PERSONALITY OR ACCULTURATION – WHAT MATTERS FOR SUBSTANCE USE OF LITHUANIAN EMIGRANTS?

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Abstract

   The study aim: The current study aims to explore the predictive factors of substance use (smoking, alcohol and drug consumption) among Lithuanian emigrants living in different European countries. The interaction between personality and acculturation strategies as the predictors of emigrant substance use is investigated.

The material and method: 210 Lithuanian emigrants (76 males, 134 females) living in different European countries participated in the study. They completed the self-report online questionnaire that included Big Five personality inventory, acculturative behaviour scale, seven questions about smoking, alcohol and drug use, and socio demographic questions.

The main results and conclusions: Higher scores of assimilation added to the negative effect of neuroticism when predicting more problematic alcohol use of male emigrants. Whereas in the group of females only higher agreeableness predicted lower alcohol consumption. In the case of smoking agreeableness, openness and neuroticism were significant predictors for male emigrants, whereas acculturation strategies had no predictive value. The smoking of female emigrants was predicted neither by personality nor by acculturation. We supported the idea that personality traits are the most stable and informative predictors of health – risk behaviour in emigrants' sample, although certain acculturation strategies could add some of explanatory value at least for males. Also, substance use of emigrant men and women is of different nature.

Keywords: Emigrant, Personality traits, Acculturation, Substance use

Introduction

Migration is increasing all over the world (Paloma & Manzano-Arrondo, 2011). Although migration usually is chosen hoping for better quality life, research shows that immigrants/ emigrants face many social and occupational challenges, and experience high level of stress (Kosic, 2004; Manning, 2004; Nicholson, Miller, Schwertz, & Sorokin, 2012; Ramelli, Florack, Kosic, & Rohmann, 2013). Silventoinen et al. (2007) state that immigrants in host countries form important minorities with different risk factor profiles. Special needs and characteristics of immigrants should be recognized to prevent adjustment problems such as criminal behaviour, suicidal behaviour or more prevalent substance use with negative forthcoming outcomes (Kwan & Ip, 2007; Rote & Brown, 2013; Silventoinen et al., 2007). Research shows that smoking and alcohol use might be areas of primary public health importance, because immigrants are unfavourably represented by smoking and higher alcohol consumption (Silventoinen et al., 2007). Although the expatriates' well-being and sociocultural or psychological adjustment were studied quite widely in previous research (Bakker, Van der Zee, & Van Oudennhoven, 2006; Frankenberg, Kupper, Wagner, & Bongard, 2013; Peters & Oerlemans, 2008), substance use in diverse immigrant/ emigrant samples is quite under-investigated (Van der Zee & Van Oudenhoven, 2013). Thus, the current study aims to explore the predictive factors of substance use (smoking, alcohol and drug consumption) among Lithuanian emigrants living in different European countries, making the assumption that substance use is the explicit indicator of poor psychological adjustment and well-being.

Substance use is a complex phenomenon depending on individual and social variables. Many authors argue that personality might be an important predictor of successful adjustment of emigrants as well as of individual success of dealing with intercultural situations in the host countries (Bakker et al., 2006; Shaffer, Harison, Gregersen, Black, & Ferzandi, 2006; Van der Zee & Van Oudenhoven, 2013). Similarly, certain personality traits are considered to be risk factors of substance use (Malouff, Thorsteinsson, Schutte, 2006; Silventoinen et al., 2007; Terracciano, Löckenhoff, Crum, Bienvenu, & Costa, 2008). On the other hand, some authors believe that substance use behaviour has strong social and cultural background. Therefore, the importance of acculturation processes should be acknowledged when emigrant/ immigrant samples are under consideration (McQueen, Getz, & Bray, 2003; Pokhrel, Herzog, Sun, Rohrbach, & Sussman, 2013; Rote & Brown, 2013).

