A European Comparative Study of Sexual Behaviors in Adolescents with and without a Migrant Background

The Inclusion of the Excluded, Caio Vita

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Youth Studies Masters Program

June, 2020

To the people who believed in me,

thank you.

Abstract

This study investigated whether there was an association between having a migrant background and sexual behaviors (i.e., earlier sexual initiation or ESI and use of contraceptives) among youth, considering migrant policies within country of settlement and religion of the country of origin as factors affecting sexual behaviors of youth with a migrant background. Data were used from the 2013–14 Health Behavior in School-Aged Children study, including representative samples of 15 years old adolescents among 18 European countries/regions. Binary logistic regression analyses showed that adolescents with a migrant background were less likely to report contraceptive pill use compared to their native peers, while no differences were revealed for ESI and use of condom. Unexpectedly, main religion of the country of origin was not associated with sexual behaviors among adolescents with migrant background. Moreover, adolescents living in countries with halfway favorable policies to migrant integration, were more likely to report ESI and to use a condom than those living in countries with favorable policies. Findings imply that adolescents with migrant background are not necessarily more vulnerable to risky sexual behaviors and recommend further research in the interplay of factors with adolescents' sexual behaviors at different societal levels.

Introduction

The migrant population in the European Union is unprecedentedly increasing, with the arrival of an abundant number of newcomers from multiple origins shaping the current multicultural landscape (Hackett, 2017; Heath, Rothon & Kilpi, 2008). Having a migrant background refers to newcomers born in another country or being born in the country of settlement with at least one of the parents born abroad, a topic that has lately been a focus of research (Bovens, Bokhorst, Jennissen & Engbersen, 2017). Recent literature has analyzed the relationships between having a migrant background and various behaviors (e.g. risk behaviors, educational attainment). However, there is a lack of research on the association between migration and adolescent sexual behaviors (Raffaeli, Kang, & Guarini, 2012), especially in Europe, which is the focus of this study. In this study the term sexual behaviors refers to having had sexual intercourse at the age of 15 and contraceptives use (contraceptive pill and condom). Adolescence is a period of sexual development and its timing can affect well-being and health. Earlier sexual initiation (ESI) has been related with higher likelihood of contracting sexually transmitted infections (STIs) and pregnancy risk (Kaestle, Halpern, Miller & Ford, 2015). Moreover, for girls, ESI has been related with psychosomatic symptoms in some countries (Madkour, Farhat, Halpern, Godeau & Gabhainn, 2010).

To understand the possible interplay between migrant background and sexual behaviors, an ecological approach is required, examining variables at the contextual and individual levels, as they have shown to interact with each other (Bronfenbrenner, 1979). The possible associations between having or not a migrant background, country-level variables and sexual behaviors will be discussed beneath.

Risk perspective on migrant background and adolescents' sexual behaviors

This perspective centers on how the migration process potentially causes stress, involving loss, facing adaptation to a new culture and frequently confronting discrimination (Guarnaccia & Lopez, 1998; Noh & Kaspar, 2003). Migrant families usually experience unemployment and poverty (Rogler, 1994), resulting in decreasing parental support to their children due to their concerns (Hicks, Lalondle & Pepler, 1993). This may leave adolescents with migrant background in a vulnerable position. Following this theoretical notion, migrants are more prone to perceive low costs to potential risks related to sexual behaviors (Furstenberg, Morgan, Moore & Peterson, 1987). Previous research has linked migrant background to adolescents' risk behaviors and mental health problems (Barsties et al., 2017; Stevens et al., 2015). Thus, it is plausible that having a migrant background would increase the vulnerability to risky sexual behaviors. We will refer to risky sexual behaviors to the non-use of contraceptives.

There is empirical evidence that supports this perspective. Firstly, Madkour et al. (2014) found that low socioeconomic status (SES) increases the likelihood of ESI, and especially in Europe, migrant groups usually have a lower SES than their native peers, as labor migration in Western European countries consists mostly of the recruitment of less-skilled workers (Heath et al., 2008). Furthermore, migrant groups are more likely to experience discrimination when compared to natives (Quillian et al., 2019). Experiencing discrimination has been related to risk behaviors, such as risky sexual behaviors (Benner et al., 2018; Landor, Simons, Granberg & Melby, 2019). Considering that migrants are more likely to have a low SES and face discrimination, it can be expected that adolescents with a migrant background are more likely to report ESI and risky sexual behaviors than their native peers.

The importance of country-level variables on adolescents' with migrant background sexual behaviors

It is clear that contextual levels influence the sexual behaviors that youth engage in (de Looze, Madkour, Huijts, Moreau & Currie, 2014; Raffaeli et al., 2012). Characteristics of the migrant groups like cultural background and their position in the country of settlement make their context different than natives' context, and therefore differences in sexual behaviors when comparing these

two can be expected. This study has differentiated two possible important levels that could influence on adolescents' with migrant background sexual behaviors. The interplay of these levels in the behaviors of adolescents with a migrant background has been questioned in recent literature (Kalmijn, 2019; Yahyaoui, El Methni, Gaultier & Lakhdar-Yahyaoui, 2013). Both levels will be discussed beneath.

