HEALTH BEHAVIOUR OF SCHOOL-AGED CHILDREN IN PAKISTAN: A COMPARATIVE STUDY

Master thesis

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SUMMARY

Health behavior of school aged children in Pakistan: a comparative study
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Aim. To observe and evaluate the health behaviour in school aged children and to get key insights into the health related behaviours of young people.

Objectives. To analize and evaluate health behaviours among boys and girls in Pakistan. To analize and evaluate health-risk behaviors among boys and girls in Pakistan. To compare health behaviours of adolescents in Pakistan and Lithuania.

Methods. Health Behavior in School aged Children (HBSC) questionnaire was used in this study. Questionnaire survey was carried out in 2 schools of Pakistan. One school was private and one school was public. The were 300 participants and majority of them were 14 and 15 years old. Health behavior was measured with questions concerning adolescent’s nutritional habits (breakfast, fresh fruit and vegetable, sweets, fast food and soft drinks with sugar consumption), health-risk behavior (cigarette use, injuries) and physical activity. Statistical data was analyzed using the statistic package SPSS 15.0 for Windows.

Results. Two thirds (78.5%) of respondents thought they are in good health and just 4% claimed having excellent health. Study results showed, that 41% of school students exercise 2-3 times a week and 7.3% less than once a month. It was estimated that more than half of Pakistan adolescents eat breakfast every day on weekdays, but on weekends less than one third have breakfast at home. One third of respondents stated, that eat fresh vegetable and 20.1% of them eat fresh fruit every day. Unhealthy diet products such as sweets, soft-drinks with sugar, fast food adolescents consumed (from 0% till 24.6%) every day or 4-6 times a week. Significant differences were found among gender and soft-drinks with sugar and fast food consumption – girls consumed unhealthy diet products less frequent than boys. The results showed that 12.1% of adolescents reported smoking once a week. Statically significant differences were found among respondent gender and injuries. Girls were injured more often than boys in the past 12 month. Teenagers in Pakistan thought they are in excellent health less frequent than teenagers in Lithuania. Study result showed that statistically significant differences were found between breakfast consumption on weekends, nutritional habits, smoking of adolescents in Pakistan and Lithuania.
Conclusions. Adolescents in general experience good health in Pakistan. Physical activity of the majority adolescents did not meet the global WHO recommendations for school-aged children. Fresh vegetables were more popular than fresh fruits among adolescents. Boys and girls consumed fresh fruits and vegetables equally often. Majority of adolescent’s unhealthy diet products consumed rarely. Unhealthy diet products were more popular between boys than girls in Pakistan. Adolescents in Lithuania experience excellent health more often than teenagers in Pakistan. Health behavior of adolescents were different in Pakistan and Lithuania.

Keywords. Health behavior, adolescents, nutritional habits, health risk behavior.
LIST OF ABBREVIATIONS

CDC – Centers for Disease Control and Prevention
WHO – World health organization
SES – socio-economic status
HBSC – Health Behavior in School age Children
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INTRODUCTION

Health behavior is one of the most important determinant of health. Health behavior – any activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behavior is objectively effective towards that end. Research into children’s health and health behavior and the factors that influence them is essential for the development of effective health education and health promotion policy, programmers and practice targeted at young people. It is important that young people’s health is considered in its broadest sense, as encompassing physical, social and emotional wellbeing; and that, in accordance with the WHO perspective, health is viewed as a resource for everyday living, not just the absence of disease. (WHO, 1948).

Thus, research into children’s health needs to consider the positive aspects of health, as well as risk factors for future illness and disease. Many behaviors’ that comprise young people’s lifestyles may directly or indirectly impinge on their health in the short or long term; consequently, a wide range of behavioral variables should be measured. Positive or health promoting behavior needs to be studied, as well as health-damaging or risk behavior.

Certain behavior is initiated in the adolescent years, while some patterns of behavior, such as eating patterns, become established in earlier childhood. Taking a social as opposed to a purely biomedical research perspective means studying the social, environmental and psychological influences or determinants of child and adolescent health and health behavior. Thus family, school and peer settings and relationships need to be explored, as does the socioeconomic environment in which young people grow up, if we are to understand fully the patterns of health and health behavior found in the adolescent population (Penedo & Dahn, 2005; Parfit & Eston, 2005).

The focus area of this thesis work was Health, Eating habits, Tobacco use and physical activity.

Adolescence is defined as the period from the onset of puberty to the termination of physical growth and attainment of final adult height and characteristics that occurs during the second decade of life. It is characterized by rapid physical growth, significant physical and psychological changes, and evolving personal relationships. Adolescence and the great and rapid changes associated with it may have major effects on the health of individuals, and, conversely, variations in health may significantly affect the transitions of adolescence. (Lam, Stewart, & Ho, 2001).
Thus, data on how young people move through adolescence, and factors that influence the success of and difficulty with this transition should include measures and indicators of health. International comparisons of the rates and variations of transitions through adolescence and the interactions of adolescence with health offer rich opportunities to confirm fundamental biological and developmental processes while examining the effects of contextual and cultural processes. Perceptions of health, self-confidence and satisfaction with life reflect the level of stress and anxiety that young people experience. The frequency of morning tiredness may offer important guidance for policy on schools’ hours of operation. Medication use for certain symptoms may reflect the prevalence of causes of these symptoms, and attitudes towards and availability of medication, or both. In most instances, these data cannot determine the cause of health events experienced by young people, but international comparisons can describe similarities between countries, and highlight issues to be addressed and questions to be answered.

Numerous health behaviors’ and attitudes in adolescence and adulthood are begun in the family setting during childhood. Lifestyle-related habits in hygiene, nutrition and physical activity, as well as communication skills and social competences, are an essential part of familial education. (Hallal, Victora, Azevedo & Wells, 2006).

Deficits in these areas are among the main reasons for health impairments in later life. The family is therefore a decisive factor in young people’s health that needs investigation.

In adolescence the educational role of the family decreases. In search of individual adult identity, young people tend to orient themselves towards peer groups. In most cases this also means orientation towards adolescent subcultures. Risk behavior, such as alcohol and tobacco consumption, is part of social interaction within these peer groups. While experimentation with such behavior can be considered a regular developmental task, group pressure may cause their maintenance, which impairs health.
1. THE AIM AND OBJECTIVES

The aim
To observe and evaluate the health behaviour in school aged children and to get key insights into the health related behaviours of young people.

The objectives
1. To analize and evaluate health behaviours among boys and girls in Pakistan.
2. To analize and evaluate health-risk behaviors among boys and girls in Pakistan.
3. To compare health behaviours of adolescents in Pakistan and Lithuania.
2. LITERATURE REVIEW

2.1 Defining adolescence

Adolescent population and health of adolescents is a very special issue and is focus of attention globally for various reasons. The world today is home to the largest generation of 10–19 year olds in our history and number over one billion and their population is continuously increasing.