Based on these considerations, the present study is intended to contribute to the existing literature by looking for the interaction between

personality and acculturation strategies as the predictors of emigrant/ immigrant substance use. Some research provides empirical evidence that acculturation strategies in addition to personality variables have the statistically significant effect on psychological adjustment (Ahadi & Puente-Diaz, 2011; Berry, 1997; Ryder, Alden, & Paulhus, 2000); therefore it might have the effect on substance use as well. Still authors agree that relatively few studies have examined the role of personality variables as they relate to psychological adjustment in the acculturation process (Ahadi & Puente-Diaz, 2011; Ryder et al., 2000), consistent findings have been rare (Berry, 1997), so new investigations and efforts to reveal more tendencies in this area are valuable and relevant.

Our study employs the Five Factor Model of personality that is proved to be valid across cultures (Benet-Martinez & John, 1998; McCrae & John, 1992; Paunonen & Ashton, 2001). The model differentiates five traits that describe personality and predict certain behaviour: Neuroticism, the tendency to experience emotional instability and negative emotions such as anxiety, guilt or depression; Extraversion, the tendency to be sociable, active, assertive, cheerful, and in search of stimulation; Openness to Experience, the tendency to be imaginative, creative, and unconventional; Agreeableness, the dimension of interpersonal relations, characterized by altruism, trust, modesty, and cooperativeness; and Conscientiousness, a tendency to be organized, strong-willed, persistent, reliable, and a follower of rules and ethical principles (Terracciano et al., 2008).

In previous studies it was found that cigarette smokers scored lower on conscientiousness and higher on neuroticism (Malouff et al., 2006; Terracciano et al., 2008) and extraversion (Monafo, Zetteler, & Clark, 2007). Alcohol users scored higher on neuroticism and lower on openness to experience, sometimes higher on extraversion (Grau & Ortet, 1999; Lackner, Unterrainer, & Neubauer, 2013). Drug users usually score lower on conscientiousness and higher on neuroticism (Dubey, Arora, Gupta, & Kumar, 2010; Lackner et al., 2013; Terracciano et al., 2008). Literature analysis revealed that the most consistent findings have been found with the trait conscientiousness, whereas relations between substance use and other personality traits (for example, neuroticism, agreeableness or extraversion) are less robust. Based on previous results and theoretical assumptions of Five Factor Model, we expect similar tendencies in emigrants' group. We hypothesize that lower levels of conscientiousness and higher levels of neuroticism will be related to more prevalent substance use of emigrants.

For the analysis of acculturation we used the framework of Berry (1997, 2005), that distinguished four acculturation strategies that individuals use when dealing with the interaction between native and host culture.

Integration is the strategy when immigrants wish to maintain their original cultural identity and are interested in interacting with host community members at the same time. Assimilation strategy reveals that immigrants decline their original cultural identity and seek contact with members of the host community. When immigrants want to maintain their original identity but do not want to participate in or engage with members of the host society, a strategy of separation results. Finally, if immigrants reject both their original culture and show no interest in having relations with members of the host community, marginalisation results (Berry, 1997, 2005; Giang & Wittig, 2006; Zagefka & Brown, 2002).

Previous studies reported that poor acculturation (for example, separation) is a risk factor for alcohol and tobacco consumption or drug use (Madianos, Gonidakis, Ploubidis, Papadopoulou, & Rogakou, 2008; McQueen et al., 2003; Rote & Brown, 2013; Vega, Alderete, Kolody, & Aguilar-Gaxiola, 1998), as well as for general substance use (Pokhrel et al., 2013). Fosados et al. (2007) found that assimilation acculturation strategy was negatively associated with current alcohol use, especially among males, while separation acculturation strategy was positively related to current alcohol use, especially among females. Marginalization was associated with greater risk for lifetime alcohol use and drug use, among males and a greater risk of current drug use among females (Fosados et al., 2007). In line with these considerations we expect that integration and assimilation will be negatively related to substance use, whereas separation will be positively related to substance use in the group of Lithuanian emigrants.

