviours of Baby Boomers and Y generation	1977-1990	10 countries	17-24	Y's are less interested in buying a car than earlier generations, more rational in purchasing process (not so loyal to the brand as Baby Boomers); generation Y is more variety-seeking and better informed about prices and rebates, have a high image-awareness
Hopkins, Stephenson (2014)	Qualitative, literature review, model building	Car mobility possible determinants	1980-2000	None	-	A theoretical model for further empirical research; a set of possible determinants that may reduce or replicate car mobility for Y generation and model to analyse them.
Hopkins (2014)	Qualitative, interview	Mobility choices	1981-2000	New Zealand	21-32	Y generation likes virtual mobility and car mobility, but they can live without a car (especially in a midsize city), ready for car sharing businesses
Simons et al. (2014)	Qualitative, interview	Travel choices, active transport choices	-	Netherlands	18-25	Young adults use different transport modes. A car and a bike give them autonomy, also vehicle ownership. They feel a lack of comfort in public transport means and comply with a low frequency of it. Their choices depend on their friends' choices, travel time, infrastructure quality, access to facilities, weather, but not ecology.
Hopkins (2016)	Qualitative, interview	Mobility choices, learn-to-drive (LTD)	1980-2000	New Zealand	18-35	Complex set of variables of LTD attitude and mobility choices: social (including cultural, impact of parents, employers), economic, material, also environmental consciousness
Oakil et al. (2016)	Quantitative, statistical analysis	Determinants of car ownership among young households	1981-1994	Netherlands	18-29	Declining car ownership, increasing number of young households in urban areas, living in the city, being single and having no children determines lower car ownership, young families want to live in a city, not in the suburbs
Dewalska-Opitek (2017)	Qualitative, literature study	Mobility choices	1981-1995	Different countries	-	Y generation is less focused on having a car, but on mobility in general, is interested in mobility services, differences between BRIC countries and developed ones

Table 3. Characteristics of the research sample.

Category	Result
Year of birth	1994 10,4%; 1995 24,75%; 1996 45,54%; 1997 19,31%
Sex	Female 65,35%; Male 34,65%
Student status	Bachelor students 86,63%; Master students 12,87%; Graduate 0,5%, Non-student 0%
Personal status	Single 43,07%, in a relationship; 55,94%; married 0,99%
Place of residence	City 500.000p or more 16,34%; City 200.000-500.000p 41,09%; City 100.000-200.000p 5,94%; City, 50.000-100.000p 11,39%; City less than 50.000p 15,35%; Countryside, suburban zone 4,95%; Countryside 4,95%
Housing status	Own flat/house (without mortgage) 3,47%, Own flat/house (mortgage) 1,49%, Flat/house owned by family 36,63%, Rented flat 52,97%, Dormitory 5,45%
Household size	One person 6,44%; Two persons 40,59%; Three, four or five persons 48,51%; More than 5 4,46%
Kids in the household (0-16 years old)	Yes 6,44%; No 93,56%
Monthly income per person	500 PLN or less 4,46%; 500-1000 PLN 9,90%; 1000-1500 PLN 21,78%; 1500-2000 PLN 26,24%; 2000-3000 PLN 20,79%; 3000-5000 PLN 12,87%; more than 5000 3,96%

4. Results

4.1. General car-related characteristics of Y generation

The results of the survey were analysed in order to the similar factors and variable as those identified in the defined literature base and related to mobility of Y generation.

Among the young adults surveyed, 88.12% had a driving license, 7.92% did not have it, but they intend to do it. 57.43% of the respondents actively use the car every day, of which 24.26% have their own car, while others use a car belonging to a family or life partner. The car is also the dominant mode of transport in the surveyed group of people - 30.2% of respondents use it as the main mean of transport. However, among this group, over 62% uses mainly public transport (24.25% use the bus, 5% - the tram and 28.22% - the urban fast train). There is a high percentage of the use of Mobility-as-a-Service services among the surveyed people. 46% of the respondents actively use Uber services, 18.32% use BlaBlaCar, 33.67% use myTaxi (although a small amount – only 5.44% use similar iTaxi solution), 10.4% use the Traficar car sharing system. Young adults also are active mobile applications users - it was 56.93% of the research sample