The demands on young people are new and unprecedented; their parents could not have predicted many of the pressures they face. How we help adolescents meet these demands and equip them with the kind of education, skills, and outlook they will need in a changing environment will depend on how well we understand their world. (Bandura, 1995)

The first step toward deepening our understanding is to clarify the concept of adolescence. There is no universal method for doing so, and in Pakistan policies and programs affecting young people are bound to be affected by a lack of consistency. “Adolescents” and its cognates are variously defined. The lines between childhood, adolescence, and adulthood may differ by culture and region. The CDC uses the terms “adolescents and young adults” for those aged 10 to 24, inclusive, usually broken into 3 age groups (ages 10–14, 15–19, and 20–24).

The population aged 15–24 in Pakistan was estimated to be approximately 27 million in 2000, and it is expected to continue to increase, reaching 44.6 million in 2020. This is an increase of 39 percent in just 20 years. This age group accounts for almost one quarter of the population in Pakistan and the peak number of youth will be reached in the year 2035.

Basic data on education, employment, and reproductive health among adolescents shows that they are not receiving the adequate schooling and capability building to equip them for the future. It also follows from the Mensch et al. characterization of adolescence that the period of transition to adulthood must equip young people with the education, skills, decision-making power, and information to function as responsible adults in society (De Vries & Mudde, 1998).

Adolescents are a unique population with specific health concerns and needs. Adolescence is the peak age of onset for serious mental illness like depression and psychosis. Over load of stress from physical, emotional, social and sexual change makes adolescents
overloaded with stress which can result in anxiety, withdrawal, aggression, poor coping skills and actual physical illness. (Curry & Youngblade, 2006; Colder & Stice, 1998)

The adolescent period is characterized by its rapid physical and psychological changes in the individual, together with increasing demands from and influence of peers, school and wider society. It is well documented that behaviors developed during this period influence health in adulthood. Several health compromising behaviors (e.g. smoking, alcohol) as well as health enhancing behaviors’ (e.g. physical exercise) is adopted in adolescence and they often persist into adulthood (Van Nieuwenhuijzen et al., 2009; Lam, Stewart, & Ho, 2001; Jessor, 1991). The World Health Organization estimates that 70% of premature deaths among adults are due to behavior (smoking, illicit drug use, reckless driving) initiated during adolescence. Therefore, helping adolescents establish healthy lifestyles and avoid developing health risk behaviors is crucial and should be started before these behaviors are firmly established.

2.2 Health-related behavior in adolescence

Health-related behaviors have traditionally been defined as behaviors undertaken by individuals that affect their health (Kasl & Cobb, 1966). These behaviors can be further distinguished between health compromising behaviors (e.g. smoking, alcohol consumption, can abuse, and unprotected sex), which have an undesired effect from a public health perspective on health, and health-enhancing behaviors (e.g. physical activity, healthy eating), which have a desired effect on health from a public health perspective. Patterns of health-compromising behaviors and their initiation and progression in adolescence are generally considered to be predictive of later involvement in such behaviors and exposure to their harmful consequences (Tucker, Ellickson, Orlando, Martino, & Klein, 2005). Healthy lifestyle patterns that include health-enhancing behaviors can be also traced back to childhood and adolescence (Hallal, Victora, Azevedo, Wells, 2006).

Previous research (Van Nieuwenhuijzen et al., 2009; Lam, Stewart, & Ho, 2001; Jessor, 1991) shows that the mentioned behaviors cluster together and therefore might have similar patterns of determinants. Empirical evidence supports the existence of organized patterns in adolescent health-related behaviors with several domains of influence (Petraitis, Flay, Miller, 1995; Jessor, 1991), which are described in more details in Table 1.1. Based on these models it is possible to distinguish the following domains of influence: genetics (e.g. a
family history of addiction), intrapersonal factors (e.g. low self-esteem), interpersonal factors (e.g. family and/or peer support) and sociocultural (e.g. socioeconomic status) factors.

Understanding factors related to health-related behaviors is essential for developing effective and successful strategies that contribute to health promotion not only in adolescence (present health) but also in adulthood.

2.3 Perception of self and health-related behavior

Adolescence, as the period of transition from childhood to adulthood, is a critical time for the development of lifelong perceptions, beliefs, values and practices. This period is related to making that transition and to coping with several challenges. Adolescents struggle with the developmental tasks of establishing an identity, accepting changes in physical characteristics, learning skills for a healthy lifestyle and separating from family (Susman, Dorn & Schiefelbein, 2003; Burt, 2002). Adolescents’ family, peers, neighborhood environment, school and other associations can help them complete these tasks or can pose significant barriers that many youths will not be able to overcome on their own. During adolescence, youths continue with developing their perception of the self and face the task of establishing a satisfying self-identity (Burt, 2002; Anderson & Olnhausen, 1999).

Self-esteem is an evaluative and affective aspect of the self. It is also considered as equivalent to self-regard, self-estimation and self-worth (Harter, 1999). It refers to a person’s global appraisal of his/her positive or negative value (Markus & Nurius, 1986). Self-esteem has well-known consequences not only for current physical and mental health and health-related behaviors, but also for future health and health-related behaviors during adulthood (Mann et al., 2004).

Positive self-esteem is a basic element of mental health, but it also contributes to better health through its role as a buffer against negative influences. Conversely, negative self-esteem can play a critical role in the development of several internalizing (depression, anxiety) and externalizing (violence, substance use) problems (Mann et al., 2004). Self-esteem is closely connected with self-efficacy and plays an important role in what are currently the most frequently used cognitive models of health-related behavior, such as the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Attitude-Social influence-self-Efficacy (ASE) model (De Vries & Mudde, 1998), the Theory of Triadic Influence (TTI) (Flay & Petrakis, 1994) and the Precede-Proceed model (Green & Kreuter, 1999). Based on the review by Mann et al. (2004), self-efficacy in behavioral domains, according to the TPB,
influences self-esteem or the evaluation of self-worth. At the same time, according to other models such as the ASE or TTI, self-esteem could be considered as a distal factor influencing self-efficacy in specific behavioral domains.

Self-esteem has been repeatedly associated with health compromising and health-enhancing behaviors in past research. Recent studies have confirmed the connection between higher self-esteem and regular physical activity (White, Kendrick & Yardley, 2009; Penedo & Dahn, 2005; Parfit & Eston, 2005). Evidence about the association between smoking or cannabis use and self-esteem is more contradictory but still suggests a connection between higher self-esteem and lower engagement in smoking and cannabis use (Kokkevi, Richardson, Florescu, Kuzman, & Stergar, 2007; Wild, Flisher, Bhana, & Lombard, 2004; Carvajal, Wiatrek, Evans, Knee, & Nash, 2000).

Self-efficacy, defined as beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1995), has a central role in socio-cognitive theories, e.g. Ajzen’s (1988) theory of planned behavior or Bandura’s (1986) social cognitive/learning theory. People’s beliefs in their own efficacy influence the choices they make, their aspirations, how much effort they mobilize in given behaviors and how long they persevere in the face of difficulties (Bandura, 1991). Behavior-specific self-efficacy is therefore generally considered as an important determinant of the practice of health-related behaviors. Specific beliefs about self-efficacy are considered to have the most immediate and direct association with health-related behaviors like regular smoking, cannabis use and physical activity. Low perceived self-efficacy has been repeatedly connected with a higher prevalence of smoking behavior (Engels, Hale, Noom, & De Vries, 2005; Kim, 2004; Engels, Knibbe, de Vries & Drop, 1998) and a lower prevalence of physical activity (White, Kendrick & Yardley, 2009; Annesi, 2006).

