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Possibilities of applying qualitative research methods during the measurement of health behavior in adolescents

A number of international research was made in the recent years to explore the health behavior of adolescents, most of them supported health behavior indicators with statistical data by applying quantitative research methods. Only a few researches volunteered to explore deeper correlations of health behavior with the help of qualitative tools. It is a feature of quantitative studies that specific phenomena appear as quantified, "coded" clusters of statistical data, from which apparently valid generalizations and trends emerge. Individual manifestations, along with those important aspects of phenomena that are personally important from the point of the individuals, giving the essence of relation systems which establish social processes remain hidden. Consequently, the researcher is unable to reveal the depths of the tested phenomenon only indicate trends. However, the qualitative methodology by exploring individual perspectives may result in the understanding of deeper correlations which may contribute to a more nuanced interpretation of the observed phenomena. When examining the health behavior of adolescents the use of qualitative tools may be the income of the knowledge of visible life parameters, the value attitude concerning health, motivation to choose healthy/unhealthy and thinking structures.

1. Introduction

Knowing the indicators of morbidity and mortality² of developed countries the need for the effective influence on health behavior is becoming stronger displayed in layman and academic discourses. In addition to health care providers and health policy, socialization areas, particularly schools and educational institutions have an emphasized role in the forming of health behavior by implicitly or explicitly mediating values, norms, behavior patterns and influencing the way of thinking, value system and behavior of the next generation. During the socialization process interiorized values, norms, choosing mechanisms contribute to the decisions of the individual that are shaped into life quality determining behaviors in the future. Preventive action is therefore required both at home and in school environment. Beside family and school social responsibility and social network may both be important roles in prevention (Karácsony et al., 2015). Social responsibility related to effective influencing of health behavior

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² In the fourth epidemiology period chronic degenerative diseases - such as cancer, cardiovascular diseases – are at the first place in the morbidity and mortality statistics, which may be greatly influenced by lifestyle.

manifests itself in how the institutional access which helps the individual to develop health behavior which supports the maintenance and improvement of health is provided to citizens, so thus in terms of social responsibility future teachers will have serious challenges in the field of health education and health promotion (Pál & Harjänné, 2012). In order for the teachers to be able to rise to the challenge, beyond the exploration of health behavior indicators it is essential to recognize the health-related value system, attitudes, thinking structure of the coming generation. The present study tries to offer a possible way to understand this value system, attitudes, thinking structure of adolescents.

2. The role of quantitative research methods in the measurement of health behavior

The primary objective of quantitative researches representing the positivistic tendency is the useful, objective and valuable exploration of reality with the testing of pre-described hypotheses, and the exploration of cause and effect relationships. According to positivist thinkers, reality can be measured, independently studied, and as a result it can be known, and the world's phenomena can be explained. In order to increase the objectivity during the cognitive process quantitative methods are preferred. Pre-formulated theories provide the basis for quantitative researches. Quantification results in generalizations independent from the context (Falus, 1993). Among the researches on the exploration of adolescent health behavior the best known ones are the HBSC³ research examining the health behavior of school children in every four year and the ESPAD⁴ studies also repeated in every four year among high school students related to their smoking habits, alcohol and other drug consumption, and there are other youth researches related only to Hungary. All the above mentioned researches apply quantitative methods to support health behavior characteristics with data obtained during the investigation.

³ In the international cross-sectional study in cooperation with the World Health Organisation called Health Behaviour in School-children Hungary has been participating since 1986. The purpose of the study is to monitor the health and health behavior of youth with the participation of 41 countries.

⁴ The ESPAD (European School Survey Project on Alcohol and Other Drugs) started in 1995 with the aim to collect data about consumption habits of youth, which can be repeated regularly and can be compared to international data. The most important long-term aim of the program is to measure the change in the consumption habits of youth, and to compare different trends of other countries. This long-term analysis allows to follow up this change in the consumption habits of the young from the period after the transition for a half decade directly. This decades-border research series can answer the question of how deteriorating the trend is that can be observed in Hungary and other transition countries concerning the consumption habits of young people.