4.2. Gender differences

The statistical analysis of the survey results was divided into several parts, the first of which concerned the verification of gender differences. Representatives of both sexes did not differ in terms of having a driving license and choosing the main means of transport (car, tram, city rail, bus, walking). Statistically, significant differences occur in the field of car use (see Table 4). Women use the car less often than men. In addition, men are less vulnerable to environmental protection. Women declared the choice of the main means of transport due to environmental conditions (apart from other reasons in which there were no statistically significant differences). In turn, it was more important for men to have their own car. If young adults choose to use the car as the main mean of transport, there are no noticeable differences in the reasons for these choices. They depend on the speed of the means of transport in a very similar range.

There are also some differences in the use of public transport services (see Appendix A), and more specifically, in the mobility priorities that are associated with it. Women more often indicated that the frequency of travel, less crowd and the availability of timetables are important to them. Men were less likely to judge the importance of these factors for their comfort of travelling by collective transport.

Differences in the perception of the car as a mean of transport were also noticed. The respondents of both genders drew attention to different characteristics. Women re-rated being eco-friendly, which only confirmed previous

findings. They were also more concerned with driving safety, comfort and luxury. On the other hand, men more often than women rated highly the car brand, being original and presenting their financial capabilities (assets) as values important to them if they own or use a car. Therefore, differences between representatives of both genders in the use of public and private transport and general characteristics of both types were noticeable.

Table 4. Results of statistical analysis for gender

	C-Pearson's	V-Cramer's	Chi-square	p-value
General				
Driver license	0,1081	0,1088	2,3892	0,3028
Use of car	0,2485	0,2566	13,2979	0,0040
Choosing main transport mode	0,2090	0,2137	9,2270	0,1612
Transport mode choice reasons				
Use of renewables energy sources (fuels)	0,3357	0,3564	25,6624	0,0000
Importance of having own car	0,2577	0,2667	14,3710	0,0062
Using other transport modes than car				
Use of bus	0,1234	0,1244	3,1256	0,0771
Use of tram/trolley	0,0176	0,0176	0,0628	0,8021
Use of metro	0,0882	0,0885	1,5837	0,2082
Car choice characteristics				
Fast	0,0564	0,0565	0,6438	0,4224
Lack of public transport	0,0148	0,0148	0,0444	0,8332
Public transport is not on time	0,0642	0,0644	0,8365	0,3604

4.3. Income differences

Another area of statistical analysis was to examine differences between representatives of different levels of income. Surprisingly, differences in the use of public and private transport were not statistically significant for people with different income levels. However, these differences appeared in terms of cost variables, which can be divided into direct and indirect ones. The first group is the ticket price, the cost of purchase and use of the car. The other is a show of a social statelessness (state of possession of different luxurious, expensive assets). Additionally, groups of people with different income differed significantly in terms of the requirements of availability of timetables in public transport - people with low income required this availability more often than those with the high income.

4.4. Place of living differences

Also, the place of residence determined the choices of young adults in the field of mobility. Statistically significant were the frequency of public transport modes, no transfers (shifts) while travelling and seat availability. In this respect, significant differences can be noticed between people who indicated the place of residence in the city (regardless of its size) and outside the city (mainly in the suburban area, up to 20 km from the city centre). These people also more often pointed to a long time spent every day in the middle of transport. It can be concluded that people outside the city care more about the overall comfort of travel because this journey takes a long time.

In turn, travel time, even if it is long, does not matter to respondents, similarly availability of timetables (usually the regular travelers are aware of where to find information on this topic), similarly for other characteristics related to public transport. What is very amazing, no feature or element of the hierarchy of values related to the use of a car is significantly different for habitants of different kinds of places.