Self-competence and self-liking were defined by Tafarodi & Swann (1995) as constructs emerging from global self-esteem. Self-competence is defined as the evaluative experience of oneself as an intentional being with efficacy and power. Self-liking, on the other hand, is defined as the evaluative experience of oneself as a good or bad person according to internalized criteria for worth. These two dimensions could also be extracted from the Rosenberg Self-esteem Scale, as has been confirmed in other studies (Schmitt & Allik, 2005; Tafarodi & Milne, 2002). There is a lack of studies exploring self-liking and self-competence in association with health-related behaviors. However, both mentioned aspects of self are closely related to the concept of self-esteem and it can be assumed that they are associated with health-related behaviors in a similar way (Tafarodi & Swann, 1995).
2.4 Health-related behaviors and other intrapersonal and interpersonal factors

Based on the comprehensive social-psychological framework for explaining health-related behaviors proposed by Petriatis, Flay, & Miller (1995) and Jessor (1991), other intra- and interpersonal factors can be expected to contribute to the association between the perception of self and health-related behaviors. From the intrapersonal domain, factors like personality, affectivity, mental health and resilience have been associated with health related behaviors in previous research (Markey et al., 2006; Curry & Youngblade, 2006; Windle & Windle, 2001; Gordon Rouse, Ingersoll, & Orr, 1998). From the interpersonal domain, family and peers factors are the most studied determinants of health-related behaviors (Tomcikova et al., 2009; Mistry et al., 2009; Peters et al., 2009). To be able to fully explore health-related behaviors and their determinants, it is important to look for the expected contribution of factors from different domains.

2.5 Socioeconomic background of adolescent health-related behaviors

Socioeconomic background is probably an important cause of adolescents’ health-related behaviors, but evidence on its role is not yet conclusive. There are some differences regarding type of health-related behaviors and some country differences as well. Different types of health-related behaviors do not associate similarly with socioeconomic status, and differences in the association between socioeconomic status and health-related behaviors were also found across countries (Richter et al., 2009; Currie et al., 2008). Regarding smoking, some studies found that socioeconomic differences in adolescent smoking are not present or not as pronounced as in adult smoking (Richter et al., 2009; Tuinstra et al., 1998), while other studies revealed consistent socioeconomic differences regarding this type of health-related behavior (Piko & Keresztes, 2008; Salonna et al., 2008; Goodman & Huang, 2002; Madarasova Geckova et al., 2005).

Consistent socioeconomic differences can be found in health-enhancing behaviors like physical activity or consumption of fruits and vegetables. Higher socioeconomic status was associated with more frequent physical activity and a higher frequency of fruits and vegetables consumption (Richter et al., 2009; Vereecken, Maes & De Bacquer, 2004). Geckova (2002) provided several explanations for these contradictory findings: (a) differences in the socio-cultural context; (b) differences in the measurements of
socio-economic status; (c) differences in the measurements of health-related behaviors and (d) differences in the samples. Differences in the socio-cultural context are very likely to occur and influence the findings. Therefore, they need to be taken into account in the process of explaining the results. In addition, differences in measurements of health-related behaviors might be more pronounced than differences in measurements of socioeconomic status since there is more variety in the questionnaires used for measuring various types of health-related behavior. A fifth explanation for these discrepancies could be the period of life in which these behaviors are established. For instance, health-enhancing behaviors like physical activity are usually established in childhood when parental influence is much stronger than in adolescence (Richter et al., 2009). Therefore, socioeconomic status defined by the educational level of parents might be associated more strongly with such health-enhancing behaviors. In contrast, health-endangering behaviors like smoking are established more intensively in adolescence when the influence of parents is less pronounced and the influence from peers is growing. This might explain the less consistent findings about the connection between the socioeconomic status of parents and health-endangering behaviors like smoking in this period of life. These inconsistent findings also support the assumption made by Petraitis, Flay, & Miller (1995) that health-related behaviors in adolescence need to be explored with regard to factors from different domains of influence (intrapersonal, interpersonal and socio-cultural) which might contribute to the connection between socioeconomic status and health-related behaviors and which were not fully explored in the above mentioned studies.

2.6 Socioeconomic differences in self-esteem of adolescents influenced by personality, mental health and social support

Socioeconomic position has a clear impact on developing self-esteem, especially during the important stage of adolescence. At this period of life, the self-esteem of young people undergoes important changes, influenced not only by the already-mentioned socioeconomic status, but also by variety of other intrapersonal, interpersonal and sociocultural determinants (Finkenauer, Engels, Meeus & Oosterwegel, 2002). Adolescence, the period of transition from childhood to adulthood, is a critical time for the development of lifelong perceptions, beliefs, values and practices. An adolescent struggles with the developmental tasks of establishing an identity, accepting changes in physical characteristics, learning skills for a healthy lifestyle and separating from family (Susman, Dron & Schiefelbein, 2003).
Therefore, before entering adulthood, it is important for the adolescent to develop high self-esteem and the ability to care for the self (Anderson & Olnhausen, 1999). Self-esteem has well-known consequences not only on current physical and mental health and health-related behavior, but also on future health and health-related behavior during adulthood (Mann, Hosman, Schaalma & de Vries, 2004).

Self-esteem also plays an important role in what are currently the most frequently used cognitive models of health behavior, such as the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Attitude-Social influence-self-Efficacy (ASE) model (De Vries & Mudde, 1998), the Theory of Triadic Influence (TTI) (Flay & Petraitis, 1994) and the Precede-Proceed model (Green & Kreuter, 1999). Based on the review by Mann et al. (2004), self-efficacy in behavioral domains, according to the TPB, influences self-esteem or the evaluation of self-worth. At the same time, according to other models such as the ASE or TTI, self-esteem could be considered as a distal factor influencing self-efficacy in specific behavioral domains. In addition, to be able to change the consequences of self-esteem on future health and health-related behavior, it is important to be aware of possible correlates and associations of low or high self-esteem which are crucial during the developmental stage of adolescence. According to Harter (1999), the development and maintenance of self-esteem in childhood and adolescence is influenced by two important factors: perceived competence in areas of importance and the experience of social support. Considering other factors, correlates of self-esteem can be divided into several essential domains: (a) gender, (b) socioeconomic factors, (c) personality factors and mental health, and (d) factors from family, friends and significant others. It is also necessary to mention that in the past, researchers only investigated levels of explicit self-esteem.

