Substance Use, Age at Migration, and Length of Residence among Adult Immigrants in the United States

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Abstract

In this study we scrutinize prevalence of smoking and binge drinking among adult U.S. immigrants, and examine whether age at migration predicts these two behaviors and moderates the effect of length of residence. Immigrant groups include those from Latin America/Caribbean, East and South Asia, Sub-Saharan Africa, Europe/Central Asia, and Middle East/North Africa. Multivariate logistic regressions are estimated using data from the New Immigrant Survey (N=7397). Results show that patterns of smoking and binge drinking vary by gender and region of origins. In addition, adult women arriving at age 0-9 is directly associated with higher odds of binge drinking. Among adult men, age at migration moderates the association between length of residence and substance use. Specifically, length of residence has more detrimental effects for adolescent migrants (arriving at age 10-18) on smoking, while its detrimental effects are more pronounced for childhood migrants (arriving at age 0-9) on binge drinking. We conclude that adolescence and childhood are critical life stages that are associated with differential effects of length of residence when looking at smoking and binge drinking among immigrants.

Key words: smoking, binge drinking, immigrants, age at migration, acculturation

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Introduction

U.S. Census Bureau reported that the foreign-born population grew to 13 percent of the total U.S. population in 2010 (1). Whereas Latinos make up approximately half of all foreign born, recent decades have seen more immigrants coming from other regions in the world such as Asia and Africa (1). Projected population growth and increasing diversity of the foreign born make immigrant health even more concerning given its impact on the health equity and health status of this country. Research has shown that migrating to the U.S. puts the foreign-born population at risk through a wide array of health indicators (2–4). Substance use including smoking and alcohol intake are particularly risk factors of morbidity and mortality (5), and are associated with immigrants' behavioral change (6). However, lacking in evidence of prevalence by regions of origin prevents us from a deeper understanding of the extent to which substance use disparities exist across immigrant groups.

Whether substance use patterns lie within the larger framework of the immigrant paradox is debatable. The immigrant paradox refers to the fact that, despite their low socioeconomic profiles and barriers to healthcare access, immigrants tend to show better health status than their native counterparts. However, as they stay longer in the U.S., such observed health advantages disappear and eventually resemble the larger population patterns among the native born (7). During this acculturation process, many immigrants begin to make unhealthy choices that are prominent in the American lifestyle, while losing traditional and protective habits (8). Many studies,

most of which have examined Latino immigrants, are consistent with the immigrant paradox in that immigrants tend to have lower prevalence of substance use (9,10) and that longer duration in the U.S. is linked to smoking and high alcohol consumption (8,11–16). Yet substance use patterns vary to some degree among other immigrant groups, such as Asians and the Middle Easterners (17–19), and the paradox may not apply to all these groups due to different social and cultural norms toward such behaviors in different societies. Moreover, recent syntheses suggest that the acculturation effect on substance use is likely to depend on the differential base-rates by gender in immigrants' original cultures (20–24). Exploring substance use patterns by gender and region of origin is thus helpful to elucidate health risks across immigrant subgroups.

Increasing scholarly attention has also been paid to the role of age at migration in predicting health risks (25–32). Presumably, age at migration matters to both the pace and the extent of acculturation as it shapes immigrants' capability and efficiency of interaction, socialization, and responding to the host culture (33). As the life course perspective suggests, the timing of life events is seen as age-graded trajectories and gives age its social meanings. The impact of change on individuals depends on where they are in their lives when the change occurs (34). Indeed, immigrants who come to the U.S. before adulthood usually have better English proficiency and experience higher levels of social and structural assimilation (35), thus they may be more likely to be influenced by the American norms of substance use. For example, two regional studies of Latino immigrants reported that younger age at migration predicted higher risks of smoking and binge drinking as adults (25,26). Yet no prior study has looked at how age at migration modifies the relationship between length of residence and

substance use. Studies on other outcomes have shown that age at migration matters in the way that it interacts with length of residence in predicting health risks (27,36,37).

Indeed, depending on the timing about when people migrate in their life, the duration effect is likely to relate differentially to acculturation (38). Because acculturation operates with a range of psychosocial and environmental factors pertinent to the life stages in determining risky health behaviors (39), young migrants may be at greater risk of the *initiation* of substance use upon arrival because they are at a life stage that is more likely to be influenced by the peer environment (40–42). Such influence from early life stage may exacerbate the detrimental effect of duration on immigrants' substance use when they are adults. Adult migrants who arrived younger may also face a stronger level of acculturative stress (43), probably due to their eager need to be recognized by peers and their more ambiguous cultural identities, which in turn has been linked to higher risk of substance use, especially among men (11). Considering that both smoking and drinking are detrimental but modifiable risk factors, and are associated with developmental differences along with age trajectories, examining the moderating effects of age at migration and length of residence should help identify high risk groups and improve immigrant health.