Migrant integration policies within the country of settlement

As integration policies vary with the country of settlement (Ng & Bloemraad, 2015) and perceptions of discrimination have been associated with risky sexual behaviors (Benner et al., 2018, Landor et al., 2019), the same type of migrant group could present different outcomes in sexual behaviors depending on their country of settlement. The less favorable integration policies a country has, the more discrimination migrant groups will suffer (Berry & Sabatier, 2010) and so, the more likely adolescents with a migrant background may be to engage in risky behaviors. Although there is a lack of research linking integration policies to immigrant sexual behaviors, it has been suggested that experiencing difficulties with integration affects mental health and increases the likelihood of engaging in risky behaviors (Berry & Sabatier, 2010; Stevens & Vollebergh, 2008).

Thus, it is hypothesized that adolescents with a migrant background living in countries with unfavorable integration policies would be more vulnerable to ESI and risky sexual behaviors than those living in countries with favorable integration policies.

Main religion of the country of origin

The so-called cultural perspective argues that cultural systems are reflected on the values of the individuals, including the values related with sexual behaviors. Based on this theory, sexual behaviors of adolescents with a migrant background are dependent on the cultural beliefs and values of adolescents and their parents (Raffaeli et al., 2012). Empirical evidence supports that cultural differences could foster differences on sexual behaviors when comparing different migrant groups (Schwartz et al., 2011). In relation with cultural values, some authors connected religious values with sexual behaviors (Hendrickx, Lodewijckxb, Van Royena & Denekens, 2002; Madkour et al., 2014; Yahyaoui, et al., 2013). Muslim parents were more likely to present more restrictions on their children's sexual initiation, leading to adolescents with Muslim parents to be less likely to have had sexual intercourse compared with Christian natives (Kalmijn & Kraaykamp, 2018, Yahyaoui et al., 2013). Nevertheless, late sexual initiation does not necessarily imply a lack of risk. Cultures that present more restrictions to sexual initiation may have hard access to sexual health education and services, which are key elements in relation with risky sexual behaviors (Madkour et al., 2014).

These restrictions will lead adolescents to engage later in sex, but those who engage will be less likely to use contraceptives (Rosenbaum, 2009).

Considering the relationship between religious values and sexual behaviors, it is hypothesized that adolescents originated from countries influenced by religions with more restrictions on sexual initiation will engage in sex later in comparison with those originated from countries influenced by religions with less restrictions towards sexual initiation. Despite that fewer adolescents originated from countries influenced by religions with more restrictions on sexual initiation would report ESI, among those who reported ESI, it would be expected that they will be more likely to engage in risky sexual behaviors than those originated from countries influenced by religions with less restrictions on sexual initiation.

Current study

This study aims to understand the link between migrant background and adolescent sexual behavior. The foregoing argumentation suggests that migrant background is associated with sexual behaviors, and this link will be dependent upon the migrant integration policies within the country of settlement and the main religion of the country of origin of the adolescent. This brings the articulation of the following research questions and hypotheses (represented in Figure 1):

1 To what extent is there a difference in sexual behaviors between adolescents with and without a migrant background?

H1 Adolescents with a migrant background will be more likely to report ESI and risky sexual behaviors than their native peers.

2 Are differences among adolescents with a migrant background dependent upon the migrant integration policies of the country of settlement?

H2 Adolescents living in countries with unfavorable migrant integration policies would be more likely to report ESI and risky sexual behaviors than adolescents living in countries with favorable migrant integration policies.

3 Are differences among adolescents with a migrant background dependent upon the main religion of the country of origin?

H3 Adolescents originated from countries influenced by Islam will engage in sex later in comparison with adolescents originated from countries influenced by Christianism. Among those who reported ESI, adolescents originated from countries influenced by Islam would be more likely to report risky sexual behaviors than those originated from countries influenced by Christianism.

