

employment						
In school	0.466*	0.444**	0.422***	0.565	0.560	0.942
Not in school or employed	0.248***	0.391**	0.705	0.959	0.802	2.105**
Employed (RC)	1.000	1.000	1.000	1.000	1.000	1.000
Residence						
Urban	1.310	0.970	1.139	2.958**	0.953	1.737*
Rural (RC)	1.000	1.000	1.000	1.000	1.000	1.000
Region						
Coastal	6.056***	2.693*	1.672	0.755	1.086	2.997**
Central	3.571**	1.079	1.386	0.387**	0.806	1.566
Mountain	3.183	0.973	1.156	0.343*	0.5487	2.398*
Urban Tirana (RC)	1.000	1.000	1.000	1.000	1.000	1.000
Wealth quintile						
Lowest	2.576*	0.275	1.386	0.668	0.911	0.880
Second	1.627	1.369	1.741	0.970	0.740	1.012
Middle	1.786	1.400	0.956	0.905	0.757	1.114
Fourth	0.883	2.552*	1.286	0.518	1.183	0.670
Highest (RC)	1.000	1.000	1.000	1.000	1.000	1.000
n	1062	2454	1062	2454	1042	2348
Cox and Snell R ²	0.152	0.035	0.150	0.061	0.050	0.084

Alcohol

For men, alcohol use increases sharply with age. Men aged 15-17 are much less likely to consume alcohol (OR=0.14) than those aged 23-24, and all subgroups under age 23 are significantly less likely to consume alcohol than those aged 23-24. The patterns are not as strong and are not monotonic for women. The only age difference that is statistically significant for women is that women aged 18-19 are significantly less likely to consume alcohol (OR=0.39) than those aged 23-24.

Men who are not employed and not in school are least likely to use alcohol; those who are employed are most likely, and students are in between. For females, too, the employed are more likely to use alcohol than students or those not employed. Alcohol use among men is lowest for the least educated and highest for those with secondary education; those with university education are in between. For females alcohol use continuously increases through all the education levels.

Alcohol use among men is higher for the ever married than the never married. A similar pattern is seen for women, but the difference is smaller and is not statistically significant. The associations of region with alcohol use differ between men and women: Men in urban Tirana are less likely to use alcohol than those in any other region. Men living in coastal regions have an OR of 6.056, which is statistically significant at the .001 level, indicating that men of all age groups living in coastal regions are six times more likely to consume alcohol than men living in urban Tirana. Women living in Coastal regions are less likely to use alcohol than those in Tirana, but the model could not find any statistical difference for those in the other regions compared with Tirana.

The poorest men (1st wealth quintile) are significantly more likely to use alcohol than the richest (5th quintile), with an OR of 2.576, indicating that the poorest men in the first quintile are two times more likely than men of the highest quintile to drink. No significant differences by wealth are seen for women. The equation has greater explanatory

power for men (Cox and Snell R² = 0.152) than for women (R² = 0.035).

Smoking

As was the case for alcohol, the likelihood of smoking tobacco increases with age for both sexes; for both men and women the increase is monotonic. For both women and men the likelihood is significantly lower for the youngest groups (compared to the 23-24 group); for women it is also significantly lower for the next-to-youngest group (18-19) compared to the oldest youth group that is considered.

Smoking prevalence is highest for the most educated men, but it is low for young men still in school. Risk is lower for never-married men than ever-married. None of these variables have statistically significant effects for women.

Among women, the highest incidence of smoking is found in urban areas (OR=2.96 compared to rural areas), and it is very high especially in Tirana. Women in urban areas are almost three times as likely to smoke more than women in other areas. Since all of Tirana is urban, this means that smoking rates are particularly low in the rural parts of other regions of the country. The urban-rural and regional differences are not statistically significant for men. For neither men nor women do we see statistically significant differences by wealth in our multivariate analyses. As with alcohol use, the explanatory power of the regression is larger for men (0.15) than for women (0.06).

Weight Problems

For both men and women, the prevalence of overweight/obesity increases significantly with age. For women the relationship is monotonic. For men the largest increase occurs at ages 23-24. Women not at school and not employed are at higher risk for being overweight or obese than those employed (OR=2.11), indicating that these women are two times as likely to be overweight or obese than women who are in school or employed. Differences for this variable are smaller and not statistically significant for men.