It has to be noted that the course of acculturation might be influenced by personality; therefore acculturation strategies might mediate the relation between personality and substance use (Ryder et al., 2000). A number of traits have been proposed as risk or protective factors in acculturation process, for example, locus of control, extraversion (Ahadi & Puente-Diaz, 2011; Berry, 1997; Ward & Kennedy, 1992), emotional stability, and self-esteem (Giang & Wittig, 2006; Hofstra, 2009; Neto, 2002; Van der Zee, Ali, & Haaksma, 2007). Neto (2002) reported that different demographic, intercultural and personality factors account for 13 percent of the explained variance in assimilation; 46 percent of integration, 32 percent of separation and 11 percent of marginalisation. Similarly, Ryder et al. (2000) found that acculturation strategy mediates between personality and mental health. However, Ahadi and Puente – Diaz (2011) found that personality traits (extraversion and neuroticism) were strongly related to psychological adjustment, but acculturation strategies did not mediate the effect of personality variables. These inconsistencies in results reveal the need of

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further investigations of personality and acculturation interaction in the context of emigrants'/ immigrants' health-risk behaviour.

Summarizing the literature reviewed so far, it can be stated that previous studies indicated that personality traits or acculturation strategies capture differences on how individuals involve into problem behaviour. However, research results do not provide clear answers about the impact of personality × acculturation interaction upon immigrants' substance use. In our present research, we expect to obtain additional empirical evidence how Big Five personality traits together with acculturation strategies are related to substance use of emigrants from Lithuania. Based on earlier described theoretical assumptions and empirical evidence we expect that integration and assimilation strategies add to the positive effect of conscientiousness resulting in lower levels of substance use. Separation was hypothesized to add to the negative effect of neuroticism resulting in more frequent substance use. In addressing these research questions we also paid attention to gender effects and length of living in the host country. Substantial gender differences were usually found in substance use (Fosados et al., 2007; Kulis, Marsiglia, & Hurdle, 2003; McQueen et al., 2003; Vega et al., 1998), as well as in personality research (Costa, Terracciano, & McCrae, 2001; Schmitt, Voracek, Realo, & Allik, 2008; Weisberg, DeYoung, & Hirsh, 2011). Males are usually described as more prone to substance use (Kulis et al., 2003; Seibokaite, Endriulaitiene, & Marksaityte, 2009a), women reported higher extraversion, agreeableness, and neuroticism scores than men (Seibokaite, Endriulaitiene, & Marksaityte, 2009b; Weisberg et al., 2011). Therefore, we examined gender differences in personality traits, acculturation strategies and substance use, and controlled for gender when testing correlations and interactive effects.

Methodology
Participants

210 Lithuanian emigrants (76 males, 134 females) living in different European countries (Ireland, Denmark and Germany) participated in the current study. The mean age was 32.67 years (SD=9.24), 40 percent had lower than university education, 60 percent had university education. 66.7 percent of respondents were married or lived with the partner, 23.3 percent were single. The length of residence in foreign country ranged from one 6 months to 20 years (mean length M=4.66 years, SD=3.45). All participants were surveyed voluntarily and completed the questionnaires online using snow ball sampling method (McKenzie & Mistiaen, 2007).

Measures

Substance use in the current study was measured with seven questions about smoking, alcohol and other substance use. Two questions were related to smoking: the frequency of smoking and mean amount of cigarettes per day (Cronbach's alpha .84). Scale was composed from two categorical variables, where spontaneous reported amount of cigarettes was grouped according to modes in frequency table. Higher score of scale indicated higher levels of smoking. Four questions were related to alcohol use: the frequency of drinking and mean amount of beer (or cider), wine, and vodka (or other strong drinks) used per one drinking period (Cronbach's alpha .61). Amounts of used drink per one drinking period were also transformed into categories. Higher score of scale indicated more problems in alcohol use. Also one question about lifetime illegal drug use was employed.