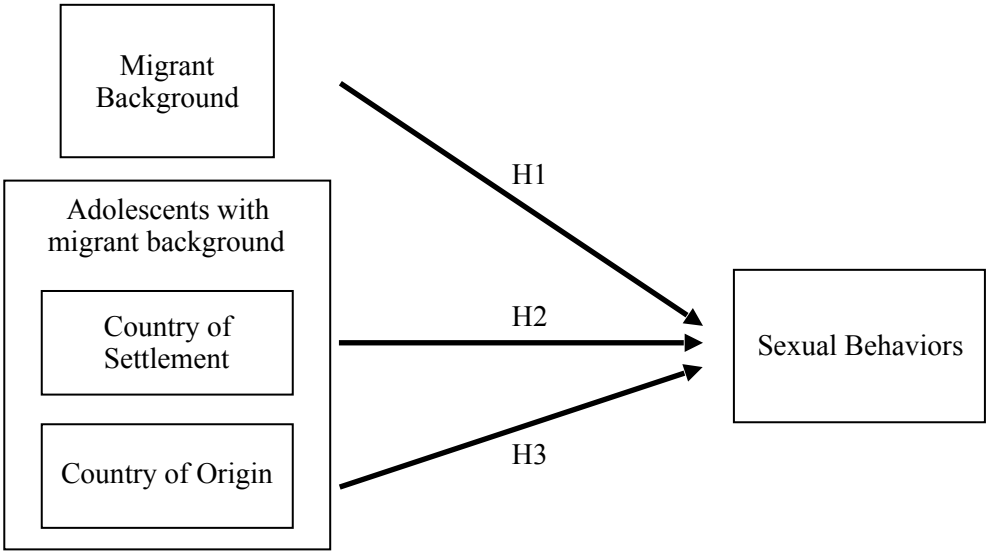

Figure 1. Research model and hypotheses

Method

Sample and procedure

The data was part of the 2013–2014 Health Behaviour in School-Aged Children (HBSC) study collected in 42 countries, mainly in Europe. This study was conducted to analyze health and health behaviors of 11-, 13-, and 15- years old adolescents across different countries. The data were collected using a standard methodology, with an anonymous questionnaire that was completed in the classroom. In order to ensure representative samples, the HBSC study used a standardized stratified sampling method. To ensure consistency in survey instruments, procedures and data collection, an international research protocol was followed.

The analysis was divided in two parts. Both parts included 15-years-old participants that were asked about sexual intercourse and contraceptive use in European countries. In the first part, adolescents with and without a migrant background, were asked about their country of birth and their parents' country of birth, in order to assess the migration background. There were 21 countries/ regions included. The HBSC study included two datasets for Great Britain, i.e., Scotland and Wales, and two datasets for Belgium, one for the Flemish and one for the French region. The countries were sorted regarding the overall scores on the Migrant Integration Policy Index, MIPEX (Huddleston, Bilgili, Joki & Vankova, 2015). As there were no data for these regions separately in MIPEX, data on MIPEX from Great Britain and Belgium were assigned respectively to Scotland, Wales and Flemish and French Belgium. Data on MIPEX were available for 18 of the 21 countries/

regions, thus reducing the number of total countries/regions included. This led to a final sample of 13703 participants in the first part of the analysis, 10995 native adolescents and 2708 adolescents with a migrant background. The second part of the sample included only participants with migrant background living in these 18 countries. Adolescents with a migrant background originated from over 100 countries that were sorted regarding main religion. There were three main religions, Christianism, Islam and Buddhism/Hinduism. The category Buddhism/Hinduism was not distinguished due to small number of participants. The final sample in the second part of the analysis was composed of a total of 2,442 participants.

Measures

Migrant background. Participants were asked if they and their parents were born in the country of settlement or abroad. The participants considered natives were born in the country of settlement as well as their mothers and fathers. The participants considered with a migrant background either were born in the country of settlement but had at least one of their parents born abroad or were born in another country.

MIPEX within the country of settlement (country-level MIPEX). The variable was made using the overall score of the Migrant Integration Policy Index (MIPEX), which was created by the British Council and the Migration Policy Group and evaluates integration policies across countries. This tool is highly recognized in Europe and it provides an overall score of all the integration indicators (Huddleston et al., 2015). Using this overall score consisted of eight indicators, taking a higher score as more favorable integration policies for migrants, it classified the countries in three categories: *'Favorable'/'Halfway Favorable'/'Unfavorable'*. Any of the countries selected was classified as '*Unfavorable'*, which conducted to only two categories: '*Favorable'/'Halfway Favorable'*. The countries/regions belonging to *'Favorable'* category were Belgium (French), Belgium (Flemish), Finland, Germany, The Netherlands and Spain. The ones belonging to '*Halfway Favorable'* category were Bulgaria, Croatia, Denmark, Estonia, Greece, Iceland, Ireland, Italy, Romania, Scotland, Slovenia and Wales.

Main religion of the country of origin (country-level religion). The participants were asked about their mothers' country of birth (Stevens et al., 2015) since mothers have more influence in adolescents' familial cultural socialization than the fathers (Knight et al., 2011). If this was unknown, the country of birth of the father was used to indicate country of origin. Depending on the national HBSC survey, participants chose the country from a list or indicated which was their country of origin. The variable was made based on the data provided by the NationMaster (Murray, 2005), a statistics database with a wide variety of socioeconomic indicators from sources as statistic

agencies, governments and international organizations. A rank was presented ordering religions by adherents in each country. This led to the formation of two categories: *'Christianism'/'Islam'*.

Sexual behaviors. Participants were asked three questions with response options '*Yes'/'No'/'I don't know'*. For sexual intercourse, respondents were asked wether they had ever had sexual intercourse. When respondents answered *'Yes'* to having had sexual intercourse, it was considered as ESI (Madkour et al., 2010; Madkour, Farhat, Halpern, Gabhainn & Godeau, 2012). As well, they were asked about contraceptive use, wether they used condom and/or contraceptive pills in their last sexual encounter. When respondents answered *'No'* was considered as risky sexual behaviors. The category *'I don't know'* was left out of this analysis.