However, in recent decades other aspects of self-esteem have been discovered and explored, such as implicit self-esteem, contingent self-esteem and self-esteem stability (Crocker, Luhtanen, Cooper & Bouvrette, 2003; Kernis et al., 1993). Gender has been reported to have an influence on developing self-esteem during adolescence. Boys are more likely to have high self-esteem at this stage of life than girls (McMullin & Cairney, 2004; Robins et al., 2002; Kling, Hyde, Showers & Buswell, 1999). Gender differences have also been reported in age-related changes. Self-esteem among boys tends to increase, while self-esteem among girls tends to decrease a little during early adolescence (Birndorf, Ryan, Auinger & Aten, 2005; Robins et al., 2002). Previous studies also show socioeconomic status to be significantly related to self-esteem. In general, those with higher socioeconomic status report higher self-esteem than those with lower socioeconomic status (Rhodes, Roffman,
Reddy & Fredriksen, 2004; Francis & Jones, 1996). Among socioeconomic factors, family income seems to be most related to self-esteem among adolescents (Birndorf et al., 2005).

Mental health has been reported to be associated with self-esteem in the past. Several studies (Miyamoto et al., 2001; Bolognini, Plancherel, Bettschart, & Halfon, 1996; Rosenberg, Schooler, Schoenbach & Rosenberg, 1995; Brown & Mankowski, 1993) have been conducted in this field, and associations have been found between self-esteem and depression and between self-esteem and anxiety. Self-esteem has been also reported to be related to eating disorders (Stice, Presnell & Spangler, 2002) and aggression (Donnellan et al., 2005; Baumeister, Smart & Boden, 1996). However, the relationship between self-esteem and aggression is currently being debated by researchers. Some authors argue that low self-esteem is related to aggression (Donnellan et al., 2005), whereas others indicate that high self-esteem is linked to aggression (Baumeister, Smart & Boden, 1996). Surprisingly, less attention has been paid to the connection between personality dimensions and self-esteem itself, though it could be hypothesized that consistent personality traits might influence the way people perceive and evaluate themselves (Robins et al., 2001).

Family, peers and significant others play a major role in the development of an adolescent’s self-esteem. The family in particular, as the primary environment at this period of life, provides an important background for developing and creating the initial sense of oneself. Previous studies have found a positive relationship between supporting family relationships and self-esteem (Birndorf et al., 2005; Sweeting & West, 1995; Barrera & garrison-Jones, 1992). On the other hand, a lack of support or a dysfunctional family environment has been described as a contributor to maladjustment, behavioral problems and drug abuse (Wentzel, 1994; McKay, Murphy, Rivinus & Maisto, 1991). In addition, support from peer groups and significant others, like teachers, could positively or negatively influence the development of one’s self-esteem.

The question remains regarding how social support from family, friends and significant others contribute along with other self-esteem factors (e.g. personality, mental health) to the association between socioeconomic status and self-esteem. Factors such as gender, socioeconomic status, personality and mental health and support from family and other relationships are all suggested as important influences in the field of the developing self-esteem during the adolescence, ultimately affecting outcomes in the area of mental health and health behavior. Understanding the associations between self-esteem and its correlates could bring new ideas to the role of self-esteem in the framework of health promotion among young people. Socioeconomic status is less strongly associated with self-esteem in comparison to
personality dimensions and mental health constructs, which are very similar and strongly associated. Social support from family, friends and significant others could be seen again as conceptually more distinct in relation to self-esteem.

Therefore, based on the theoretical and empirical findings, the main aim of this study is to assess whether personality, mental health and social support contribute to the relationship between socioeconomic status and self-esteem. We will explore these variables and their associations with self-esteem. We assume that (a) socioeconomic status, personality, mental health and social support will be significantly associated with self-esteem; (b) socioeconomic status will be less strongly related to self-esteem in the model, and the explanatory power will decrease after adding personality dimensions, mental health and social support subscales; and (c) personality dimensions and mental health subscales, as similar constructs, will be strongly related to self-esteem and have a greater explanatory power.

2.7 Self-efficacy, affectivity and smoking behavior in school aged children in adolescence

Smoking is the most common form of substance use, and its harmful impact on health is well known. Tobacco use among young people leads to short-term health problems, including reduced lung function, increased asthmatic problems, coughing, wheezing and shortness of breath, and reduced physical fitness. It also leads to greater susceptibility to and severity of respiratory illness (Currie et al., 2004). Similarly, cannabis is also widely used and is most frequently used by adolescents as their first illicit drug (Kingery, 1999). Recently, young people have reported using more drugs and starting to do so at an earlier age (Currie et al., 2004). Patterns of substance use, initiation and progression in adolescence are generally considered to be predictive of later involvement with substance use and exposure to its harmful consequences (Tucker, Ellickson, Orlando, Martino, & Klein, 2005).

Understanding the factors associated with substance use in adolescents is therefore essential in the field of prevention and health promotion. Evidence on health-compromising behavior demonstrates the continued high prevalence of cigarette smoking by young people (Baska, 2009; Currie et al., 2008; 2004; 2000). Initiation and progression in this stage of life are also generally considered to be predictive of later involvement and exposure to smoking’s harmful consequences (Tucker, Ellickson, Orlando, Martino, & Klein, 2005). Moreover, smoking behavior has been shown to cluster with other types of health-compromising behavior as part of a problem behavior syndrome (Lam, Stewart, & Ho, 2001).
Research on the determinants implies a connection between perceived self-efficacy and health-compromising behavior. This, for instance, holds true for regular smoking, drunkenness and substance use (Engels, Hale, Noom, & De Vries, 2005; Petraitis, Flay, Miller, Torpy, & Greiner, 1998). Self-efficacy, defined as beliefs in one’s capabilities to organize and execute the courses of action required to manage prospective situations (Bandura, 1995), has a central role in socio-cognitive theories, e.g. Ajzen’s (1988) theory of planned behavior or Bandura’s (1986) social cognitive/learning theory. Specific beliefs about self-efficacy are considered in these theories as the most immediate and direct association with regular smoking, drunkenness and substance use. Low perceived self-efficacy has been repeatedly connected with a higher prevalence of smoking behavior (Engels, Hale, Noom, & De Vries, 2005; Kim, 2004; Engels, Knibbe, de Vries & Drop, 1998).

However, those studies mostly focused on behavior-specific self-efficacy. It could be expected that these two aspects of self-efficacy play different roles in connection with smoking behavior. General self-efficacy is assumed to be a protective factor. On the other hand, self-efficacy as a construct similar to social competence might play a role as a risk factor. Evidence regarding social self-efficacy and social competence suggests this assumption (Veselska et al., 2009; Simons-Morton & Haynie, 2003; Carvajal, Wiatrek, Evans, Knee, & Nash, 2000). Additionally, Simons et al. (1988), in their multistage social learning model, went one step further toward the explored role of self-efficacy and included emotional distress (negative affectivity) as a determinant of health-compromising behavior. Lately, more attention has been given to the way self-efficacy interacts with affectivity and how these variables contribute to the association between self-efficacy and health compromising behavior (Curry & Youngblade, 2006; Engels, Hale, Noom, & De Vries, 2005). Research on the associations between affectivity (especially negative affectivity) and health-compromising behavior has confirmed the influence of negative affect as a risk factor (Curry & Youngblade, 2006; Colder & Stice, 1998). Evidence suggests that high levels of negative affect (e.g. depression, anxiety, anger) and underdeveloped affect regulation might lead to the smoking behavior (Chang & Chiang, 2009; Windle & Windle, 2001). Also, based on previous research, we assume that negative affect influences other variables, e.g. the association of self-efficacy with smoking behavior.
2.8 Socioeconomic status and physical activity among school aged children (adolescents)

Regular physical activity is a part of a lifestyle which leads to physical health benefits such as reduced risks of coronary heart disease, diabetes and obesity but also to mental health benefits like reduced risks of depression, anxiety and mood disorders (Penedo & Dahn, 2005). Healthy lifestyle patterns that include regular physical activity can be traced back to childhood and adolescence. Those stages of development are crucial for adopting healthy lifestyles that have consequences for current and future physical and mental health (Hallal, Victora, Azevedo & Wells, 2006). Despite the well-known health benefits of regular exercise, recent international studies (Currie et al., 2008; 2004; 2000) show a lack of sufficient physical activity among adolescents, indicating a potentially serious public health problem (Hallal, Victora, Azevedo & Wells, 2006).