2.1. *What do we learn from these researches?*⁵

The smoking habits in relation to the investigation and trial of the frequency ratios of the HBSC is the focus of research. Both the HBSC and the ESPAD research results confirmed that the experienced differences between boys and girls in smoking prevalence across Europe tend to disappear (Elekes, 2009). Among Hungarian adolescents in international comparison no major shift was revealed according to the results of the HBSC research implemented four years earlier on the pattern of smoking prevalence by gender, age groups, urban- and school types.

Investigations related to the measurement of alcohol prevalence primarily focus on the frequency of the consumption of different alcohol types. The problematic alcohol consumption is measured by the number of intoxications, including the age at the first time of drunkenness. Measuring the number of intoxications is extremely important because the juvenile frequent intoxication may be associated with other risk behaviors, moreover, it can easily set the foundation for adult alcohol problems (Nemeth & Költő, 2011). The HBSC 2010 study shows that 70% of the 11th grader boys and 54.5% of girls of that age have been drunk at least twice in their lives.

Regarding the use of drugs based on the HBSC research data in 2002 Hungary belongs to the countries moderately infected in Europe (Aszmann, 2003: 63). Based on the results of the 2007 ESPAD research it can be said about the time period since the HBSC research that the declining tendency experienced at the beginning of the millennium was moderated, stabilized and reversed in terms of various indicators.⁶ In spite of the changes in the favorable trends the research report by the Fact Institute completed in 2011 is distressing, in which one of the central questions is how fast the so-called designer drugs spread; i.e. prohibited substances which are on the drug list. Our results draw attention to the fact that with the manipulation of chemical composition the prohibited drugs become legalized and because of this legality and the low prices compared to conventional drugs they are becoming more widespread (Tistyán et al., 2011).

⁵ In this study only the main findings on risk-behavior are described, however, it must be noted that the HBSC research examines the preventive components of health behavior (like exercise, nutrition).

⁶ A tiltott szerek fogyasztása a 2003-ig tartó növekedés után 2007-ben csökkenést mutatott. Az attitűdökben bekövetkezett változások a fogyasztási adatok változásaihoz hasonló tendenciát mutattak, a legtöbb szer esetében a veszélyészlelés csökkenése megállt, sőt számos szer esetében növekedett a fogyasztást veszélyesnek tartók aránya. (Elekes, 2007)

The consumption of prohibited drugs showed a decline in 2007, after the increase until 2003. The changes in the attitudes showed a similar trend to the changes of consumption data and in the case of most of the drugs the decrease in threat detection has stopped and even the rate of those who find consumption dangerous has increased in the case of numerous drugs. (Elekes, 2007)

Overall, it was found that the types of drug use and priorities have changed significantly in recent years.

Thus, it can be seen that the reviewed surveys primarily focused on the frequencies, the tendency and the factors along which health behavior diversifies. The results do not provide sufficient guidelines about the direction of the intervention, since they are unable to explore the motivational factors that influence the decision to provide health damaging behavior.

2.2. The role and possibilities of qualitative research methods in the examination of health behavior

Different social processes and the complex and variable phenomenon in addition to the prevailing trend representing positivist methodology require a different research methodology approaches. In this context, the world can be described not only along causality chains, understanding has to be accompanied by the explanation of the human phenomena. This epistemological idea is the basis for the interpretative paradigm, which led to the advance of qualitative methods (Szabolcs, 2001). Qualitative research methods requiring more place in the discovery and interpretation of social reality appeared in Hungarian educational science researches (Sántha, 2007; Podráczky, 2010). Matching with this trend Deutsch (2011) examined school health concept and health promotion praxis with qualitative methods.

In my opinion, in relation to the research problem which is the issue of health behavior, the application of qualitative research methods enables a multiple-perspective analysis of the problem to be investigated beside a quantitative approach. To examine the health behavior qualitative methodology offers several options: A rendelkezésre álló sorokat a megkérdezettek ritka kivételtől eltekintve nem használják fel érzéseik, véleményük kinyilvánítására, mely sok esetben azt az érzést kelti a kutatóban, hogy a megkérdezettek mielőbb igyekeznek megszabadulni a válaszadás kötelezettsége alól.