Control variables. Gender and family affluence were selected as control. Gender was coded as 0 'female' and 1 'male'. For family affluence, the Family Affluence Scale was used. This scale asks respondents about material assets of the family using 6 items (Torsheim et al., 2016). A sum score ranging from 0 to 13 was established, indicating that a higher score implies a higher family affluence.

Data analysis

In order to obtain the descriptives, chi-squares tests between the independent (migrant background, country-level MIPEX, country-level religion) and dependent variables (sexual behaviors) were employed with SPSS Statistics 25. Chi-squares tests involving the variables country-level MIPEX and country-level religion only included adolescents with migrant background.

For the main analysis, binary logistic regression using SPSS Statistics 25 was employed. The analysis was divided into two parts. The first part was composed of Model 1 and 2 and it was conducted among native adolescents and adolescents with a migrant background controlling for gender and family affluence. Model 1 analyzed the association between migrant background and sexual intercourse, and Model 2 analyzed the association between migrant background and contraceptive use (condom and pill). The second part was composed of Model 3 and 4 and it was accomplished only among adolescents with migrant background controlling for gender and family affluence. Model 3 analyzed the association between country-level MIPEX and country-level religion with sexual intercourse, and Model 4 analyzed the associations between country-level MIPEX and country-level religion with contraceptive use (condom and pill).

Results

Descriptives

An overview of the associations between the study variables is provided in Table 1 and Table 2. Chi-square tests were conducted to assess the association between the independent variables (migrant background, country-level MIPEX, country-level religion) and the dependent variables (sexual intercourse, condom use, contraceptive pill use). No association between migration background and the dependent variables, sexual intercourse and condom use, were found. Whereas there was an association between migration background and contraceptive pill use. Results indicated that adolescents with a migrant background were less likely to report use of the contraceptive pill than native adolescents. It was also shown that adolescents with a migrant background living in countries with favorable integration policies were less likely to report ESI than those living in countries with halfway favorable integration policies. Remarkably, among those adolescents with a migrant background that reported ESI, the ones living in halfway favorable countries regarding MIPEX were more likely to report condom use than those living in favorable countries regarding MIPEX. However, no association was found between country-level MIPEX and contraceptive pill use. Country-level religion was the only variable that did not show any significant association with any of the dependent variables.

Table 1

Percentage distribution and chi-squares of sexual intercourse in native adolescents and adolescents with a migrant background

		Sexual intercourse (%)			
Independent variables		Yes	No	X^2	N
Migrant background				.62	13703
	Migrant background	20.3	79.7		2708
	Native	19.7	80.3		10995
Country of settlement of adolescents with migrant background classified by MIPEX				11.97**	3590
	MIPEX favorable	15.1	84.9		882
	MIPEX halfway favorable	20.3	79.7		2708
Country of origin of adolescents with migrant background classified by religion				.30	1863
	Christianism	19.3	80.7		1790
	Islam	21.9	78.1		73

Note: * = $p < 0.05$, ** = $p < 0.01$.

Table 2
Percentage distribution and chi-squares of contraceptive use in native adolescents and adolescents with a migrant background

	Condom use (%)				Contraceptive pill use (%)			
Independent variables	Yes	No	X^2	N	Yes	No	X^2	N
Migrant background			.02	2508			5.39*	2151
Migrant background	74.4	25.6		512	27.2	72.8		453
Native	74.7	25.3		1996	39.9	67.1		1698
Country of settlement of adolescents with migrant background classified by MIPEX			54.65**	680			.29	606
Favorable	43.5	56.5		168	29.4	70.6		153
Halfway favorable	74.4	25.6		512	27.2	72.8		453
Country of origin of adolescents with migrant background classified by religion			.59	348			.74	309
Christianism	74	26		331	22.8	77.2		294
Islam	82.4	17.6		17	13.3	86.7		15

Note: * = $p < 0.05$, ** = $p < 0.01$.

Migrant background and sexual behaviors

Firstly, the association between migrant background and sexual intercourse while controlling for gender and family affluence was assessed by means of logistic regression analysis (Model 1). Model 1 was statistically significant $X^2(df = 3, N = 12313) = 52.700$, $p < .01$ and it explained 0.7% (Nagelkerke R^2) of the variance in having had sexual intercourse. As shown in Table 3, only the control variables were statistically significant, gender and family affluence. Males were more likely to report ESI than females (OR = 1.36, $p < .01$). Remarkably, odd ratios showed that the higher the family affluence, the more likely adolescents were to report ESI (OR = 1.22, $p < .01$).

Secondly, analysis in Model 2 was performed to assess the effects of migrant background on the likelihood that adolescents used contraceptives in their last sexual intercourse, controlling for gender and family affluence (shown in Table 3). For condom use, the model was statistically significant $X^2(df = 3, N = 2270) = 10.915$, $p < .05$ and it explained 0.7% (Nagelkerke R^2) of the

variance in the use of condoms. Again, only the control variables were statistically significant. Males were more likely to report having used a condom during the last sexual intercourse (OR = 1.22, p < .05) when compared to females. Again, odd ratios showed that the higher the family affluence, the more likely adolescents were to report having used a condom in the last sexual intercourse (OR = 1.47, p < .05).