Women living in Tirana have a lower likelihood of being overweight or obese than those in any other region; the likelihood is significantly greater in the Coastal and Mountain regions than in Tirana (ORs=3.00 and 2.40, respectively); however, women living in urban areas in general have a higher incidence of being overweight (OR = 1.737, $p < .05$) indicating that, while not necessarily living in Tirana, women living in an urban area have almost two times higher likelihood of being overweight or obese. For men, those in the Mountain region have a lower incidence of overweight/obesity (OR=0.55) compared to Tirana. Unlike alcohol use and smoking, for overweight/obesity the explanatory power of the regression is larger for women (0.08) than for men (0.05), though it is fairly small for both sexes.

6. Discussion and Conclusions

The ages between 15 and 24 years are clearly a transitional life period for Albanians; they leave school to get a job and get married to form a new family. On average during these ages, around half of the Albanian youth population is still attending school, while by the end of this age period almost half of them are married. In both transitional paths young women differ from young men. There are many more women than men not attending school and not having a job, and there are more women married by the end of this period than men.

The transitional period can also be considered to incorporate behavioral changes and exposure to new risks. The analyses reported herein show that there is an important proportion of Albanian youth experimenting with new lifestyles and exposing themselves to health risks and conditions. In some cases (overweight and obesity for men and women) these increase with age, but by the age of 24 years, the risk is still lower than the proportion for even older adults. In other cases (alcohol use for men and women, tobacco smoking for men) this proportion increases rapidly to reach, by the end of the youth period (15-24), the level of those aged 25-49. In some other cases it may already be higher than at older ages (smoking among women).

We explored the existence of an association between risk exposures. A risk-taking lifestyle or lack of awareness for one's own health could be a common characteristic of those youth being involved in unhealthy behaviour (Ottevaere 2011; Siziya 2008). The analyses, however, did not support this hypothesis. Despite the fact that all the correlations between risky behaviors/outcomes are positive we did not find important statistical evidence for association of different risk factors in Albania.

On the contrary, the overwhelming majority of the youth population is involved in at least one of the selected risk factors analysed in this paper. Furthermore, when we tested for the association with a number of geographical, social, and economic covariates, the selected indicators followed different trends and specific profiles, with, nevertheless, a number of similarities.

Drinking of alcohol remains low among Albanian youth. This is especially the case for young women, who drink substantially less frequently than men. Alcohol use increases

with age, and this increase is more pronounced for men than for women.

The socio-demographic profile of drinking also differs between men and women. Among women it is the better educated, the employed, those at the fourth wealth quintile and those living in Coastal regions who drink more frequently, suggesting evidence of "social drinking" and an increasing trend in the near future accompanying the rapid urbanisation taking place in the country. The profile among men is more complex. In their case, drinking is not more frequent among higher socioeconomic categories, and follows more or less the correlates seen for the entire population (ADHS, 2009). Those married, those living outside urban Tirana, those of the lowest wealth quintile and those not working and not at school drink more. Additionally, the alcohol use among young men in Coastal regions is particularly high. This suggests a more stabilised phase of alcohol epidemics and higher risk among lower social categories and individuals living in different regions. Alcohol use increases with age for both women and men and by the end of the youth years it is similar to the prevalence for people aged 25-49.

Tobacco use among Albanian youth increases rapidly with age, but while men's prevalence at 24 years old reaches the average level of those aged 25-49, women's prevalence in the age-group 20-24 is two to three times higher compared to that for women ages 25-49. If no action is taken, it seems likely that, in the coming decade, the "wave" of tobacco smoking among young women will carry on into older age, possibly almost tripling women's tobacco smoking prevalence in the country. Continuous urbanisation will add to this phenomenon, as the multivariate analysis shows that, as in the case for alcohol, it is women in urban areas, especially those living in urban Tirana, who smoke the most. The likelihood of increase in the future is high for men too, as the most educated men are the most likely to smoke. This social trend would jeopardize the fragile tendency towards a decrease among men 40-49 years old, demonstrated in the 2002 Reproductive Health Survey (RHS 2002) and the ADHS

The prevalence of overweight and obesity increases slowly with age, with a jump at the age of 23 for men and 24 for women. Still, the prevalence of overweight or obesity remains far lower compared to the average for ages 25-49. The prevalence of being overweight and obesity is more than twice as high among men as among women. This profile (young men more at risk of being overweight than young women) is found in some European countries neighbouring Albania (Themistoklis et al 2008), but the reverse seems to be true in many other countries outside Europe especially in Eastern Mediterranean area (Papandreu et al 2008). The analyses show some different social trends among men and women that need to be taken into consideration when designing prevention policies; it appears that young women not at school and not working are most at risk to be overweight or obese. It also appears that the social pressure of having a fitter physique is indeed greater in the capital, Tirana, acting as a protective factor for women, but not for men. Similar findings are demonstrated in other developing societies (Tamim et al 2004). For young women,

another fact that must be kept in mind is that there is a significant proportion (around one in ten) regarded as being too thin or underweight, suggesting that public advice might have to point out the need for balanced nutrition, instead of only insisting of focusing on obesity prevention.