(1) Unfinished stories, open questions adjusted to the structure of the questionnaires can help capture generational mentality, but data analysis often shows that responses on the open questions are incomplete in many cases (often completely absent), superficial, and similarly to closed questions, respondents express the thoughts with a few words. Apart from rare exceptions, the available lines are not used to express their feelings and views, which often implies that respondents are trying to get through the obligation to respond as soon as possible. The reason for this probably lies in the fact that during the thinking process which leads to the answering of open questions among the closed ones in the questionnaire, which is the tool of the quantitative survey, the thoughts of the

respondents are formulated into categories fitting to the thinking structure of closed questions.

(2) *Interview* gives more freedom to express opinion, where the more informal structure categorizes the thoughts of the respondents to a lesser extent. Following the tragedy in January 2011⁷ Conversations with the age group, interviews inspired István Tasnádi writer and György Vidovszky director to introduce the complex and opaque "party culture" which could put teenagers into a fatal accident through the play called "East Balkans". The aim of the play is designed not to judge, but to seek and analyse the temptations and the specific answers to them as well as to dynamically present the process called "slipping into".

(3) The "East Balkan" inspired me to examine the health behavior of adolescents by a new methodological element, notably through *essay* analysis. Social psychology calls this phenomenon an emotional epidemic, during which in connection with an event the behavior and opinions are decisively influenced by the stakeholders' emotional involvement. Therefore I considered it important to know the thoughts of adolescents in relation to the West Balkan. In terms of methodology I consider composition as the instrument that arranges the information and the ambivalent feelings in the mind, and forces the respondents to express their opinion. The starting point was that with the help of the aspects I offered the self-evaluation related to health behavior and value judgement of the health behavior of coevals may be identified. The reference to the West Balkan was only a thought-provoking event, served to value orientation related to health behavior of the included people, to drive their thoughts to a common bed through a situation known by everyone. I thought, these essays will reflect the reality that cannot be shown during the exclusive examination of the questionnaire results: through entertainment habits of the teenagers those motives are highlighted which may result in the decrease of health-damaging behaviors by offering the possibility of the healthy choice.

⁷ Three teenage girls, including two eleventh-grade student died in January 2011 in the West Balkan nightclub, in Budapest, Hungary. According to police information panic broke out at the disco, and while the young people were trying to get out they fell to the ground and were trampled to death. Signs of drug use were found at the scene, amphetamines were found in the blood of one of the victims.

3. Examination of value orientation related to health by the method of content analysis

Altogether 51 essays of 17-year old secondary school students were subjected to content analysis, where during the procedure reproducible and valid conclusions on data contexts were deducted in a systematic and objective way based on the characteristics of the context. The writings examined by content analysis provide information about the empirical data environment. It is important that during the content analysis it is possible to grasp the messages, which were not written in the text; however they are connected to reality in which the analyzed text itself was born. With this method it is possible to map the information messages from the text both by quantitative and qualitative analysis, and information can be extracted which would not be possible to be extracted by other processes (Krippendorff, 1995). The respondents are forced to formulate their thoughts and feelings because of the absence of the formerly offered essay categories. The first step in the content analysis was a content summary of the essays included in the source and content units were arranged into broader categories where the units can be classified and coded on the basis of predetermined rules (*Table 1*). These codes from the context elements were statistically analyzed (Petőné, 2012).⁸

Step 1: Content summary	
<i>What are the reasons behind drug use?</i>	
'For now, I realize that my generation flees to alcohol and drugs to escape from their problems and expectations. We or they desire to be liberated from all these and so many people drink until they are unconscious or use mood-enhancing drugs. This has happened to me also. It seems to be much simpler to forget the problems at least for a little time than to discuss them frankly with someone.' (<i>18-year-old student</i>)	Escape from problems by drug use. Desire to liberate themselves, therefore they consume mood-enhancing drugs.
'Unfortunately, in these days it has become fashionable, that someone in order not to protrude from the group and not to be looked down on, has to do what the rest of the others, has to drink, smoke what the others, which is the "fashion". I think there are many people who just drift with the tide.' (<i>17-year-old student</i>)	To accommodate the group, it is necessary to consume what they do. Drifting with the tide.