For contraceptive pill use the model was statistically significant X^2(df = 3, N = 1955) = 9.135, p < .05 and it explained 0.6% (Nagelkerke R^2) of the variance in the contraceptive pill use. In this case, only migrant background was statistically significant. While gender and family affluence did not show any significant association with contraceptive pill use, adolescents with a migrant background were less likely to have used the contraceptive pill in the last sexual intercourse when compared to native adolescents (OR = .78, p < .05).

Table 3

Association between migrant background and adolescent sexual behaviors

	Model 1				**Model 2**							
	Sexual intercourse (N = 12313)				**Condom use** (N = 2270)				**Contraceptive pill use** (N = 1955)			
	b	*SE (b)*	*p*	*OR*	*b*	*SE (b)*	*p*	*OR*	*b*	*SE (b)*	*p*	*OR*
Constant	-1.67				.76				-.68			
Migrant background	.04	.06	.51	1.04	-.04	.12	.77	.96	-.25	.12	.04	.78
Male	.31	.05	.00	1.36	.20	.10	.04	1.22	-.18	.10	.07	.84
Family affluence	.196	.08	.01	1.22	.38	.16	.02	1.47	.20	.16	.22	1.22

Note: Migrant background was coded as 0 'natives' and 1 'migrant background'.
Gender was coded as 0 'female' and 1 'male'

Country-level MIPEX, country-level religion and sexual behaviors

Firstly, the association between country of settlement, country of origin and sexual intercourse while controlling for gender and family affluence was assessed (Model 3 in Table 4). Model 3 was statistically significant X^2(*df* = 4, N = 2442) = 40.910, *p* < .01 and it explained 2.8% (Nagelkerke R^2) of the variance in having had sexual intercourse. As shown in Table 4, the control variables and country-level MIPEX were statistically significant. In line with Model 1, odd ratios indicated that males were more likely to report ESI (OR = 1.69, p < .01) than females. Odd ratios showed that also

within the migrant group, adolescents with higher family affluence were more likely to report ESI (OR = 1.54, p < .05). In line with the descriptives, adolescents with a migrant background living in countries with halfway favorable integration policies regarding MIPEX were more likely to report ESI (OR = 1.58, p < .01) than those living in countries with favorable integration policies regarding MIPEX.

Secondly, analysis in Model 4 was performed to investigate the effects of country-level MIPEX and country-level religion on the likelihood that adolescents used contraceptives in their last sexual intercourse, controlling for gender and family affluence (shown in Table 4). For condom use, the model was statistically significant $X^2(df = 4, N = 443) = 41.081$, $p < .01$ and it explained 12.2% (Nagelkerke R^2) of the variance in the use of condoms and correctly classified 66.5% of cases. The variables gender and country-level MIPEX were statistically significant. In line with Model 2, Model 4 indicates that males with migrant background were more likely to report to having used a condom in the last sexual intercourse than females with migrant background (OR = 3.74, p < .01). In line with the descriptives, those living in halfway favorable countries regarding MIPEX were more likely to report having used a condom in the last sexual intercourse (OR = 3.74, p < .01) when compared to those living in favorable countries regarding MIPEX.

For contraceptive pill use the model was statistically non significant $X^2(df = 4, N = 390) = 3.467$, $p > .05$ and it explained 1.3% (Nagelkerke R^2) of the variance in the contraceptive pill use and correctly classified 74.4% of cases. No significant associations were found. On the contrary as indicated in model 2, family affluence was not significantly associated with either condom use or contraceptive pill use within the immigrant population.

There were not significant interactions found between country-level religion and any of the dependent variables, following the descriptive results.

Table 4

Association between country of settlement regarding MIPEX, country of origin classified by main religion and sexual behaviors among adolescents with migrant background

	Model 3				**Model 4**							
	Sexual intercourse (N = 2442)				**Condom use** (N = 443)				**Contraceptive pill use** (N = 390)			
	b	*SE (b)*	*p*	*OR*	*b*	*SE (b)*	*p*	*OR*	*b*	*SE (b)*	*p*	*OR*
Constant	-2.38				-.81				-.66			

Halfway favorable (MIPEX)	.46	.13	.00	1.58	1.32	.22	.00	3.74	-.36	.25	.16	.70
Islam	-.01	.28	.97	.99	.38	.53	.48	1.45	-.59	.65	.36	.55
Male	.52	.11	.00	1.69	.45	.22	.04	1.57	-.20	.24	.41	.82
Family affluence	.43	.18	.02	1.54	.52	.35	.13	1.69	-.04	.39	.91	.96

Note: Country-level MIPEX was coded as 0 'favorable' and 1 'halfway favorable'.
Country-level religion was coded as 0 'Christianism' and 1 'Islam'.
Gender was coded as 0 'female' and 1 'male'

Discussion

The results of this study showed that having or not a migrant background does not have an effect on reporting ESI and use of condom. Nevertheless, adolescents with migrant background were less likely to use the contraceptive pill. Regarding country-level MIPEX, adolescents with a migrant background living in countries with halfway favorable policies to migrant integration, were more likely to report ESI than those living in countries with favorable policies. Noticeably, adolescents living in halfway favorable countries regarding MIPEX were more likely to report use of condom when compared to those living in countries with favorable policies, while no differences regarding contraceptive pill use were found. Remarkably, the country-level religion did not show any effect on the sexual behaviors of the adolescents with migrant background.