The Big Five Inventory (BFI, Benet-Martinez & John, 1998) was employed to measure five personality traits. Originally BFI consists of 44 items, allowing researchers to assess five personality dimensions. In order to increase scale reliability we excluded some items in our sample. Therefore, eight items were used to assess Neuroticism (Cronbach's alpha = .69), seven items were used to assess Extraversion (Cronbach's alpha = .68), eight items were used to assess Openness to experience (Cronbach's alpha = .75), eight items were used to assess Agreeableness (Cronbach's alpha = .59), and seven items were used to assess Conscientiousness (Cronbach's alpha = .68). The Inventory was adapted to Lithuanian language following the standard back – forward translation procedure for an international project. The inventory is repeatedly used in different investigations in Lithuania, unfortunately internal validity is usually found quite low, although sufficient for group comparisons (Seibokaite, Endriulaitiene, 2012; Seibokaite et al., 2009b). Items were scored on scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Acculturation strategies of respondents were measured using Lithuanian version of Dixon (2008) *Acculturative behaviour scale*. The instrument consists of 24 items measuring three acculturation strategies – Integration (e.g., "Members of minority cultures should feel comfortable around people of both their own culture and members of the dominant culture"), Assimilation (e.g., „It is best that almost all of the friends a person from a minority culture has, should be from the mainstream culture"), and Separation (e.g., "I think members of minority cultures should only go to social gatherings where most of the people are from their own culture"). Eight items per subscale were scored on the scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher score indicated higher preference for certain acculturation strategy. Cronbach's alphas for Integration,

Assimilation and Separation subscales were .83, .70 and .77 respectively. Lithuanian translation of the instrument was made with the permission of J.M. Dixon. The comparison of translated Lithuanian version to the original did not reveal any inconsistencies. Dixon's (2008) scale did not measure marginalization strategy that was proposed by Berry (1997). The rationale for this was that this strategy is reported very rarely by respondents and is confounded to other strategies (Dixon, 2008; Rudmin & Ahmadzadeh, 2001).

Results

Gender differences in substance use and personality traits are well documented (Fosados et al., 2007; Kulis et al., 2003; McQueen et al., 2003; Vega et al., 1998), therefore all results are presented for both males and females separately. First of all correlations between personality traits and substance are introduced (see Table 1). Spearman's correlation coefficient is applied due to significant deviance from normal distribution in the scales of tobacco use and alcohol consumption.

Table 1. Correlations among substance use and personality traits in male and female emigrant samples

	Males (N=76)			Females (N=134)		
	Alcohol use	Smoking	Drug use	Alcohol use	Smoking	Drug use
Extraversion	-.164	-.041	-.067	-.020	-.056	.081
Agreeableness	-.099	.097	-.251*	-.364***	-.138	-.148
Conscientiousness	-.259*	-.092	-.028	-.167	-.119	-.172*
Openness	-.212	-.220	-.073	-.123	-.110	-.017
Neuroticism	.303**	.248*	.275*	.087	.061	.098

*p<.05; **p<.01; ***p<.001

Correlational analysis revealed significant positive relationship between neuroticism and all scales of substance use in male sample (Table 1). Males, who reported consuming alcohol and tobacco more frequently and in bigger amounts, and having tried any illicit drugs, had higher scores of neuroticism. Less conscientious men tend to be more consuming alcoholic beverages as well. Drug use was related to lower scores of agreeableness. Slightly different results appeared in female group. Weak negative correlation was observed between conscientiousness and illicit drug consumption among females. Female respondents with lower scores of agreeableness reported higher alcohol consumption. Extraversion and openness were not related to substance use neither in males nor in females group. To sum up, results showed that use of alcohol was related with more personality traits than use of other substances; smoking correlated only with neuroticism in males.

Table 2. Correlations among substance use and acculturation strategies in male and female emigrant samples

	Males (N=76)			Females (N=134)		
	Alcohol use	Smoking	Drug use	Alcohol use	Smoking	Drug use
Assimilation	.092	-.089	-.039	-.083	-.114	-.036
Separation	.045	.023	.022	.114	.058	-.023
Integration	-.121	-.239*	.034	-.200*	-.178*	-.019

*p<.05; **p<.01; ***p<.001

Next, correlations among substance use and three strategies of acculturation in different culture are introduced. As it is provided in Table 2, significant correlations between substance use and integration are found. If a person reported being integrated in another culture, he or she reported less or no smoking. Also integration significantly negatively correlated with alcohol use in female sample. Also, correlations among substance use and length of residence in receiving country were obtained. Results show, that only negative correlation between smoking and length of residence was significant (r= -.184, p=.033).