The present study thus fills a critical gap by examining substance use disparities by immigrant subgroups and by incorporating a life course perspective into the acculturation process. We analyzes data from the New Immigrant Survey (NIS), a nationally representative sample of adult U.S. immigrants that includes those from Latin America/Caribbean (hereafter Latinos), East and South Asia (hereafter Asians), Sub-Saharan Africa (hereafter Africans), Europe/Central Asia (hereafter Europeans), and the Middle East/North Africa (hereafter Middle Easterners). We first scrutinize detailed prevalence of smoking and binge drinking by region of origin and gender,

and then examine the role of age at migration in predicting these two risk behaviors and in moderating the effect of length of residence. By investigating the interactions of age at migration and length of residence, additional insights could be gained into the dynamics of the acculturation process over the life course, to advance our understanding of immigrant health.

Methods

Sample

We used data from the baseline cohort sample of the New Immigrant Survey (NIS-2003), which included 8,573 legal adult U.S. immigrants with permanent residence. NIS-2003 is a multistage probability sample that was drawn based on immigrants' administrative records complied by the U.S. government, with a response rate of 69 percent. It provides the opportunity to scrutinize prevalence of substance use in a diverse sample of immigrant groups with reasonably large subgroup sizes. A more detailed sample design and data collection processes are described elsewhere (44). Casewise deletion was used given the relatively small amount of missing data (percent missingness less than 4% for all variables). Sampling weights were used to adjust for the probabilities of selection in this study. The final analytical sample included 7,397 adult immigrants aged 18 and older, with 50.18 percent male, and 68.56 percent being married.

Measures

Outcome variables were two dichotomous measures of current smoking and binge drinking. Current smoking was determined if respondents answered they were a current smoker at the time of interview. Binge drinking was determined based on the

question asking respondents whether they had four or more drinks on one occasion in the past three months prior to the interview.

Key independent variables included age at migration, years of duration, and region of origin. Age at migration was grouped into three categories, followed an earlier study (26): childhood migrants (arriving at 0-9 years old), adolescent migrants (arriving at 10-18 years old), and adult migrants (arriving after 18 years old). It was calculated by subtracting the year of migration from the year of birth. The acculturation proxy measure of years of duration was calculated by subtracting the current age from age at migration. Region of origin included Latin America/Caribbean, East and South Asia, Sub-Saharan Africa, Europe/Central Asia, and Middle East/North Africa.

Control variables were socio-demographic characteristics of age, marital status, health status, and educational attainment. Education was included as a dichotomous measure (<12 years or ≥12 years). Health status was self-rated and was captured by either good (good, very good, or excellent) or not good (fair/not good).

Statistical analysis

Weighted descriptive statistics were computed by immigrants' region of origin and gender. We then estimated three sets of multivariate logistic regression models to examine the effects of age at migration and years of duration on current smoking and binge drinking, as well as the interaction effects of age at migration with length of residence for both outcomes. Each set of analyses was conducted separately for men and women. Model 1 tested whether age at migration had direct effect on substance use, controlling for socio-demographic characteristics. Model 2 only included years of duration to test its direct effect on substance use. Model 3 included both age at migration and years of duration, and further added the interaction term of age at

migration and years of duration to test whether the influence of years of duration on substance use was modified by age at migration. We also calculated predicted probabilities to better illustrate the differential effects of years of duration on smoking and drinking by age at migration, presented in Figure 1 and Figure 2. All analyses were performed in Stata 11 and sample weights were applied using the *svy* and *pweight* commands to ensure the sample was representative of the larger population.

Results

Table 1 described the participants' characteristics by region of origin and gender. Middle Eastern (29.6%) and European males (23.8%) reported the highest smoking rates, while African females (0.7%) had the lowest smoking rate. Prevalence of binge drinking was highest among European (25.7%) and Latin American males (21.5%) and was lowest among Middle Eastern (2.6%) and African females (1.5%). With regard to acculturation, Latinos reported the longest years of duration while Asians reported the shortest. Age at migration also varied by region of origin. Asians and Africans had the fewest childhood migrants (arriving at age 0-9) and the most adulthood migrants (arriving after age 18). Latinos had the most adolescent migrants (arriving at age 10-18).