It is therefore important to identify possible determinants for the specific target groups. Social inequalities have been found in the physical activity of adolescents, adolescents with low-educated or low-income parents being less physically active (Currie et al., 2008; Mota, Ribeiro & Santos, 2009; Richter et al., 2009; Piko & Keresztes, 2008). One explanation for this is that parents with a higher education level may help students develop more positive attitudes towards health and health-related behaviors, and a high family income may support the engagement in certain sports having high costs.

Moreover, intrapersonal factors may contribute to social inequalities in physical activity and influence the connection between the socioeconomic status of youths and their engagement in physical activity. Several studies (Veselska et al., 2009; Birndorf, Ryan, Auinger & Aten, 2005; Rhodes, Roffman, Reddy & Fredricksen, 2005) have shown that adolescents from higher socioeconomic groups report higher self-esteem. In turn, self-esteem has been shown to be significantly associated with physical activity (Penedo & Dahn, 2005; Parfitt & Eston, 2005).
3. MATERIAL AND METHODS

3.1 Survey plan and sampling. The survey was conducted in April 2013 in 2 different types (one private and one public) of schools in Pakistan. Class was chosen as a sampling unit. The data was collected from 9th grade primary school students. The participants were 300 (200 boys and 100 girls). 100 boys and 50 girls were from public school and 100 boys and 50 girls were from private school. Majority of respondents were 14 and 15 years old and just 3% of participant were 16 years old (Fig. 1). More than 90% of participants lived in urban areas (cities, towns) and 5.5% in countryside (Fig. 2).

![Figure 1. Distribution of 14-16 year old adolescent by gender](image)

Health Behavior in School aged Children (HBSC) questionnaire was used in this study. HBSC, a WHO collaborative cross-national study, collects data on 11-, 13- and 15-year-old boys’ and girls’ health and well-being, social environments and health behaviors every four years. This study used questions regarding health behaviors of adolescents. Health behavior was measured with questions concerning adolescent’s nutritional habits (breakfast, fresh fruit and vegetable, sweets, fast food and soft drinks with sugar consumption), health-risk behavior (cigarette use, injuries) and physical activity.

Adolescents were asked to fill in the questionnaire in school classroom during ordinary school hours. Written informed consent was obtained from the students after explaining the study objectives. The students were free to withdraw at any time without
giving any reason. Strict confidentiality was maintained throughout the process of data collection, entry and analysis. All efforts were made in this study to fulfill the ethical considerations in accordance with the ‘Ethical principles for medical research involving human subjects’ of Helsinki Declaration. The response rate was 100 percent.

Figure 2. Distribution of adolescent place of residence

3.2 Statistical analysis. Statistical data analyze was performed by using SPSS/15.0 for social sciences for data accumulation and analysis. Data were analyzed by descriptive statistics with frequency distribution, cross-tub calculation, and correlation by mean values. Correlations were considered to be statistical significant when the p-value were < 0.05.
4. RESULTS AND DISCUSSION

4.1 Health behavior among boys and girls in Pakistan

4.1.1 Physical activity of adolescents in Pakistan

Physical activity is an important lifestyle factor that is associated with a wide range of health benefits (Andersen LB et al. 2011). Participation in regular physical activity in childhood and adolescence has also been reported to positively influence physical activity levels in adulthood (Tammelin T et al. 2003).

Study results showed, that 41% of school students exercise 2-3 times a week and 7.3% less than once a month. No significant differences were observed between gender and student physical activity. From questionnaire were also analyzed data of adolescent’s time spend being physically active. It was established that 11% of boys and girls spend 4-6 hours a week being physically active (Table 1). Which means, that small part of adolescents meet the global recommendations for school-aged children physical activity (participate in at least 60 minutes, and up to several hours, of at least moderate physical activity on a daily basis) (WHO, 2010).

Table 1. Correlation between gender and exercise hour a week

<table>
<thead>
<tr>
<th>Exercise hour a week</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>1,5 (3)</td>
<td>0</td>
<td>1 (3)</td>
</tr>
<tr>
<td>1/2 hours</td>
<td>12,5 (25)</td>
<td>16 (16)</td>
<td>13,7 (41)</td>
</tr>
<tr>
<td>1 hours</td>
<td>38 (76)</td>
<td>40 (40)</td>
<td>38,7 (116)</td>
</tr>
<tr>
<td>2-3 hours</td>
<td>37 (74)</td>
<td>33 (33)</td>
<td>35,7 (107)</td>
</tr>
<tr>
<td>4-6 hours</td>
<td>11 (22)</td>
<td>11 (11)</td>
<td>11 (33)</td>
</tr>
</tbody>
</table>

χ² = 2,466; df = 4; p> 0,05
4.1.2 Nutritional habits of adolescents in Pakistan

Children and adolescents nutritional habits play a key role in health behavior. Epidemiological research claims that youth breakfast consumption is very important part of young people future health (Affenito SG et al., 2007, Haug E et al., 2009). Regular breakfast consumption is associated with higher intakes of micronutrients, a better diet that includes fruit and vegetables and less frequent use of soft drinks (Timlin MT et al., 2008). Despite the potential importance of breakfast consumption, the prevalence rates of breakfast skipping among children and adolescents have increased in the past few decades (Deshmukh-Taskar PR et al., 2010).

The study result showed that more than half (53.8%) of Pakistan adolescents eat breakfast every day on weekdays, but on weekends less than one third (28.1%) have breakfast at home. It was estimated, that significant differences were found between breakfast consumption on weekends and gender – girls eat breakfast less frequent then boys (Table 2). It should be noted, that 14% of despondences reported, never eat breakfast on weekends.

A recently published WHO/HBSC international report confirmed these study findings, determining that girls eat breakfast less frequent than boys (Currie C et al., 2012).