Migrant background and sexual behaviors

Contrary to the hypothesis displayed, adolescents with a migrant background were not more likely to report ESI and non-use of condom compared to native adolescents. These results suggest that adolescents with a migrant background tend to follow the so-called normative developmental trajectories and it therefore undermines the risk perspective (Furstenberg, et al., 1987). This may be explained by the resilience perspective, which supports that in spite of the risk factors (e.g. discrimination), adolescents with a migrant background might have been exposed to throughout their development, they continue in normative developmental trajectories (Motti-Stefanidi & Masten, 2017). One possible explanation would be that adolescents with a migrant background share protective factors that guard them from ESI and non-use of condom, for instance, the parents' norms and values that as previously mentioned, could influence on engaging later in sex (Madkour et al., 2014; Yahyaoui et al., 2013). Although, in order to support this explanation, longitudinal

studies may be necessary. These results suggest that adolescents with migrant background should not be considered as a vulnerable group to ESI and non-use of condom, at least until they are 15-years-old. Nevertheless, this conclusion does not apply to the findings related to contraceptive pill use and migrant background. This diversity in the results may be explained by the ecological approach. This approach defends that behavior is influenced by the different societal levels and their interactions between each other (Bronfenbrenner, 1979). ESI, use of condom and use of contraceptive pill are not the same behaviors, and although all of them are part of the sexual behaviors, they do not necessarily have to be affected in the same way by the same factors and the different societal levels. This different interplay of factors and levels can be reflected in the differences between condom use and contraceptive pill use. In line with the hypothesis displayed, adolescents with migrant background were less likely to report the use of contraceptive pill when compared to native adolescents. It could be possible that the factors affecting contraceptive pill use may be different than the ones affecting condom use. While condoms are more accessible and present less stigma for adolescents to obtain them, the contraceptive pill involves more access difficulties, as adolescents may need of health services in order to obtain them (de Looze, Madkour, Huijts, Moreau & Currie, 2019). The adolescents in this study are 15 years old, which makes their choices on contraceptive pill use more dependent on their parents' choice, as they imply more accessibility barriers than condom use for the adolescents themselves. That is to say, there may be factors at the individual and proximal levels that hinder the use of contraceptive pill but not the use of condom for the adolescents with migrant background.

Country-level MIPEX and sexual behaviors

Consistent with the hypothesis, adolescents with a migrant background living in countries with halfway favorable integration policies regarding MIPEX were more likely to report ESI than those living in countries with favorable integration policies regarding MIPEX. This also supports the ecological approach (Bronfenbrenner, 1979). These findings suggest that macrosystems such as integration policies in the countries of settlement can indeed influence some of the sexual behaviors of adolescents with a migrant background. A least favorable environment can lead adolescents to engage with risky sexual behaviors (Benner et al., 2018; Landor et al., 2019), and a specific social climate that does not favor their integration might affect microlevel behaviors like ESI. However contrary to the hypothesis and undermining again the risk perspective, adolescents with a migrant background living in countries with halfway favorable integration policies regarding MIPEX were more likely to report use of condom than those living in countries with favorable integration policies regarding MIPEX. The ecological approach combined with the resilience perspective

suggest that there may be possible protector factors at other societal levels that facilitate the use of condom specifically for adolescents with migrant background that live in a least favorable environment. Likewise, not finding association between contraceptive pill use and a country-level variable like MIPEX supports the previous reasoning. We suggested that in the association between migrant background and contraceptive pill use more factors related to individual and proximal levels would come into play than for use of condom. Thus, it seems logical that when contraceptive pill use is related to country-level MIPEX any association was found, but we did find it with condom use.

Country-level religion and sexual behaviors

Contrary to the expectations, findings suggest the absence of an association between the country-level religion of adolescents with a migrant background and sexual behaviors. It is possible that this classification has been rather inaccurate. Coming from a Christian background does not necessarily imply less restrictions in sexual initiation than coming from an Islamic background. Significant differences on conservatism have been shown between Western European countries and Eastern European countries, when in both Christianism is the main religion (Pew Research Center, 2018). While religious commitment is particularly low in Western Europe, it does not mean that this premise is extrapolated to those migrants with a Christian background. It would result more conclusive to analyze the religiosity of the family, as other authors suggested before (Mahoney, 1980; Yahyaoui et al., 2013). Previous studies have shown differences in sexual behaviors among migrant groups in the US (Brewster & Spence, 2010) and how socialization agents (e.g. parents), acting as catalyzer for culture, have effects on adolescents' sexual behaviors (Madkour et al., 2014). Therefore, future studies that analyze potential differences in sexual behaviors among European migrant groups using an alternative method for classification of these groups is recommended.