4.5. Household size differences

Statistical analysis has also made possible to study the correlation between the size of the household and the priorities for resident mobility. Due to the small size of the group with children among the respondents, a part of the further analysis regarding the composition of the household was omitted. It was considered that responses of 6.44% of people with children among the 202 respondents could be insufficient to formulate conclusions on the use of public and private transport.

In particular, subgroups in the studied research sample, there were some areas where statistically significant differences can be found. The size of the household was correlated with the frequency of public transport, its punctuality and the proximity of the stop to the destination of the trip. The fewer people live in the household, the smaller the percentage of people using public transport (for single-person households, the daily use of this transport was 30.77%, for two-person households 46.34%, 3-5-person 61,22 % and larger 55.56%). In addition, small households more often indicated a high priority of the frequency and punctuality of public transport.

The perception of car features and elements of the hierarchy of values significantly differed in the studied households. Residents of larger households rated higher car's eco-efficiency, its low purchase cost, driving comfort and speed. In turn, people living alone or with only one person rated higher the car's brand and luxury, although the differences between the sub-groups were not visible in similar categories, such as being original or showing the material status

5. Discussion and conclusion

This research showed travel behaviour characteristics and mobility choices of people representing the Y generation in Poland, and to some extent, their expectations in relation to the urban and suburban transport. The characteristics of mobility patterns presented by representatives of Generation Y could be compared with the findings of other individual researchers and research centres. A part of the survey results made it possible to verify the research conclusions presented in the defined literature in the literature review section, however, confirmation or falsification of those related to dynamic changes in time and trends was not possible. First of all, actually the differences between the sexes in the possession of driving licenses cannot be observed, but they appeared when the use of a car or the desire to have your own car was examined. Therefore, it cannot be confirmed in the case of Polish young adults what Kuhnimhof et al. (2012) stated, that differences in men's and women's choices are not statistically significant.

The study showed that young adults in Poland are very aware of the car sharing systems, but still, this kind of business is in its infancy (in the case of Poland this related to Traficar or BlaBlaCar solutions), perhaps also due to the fact that a large part of these people owns their own car. However, the potential for introducing such systems is very high, as the percentage of people holding a driving license is very high. This is also confirmed by the conclusion contained in the paper of Dewalska-Opitek (2017) that the Y generation is very interested in mobility services. In addition, it can be pointed out that similar results were obtained as in the research article of Hopkins (2014). It was about living the young adults without a car in the city and it was partially confirmed in the survey because the high proportion of respondents used public transport. On the other hand, some more empirical research is needed about Y's attachment to the car brand, maybe even brand loyalty. In the statistical analysis carried out, this variable often appeared as a statistically significant variable, and this is opposite to the study of the Parment (2013), where he stated that the representatives of the Y generation are not attached to the brand. So, another survey should be held to analyse the perception and assessment of the brand by young adults. This is one of the possible directions for further research.

Most widely, the results of the study are related to the conclusions formulated by Simons et al. (2014). In their study, it was found that ecology does not affect the choice of means of transport. In this study, however, it turned out that these differences are visible in the approach of people of both genders to the issue of choosing public or private transport (variable "use of renewable energy sources.) What's more, environmental friendliness in the case of car selection was a variable significantly correlated with gender and household size. Therefore, the present study formulates the opposite conclusion to that presented in the Simons et al (2014) study. It was also found that the range of variables recognized in their work as relevant can be extended to such variables as the frequency of public transport, ticket price, crowd, seat availability, timetable availability, punctuality, proximity of the stop to the final destination, as well as a few of characteristics related to the car.

That is the reason why the author agrees with Hopkins (2016) that the set of variables describing mobility choices of young adults is very complex and wide. The choice of means of transport also depends on the features of public transport in a given area. Guidelines for the urban transport related to this research may vary. Above all, building an efficient urban transport can motivate people to change the means of transport from the car to a bus, tram or city rail. In this respect, decision-makers should focus, among others, to meet the needs of people who come from outside the city and spend a long time travelling. Secondly, public transport providers should consider the possibility of expanding the offer by car rental or establishing long-term cooperation with car sharing companies (Kim & Schonfeld, 2013; Kamargianni et al., 2016; Kent & Dowling, 2016), for example in the field of providing parking facilities. Additionally, the infrastructure for pedestrians could be expanded to be complementary with other kinds of infrastructure for urban mobility (Nuzir & Dewancker 2016). The development of car sharing and Mobility-as-a-Service services will be particularly visible in cities (Finck & Ranchordás, 2016). Both of these mentioned directions of activities may contribute to the development of urban mobility services, increase the attractiveness of urban transport services and reduce external costs, e.g. noise and air pollution.