7. Conclusions and Recommendations

There is a large majority of the youth population that is already exposed to at least one risk factor. For all three risk factors, smoking, alcohol drinking and weight problems, the prevalence of exposure among young men is much higher compared to that among young women and this can be one of the explanations for sex differences observed in older ages in chronic diseases such as coronary heart disease, stroke and lung cancer.

Specific targets (including sex, age, school or work setting) along with specific approaches and organisational issues should be set when designing intervention programs for promoting healthy behaviour among youth. These approaches should also take into consideration differences among regions and urbanicity.

Although alcohol abuse seems to be rare among Albanian youth, it may pose risks for the population health in the near future, because a very large proportion of young men are being exposed to moderate drinking and there is a rising trend among women. Any educational intervention must emphasize, among other things, alcohol addiction and drinking and driving risks.

The proportion of men smoking tobacco is already very high, but based on the data presented in this paper, we expect that the number of women smoking tobacco in the country will increase exponentially in the near future. Smoking is still considered a fashionable lifestyle in Albania, with more highly educated young men and women having a higher prevalence. Any prevention campaign should focus on youth and women. Since the educated have the highest risk, efforts should be made to reach them while they are still in school.

It seems that social pressure might have an effect in slowing down the increasing trend of being overweight and obesity among women, but not among men. Information about healthy nutrition targeting young women must be careful not to cause harm (under-nutrition and anaemia) and must target especially women living in coastal and mountainous regions. Young men in Tirana are especially at risk of being overweight and they must be considered another priority in this area.

Policy implications resulting from these data analyses are great. First, the largest differences among risk taking behaviors in youth were seen by region and between urban and rural youth. What is it about these regions that contributes to these differences? A regionally targeted national health education plan would be most appropriate to reduce risk-taking behaviors in youth.

Further research is needed in this area to cover issues not discussed here, such as contraceptive use and knowledge

and practice regarding avoiding STDs, unintended pregnancy, use of illegal drugs, violence, mental health, etc. as well as to study changes over time.

References

- [1] Albanian Demographic and Health Survey (2008-9) IPH, INSTAT MACRO publication. Found online at <http://dhsprogram.com/pubs/pdf/FR239/FR239.pdf>. Accessed on 25 June 2014.
- [2] Albanian Reproductive Health Survey (2002) IPH, INSTAT CDC publication.
- [3] Albert, D., Chein, J., & Steinberg, L. (2013). Peer influences on adolescent decision-making. *Current Directions in Psychological Science*, 22, 80-86.
- [4] Arnett J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. Arnett, Jeffrey Jensen. *American Psychologist*, Vol 55(5), May 2000, 469-480. doi:10.1037/0003-066X.55.5.469
- [5] Awusabo-Asare K, Annim SK. (2008) Wealth status and risky sexual behaviour in Ghana and Kenya. *Appl Health Econ Health Policy*. 6(1):27-39. 2008
- [6] Bohr R. (ed) (2006) Health and economic development in South Eastern Europe. WHO publication. http://www.euro.who.int/__data/assets/pdf_file/0003/74748/E89184 Accessed 24 October 2012 2006
- [7] Borici S. at al (2009) Blood pressure and anthropometric measurement in Albanian versus Turkish children and adolescents. *Acta Cardiol* 64 (6): 747-754. 2009
- [8] Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, 513-531.
- [9] Bronfenbrenner, U., & Morris, P.A. (2006). The Bioecological Model of Human Development (pp. 793-828). In *Handbook of Child Psychology, Volume 1: Theoretical Models of Human Development* (Ed. Richard M. Lerner).
- [10] Causes of Death in Albania (2009) INSTAT publication
- [11] Chein, J., Albert, D., O'Brien, L., Uckert, K., & Steinberg, L. (2011). Peers increase adolescent risk taking by enhancing activity in the brain's reward circuitry. *Developmental Science*, 14, F1-F10.
- [12] Dahl, RE. (2008). Biological, Developmental, and Neurobehavioral Factors Relevant to Adolescent Driving Risks. *American Journal of Preventive Medicine*, 35(3)S278-S284.
- [13] Ellis, B.J., Schlomer, G.L., Tilley, E.H., & Butler, E.A. (2012). Impact of fathers on risky sexual behavior in daughters: A genetically and environmentally controlled sibling study. *Development and Psychopathology*, 24, 317-332.
- [14] Fajth G. at al (2000) Young People in Changing Societies. UNICEF publication. The MONEE Project Regional Monitoring Report No.7 – 2000
- [15] France, A. (2000) Towards a Sociological Understanding of Youth and their Risk-taking. *Journal of Youth Studies* Vol. 3(3), No. 3, 317-331. 2000
- [16] Furstenberg F.F. Jr. (ed). (2002) Early Adulthood in Cross-National Perspective. *The Annals of the*