Finally, several regression analyses for the prediction of substance use in the sample of Lithuanian emigrants were run. Regression analysis deals with inter-correlation among independent variables, therefore allows answering the question about the interactive role of personality and acculturation strategies in substance use. The length of residence in foreign country was added to all regressions for substance use prediction as a control variable. Also, to check for an effect of acculturation strategies as a mediator, sequences of regressions were applied: 1) dependent variable – substance use; independent variable – personality traits (one by one in separate regression); 2) dependent variable – substance use; independent variable – acculturation strategies (one by one in separate regression); 3) dependent variable – acculturation strategies; independent variables – personality traits (one by one in separate regression) (Baron & Kenny, 1986). The mediation effect was tested only in the cases if at least one of personality traits and one of acculturation strategies appeared to be significant predictors in the regression model with all variables of interest included.

Table 3 provides the results of linear regression analysis for alcohol use as dependent variable. The scale of alcohol use met the assumptions for linear regression. Despite Kolmogorov-Smirnov test showed significant difference from normality plot in alcohol use, Skewness and Kurtosis did not exceed 1 or minus 1, therefore scale might be used as a dependent variable in linear regression analysis. All personality traits and three strategies of acculturation were put as independent variables. Collinearity statistics

showed that inter-correlation among independent variables are not very strong (VIF<2), so none of independent variables was removed.

The regression model had a power to predict alcohol use of male respondents (F=2.421, df=9, p=.019). Personality traits and acculturation strategies explained 24.8 percent of variance of dependent variable. Results of regression analysis revealed that more problematic alcohol use of male emigrants was predicted by higher neuroticism, and higher scores of assimilation (Table 3). In the analysis of mediation it was revealed that neuroticism predicted alcohol use (β=.313; p=.022, model fit - F=5,782, df=1, p=.018) when only neuroticism was added to the model as an independent variable. Assimilation could not independently predict alcohol use of men (F=1.139, df=1, p=.289). Hypothesis of mediation was not confirmed, assimilation and neuroticism have independent value to predict alcohol use of men, when other personality traits, acculturation strategies, and length of residence were controlled.

The significant model of alcohol use was found for females as well (F=2.328, df=9, p=.019). Independent variables explained 14.5 percent of variance of alcohol use. Only lower level of agreeableness predicted alcohol use of female emigrants, when other personality traits and acculturation strategies were taken into account.

Table 3. *Prediction of alcohol use by personality traits and acculturation strategies*

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Males	**Assimilation**	0.160	0.059	**.397**	2.703	**.009**
	Separation	-0.010	0.047	-.028	-.219	.828
	Integration	-0.060	0.047	-.191	-1.263	.211
	Extraversion	-0.029	0.057	-.070	-.516	.608
	Agreeableness	0.039	0.062	.082	.625	.534
	Conscientiousness	-0.101	0.057	-.232	-1.776	.080
	Openness	-0.025	0.045	-.070	-.560	.577
	Neuroticism	0.141	0.056	**.350**	2.517	**.014**
	Length of residence	0.007	0.008	.098	.854	.396
Females	Assimilation	0.047	0.038	.121	1.245	.215
	Separation	-0.008	0.032	-.025	-.263	.793
	Integration	-0.059	0.033	-.163	-1.783	.077
	Extraversion	-0.004	0.040	-.011	-.103	.918
	Agreeableness	-0.117	0.035	**-.347**	-3.392	**.001**
	Conscientiousness	-0.010	0.040	-.026	-.241	.810
	Openness	0.023	0.033	.072	.712	.478
	Neuroticism	0.004	0.030	.014	.146	.884
	Length of residence	-0.005	0.003	-.121	-1.347	.181

In order to predict tobacco smoking among emigrants, multinomial logistic regression was run. Scale of smoking deviated from normal distribution significantly (44.6 % of sample were non-smokers) and logarithmic transformation of the scale was not effective. Smoking scale was divided into terciles. The first tercile refers to non-smoking, the second – to low – medium frequency of smoking and lower amount of cigarettes per day, the third tercile means more frequent use of tobacco in higher amounts. The first tercile was chosen as a reference category (comparison between first and second terciles was omitted to overcome the complexity of data). Results presented in Table 4 reflect the highest level of smoking (the most frequent and largest amount) in reference with non-smoking. Regression model for male smoking was significant (χ^2=37.322, df=18, p=.005) with the possibility to predict 44.0 percent of smoking variance. Results of regression analysis show that possibility to be heavily smoking for men increased when higher scores of agreeableness, neuroticism, and lower level of openness to experience are reported (Table 4). Analysis of mediation has not been performed because none of acculturation strategies were significant predictors of smoking in men.

