

# THE RELATIONSHIP BETWEEN PRE-DEPARTURE RISK-RELATED INDICATORS AND POST-PANDEMIC EMIGRATION PLANS AMONG ADOLESCENTS

Oľga Orosová<sup>1</sup>, Beáta Gajdošová<sup>1</sup>, Jozef Benka<sup>1</sup>, & Viera Čurová<sup>2</sup>

<sup>1</sup>*Department of Educational Psychology and Health Psychology, Faculty of Arts, Pavol Jozef Šafárik University in Košice (Slovak Republic)*

<sup>2</sup>*Department of Psychology, Faculty of Arts, Pavol Jozef Šafárik University in Košice (Slovak Republic)*

## Abstract

The negative effect of the COVID-19 pandemic on economic development of weakly diversified Slovak regions has been shown to be associated with emigration plans of young, educated people. The relationship between the emigration plans and the pre-departure health indicators during COVID-19 has become an important issue requiring further research. The aim of this study was to investigate the relationship between the pre-departure risk - related indicators (smoking, alcohol consumption) and the post-pandemic emigration plans and intentions to study abroad among Slovak adolescents. A cross-sectional survey design was adopted. A paper-pencil and online surveys were carried out between October – November 2021. A total sample consisted of 296 adolescents from the eastern part of Slovakia (50.7% girls, M= 17.7 years). Regression analyses examined associations between smoking, alcohol consumption (both during past 30 days), and post-pandemic emigration plans, as well as an intention to study abroad. Gender and COVID-19 related variables were included as the control variables. Adolescents who reported alcohol consumption were more than 2-times more likely to report post-pandemic emigration plans than those who did not report alcohol consumption, controlling for gender and all COVID-19 related factors in the model. Higher level of post-pandemic study abroad intention was found among girls and adolescents who reported alcohol consumption. The results of this study confirmed a gender dimension to intention on study abroad and emigration plans among Slovak adolescents. This study contributed to the understanding of the pre-departure migration – health indicators relationship with implications for alcohol school-based prevention and policy.

**Keywords:** *Emigration plans, smoking, alcohol consumption, adolescents, COVID-19.*

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## 1. Introduction

This study is focused on secondary school students in Slovakia and aimed to investigate their intentions and plans to study abroad after completing their secondary education. Particularly, the factors related to emigration flows of students to universities abroad and their emigration plans after finishing their study were investigated.

Firstly, Slovakia is a country which has faced the demographic crisis and significant brain drain (IFP, 2017). “Slovakia is third in the OECD in terms of the number of young people leaving to study abroad.” (Bleha & Sprocha, 2020, p. 151). The interest of the most successful Slovak graduates to study at foreign universities has been increasing for a long time (Martinák & Varsik, 2020).

Secondly, graduates and especially those from the areas that generally suffer from unemployment migrated to more economically developed parts of Slovakia or abroad (Svabova & Kramarova, 2022). Additional important factor can be seen in the significant impact of the COVID-19 pandemic on the development of unemployment in the Slovak Republic which has been well documented (Svabova, Metzker, & Pisula, 2020, Svabova, Tesarova, Durica, & Strakova, 2021). The COVID-19 pandemic disrupted normal day to day life of adolescents and affected their health behaviors to a large extent. For example, the frequency of alcohol use, occurrence of depressive and anxious symptoms, and general levels of fear and concerns regarding the impact of COVID-19 on their lives among adolescents have increased (Samji, Wu, Ladak et al., 2022, Dumas, Ellis, & Litt, 2020).

Thirdly, emigration can be described as a process that begins well before the individual leaves his or her home country and the examination of the pre-departure experiences are important for

understanding the context of migration (Tabor & Milfont, 2011). Certain pre-departure health indicators can affect young people long after their arrival at their destination (Gushulak & MacPherson, 2011). Therefore, pre-migration individuals' alcohol and other drug use norms and alcohol and other drug use should be explored as a part of a comprehensive innovative preventive approach (Salas-Wright & Schwartz, 2019). An analysis of individual health-related behavior before leaving may significantly contribute to a deeper understanding of the healthy immigrant hypothesis (De Castro, Gee, Fujishiro et al., 2015). This study will limit its focus on behaviors concerning alcohol use and smoking.

## 2. Design

A cross-sectional survey design was adopted in this study.

## 3. Objective

To investigate the relationship between the pre-departure risk - related indicators (smoking, alcohol consumption) and the post-pandemic emigration plan and intention to study abroad among Slovak adolescents.