Table 2. Correlation between gender and breakfast consumption on weekdays and weekends

<table>
<thead>
<tr>
<th>Breakfast consumption on weekdays</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>57,9 (110)</td>
<td>46 (46)</td>
<td>53,8 (156)</td>
</tr>
<tr>
<td>Less than every day</td>
<td>42,1 (80)</td>
<td>54 (54)</td>
<td>46,2 (134)</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>χ² = 3.729; df = 1; p&gt; 0,05</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Breakfast consumption on weekends</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>32,2 (64)</td>
<td>20 (20)</td>
<td>28,1 (84)</td>
</tr>
<tr>
<td>Less than every day</td>
<td>53,3 (106)</td>
<td>67 (67)</td>
<td>57,9 (173)</td>
</tr>
<tr>
<td>Never</td>
<td>14,6 (29)</td>
<td>13 (13)</td>
<td>14 (42)</td>
</tr>
<tr>
<td>χ² = 5,790; df = 2; p&lt; 0,05</td>
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</table>
Fresh fruit and vegetable consumption is very important determinant regarding healthy lifestyle. Longitudinal studies suggest that fruit and vegetable consumption tracks into adulthood which points at the importance of establishing healthy eating behavior among children and adolescent (Kelder SH et al., 1994, Te Velde SJ et al., 2007).

One third (32.6%) of respondents stated, that eat fresh vegetable and 20.1% of them eat fresh fruit every day. This suggests that, fresh vegetables are more popular than fruits among adolescents. It was determined that no significant differences were found among gender and fresh fruit, vegetable consumption (Table 3). Other studies in Europe confirm opposite results, that vegetable intake was in general lower than fruit intake and boys consumed less fruit and vegetables than girls did (Yngve A et al., 2005).

Table 3. Correlation between gender and fresh fruit, vegetable consumption

<table>
<thead>
<tr>
<th>Fresh fruits consumption</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day and 4-6 times a week</td>
<td>18.6 (37)</td>
<td>23 (23)</td>
<td>20.1 (60)</td>
</tr>
<tr>
<td>1-3 times a week and never</td>
<td>81.4 (162)</td>
<td>77 (77)</td>
<td>79.9 (239)</td>
</tr>
</tbody>
</table>
\(\chi^2 = 1.235; \text{ df } = 1; \text{ p}> 0.05\)

<table>
<thead>
<tr>
<th>Fresh vegetables consumption</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day and 4-6 times a week</td>
<td>34.8 (69)</td>
<td>28 (28)</td>
<td>32.6 (97)</td>
</tr>
<tr>
<td>1-3 times a week and never</td>
<td>65.2 (129)</td>
<td>72 (72)</td>
<td>67.4 (201)</td>
</tr>
</tbody>
</table>
\(\chi^2 = 0.558; \text{ df } = 1; \text{ p}> 0.05\)

Unhealthy diet products such as sweets, soft-drinks with sugar, fast food adolescents consumed (from 0% till 24.6%) every day or 4-6 times a week. It was determined that significant differences were found among gender and soft-drinks with sugar and fast food consumption – girls consumed unhealthy diet products less frequent than boys. No significant differences were found among gender and sweets consumption (Table 4).

Other studies confirmed that consumption of sugar-sweetened beverages, including soft drinks, has risen across the globe, accompanied by an increase in the prevalence of overweight and obesity (Currie C et al., 2012).
Table 4. Correlation between gender and unhealthy diet products consumption

<table>
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<tr>
<th></th>
<th>Sweets consumption</th>
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<th></th>
<th>Total</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Boys % (n)</td>
<td>Girls % (n)</td>
<td>Total % (n)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every day and 4-6 times a week</td>
<td>3,5 (7)</td>
<td>0</td>
<td>2,3 (7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 1-3 times a week and never   | 96,5 (192)         | 100 (100)              | 97,7 (292)            |                | \(\chi^2 = 6.348; df = 1; p > 0.05\)

<table>
<thead>
<tr>
<th>Soft-drinks with sugar consumption</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day and 4-6 times a week</td>
<td>24,6* (49)</td>
<td>9 (9)</td>
<td>19,4 (58)</td>
</tr>
<tr>
<td>1-3 times a week and never</td>
<td>75,4 (150)</td>
<td>91 (91)</td>
<td>80,6 (241)</td>
</tr>
</tbody>
</table>

\(\chi^2 = 3.765; df = 1; p < 0.05\)

<table>
<thead>
<tr>
<th>Fast food consumption</th>
<th>Boys % (n)</th>
<th>Girls % (n)</th>
<th>Total % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day and 4-6 times a week</td>
<td>7* (14)</td>
<td>0</td>
<td>4,7 (14)</td>
</tr>
<tr>
<td>1-3 times a week and never</td>
<td>93 (185)</td>
<td>100 (100)</td>
<td>95,3 (285)</td>
</tr>
</tbody>
</table>

\(\chi^2 = 1.758; df = 1; p < 0.05\)

In summary every second 9\textsuperscript{th} grade student has breakfast every day in Pakistan. Fresh vegetables are more popular than fruits among adolescents. Unhealthy diet products such as sweets, soft-drinks with sugar, fast food are more popular between boys than girls.

4.2 Health-risk behavior of adolescents in Pakistan

It is clear from research worldwide that many children and adolescents experience behavior disorders. Substance use, alcohol consumption, smoking, fighting, injuries and suicide attempt were all found to be prominent health risk behaviors among the young (Chen C-Y et al., 2006, Faeh D et al., 2006).

Tobacco use is one of the major preventable causes of death in the world. The WHO attributes some 4 million deaths a year tobacco use, a figure which is expected to rise to 8.4 million deaths a year by 2020 (WHO, 2008).

The results showed that 12.1\% of adolescents reported smoking once a week. The percentage rate of respondents, who smoked daily, were small – 2\% (Fig. 3). It was estimated, that significant differences were found between smoking and gender – girls smoke cigarette
less frequent than boys (Fig. 4). This finding confirms what has been reported in countries – USA (Anderson C et al., 2009), Portugal (J. Precioso et al., 2012) in which males were more current cigarette smokers than females.

![Figure 3. Frequencies of adolescents cigarette use](image)

**Figure 3. Frequencies of adolescents cigarette use**

![Picture 4. Correlation between gender and cigarette use](image)

**Picture 4. Correlation between gender and cigarette use**

*p*<0.05 – *z* test, compared boys and girls
Being in good physical and emotional health enables young people to deal with the challenges of growing and eases their transition to adulthood. Self-rated health is a subjective indicator of general health. Young people’s appraisal of their health is thought to be shaped by their overall sense of functioning, including physical and non-physical health dimensions and is associated with a broad range of health indicators: medical, psychological, social and health behaviors (Currie C et al., 2012).

Analyzing data of adolescents self-rated health were found, that two thirds (78.5%) of respondents thought there are in good health and just 4% claimed having excellent health (Fig. 5).

![Figure 5. Frequencies of adolescents self-rated health](image)

Analyzing relationship between adolescent’s self-rated health and smoking were found statistically significant differences. It was determined that smokers more frequent thought there are in poor health compared to non-smokers (Fig. 6).
Unintentional injury is an important health priority in almost all countries. The frequency, severity of injuries makes injury prevention a key public health goal for improving young people’s health (Currie C et al., 2012).

Very interesting findings appeared analyzing injuries rates among adolescents in the past 12 month. It was determined that significant differences were found among respondent gender and injuries. Girls were injured more often than boys in the past 12 month (Fig. 7).
In summary two thirds of teenagers thought there are in good health. Majority of adolescents don’t smoke. Boys smoke cigarettes more often than girls. Statistically significant differences were found between adolescents self-rated health and smoking.