⁸ The coding was carried out in two different times, more than a year elapsed between the two dates. In cases where the categories I have developed during a two-time encoding showed difference, re-interpretation of the issues helped to decide which category expresses more precisely the coded text item.

Step 2: Settlement of broader categories, content units	
Escape from problems by drug use. Desire to liberate themselves, therefore they consume mood-enhancing drugs.	Coping with problems. Desire for liberation.
To accommodate the group, it is necessary to consume what they do. Drifting with the tide.	Compliance with the social group.
Step 3: Categorization – motivation factors	
Coping with problems. Desire for liberation.	Stress relieving, coping motivation
Compliance with the social group.	Social motivation.

Table 1. Steps of motivation factor development (illustration)

During the interpretation the unspoken, hidden, underground tendencies were tried to be caught, conclusions based on them were formulated. Although the health behavior of adolescents provide a more detailed picture in terms of quantitative statistical analyses, however, in the written composition in connection with the tragedy contents appear that are not manifest in the quantitative analyses, behind the general characteristic deeper layers are revealed.

A large number of text elements concerning motivational factors related to drug use shows that young people are concerned with the idea what can be the reason of drug use when they are aware of the effects of these drugs, especially when they are in company.⁹ Motivation factors developed by the categorization of the reasons mentioned by the adolescents can be corresponded to the four motivational factors in the model of Wills and Cleary (citing: Pikó, 2004), from which - based on the essays - stress relieving coping motives seem to be primary, followed by the social motivation. A significant but less pronounced motivation is the strengthening self-motivation, and text elements related to experience searching and chasing away boredom appear merely to a very small extent. Through the essays motivational factors that influence the decisions about drug use in the background of drug use can be interpreted. Knowing of these factors can take us closer to the exploration of mentality at this age, which also offer new clues to health education practice. During the exploration of the hidden content that appears in the essays unspoken feelings and thinking structures were shown that are outlined in the thought of the adolescents related to health behavior and well-being. During the

⁹ In the literature, several studies can be read about drug and alcohol abuse influencing factors, most of which primarily highlight the impact of peers, pointing out the dangers of sample following behavior. Adolescents conform to the behavior and value structure of the reference group in terms of alcohol consumption and drug use. The rate of friends consuming alcohol and/or drugs are considered to be the strongest predictors, as well as the consumption-related tolerance of friends. (Anderson&Henry, 1994)

examination of health behavior by qualitative tools the world explored can take us closer to understanding the struggles of the relevant age group, which affects coping in many cases through raising quite ambivalent feelings.

4. Summary

To answer research questions about the health behavior of adolescents both qualitative and quantitative methods are suitable. In possession of the data gained from quantitative research, mainly from cross-sectional data trends that may be relevant to the examined age group, as well as the analysis of the background variables may highlight the differentiating factors of health behavior. Deeper contents revealed during qualitative studies may promote the analysis of the examined generation in a wider social context. The qualitative and quantitative methods appropriate to explore the issues investigated from different aspects therefore complement each other well, so the combined use of these two methodological groups as a triangulation¹⁰ method combination of model brings us closer to answering our questions. The advantage of this approach is that the examined problem appears in a wider circle getting a more complex picture about the whole research and similar results support the research validity. The combination of quantitative and qualitative methods may contribute to the multiple-criteria analysis of the problem to be investigated and in addition it may show the way to the educational and health promotion practice, contributing to the formation of the growing generations' health and life quality.

¹⁰ Triangulation is an independent methodological model developed by the method combination of qualitative and quantitative techniques (Sántha, 2007).

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