(Table 1 about here)

Table 2 presented odds ratios from the gender-stratified multivariate analyses for current smoking. Smoking prevalence shown in the adjusted regression models (Model 1) was similar to the crude prevalence reported in Table 1. Compared to Latinos, Middle Eastern males (OR=2.93; 95% CI=1.90, 4.52) and European females (OR=3.42; 95% CI=2.29, 5.12) had much higher odds of being a current smoker, while African males (OR=0.49; 95% CI=0.26, 0.92) and females (OR=0.11; 95%

CI=0.02, 0.51) had much lower odds, controlling for socio-demographic characteristics. Model 1 did not reveal any statistically significant effects for age at migration. In Model 2, years of duration was not significantly associated with smoking among males, but has significant and positive effect among females (OR=1.02; 95% CI=1.01, 1.04). Specifically, an additional year of duration in the U.S. was associated with 2.3% higher likelihood of being a current smoker for females.

(Table 2 about here)

Of greater interest was the interaction of acculturation and age at migration. Model 3 of Table 2 tested whether age at migration interacted with years of duration in predicting current smoking. It indicated that, among men, the effect of years of duration on smoking was positive for those who arrived at age 10-18 (OR=1.04; 95% CI=1.01, 1.07), but became negative for those who arrived at age 0-9 (OR=0.94; 95% CI=0.89, 0.99). Specifically, each year of duration corresponded to 4% higher odds of smoking for males who arrived at age 10-18, but 3% lower odds for those who arrived at age 0-9 ($e^{0.0360262-0.065369}$=0.971). Similarly, years of duration had a negative effect for males who arrived after age 18, although the effect was not statistically significant. Among female immigrants, the models did not show any significant results.

Table 3 presented the multivariate analyses for binge drinking. Model 1 showed that Middle Eastern (OR=0.21; 95% CI=0.10, 0.45), African (OR=0.40; 95% CI=0.21, 0.60), and Asian males (OR=0.40; 95% CI=0.29, 0.54) had much lower odds of binge drinking than Latinos, after adjusting for socio-demographic characteristics. Among women, Europeans had the greatest odds of binge drinking (OR=1.78; 95% CI=1.10, 2.87), while Africans had significantly lower odds than Latinas (OR=0.28; 95% CI=0.10, 0.78). Model 1 also showed that female migrants arriving at age 0-9 had much higher odds of being involved in binge drinking

compared to their counterparts arriving at age 10-18 (OR=2.20; 95% CI=1.06, 4.56). In Model 2, the years of duration were positively associated with binge drinking for both male (OR=1.03; 95% CI=1.02, 1.04) and female (OR=1.06; 95% CI=1.04, 1.08), whereas the association was stronger for female than for male.

(Table 3 about here)

In Model 3 of Table 3, the effect of years of duration on drinking was stronger for men who arrived at age 0-9 (OR=1.06; 95% CI=1.01, 1.11), compared to those who arrived at age 10-18 (OR=1.03; 95% CI=0.99, 1.07). Specifically, each year of duration increased the odds of binge drinking by about 3% for men who arrived at age 10-18, and increased the odds by about 8.6% ($e^{0.283406+0.0541535}$=1.086) for men who arrived at age 0-9. Therefore, length of residence was most detrimental for men who arrived at age 0-9. Again, this interaction effect was not statistically significant for women.

Finally, we calculated predicted probabilities of smoking and binge drinking among men and illustrated how the effects of years of duration varied by age at migration. Figure 1 suggested that, although adult men who arrived at age 10-18 had the lowest probability of being a current smoker at the starting point (years of duration=0), they had an accelerated increase of probability as years of duration increased, and the probability remained the highest among all three groups after about 10 years of duration. Meanwhile, adulthood migrants had a more mild increase in the probability as years of duration increased, and childhood migrants had decreased probability. In Figure 2, childhood migrants had the most accelerated increase of probability of binge drinking. The drinking patterns were seemingly parallel between adolescent and adult migrants, although adult migrants had a slightly higher probability as well as more accelerated increase compared to adolescent migrants.