In female group regression model for tobacco smoking appeared to be insignificant (χ^2=23.129, df=18, p>.05). Neither personality traits nor any of acculturation strategies could predict smoking of women (Table 4).

Table 4. Prediction of smoking by personality traits and acculturation strategies

		B	Std. Error	Wald	df	Sig.	Exp(B)
Males	Assimilation	0.177	0.095	3.459	1	.063	1.194
	Separation	-0.007	0.074	.010	1	.920	.993
	Integration	-0.093	0.075	1.551	1	.213	.911
	Extraversion	0.154	0.095	2.607	1	.106	1.167
	Agreeableness	**0.223**	0.102	4.813	1	**.028**	1.250
	Conscientiousness	-0.052	0.092	.314	1	.575	.950
	Openness	**-0.175**	0.079	4.913	1	**.027**	.840
	Neuroticism	**0.231**	0.092	6.307	1	**.012**	1.260
	Length of residence	-0.020	0.013	2.260	1	.133	.980
Females	Assimilation	-0.042	0.060	.487	1	.485	.959
	Separation	-0.031	0.052	.366	1	.545	.969
	Integration	-0.070	0.052	1.804	1	.179	.932
	Extraversion	-0.027	0.063	.185	1	.667	.973
	Agreeableness	-0.016	0.053	.093	1	.761	.984
	Conscientiousness	-0.011	0.062	.030	1	.863	.989
	Openness	-0.013	0.051	.067	1	.796	.987
	Neuroticism	-0.015	0.048	.092	1	.761	.986
	Length of residence	-0.006	0.005	1.388	1	.239	.994

Finally, in order to predict lifetime use of any of illicit drugs binary regression was employed. None of independent variables (personality traits and acculturation strategies) had a power to explain illicit drug use at least once in a lifetime in both male (χ^2=8.124, df=8, p>.05) and female (χ^2=9.082, df=8, p>.05) samples.

Discussion

Substance use in emigrant/ immigrant sample is an important issue for public health specialists, as it indicates poor adjustment and well-being of growing part of host country population (Silventoinen et al., 2007; World Health Organisation, 2013). Knowledge in the predictive factors of such health – risk behaviour might help to develop effective person – oriented prevention or intervention strategies for the most vulnerable groups of inhabitants in Europe.

The main aim of this study was to explore the extent of how Big Five personality traits together with acculturation strategies are related to substance use of Lithuanian emigrants to different European countries. First of all we intended to explore how personality traits relate to substance use in this group of participants. The results revealed that the relationships between conscientiousness, neuroticism, agreeableness and substance use were gender specific. In line with expectations, lower conscientiousness was associated with higher alcohol consumption of males, as well as with drug use among females. Also the results of current study revealed that only men with higher score of neuroticism have higher chances to be consuming alcohol, tobacco, and illicit drugs. These results are consistent with the literature (Lackner et al., 2013; Terracciano et al., 2008) and confirm that certain levels of negative emotions and emotional instability or lack of responsibility and self-discipline increase the risk of poor health habits (Malouff et al., 2006). Still, surprisingly neuroticism had no correlation with substance use for women. Possible explanation for this might be related to gender specific behaviour. According to gender stereotypes in Western societies it is acceptable for women to express their feelings of sadness or anxiety; therefore there is no need to mask them by using alcohol or any other substances as in a case of men (Martin, Neighbors, & Griffith, 2013). Lower agreeableness was found to be related to more problematic alcohol use among female emigrants and more frequent drug use among males. According to the literature this might be not surprising as better social skills associated to agreeableness probably help people to adapt to a new environment and to find more healthy coping strategies (Kosic, 2004; Silventoinen et al., 2007). The findings of this study suggest that extraversion and openness are not related to any type of substance use at least in the group of Lithuanian emigrants. This result might be explained by

the ideas of Malouff et al. (2006) that increasingly negative social perceptions of smoking and substance use in different countries have reduced its appeal to extraverted or opened to experience individuals.