4.3 Correlation between health behaviour of school students in Pakistan and Lithuanian

Pakistan and Lithuania are completely different countries in many aspects: demografic, economic, religiuos, health and others. Pakistan represent health behavoir of adolescents in Asia region, while Lithuania represent health behavoir of adolescents in Europian region. Because of such as significant differences is very interesting to analyze and evaluate the differences between the countries. To make this data analysis, adolescents filled the same HBSC questionnaire in Pakistan and Lithuania.

It was estimated, that significant differences were found between adolescents self-rated health in Pakistan and Lithuania. Teenagers in Pakistan thought there are in excellent health less frequent than teenagers in Lithuania. The same 17% of adolescents in Pakistan and Lithuania thought there are in poor health (Table 5).

Table 5. Correlation between adolescents self-rated health in Pakistan and Lithuania

<table>
<thead>
<tr>
<th>Adolescents self-rated health</th>
<th>Pakistan % (n)</th>
<th>Lithuanian % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>4 (12)</td>
<td>28,2 (504)</td>
</tr>
<tr>
<td>Good</td>
<td>78,6 (234)</td>
<td>54,5 (975)</td>
</tr>
<tr>
<td>Poor</td>
<td>17,4 (52)</td>
<td>17,4 (310)</td>
</tr>
<tr>
<td>Total % (n)</td>
<td>100 (298)</td>
<td>100 (2087)</td>
</tr>
</tbody>
</table>

\( \chi^2 = 91,2; \text{ df} = 3; p< 0,05 \)

Study result showed that statistically significant differences were found between breakfast consumption on weekends in Pakistan and Lithuania. On weekends, adolescents in Lithuania eat breakfast every day more frequent than children in Pakistan (Table 6). The obtained results lead to the conclusion that adolescents in Lithuanian are more supervised by their parents than in Pakistan.
Table 6. Correlation between breakfast consumption of adolescents on weekends in Pakistan and Lithuania

<table>
<thead>
<tr>
<th>Breakfast consumption on weekends</th>
<th>Pakistan % (n)</th>
<th>Lithuania % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>28,1 (84)</td>
<td>74,9 (1530)</td>
</tr>
<tr>
<td>Less than every day</td>
<td>57,9 (173)</td>
<td>15,2 (311)</td>
</tr>
<tr>
<td>Never</td>
<td>14 (42)</td>
<td>9,9 (203)</td>
</tr>
<tr>
<td><strong>Total % (n)</strong></td>
<td>100 (298)</td>
<td>100 (2044)</td>
</tr>
</tbody>
</table>

\( \chi^2 = 529.8; \) \( df = 2; \) \( p<0.05 \)

Fresh fruits and vegetables consumption reflects not only nutritional habits of adolescents, but also indicates family’s health literacy rates. In this survey were established that adolescents in Lithuanian eat more fresh fruits and vegetables than teenagers in Pakistan (Table 7).

Table 7. Correlation between fresh fruit and vegetable consumption of adolescents in Pakistan and Lithuania

<table>
<thead>
<tr>
<th>Fresh fruits consumption</th>
<th>Pakistan % (n)</th>
<th>Lithuania % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day and 4-6 times a week</td>
<td>20,1 (60)</td>
<td>38,8 (689)</td>
</tr>
<tr>
<td>1-3 times a week and never</td>
<td>79,9 (239)</td>
<td>61,2 (1086)</td>
</tr>
<tr>
<td><strong>Total % (n)</strong></td>
<td>100 (299)</td>
<td>100 (1775)</td>
</tr>
</tbody>
</table>

\( \chi^2 = 39.9; \) \( df = 1; \) \( p<0.05 \)

The consumption of unhealthy diet products were different between the countries also. It was determined that significant differences were found among Pakistan and Lithuania.
teenager’s sweets, soft-drinks with sugar consumption. Adolescents in Lithuania consume sweets more frequent than school children in Pakistan (Fig. 8), opposite findings were determined in soft-drinks with sugar consumption – adolescents in Lithuania consume soft-drinks with sugar less frequent than teenagers in Pakistan (Fig. 9).

**Figure 8. Correlation between sweets consumption of adolescents in Pakistan and Lithuania**

*\( p < 0.05 \) – z test compared adolescents in Pakistan and Lithuania

Fast foods are very popular with adolescents, who are at a stage in life in which they experience increased autonomy, both in terms of availability of meals outside the home and discretionary income (Johnson F et al., 2002).
Figure 9. Correlation between soft-drinks with sugar consumption of adolescents in Pakistan and Lithuania

*\( p < 0.05 \) – z test compared adolescents in Pakistan and Lithuania

Frequent consumption of fast food has adverse effects on nutrition because of excessive content of energy and fat and low nutritional value (Sebastian RS et al., 2009).

Study results showed that significant differences were found between fast food consumption of adolescents in Pakistan and Lithuania. Adolescents in Lithuania consume fast food more frequent than school children in Pakistan (Fig. 10). The obtained results lead to the conclusion that adolescents in Lithuanian may have greater accessibility to fast food restaurant than teenagers in Pakistan.
Figure 10. Correlation between fast food consumption of adolescents in Pakistan and Lithuania

*p<0.05 – z test compared adolescents in Pakistan and Lithuania

Analyzing relationship between adolescent’s smoking in Pakistan and Lithuania were found statistically significant differences. It was determined that frequency of smoking every day was significantly higher in Lithuania than in Pakistan (Fig. 11).

Figure 11. Correlation between adolescent’s use of cigarette in Pakistan and Lithuania

*p<0.05 – z test compared adolescents in Pakistan and Lithuania
CONCLUSIONS

1. Adolescents in general thought they are good health in Pakistan. Physical activity of the majority of adolescents did not meet the global WHO recommendations for school-aged children. No statistically significant differences were found between the gender and physical activity. Every second 9th grade student had breakfast every day in Pakistan. Fresh vegetables were more popular than fresh fruits among adolescents. Boys and girls consumed fresh fruits and vegetables equally often.

2. Majority of adolescent’s unhealthy diet products such as sweets, soft-drinks with sugar, fast food consumed rarely (1-3 times a week or never). Unhealthy diet products were more popular between boys than girls in Pakistan.

3. The percentage rate of teenagers, who smoked daily, were small, girls smoke cigarette less frequent than boys. Adolescents smoking were related to self-rated poor health.

4. Adolescents in Lithuania experience excellent health more often than teenagers in Pakistan. Health behaviors of adolescents were different in Pakistan and Lithuania – teenagers in Lithuania consumed fresh fruit and vegetables more frequent than school students in Pakistan. On another hand, lower consumption of sweets, soft-drinks with sugar and fast food was established in Pakistan. Frequency of school students smoking every day was significantly higher in Lithuania than in Pakistan.
PRACTICAL RECOMMENDATION

1. Monitoring. Health behavior of adolescents is one of the most important determinants of health. Behaviors established during childhood and youth can continue into adulthood, affecting issues such as mental health, the development of health complaints, tobacco use, diet, physical activity level. This is why monitoring health behavior of school age children’s should be applied in school on the routine base.