(Figure 1 and Figure 2 about here)

Discussion

This study focused on the differential patterns of immigrants' substance use and the role of age at migration in the context of immigrants' acculturation experience. First, we added to the literature by reporting crude prevalence of current smoking and binge drinking across several new immigrant groups that had been understudied. Prevalence shown here was largely consistent with evidence reported elsewhere. For example, our results were similar to a prior analysis of 2002 National Health Interview Survey data in that smoking rate is most prevalent among Europeans than any other immigrant groups (14). We further expanded the literature by showing tremendous gender gaps in substance use; across all immigrant groups, males had much higher prevalence of both smoking and binge drinking. Second, we were particularly interested in whether the association between length of residence and substance use varied by age at migration. Among men, we found that the duration effect was most detrimental on smoking for those who arrived as adolescent migrants, and was most detrimental on drinking for those who arrived as childhood migrants. However, such effects were not significant among women. This finding adds to a small but growing literature that underscores the long-term influence of age at migration over life course, and also highlights gender variations in the process of immigrant's health assimilation.

By examining the effect of length of residence and age at migration on birth weight at the same time, Bates and Teitler pointed to the idea of critical periods and contended that migration before or during a critical developmental period in the life course was the primary and temporal mechanism by which exposure to the hosting

society affected immigrant health (45). Our findings support this critical period hypothesis at least for men. We found that length of residence in the U.S., a proxy marker of acculturation, exhibited the strongest negative influences on risks of smoking and binge drinking among male immigrants who arrived the U.S. as adolescents or children, respectively. In other words, for those who migrated to the U.S. before adulthood, the positive duration effects are particularly strong on smoking and drinking, two modifiable behaviors that many have confirmed detrimental health effects. Given the human developmental contexts of youth with regard to adopting risky behaviors (46), migration before adulthood can be a critical stage for future substance use such as smoking and drinking.

Our results also provide evidence for the nuanced differences between smoking and alcohol use, which have been rarely examined in prior studies. More specifically, our findings seemed to show that whereas arriving as adolescents was a critical life stage for immigrants' future smoking status, arriving in childhood mattered more for binge drinking. In the U.S., about 80% of individuals used tobacco before age 18 (47). Considering the high prevalence of adolescent smoking, it is not surprising that the chance of being a current smoker among adults immigrants may increase as length of residence increases if they arrive as adolescents. In terms of binge drinking, scholars noted that drinking was more prevalent than smoking among youth and the age of initiation is younger for drinking than for smoking (48), which might explain why the duration effect was more pronounced for adolescent migrants on smoking, but more pronounced for childhood migrants on binge drinking.

Partly consistent with a previous study (26), we found that younger age at migration was directly associated with higher odds of binge drinking, but only among women. The present study did not show significant main effects of age at migration

on smoking. Differences in sample characteristics and key measures used in the analyses may have caused the empirical discrepancies. For example, the two previous studies both focused on Latino immigrants and used regional data from Los Angeles and Houston, respectively, whereas our study used nationally representative data including a diverse sample of immigrants. In addition, while Wilkinson et al. examined the history of smoking (25), we focused on the likelihood of being a current smoker. More research is warranted to further study the main effects of acculturation and its interaction effects with length of residence on immigrants' substance use.

Another noteworthy finding is the gendered patterns. Consistent with many studies (11,12,49,50), we found that the main duration effect on substance use was shown to be stronger for immigrant women than for immigrant men. It is speculated that multilevel gendered acculturation effects can be explained by differences in cultural and gender norms observed across societies (51,52). For example, gender differences in smoking observed in Latin America and Asia are barely discernible among U.S. whites, thus the acculturation process in the U.S. would have a greater influence for Latinas and Asian women because they experience greater belief and behavioral change in terms of smoking.

Whether the effect of age at migration differs by gender is not well known. Kimbro examined the interaction effects of gender and age at migration on substance use (26), but did not reveal statistically significant results. This study found that arriving as children was directly associated with higher odds of binge drinking among women. Interestingly, our results showed that for both smoking and binge drinking, the interaction effect of age at migration and length of residence was only significant among men. Among women, age at migration exhibited no effect on either behavior. It may be because women are more responsive than men to social surroundings and

norms. Among immigrants, the duration effects for adult women are simply so strong and stable that no interaction exists between length of residence and age at migration. By contrast, adult men are perhaps more stubborn or more opinionated than adult women; only when they are young they are more easily influenced by changed social and cultural environments. Future research may theorize and operationalize potential pathways by which acculturation and age at migration interact differentially for men and women.

Limitations of this study include its cross-sectional design and the use of self-reported data. Although the New Immigrant Survey is designed to be longitudinal, only the baseline cohort data is currently available. Longitudinal studies would help with sorting out causation of migration with age in the acculturation process, as well as disentangling age, period, and cohort effects associated with immigrant groups. Key measures such as substance use and migration history are self-reported; therefore group-specific bias and recall bias are of concern. In addition, as the New Immigrant Survey only sampled immigrants who had newly acquired permanent resident status, we are not able to study undocumented immigrants or those without permanent resident status.