- American Academy of Political and Social Science. Special issue. 2002
- [17] GLOBOCAN (2008). International Agency for Research on Cancer. <http://globocan.iarc.fr>. Accessed 5 November 2012
- [18] Health and Health Behaviour among Young People . (2000) WHO publication 2000
- [19] Kanaan MN, Afifi R.A. (2010) Gender differences in determinants of weight-control behaviours among adolescents in Beirut. *Public Health Nutr.* 2010 Jan;13(1):71-81
- [20] Le Breton D. (2002) *Conduites à risques. Des jeux de mort ou jeu de vivre.* Presses Universitaires de France
- [21] Ottevaere C. et al (2011) HELENA Study Group. Clustering patterns of physical activity, sedentary and dietary behavior among European adolescents: The HELENA study. *BMC Public Health.* doi 10.1186/1471-2458-11-32811:328
- [22] Papandreu C, Abu Mourad T, Jildeh C, Abdeen Z, Philalithis A et al. (2008) Obesity in Mediterranean region (1997-2007): a systematic review. *Obes Rev* 9: 389-399.
- [23] Ross H., et al. (2008) Results from the Albanian Adult Tobacco Survey. *Cent Eur J Public Health* 16(4): 182-188.
- [24] Settersten, R. A. Jr. (2003a). Age structuring and the rhythm of the life course. In J. Mortimer & M. Shanahan (Eds.), *Handbook of the life course.* (pp. 81-98). New York: Kluwer Academic/Plenum Publishers (pp. 81-98).
- [25] Singh SK, Schensul JJ, Gupta K, Maharana B, Kremelberg D, Berg M. (2010) Determinants of alcohol use, risky sexual behavior and sexual health problems among men in low income communities of Mumbai, India.] *AIDS Behav.* 14 Suppl 1: :S48-60.
- [26] Siziya S., et al. (2008) Harmful lifestyles' clustering among sexually active in-school adolescents in Zambia. *BMC Pediatr.* doi:10.1186/1471-2431-8-611;8:6
- [27] Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.
- [28] Sujoldzic A. et al. (2007) A cross-cultural study of adolescents – BMI, Body image and psychological well-being. *Coll Antropol* 31 (1): 123-30
- [29] Shapo L. et al. (2003) Body weight patterns in a country in transition: a population based survey in Tirana, Albania. *Public Health Nutr* 6 (5): 471-477
- [30] Shea Oscar Rutstein, Guillermo Rojas. (2006) Guide to DHS statistics. *Demographic Health Surveys Methodology.* ORC MACRO
- [31] Tamim H, Dumit N, Terro A, Al-Hourany R, Sinno D, Seif F, Steitieh S, Musharrafieh U. (2004) Weight control measures among university students in a developing country: a cultural association or a risk behavior. *J Am Coll Nutr.*;23(5):391-6.
- [32] Terry-Humen, E., Manlove, J., & Cottingham, S. (June, 2006). Trends and recent estimates: Sexual activity among U.S. teens. *Child Trends, Publication #2006-08.*
- [33] Timmermans, M., van Lier, P.A.C., & Koot, H.M. (2008). Which forms of child/adolescent externalizing behaviors account for late adolescent risky sexual behavior and substance use? *The Journal of Child Psychology and Psychiatry*, 49, 386-394.
- [34] Themistoklis T, Efthymos K, Konstantinos T et al. (2008) Epidemiological Survey for the Prevalence of Overweight and Abdominal Obesity in Greek adolescents. *Obesity* Vol. 16. (Issue 7): 1718-1722
- [35] Unicef. Albania Facts on Children. (2004). Found online at http://www.unicef.org/albania/children_649.html. Retrieved 25 June, 2014.
- [36] Vakefliu Y. et al. (2002) Tobacco smoking habits, beliefs and attitudes among medical students in Tirana, Albania. *Prev Med* 34(3): 370-373

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