Though, it should be noted that this research has few limitations. Firstly, literature research method concerns only papers with particular search criteria. In this regard, there is a risk of omission of papers related to the studied topic. Secondly, using purposive sampling study is not reliable in the context of the estimation of attitudes, opinions and behaviours of the Y generation representatives in the studied Polish population. It can only indicate some possible results, which level of occurrence in the population may significantly differ from that in the studied sample.

Despite these limitations, the described research results are promising and provide a number of future research possibilities, also can serve as a basis for further research, including the comparison of representatives of the Y generation in different countries in the area of their inclination to use the car, the choice of MaaS (Mobility-as-a-Service) and mobility patterns presented in their populations. Further research should be conducted to obtain more data on Y generation mobility patterns, especially, if possible, with use of random sampling methods. A more refined conceptualisation of the determinants of mobility choices of Y generation should be made and would be required to develop current knowledge about mobility choices. It may have a significant meaning for creating new services in the field of public, private, mixed and intermodal transport (Ambrosino et al., 2016; Willing, Brandt & Neumann, 2017) within the city and in the suburbs. Creating and analysing meta-variables, individual variables grouped into aggregated ones may be appropriate in this regard. This kind of research contributes to the modification of the market offer of mobility services. These and many other issues in the area of generations' mobility should be addressed in future theoretical and empirical research.

Appendix A. Statistical analysis results

Variable	1. Sex		2. Income			3. Place of living			4. Household size		
Statistical analysis result	Chi-square	p-value	Kendall's tau	Z for tau	p-value	Kendall's tau	Z for tau	p-value	Kendall's tau	Z for tau	p-value
General											
Frequency of use PT	6,3514	0,2735	0,0719	1,5194	0,1287	0,1106	2,3375	0,0194	-0,1796	-3,7952	0,0001
Importance of PT characteristics											
Frequency	8,6791	0,0339	0,0861	1,8199	0,0688	0,0148	0,3120	0,7550	0,0915	1,9329	0,0532
On time	1,4392	0,4869	0,0231	0,4887	0,6251	0,0226	0,4767	0,6336	0,1004	2,1222	0,0338
Proximity to final destination	1,7495	0,6260	0,0051	0,1072	0,9147	0,0527	1,1137	0,2654	0,1724	3,6443	0,0003
No mean changes during travel	2,7925	0,4247	0,0398	0,8403	0,4007	-0,1326	-2,8034	0,0051	0,0438	0,9251	0,3549
Time of travel	1,3223	0,5162	0,0207	0,4383	0,6612	0,0169	0,3582	0,7202	0,0041	0,0877	0,9301
Ticket price	5,2733	0,1528	0,2276	4,8102	0,0000	0,0252	0,5319	0,5948	-0,0573	-1,2116	0,2257
Seat availability	0,2345	0,9718	-0,0506	-1,0692	0,2850	-0,1190	-2,5151	0,0119	-0,0666	-1,4087	0,1589
Not crowded	11,0073	0,0117	-0,0758	-1,6013	0,1093	-0,0456	-0,9633	0,3354	0,0127	0,2694	0,7876
Timetable availability	20,1841	0,0002	0,1159	2,4504	0,0143	-0,0831	-1,7562	0,0791	0,0534	1,1292	0,2588
Importance of car characteristics											
Eco	22,6197	0,0071	-0,0197	-0,4154	0,6778	-0,0048	-0,1016	0,9191	0,1064	2,2490	0,0245
Low cost of use	14,2619	0,0752	-0,1555	-3,2868	0,0010	-0,0313	-0,6618	0,5081	0,0228	0,4818	0,6300
Low price of car	7,0321	0,6338	-0,1271	-2,6854	0,0072	0,0425	0,8979	0,3692	0,1075	2,2730	0,0230
Comfort	5,8101	0,0159	0,0457	0,9649	0,3346	-0,0425	-0,8977	0,3694	-0,0971	-2,0518	0,0402
Safety	31,0239	0,0001	-0,0526	-1,1113	0,2664	0,0026	0,0541	0,9569	-0,0196	-0,4151	0,6780
Being fast (speed)	6,3561	0,6074	-0,0297	-0,6267	0,5308	-0,0094	-0,1995	0,8419	-0,1305	-2,7573	0,0058
Luxury	17,0701	0,0476	0,0729	1,5416	0,1232	-0,0757	-1,6001	0,1096	-0,1147	-2,4236	0,0154
Entertainment	8,2613	0,5080	0,0724	1,5296	0,1261	0,0064	0,1361	0,8917	-0,0370	-0,7814	0,4346
Functionality	16,0451	0,0659	0,0608	1,2853	0,1987	-0,0567	-1,1974	0,2312	-0,0555	-1,1728	0,2409
Brand	22,0704	0,0087	0,1401	2,9615	0,0031	-0,0662	-1,3997	0,1616	-0,0930	-1,9660	0,0493
Seeking new sensations	12,9396	0,1654	0,0723	1,5279	0,1265	-0,0300	-0,6344	0,5258	-0,0101	-0,2144	0,8302
Being original	20,8312	0,0134	0,0473	0,9993	0,3177	-0,0714	-1,5092	0,1313	-0,0470	-0,9930	0,3207
Showing own assets	29,4288	0,0005	0,1410	2,9797	0,0029	-0,0541	-1,1427	0,2531	-0,0389	-0,8229	0,4106