To our knowledge, this study is the first to draw on nationally representative data to report substance use disparities among U.S. immigrants and to elucidate how the duration effect on immigrants' health behaviors differs by age at migration. Our findings point to the critical stage of pre-adulthood among men in that the detrimental duration effects on substance use are most pronounced for childhood and adolescent migrants. Findings from this study should be helpful for policy makers and health practitioners to target high-risk subgroups and to design appropriate multilevel

interventions to preserve immigrants' health advantages and prevent health deterioration as they remain in the U.S.

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Table 1. Weighted Descriptive Statistics by Region of Origin and Gender

	Latin America/ Caribbean		East and South Asia		Sub-Saharan Africa		Europe/ Central Asia		Middle East/North Africa	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Current Smoking	0.133	0.058	0.166	0.036	0.062	0.007	0.238	0.172	0.296	0.089
Binge Drinking	0.215	0.049	0.090	0.037	0.090	0.015	0.257	0.098	0.057	0.026
Age	37.03	38.00	42.50	39.49	35.09	35.64	38.38	36.89	35.15	34.70
Married	0.694	0.660	0.822	0.838	0.658	0.631	0.823	0.800	0.695	0.806
Health Status (Good)	0.903	0.872	0.933	0.933	0.969	0.965	0.919	0.923	0.951	0.904
Education (≥12 years)	0.495	0.507	0.741	0.723	0.930	0.763	0.835	0.860	0.764	0.845
Age at Migration (0-9)	0.056	0.052	0.023	0.025	0.025	0.033	0.063	0.039	0.046	0.059
Age at Migration (10-18)	0.190	0.150	0.048	0.039	0.049	0.090	0.076	0.099	0.142	0.073
Age at Migration (18+)	0.754	0.798	0.929	0.936	0.926	0.877	0.861	0.862	0.813	0.868
Years of Duration	9.980	8.722	5.820	4.718	6.369	6.825	8.270	6.567	8.529	5.501
Sample size	1261	1417	1192	1276	390	259	655	607	214	126

Note. Data shown are proportions or means.

Table 2. Multivariate Logistic Regression Odds Ratio for Current Smoking

	Male			Female		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Age	0.989*	0.988**	0.987**	0.997	0.993	0.992
	(0.980-0.998)	(0.979-0.997)	(0.977-0.997)	(0.985-1.009)	(0.980-1.005)	(0.978-1.006)
Married[a]	1.054	1.062	1.027	0.754	0.751	0.750
	(0.822-1.350)	(0.828-1.362)	(0.799-1.320)	(0.544-1.046)	(0.542-1.041)	(0.539-1.043)
Health Status(Good)[b]	0.802	0.810	0.813	1.465	1.469	1.523
	(0.532-1.207)	(0.536-1.222)	(0.538-1.230)	(0.772-2.777)	(0.776-2.783)	(0.801-2.896)
Education(≥12 years)[c]	0.759*	0.750*	0.759*	1.069	1.043	1.040
	(0.591-0.975)	(0.584-0.964)	(0.590-0.976)	(0.699-1.635)	(0.680-1.601)	(0.677-1.600)
East and South Asia[d]	1.485**	1.495**	1.531**	0.627	0.683	0.713
	(1.112-1.983)	(1.123-1.990)	(1.143-2.050)	(0.380-1.035)	(0.406-1.150)	(0.418-1.214)
Sub-Saharan Africa[d]	0.491*	0.493*	0.497*	0.111**	0.113**	0.115**
	(0.263-0.917)	(0.265-0.918)	(0.265-0.932)	(0.024-0.512)	(0.024-0.524)	(0.025-0.532)
Europe/Central Asia[d]	2.326***	2.302***	2.384***	3.420***	3.576***	3.725***
	(1.696-3.190)	(1.688-3.140)	(1.731-3.283)	(2.286-5.118)	(2.367-5.403)	(2.434-5.700)
Middle East/North	2.929***	2.935***	3.011***	1.585	1.703	1.757
Africa[d]	(1.899-4.518)	(1.906-4.520)	(1.939-4.678)	(0.724-3.473)	(0.774-3.749)	(0.788-3.917)
Age at Migration (0-9)[e]	0.622		2.049	1.621		2.162
	(0.325-1.187)		(0.581-7.220)	(0.735-3.576)		(0.439-10.637)
Age at Migration (18+)[e]	0.872		1.406	1.006		0.900
	(0.614-1.237)		(0.769-2.570)	(0.586-1.728)		(0.384-2.110)
Years of Duration		1.003	1.037*		1.023**	1.005
		(0.991-1.015)	(1.005-1.069)		(1.007-1.040)	(0.957-1.055)
Age at Migration(0-9)×			0.937*			0.986
Years of Duration[f]			(0.889-0.987)			(0.921-1.056)
Age at Migration (18+)×			0.970			1.030
Years of Duration[f]			(0.938-1.004)			(0.979-1.085)
Sample Size	3,702	3,702	3,702	3,669	3,669	3,669