The role of socioeconomic status (SES)

Surprisingly, the results of the control variable SES indicate that having a higher SES increased the likelihood of reporting ESI. This applied firstly to adolescents with and without migrant background and secondly to only adolescents with migrant background. This suggests that having a low SES does not imply more risk to ESI and therefore, it would add reasons to undermine the risk perspective, contrary to what previous studies defended (Furstenberg et al., 1987; Madkour et al., 2014).

Limitations and implications

This study is, to the best of our knowledge, the first one comparing sexual behaviors, on one hand, among European adolescents with and without migrant background, and on the other hand,

among European migrant groups of adolescents. However, this study also shows considerable limitations. First, this study has taken having had sexual intercourse at the age of 15 as ESI and consequently as a risky sexual behavior, when it might not be the most convenient categorization (Madkour et al., 2010). Focusing on health outcomes that suppose a risk like sexual transmitted infections would be more ideal. Second, the overall score of MIPEX did not differ much among the included countries. An analysis including unfavorable integration policies regarding MIPEX might provide more complete interpretations. Third, the size of the sample of those originated in Islamic countries was much smaller than the sample of those originated in Christian countries, limiting the likelihood to find differences. Fourth, this study was accomplished among 15 years old adolescents, an age when most of adolescents have not started being sexually active, thus leaving not much space to compare trends in sexual behaviors among groups.

This study recommends implications for further research. Fundamentally, examining possible factors at macro and microlevel that might influence adolescents' with migrant background sexual behaviors and that would hence explain the differences of these outcomes. Furthermore, examining the possible relationship between integration and acculturation related to sexual behaviors. Lastly, studies that analyze potential differences in sexual behaviors among migrant groups would be recommended, analyzing associations in each European country separately.

Although it is suggested that adolescents with migrant background are not at risk, it is important to remember that adolescents with migrant background reported less use of contraceptive pill. Therefore, school-based sexual education (United Nations, 2017) and community-based programs with community health distributors that would reach migrant communities providing sexual health education and accessibility (International Planned Parenthood Federation, 2018) could imply a change of contraceptive pill use among adolescents with migrant background.

This study suggests that adolescents with migrant background are not necessarily more vulnerable to risky sexual behaviors than their native peers. Furthermore, it demonstrates that their sexual behaviors might depend upon macro-level structures like policies for migrant integration. Noticeably, it did not show any effect of the country-level religion, suggesting different interplays of the factors at the different societal levels. Further research should identify the underlying mechanisms of adolescents' with migrant background sexual behaviors.

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Begeleider

Name supervisor/assesor: *	Gonneke Stevens
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Scriptie

Title thesis: *	A European Comparative Study of Sexual Behaviors in Adolescents with and without a Migrant Background
Language thesis: *	English
Abstract:	This study investigated whether there was an association between having a migrant background and sexual behaviors (i.e., earlier sexual initiation or ESI and use of contraceptives) among youth, considering migrant policies within country of settlement and religion of the country of origin as factors affecting sexual behaviors of youth with a migrant background. Data were used from the 2013–14 Health Behavior in School-Aged Children study, including representative samples of 15 years old adolescents among 18 European countries/regions. Binary logistic regression analyses showed that adolescents with a migrant background were less likely to report contraceptive pill use compared to their native peers, while no differences were revealed for ESI and use of condom. Unexpectedly, main religion of the country of origin was not associated with sexual behaviors among adolescents with migrant background. Moreover, adolescents living in countries with halfway favorable policies to migrant integration, were more likely to report ESI and to use a condom than those living in countries with favorable policies. Findings imply that adolescents with migrant background are not necessarily more vulnerable to risky sexual behaviors and recommend further research in the interplay of factors with adolescents' sexual behaviors at different societal levels.
Key words: (seperated by ;)	
Make public: *	**Yes**/ No
Make public after date:	

Ingevuld op: * 15/06/2020
Door: *
*

= Obliged to fill in

Registration Form: Research Activities for TED-students (in total 60 hrs)

Research Activities	**Total number of Hours**	**Signature YS staff**
Digital Family (DiFa) project – Parent and parent-child levels	23 hours of literature search	

Appendix – SYNTAX

Frequencies

European countries included in the analysis

```
DATASET ACTIVATE DataSet1.
CROSSTABS
  /TABLES=REG_NO BY m48
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Countries of origin included in the analysis

```
DATASET ACTIVATE DataSet1.
CROSSTABS
  /TABLES=ori_cntry BY m48
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Country-level Religions included in the analysis

```
USE ALL.
FILTER BY CountryOfSettlement.
EXECUTE.

CROSSTABS
  /TABLES=OrigReligion BY m48
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL
  /BARCHART.
```