References

Ambrosino, G., Nelson, J.D., Boero, M., Pettinelli, I., 2016. Enabling intermodal urban transport through complementary services: from flexible mobility services to the shared use mobility agency. Research in Transportation Economics 59, 179-184.

Bednall, D. H., Valos, M., Adam, S., McLeod, C., 2012. Getting Generation Y to attend: Friends, interactivity and half-time entertainment. Sport Management Review 15, 80-90.

Bednarska-Wnuk, I., Januszkiewicz, K., 2013. Success and Mobility of Generation Y: A Comparative Study on the Example of Poland and Austria. Mediterranean Journal of Social Sciences 4.9, 410-417.

Biernacki, P., Waldorf, D., 1981. Snowball sampling: problems and techniques of chain referral sampling. Sociological Methods & Research 10, 141–163.

Burgiel, A., Sowa, I., 2017. New consumer trends adoption by generations X and Y – comparative analysis. Zeszyty Naukowe SGGW w Warszawie 117, 61-74.

Cervero, R., 2013. Linking urban transport and land use in developing countries. Journal of Transport and Land Use 6.1, 7-24.

Denyer, D., Tranfield, D., 2009. Producing a systematic review. In "The Sage Handbook of Organizational Research Methods", Buchanan, D.A, Bryman, A. (Eds.), Thousand Oaks: Sage Publications Ltd, pp. 671-689.

Dewalska-Opitek, A., 2017. Generation Y Consumer preferences and mobility choices – an empirical approach. Archives of Transport System Telematics 10.1, 17-23.

Finck, M., Ranchordás S., 2016. Sharing and the City. Vanderbilt Journal of Transnational Law 49, 1299-1369.

Goodwin, P., Van Dender, K., 2013. 'Peak car'—themes and issues. Transportation. Review 33,243–254.

Hilgert, T., Kagerbauer, M., Schuster, T., Becker, C., 2016. Optimization of Individual Travel Behavior through Customized Mobility Services and Their Effects on Travel Demand and Transportation Systems. Transportation Research Procedia 19, 58-69.

Hopkins, D., 2014. The Mobility Preferences of Generation Y: Transitioning Towards a Sustainable Transport System?. Norwich Conference on Earth System Governance.