2. Health educations. The lessons of health behavior education should be implemented into the teaching curriculum, because appropriate health knowledge and skills is essential component of children and youth future health and quality of life.

3. Community. Young people's feelings of safety in out-of-home settings, having a place in their community and perceiving the wider adult community as supportive, appears to have an important protective function in preventing the most harmful forms of health-related risk behaviors. For this reason, health promotion programs, initiatives should be carried out in local communities.
REFERENCES

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adolescent health: A multilevel study in 33 countries. Social Science & Medicine, 69, 396-403.


ANNEX

Annex 1. QUESTIONNAIRE FOR SCHOOL AGED CHILDREN REGARDING HEALTH BEHAVIOUR (BASED on HBSC QUESTIONNAIRE). HEALTH BEHAVIOUR IN SCHOOL – AGED CHILDREN IN PAKISTAN.

1. Date: 2013 .......... month ...... day

2. Are you: a boy or a girl?
   Please tick adequate box with cross (X).

   1□ Boy
   2□ Girl

3. Which grade are you in?
   1# The fifth
   2# The seventh
   3# The ninth

4. What’s your year of birth?
   1  2  3  4  5  6  7  8  9  0
   #  #  #  #  #  #  #  #  #  #

5. Which month were you born?

   January  February  January  April  May  June
   1#   2#   3#   4#   5#   6#
   July  August  September  October  November  December
   6#   8#   9#   10#   11#   12#
6. Where do you live in?
   1# City
   2# Town
   3# Village
   4# Country

7. What is your nationality?
   1# Pakistani
   2# Lithuanian
   3# Polish
   4# Other

8. What language do you generally use at home?
   1# Urdu
   2# English
   3# Lithuanian
   4# Other

9. How much is your weight? (without clothes) *If you don't remember go to the next question.*
   My weight is ........................................ kilo

10. What is your height? *If you don't remember go to the next question.*
    My height is................................. centimeters

Eating habits
11. How many days a week do you meanly have breakfast *(more than a cup of tea, fruit juice and so on)*? Please tick one box for *weekdays and one box for weekend*

A. **Weekdays**

1# I never have breakfast during weekdays  
2# One day  
3# Two days  
4# Three days  
5# Four days  
6# Five days

B. **Saturday and Sunday**

1# I never have breakfast during weekend  
2# I usually have breakfast on only one day of the weekend (Saturday OR Sunday)  
3# I usually have breakfast on both weekend days (Saturday AND Sunday)

12. Some children go to school or to bed hungry because there is not enough food at home. How often does this happen to you?

1# Always  
2# Often  
3# Sometimes  
4# Never
13. How often do you drink or eat something foods? *Please tick one box* for each line

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<th>2. Vegetables</th>
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<th>3. Sweets, chocolate</th>
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<th>4. Cakes, biscuits, cookies</th>
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<th>5. Coke and other soft drinks</th>
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<th>6. Chips</th>
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<th>7. Fast foods (hamburgers, hotdogs, doughnut, and so on)</th>
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48
Health

14. What would you describe your health?
   1# Excellent
   2# Good
   3# Satisfactory
   4# Poor

15. Has the doctor ever told you that you have bronchial asthma?
   1# Yes
   2# No
   3# I don’t know

16. In the last 12 months, has your chest sounded wheezy during or after physical activity?
   1# Yes
   2# No
   3# I don’t know

17. In the last 12 months, have you had a dry cough at night, apart from a cough associated with a cold or a chest infection?
   1# Yes
   2# No
   3# I don’t know
18. Has the doctor ever told you that you have allergic skin rash?
   1# Yes
   2# No
   3# I don’t know

19. Do you think your body is?
   1# Very thin
   2# Thin
   3# Normal
   4# Slightly too fat (burly)
   5# Fat

Physical activity
20. Over the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? Please tick one box.
   None 1 2 3 4 5 6 7
   Days

Life satisfaction

21. In general, how do you feel about your life at the moment?
   1# Very happy
   2# Enough happy
   3# Unhappy
   4# Quite unhappy
Behaviour:

22. Have you ever smoked (at least one cigarette)?
   1# Yes
   2# No

23. How often do you smoke at present?
   1# Every day
   2# At least once a week, but not every day
   3# Less than once a week
   4# I don't smoke

24. How often do you drink anything alcoholic beverage, such as beer, wine, spirits or other, at present? **Try count up even those times when you drink only a small amount (less than a glass but more than an one gulp). Please tick one box for each line.**

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<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td></td>
<td>Every day</td>
<td>Every week</td>
<td>Every month</td>
<td>Rarely</td>
<td>Never</td>
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</tbody>
</table>
   1. Beer               #   #   #   #   #   #
   2. Wine               #   #   #   #   #   #
   3. Champagne          #   #   #   #   #   #
   4. Liqueur            #   #   #   #   #   #
   5. Vodka or other     #   #   #   #   #   #
   Strong beverages
   6. Soft alcoholic     #   #   #   #   #   #
   Beverages (Mix, Fizz, cocktails with alcohol)

51
25. Have you ever had so much alcoholic beverage that you were dizzy?
   1# Never
   2# Yes, once
   3# Yes, 2 – 3 times
   4# Yes, 4 – 10 times
   5# Yes, more than 10 times

26. How many times in the last 30 days you have done?

   Please tick one box for each line.

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   times

   Never 1-2 3-5 6-9 10-19 20-39 or 40 or more

   1. Smoked
   -----------------------------------------------
   2. Drunk alcoholic beverages
   -----------------------------------------------
   3. Felt dizzy from alcohol
   -----------------------------------------------
27. Have you ever smoked cannabis („grass“, marihuana, hashish?

*Please tick one box for each line.*

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<td>4</td>
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<td>6</td>
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0 times

Never 1-2 3-5 6-9 10-19 20-39 or

1. In your life

2. In the last 12 months

3. In the last 30 days

Family

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28. Which of the following descriptions best describes your current family situation?

1# I live with BOTH parents

I live NOT WITH BOTH parents, because:

2# My parents are divorced

3# Already years, as one of their living and working in another location

4# One of them is dead

5# One of them I’m not seeing a whole

6# I live in a foster home or children's home
29. If your parents are divorced, how often do you communicate with the other parent?
1# Often
2# Sometimes
3# Rarely
4# Never

30. Is it easy for you to talk to the following persons about things that are very important for you and worry you?

*Please tick one box for each line.*

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<thead>
<tr>
<th></th>
<th>Very easy</th>
<th>Easy</th>
<th>Difficult</th>
<th>Very difficult</th>
<th>Don't have or see this person</th>
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<tbody>
<tr>
<td>1. With father</td>
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<td>2. With stepfather</td>
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<td>3. With mother</td>
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<td>4. With stepmother</td>
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<td>5. With elder brother(s)</td>
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<td>6. With elder sister(s)</td>
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<td>7. With best friend</td>
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<td>8. With same-sex friend</td>
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<td>9. With opposite-sex friend</td>
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