## 4. Methods

### 4.1. Sample and procedure

The data collection among secondary school students took place between October and December 2021. Considering to the ongoing second wave of COVID-19 pandemic and the tightened measures against COVID-19 disease at the time of the data collection we were forced to move the ongoing data collection from personal to online space. Eleven secondary schools that provide general secondary education and prepare students for further study at universities and other higher education institutions were invited to collaborate on data collection via email. Nine secondary schools accepted the proposal to collaborate. These schools were asked to distribute information and personal-administered questionnaires (the first 4 schools) or a link to an online questionnaire (other schools) to their third-year and fourth-year students via their websites, information systems, official Facebook page or as a part of online lessons. Filling in the questionair was voluntary and anonymous. In total, data from 321 have been obtained. Respondents who did not provide an informed consent to data processing or providing missing data were excluded from further analyses. Thus, the final sample study consisted of 296 respondents (50.7% girls,  $M = 17.7$  years). The protocol of this study has been reviewed and approved by the Ethics Committee at the Faculty of Arts of P. J. Šafárik University.

### 4.2. Measures

The scale Intention to study abroad was used to measure this construct. Withing this measure respondents rated the frequency with which they think about studying abroad (Chang Hoong & Soon, 2011). A 5-point Likert-type scale ranging from 1(never) to 5 (all the time) was used. The higher score indicated a greater desire to study abroad.

Emigration plans were identified by the following question: „Are you planning to leave Slovakia after completing your secondary school?“ The possible answers were:

(1) No, I am not planning to leave (stayers,  $n = 66$ , 24.7%); (2) I do not know, I have not thought about it, (3) I do not know, I have not decided yet (undecided,  $n = 87$ , 32.6%); (4) Yes, I am planning to leave for a period up to 6 months, (5) Yes, I am planning to leave for a period from 6-12 months, (6) Yes, I am planning to leave for a period longer than a year, (7) Yes, I am planning to leave for a period longer than 5 years, (8) Yes, I am planning to leave permanently (leavers,  $n = 114$ , 42.7%). To separate and simplify the results for the planned analysis, the students' answers were recoded into 2 categories: stayers: students, who do not plan to leave Slovakia (answered with 1) and leavers: students, who plan to leave Slovakia, either for a short period of time (answered with 4 or 5) long period of time (answered with 6 or 7) or permanently (answered with 8).

Health related behaviors were assessed in the following way: a 30-day prevalence rate of smoking and alcohol consumption were assessed on a dichotomous level, had smoked / drunk or had not smoked/drunk alcohol in the past 30 days (Hibell et al., 2012).

A 7-item Fear of Coronavirus-19 Scale (Ahorsu et al., 2020) was used. Adolescents indicated their level of agreement with the statements using a five-point Likert type scale. Answers included “strongly disagree,” “disagree,” “neither agree nor disagree,” “agree,” and “strongly agree”. The minimum score possible for each question was 1, and the maximum was 5. A total score was calculated

by adding up each item score (ranging from 7 to 35). The higher the score, the greater the fear of coronavirus-19. Cronbach’s Alpha of the scale = 0.782.

The Depression Anxiety Stress Scale-21 (DASS-21) (Antony et al., 1998) with 7 items per dimension – depression, anxiety and stress were used. Students were asked to indicate the extent to which the statement applied to them on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). The higher score for each subscale indicates a higher level of depression (C $\alpha$  of 0.786), anxiety (C $\alpha$  of 0.843), and stress (C $\alpha$  of 0.892).

**4.3. Statistical analyses**

Chi-square analyses were performed to examine the associations between gender, smoking, alcohol consumption, and emigration plans. A Mann-Whitney U test was used to test for differences between independent groups (gender, smoking, alcohol consumption) on a measure of the intention on study abroad levels. Logistic regression was used to test the association between the independent measures and the likelihood that adolescents would report post-pandemic emigration plan. Multiple regression was used to assess the associations of independent measures and post-pandemic study abroad intention. All analyses were carried out using SPSS 25.0.

**5. Results**

An average mean of the intention to study abroad among adolescents was found (Table 1). A Mann-Whitney U test revealed:

- (i) significant difference in the intention to study abroad levels of boys (*Md* = 2, *n* = 130) and girls (*Md* = 3, *n* = 139), *U* = 11139.5, *z* = 3.39, *p* = .001. Girls reported significantly higher level of study abroad intention.
- (ii) no significant difference in the intention to study abroad levels of non-smokers (*Md* = 2, *n* = 178) and smokers (*Md* = 3, *n* = 92), *U* = 9044.5, *z* = 1.44, *p* = .149
- (iii) significant difference in the intention to study abroad levels of non-alcohol-users (*Md* = 2, *n* = 87) and alcohol-users (*Md* = 3, *n* = 183), *U* = 9995.5, *z* = 3.48, *p* = .001. Alcohol-users reported significantly higher level of study abroad intention.

36.7% of stayers and 63.6% of leavers were identified among adolescents in this study. Table 1 presents descriptive characteristics of variables explored in this study. A Chi-square test for independence indicated:

- (i) a significant association between gender and emigration plans,  $\chi^2$  (1, *n* = 180) = 3.92, *p* = .048. A recent study revealed that the percentage of girls (71.3%) who reported post-pandemic emigration plans was larger than boys (55.9%)
- (ii) no significant association between smoking and emigration plans,  $\chi^2$  (1, *n* = 181) = 2.15, *p* = .143
- (iii) a significant association between alcohol consumption and emigration plans,  $\chi^2$  (1, *n* = 181) = 8.76, *p* = .003. A greater percentage of adolescents with emigration plans reported alcohol consumption (71.8%) vs. 48.4% of adolescents with emigration plans who did not report alcohol consumption.