Recoded variables

Migrant Background

```
DATASET ACTIVATE DataSet1.
RECODE IMS (0=0) (1 thru 2=1) INTO MigrantBackground.
EXECUTE.
```

Country-level MIPEX

```
DATASET ACTIVATE DataSet1.
```

```
RECODE REG_NO (2 thru 7=0) (8 thru 20=1) INTO CountryOfSettlement.
VARIABLE LABELS  CountryOfSettlement 'CountryOfSettlement'.
EXECUTE.
```

Country-level Religion

```
DATASET ACTIVATE DataSet1.
RECODE ori_cntry (0 thru 88=0) (89 thru 128=1) (129 thru 145=2) INTO OrigReligion.
EXECUTE.

RECODE OrigReligion (0=0) (1=1) INTO OriginReligionBinary.
VARIABLE LABELS  OriginReligionBinary 'OriginReligionBinary'.
EXECUTE.
```

Sexual Behaviors

```
RECODE m48 (1=1) (2=0) INTO CatSexInt.
VARIABLE LABELS  CatSexInt 'CatSexInt'.
EXECUTE.

RECODE condomuse (1=1) (2=0) INTO CatCondomuse.
VARIABLE LABELS  CatCondomuse 'CatCondomuse'.
EXECUTE.

RECODE contraceptivepill (1=1) (2=0) INTO CatPill.
VARIABLE LABELS  CatPill 'CatPill'.
EXECUTE.
```

Control variable Gender

```
RECODE m1 (1=1) (2=0) INTO Gendercat.
VARIABLE LABELS  Gendercat 'Gendercat'.
EXECUTE.
```

Descriptives

*Chi-squares Migrant Background*Sexual Behaviors*

```
USE ALL.
FILTER BY CountryOfSettlement.
EXECUTE.

CROSSTABS
  /TABLES=MigrantBackground BY CatSexInt CatCondomuse CatPill
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ CC PHI CORR
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL
```

```
  /BARCHART.
```

*Chi-squares Country-level MIPEX*Sexual Behaviors*

```
FILTER OFF.
USE ALL.
EXECUTE.

CROSSTABS
  /TABLES=CountryOfSettlement BY CatSexInt CatCondomuse CatPill
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ CC PHI CORR
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL
  /BARCHART.
```

*Chi-squares Country-level Religion*Sexual Behaviors*

```
USE ALL.
FILTER BY CountryOfSettlement.
EXECUTE.

CROSSTABS
  /TABLES=OriginReligionBinary BY CatSexInt CatCondomuse CatPill
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ CC PHI CORR
  /CELLS=COUNT ROW COLUMN TOTAL
  /COUNT ROUND CELL
  /BARCHART.
```

Binomial Logistic Regression

*Migrant Background*Control variables*Sexual Behaviors*

```
DATASET ACTIVATE DataSet1.
USE ALL.
FILTER BY CountryOfSettlement.
EXECUTE.

LOGISTIC REGRESSION VARIABLES CatSexInt
  /METHOD=ENTER Gendercat MigrantBackground Pfasiii
  /CONTRAST (MigrantBackground)=Indicator(1)
  /CONTRAST (Gendercat)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
LOGISTIC REGRESSION VARIABLES CatCondomuse
  /METHOD=ENTER Pfasiii Gendercat MigrantBackground
  /CONTRAST (Gendercat)=Indicator(1)
  /CONTRAST (MigrantBackground)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

LOGISTIC REGRESSION VARIABLES CatPill
  /METHOD=ENTER Pfasiii MigrantBackground Gendercat
  /CONTRAST (MigrantBackground)=Indicator(1)
  /CONTRAST (Gendercat)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Country-level MIPEX Country-level Religion*Control variables*Sexual Behaviors*

```
FILTER OFF.
USE ALL.
EXECUTE.

LOGISTIC REGRESSION VARIABLES CatSexInt
  /METHOD=ENTER CountryOfSettlement OriginReligionBinary Gendercat Pfasiii
  /CONTRAST (Gendercat)=Indicator(1)
  /CONTRAST (OriginReligionBinary)=Indicator(1)
  /CONTRAST (CountryOfSettlement)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

LOGISTIC REGRESSION VARIABLES CatCondomuse
  /METHOD=ENTER CountryOfSettlement OriginReligionBinary Gendercat Pfasiii
  /CONTRAST (CountryOfSettlement)=Indicator(1)
  /CONTRAST (OriginReligionBinary)=Indicator(1)
  /CONTRAST (Gendercat)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
LOGISTIC REGRESSION VARIABLES CatPill
  /METHOD=ENTER CountryOfSettlement OriginReligionBinary Gendercat Pfasiii
  /CONTRAST (Gendercat)=Indicator(1)
  /CONTRAST (OriginReligionBinary)=Indicator(1)
  /CONTRAST (CountryOfSettlement)=Indicator(1)
  /SAVE=PRED
  /CLASSPLOT
  /CASEWISE OUTLIER(2)
  /PRINT=GOODFIT SUMMARY CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```