Hopkins, D., 2016. Can environmental awareness explain declining preference for car-based mobility amongst generation Y? A qualitative examination of learn to drive behaviours. Transportation Research Part A 94, 149–163.

Hopkins, D., Stephenson, J., 2014. Generation Y mobilities through the lens of energy cultures: a preliminary exploration of mobility cultures. Journal of Transport Geography 38, 88–91.

Kamargianni, M., Li, W., Matyas, M., Schäfer, A., 2016. A critical review of new mobility services for urban transport. Transportation Research Procedia 14, 3294–3303.

Kent, J. L., Dowling, R., 2016. The Future of Paratransit and DRT: Introducing Cars On Demand, Paratransit: Shaping the Flexible Transport Future. Transport and Sustainability 8, 391-412.

Kim, M., Schonfeld, P., 2013. Integrating bus services with mixed fleets. Transportation Research Part B 55, 227–244.

Kuhnimhof, T., Buehler, R., Wirtz, M., Kalinowska, D., 2012. Travel trends among young adults in Germany: increasing multimodality and declining car use for men. Journal of Transport Geography 24, 443–450.

Mason, J., 2002. Qualitative Researching. London: Sage Publications, pp. 232.

Mazurek-Łopacińska, K. (Ed.), 2016. Badania marketingowe. Metody, techniki i obszary aplikacji na współczesnym rynku. Warszawa: PWN, pp. 605.

Metz, D., 2013. Peak car and beyond: the fourth era of travel. Transportation Review 33, 255–270.

Muposhi, A., Dhurup, M., Surujlal, J., 2015. The green dilemma: Reflections of a Generation Y consumer cohort on green purchase behaviour. TD The Journal for Transdisciplinary Research in Southern Africa 11.3, 225-240.

Noy, C.. 2008. Sampling knowledge: the hermeneutics of snowball sampling in qualitative research. International Journal of Social Research Methodology 11, 327–344.

Nuzir, F. A., Dewancker, B. J., 2016. Redefining place for walking: a literature review and key-elements conception. Theoretical and Empirical Researches in Urban Management 11, 59-76.

Oakil, A. T. M., Manting, D., Nijland, H., 2016. Determinants of car ownership among young households in the Netherlands: The role of urbanisation and demographic and economic characteristics. Journal of Transport Geography 51, 229–235.

Parment, A., 2013. Generation Y vs. Baby Boomers: Shopping behavior, buyer involvement and implications for retailing. Journal of Retailing and Consumer Services 20, 189–199.

Patton, M. Q., 2002. Qualitative Research and Evaluation Methods. Thousand Oaks: Sage Publications, pp. 688.

Simons, D., Clarys, P., De Bourdeaudhuij, I., de Geus, B., Vandelanotte, C., Deforche, B., 2014. Why do young adults choose different transport modes? A focus group study. Transport Policy 36, 151–159.

Sobol, A., 2016. The views of the young generation of a city as a common good. Economic and Environmental Studies, 16.4, 591-603.

Stojanová, H., Tomšík, P., Tesařová, E., 2015. The approach to the work mobility in generation Y – enthusiasm for change. Human Resources Management & Ergonomics, IX.1, 83-96.

Strauss, W., Howe, N., 1991. Generations: The History of America's Future, 1584–2069. New York: Morrow, pp. 538.

Szmelter, A., Woźniak, H., 2016. New mobility behaviours and their impact on creation of new business models. Torun Business Review 15.4, 79-95.

Szydło, J., 2017. Differences between Values Preferred by Generations X, Y and Z. In "Studia z zarządzania międzykulturowego", Chmielecki, M. (Ed.), Łódź, Warszawa: Wyd. Społecznej Akademii Nauk, pp. 89-100.

Tranfield, D., Denyer, D., Smart, P., 2003. Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review. British Journal of Management 14, 207-222.

Willing, C., Brandt, T., Neumann D., 2017. Intermodal Mobility. Business Information Systems Engineering, 59.3, 173-179.