The findings only partially supported our hypothesis about the relationship between acculturation strategies and substance use. Contrary to expectations, assimilation and separation were not related to substance use in the group of Lithuanian emigrants, whereas integration negatively correlated to smoking and females' alcohol use. These findings are in line with the literature (Madianos et al., 2008; Rote & Brown, 2013) and support the idea that integration is a protective factor for the health and well-being of immigrant (Berry, 1997; Neto, 2002). Still, it remains unclear why other acculturation strategies were not significant in the context of substance use. One explanation might be related to methodological issues, as separation strategy was rare in our sample (approximately 10 percent); therefore, the relations remained non-significant due to small sample size. An alternative explanation might be that substance use is not socially acceptable way of life, thus some individuals may be more reluctant to disclose their health – risk behaviour, therefore the results remain contradictory (Neto, 2002; Zagefka & Brown, 2002).

Finally, we hypothesized that personality traits interact with acculturation strategies and add to the negative or positive effect of certain personality traits for substance use. Contrary to expectations only higher scores of assimilation added to the negative effect of neuroticism when predicting more problematic alcohol use of male emigrants. Whereas in the group of females only higher agreeableness predicted lower alcohol consumption. In the case of smoking certain personality traits (agreeableness, openness and neuroticism) remained significant predictors for male emigrants, whereas acculturation strategies had no predictive value. Although some evidence suggests that personality traits are risk factors for substance use along with social environment and life experiences (Terracciano et al., 2008), our results did not supported this. This might be explained by some reasons. In the group of emigrants personality traits might be more powerful and informative variable for prediction of behaviour as more stable characteristics of individual. Therefore acculturation might be of lower importance and lose its separate predictive value (Netto, 2002). Also, both personality traits and substance use might be possible causes of emigration (Silventoinen et al., 2007), so emigrants just keep their original lifestyle in new country and acculturation style does not change the habits. On the other hand, third variables might be responsible for the substance use and even association of personality and addictive behaviours (for example genetic factors, self-efficacy, etc.) (Van der Zee et al., 2007; Terracciano et al., 2008). Finally, the nature of one's residency in the host country

(permanent versus temporary) might have the substantial effect for the acculturation strategies and its' importance for behaviour (Kosic, 2004). We controlled only the length of residence in the host country, but not the nature, therefore the results have to be tested in future investigations.

Our study has several limitations that should be taken into account when interpreting and generalising the results. The main concerns are self-report data, relatively small and not random sample size, and cross-sectional methodology. Although these issues are very common in most psychological studies, possible biases in answers should be taken with caution. Some findings in this investigation may be culture–bound. Terracciano et al. (2008) state that smoking or other psychoactive substance use has different levels of social acceptance across countries, therefore, inconsistent results may be found due to these differences. An important endeavour for future research would be to replicate our findings in larger groups of emigrants in different countries. Moreover, the prevalence of lifetime drug use in our sample was very small, thus we were not able to test the effects of interaction between personality traits and acculturation in the context of substance use and emigration.

Conclusion

In conclusion we can say that our findings support the view that no single personality trait is associated with all tested types of substance use, but specific personality dimensions are correlated with particular substance use behaviours of Lithuanian emigrants (Rawlings & Rohrman, 2003). Also we supported the idea that personality traits are the most stable and informative predictors of health – risk behaviour in emigrants' sample, although some acculturation strategies could add some of explanatory value at least for males. Based on the results of current study, it can be concluded that substance use of emigrant men and women is of different nature – correlate with different variables. In addition, these results provide the idea that some groups of emigrants from specific countries might be different from others and respond to acculturative attempts from hosting culture in unique manner, as their behaviour is more personality than culturally driven. It might be useful for public health care providers to gather information on how emigrants from different countries, not only Lithuania, are motivated to involve into substance use while living in foreign country. This might implicate different effectiveness of concrete preventive or intervention attempts.

Despite results confirmed the hypothesis only partly (only for males acculturation strategy added to the value of personality traits to explain alcohol use), promoting wellbeing of emigrant men might be possible

through enhancing healthy adaptation to the new culture, specifically by avoiding harsh assimilation with new society and its culture.

Acknowledgments

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