*Table 1. Descriptive characteristics of explored variables.*

	Emigration plans (n/%)		Study abroad intention	Fear of COVID-19	Depression	Stress	Anxiety	Smoking (n/%)	Alcohol consumption (n/%)
Stayers <sup>1</sup>	66 / 36.7%	N	270	273	269	269	270		
Leavers <sup>2</sup>	114 / 63.6%	Minimum	1	7	0	0	0		
		Maximum	5	25	21	21	20		
		Mean	2.66	12.85	6.55	7.06	4.99		
		SD	1.40	4.09	5.50	5.32	4.67		
No								188 / 64.4%	93 / 31.8%
Yes								104 / 35.6%	199 / 68.2%

<sup>1</sup>No, I am not planning to leave

<sup>2</sup>I am planning to go abroad (from 6 months to leave permanently)

Direct logistic regression was performed to assess the association between the number of factors and the likelihood that adolescents would report post-pandemic emigration plans (Table 2). The model contained two independent measures (smoking and alcohol consumption), after controlling for the

associations of gender and four COVID-19 variables (Fear of COVID-19 and Depression, Anxiety and Stress Scale), and post-pandemic emigration plans as dependent variable. The full model was statistically significant,  $\chi^2 (7, N = 169) = 22.196, p < .01$ ). The model as a whole explained 17% of variance in post-pandemic emigration plans. The strongest predictor of reporting a post-pandemic emigration plans was alcohol consumption, recording an odds ratio of 2.26. This indicated that adolescents who reported alcohol consumption were over 2 times more likely to report a post-pandemic emigration plans than those who did not report alcohol consumption, controlling for all other factors in the model.

Table 2. Binary logistic regression model estimating likelihood of reporting post-pandemic emigration plans and Multiple regression model estimating likelihood of reporting post-pandemic study abroad intention.

	Post-pandemic emigration plans			Post-pandemic study abroad intention
	OR	95% C.I. for EXP(B)		
		Lower	Upper	
Smoking <sup>1</sup>	1.310	0.624	2.748	0.070
Alcohol consumption <sup>1</sup>	2.263*	1.104	4.638	0.164**
Fear of COVID-19	0.907*	0.829	0.992	-0.113
Depression	1.023	0.923	1.135	0.117
Stress	1.078	0.952	1.221	0.117
Anxiety	0.982	0.857	1.126	0.045
Gender <sup>1</sup>	1.743	0.836	3.637	0.133*

Notes: \*\*p < .01 \*p < .05, <sup>1</sup>Non-smoking adolescents, Non-alcohol-consuming adolescents, Boys as reference groups

Multiple regression was used to assess the associations of two independent measures (smoking and alcohol consumption) and post-pandemic study abroad intention, after controlling for the associations of four COVID-19 variables (Fear of COVID-19 and Depression, Anxiety and Stress Scale) and gender. The total variance explained by the model as whole was 12%,  $F (7, 261) = 6.088, p < .001$ . In the final model, only two of control measures were statistically significant, with alcohol consumption measure recording a higher beta value ( $beta = .16, p < .01$ , Table 2) than gender ( $beta = .13, p < .05$ , Table 2). Higher level of post-pandemic study abroad intention was found among girls and adolescents who reported alcohol consumption.

## 6. Discussion and conclusions

A gender dimension to migration intentions, aspirations was confirmed (Marsiglia, Wu, Han et al., 2021). Accordingly, the results of this study showed girls' higher level of study abroad intention and a larger percentage of girls also reported post-pandemic emigration plans. The present findings support pre-pandemic findings of emigration intentions among Slovak adolescents, girls scored higher in the push factor of education as well as other explored push factors as relationships, career and finance, language competencies, and experiences compared to boys (Hajduch, 2020).

Pre-migration substance use patterns, better understanding of pre-migration factors, such as use of alcohol, tobacco in country of origin could provide important research background of migration process (Salas-Wright, Schwartz, Cohen et al., 2020, Lee, Martins, & Lee, 2015, Almeida, Johnson, Matsumoto et al., 2012). Higher level of post-pandemic study abroad intention was found among girls and adolescents who reported alcohol consumption. Interestingly, from the studied health related behaviors in relation to post-pandemic emigration plans, it was also found that adolescents who reported alcohol consumption were over 2 times more likely to report post-pandemic emigration plans than those who did not report alcohol consumption in this study. This study contributes to the previous findings focused on the migration intentions and alcohol use (Marsiglia, Wu, Han et al., 2021), on the understanding pre-departure migration – health associations (Gushulak & MacPherson, 2011), and the results of this study support the hypothesis of self-selection of young people likely to use alcohol into pre/migrant group (Borges, G., Breslau, J., Orozco et al., 2011).

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