Note. 95% confidence intervals are in parentheses.
a. Not married = reference group.
b. Health status (not good) = reference group.
c. Education (<12 years) = reference group.
d. Latin America/Caribbean = reference group.
e. Age at migration (10-18) = reference group.
f. Age at migration (10-18)×Years of duration = reference group.
*** p<0.001, **p<0.01, * p<0.05 (two-tailed test)

Table 3. Multivariate Logistic Regression Odds Ratio for Binge Drinking

	Male			Female		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Age	0.976***	0.970***	0.963***	0.985	0.965***	0.966**
	(0.966-0.987)	(0.960-0.980)	(0.951-0.976)	(0.969-1.001)	(0.948-0.981)	(0.948-0.985)
Married[a]	1.224	1.180	1.137	1.205	1.144	1.136
	(0.950-1.578)	(0.917-1.518)	(0.885-1.462)	(0.806-1.802)	(0.776-1.686)	(0.760-1.698)
Health Status(Good)[b]	0.854	0.883	0.848	1.145	1.136	1.139
	(0.551-1.322)	(0.569-1.370)	(0.546-1.318)	(0.533-2.457)	(0.521-2.473)	(0.524-2.474)
Education(≥12 years)[c]	1.054	1.069	1.063	1.799*	1.736*	1.748*
	(0.822-1.352)	(0.832-1.375)	(0.827-1.367)	(1.096-2.952)	(1.047-2.877)	(1.059-2.885)
East and South Asia[d]	0.396***	0.444***	0.427***	0.750	0.823	0.791
	(0.292-0.538)	(0.326-0.605)	(0.312-0.584)	(0.448-1.255)	(0.490-1.383)	(0.465-1.344)
Sub-Saharan Africa[d]	0.349***	0.374***	0.348***	0.279*	0.272*	0.266*
	(0.205-0.595)	(0.219-0.638)	(0.203-0.597)	(0.100-0.777)	(0.097-0.760)	(0.096-0.738)
Europe/Central Asia[d]	1.270	1.337	1.266	1.776*	1.842*	1.784*
	(0.950-1.698)	(0.999-1.789)	(0.942-1.701)	(1.098-2.874)	(1.144-2.991)	(1.093-2.912)
Middle East/North Africa[d]	0.208***	0.212***	0.186***	0.408	0.438	0.417
	(0.096-0.451)	(0.097-0.460)	(0.083-0.420)	(0.115-1.441)	(0.126-1.529)	(0.116-1.495)
Age at Migration (0-9)[e]	1.292		0.247*	2.200*		0.593
	(0.750-2.227)		(0.082-0.744)	(1.062-4.558)		(0.110-3.214)
Age at Migration (18+)[e]	0.932		1.223	0.630		0.775
	(0.660-1.315)		(0.661-2.262)	(0.357-1.111)		(0.288-2.085)
Years of Duration		1.029***	1.029		1.055***	1.027
		(1.017-1.042)	(0.992-1.066)		(1.035-1.075)	(0.968-1.089)
Age at Migration(0-9)× Years of Duration[f]			1.056*			1.041
			(1.008-1.106)			(0.967-1.121)
Age at Migration (18+)× Years of Duration[f]			1.002			1.023
			(0.965-1.041)			(0.960-1.089)
Sample Size	3703	3,703	3,703	3,670	3,670	3,670

Note. 95% confidence intervals are in parentheses.
a. Not married = reference group.
b. Health status (not good) = reference group.
c. Education (<12 years) = reference group.
d. Latin America/Caribbean = reference group.
e. Age at migration (10-18) = reference group.
f. Age at migration (10-18)×Years of duration = reference group.
*** p<0.001, **p<0.01, * p<0.05 (two-tailed test)

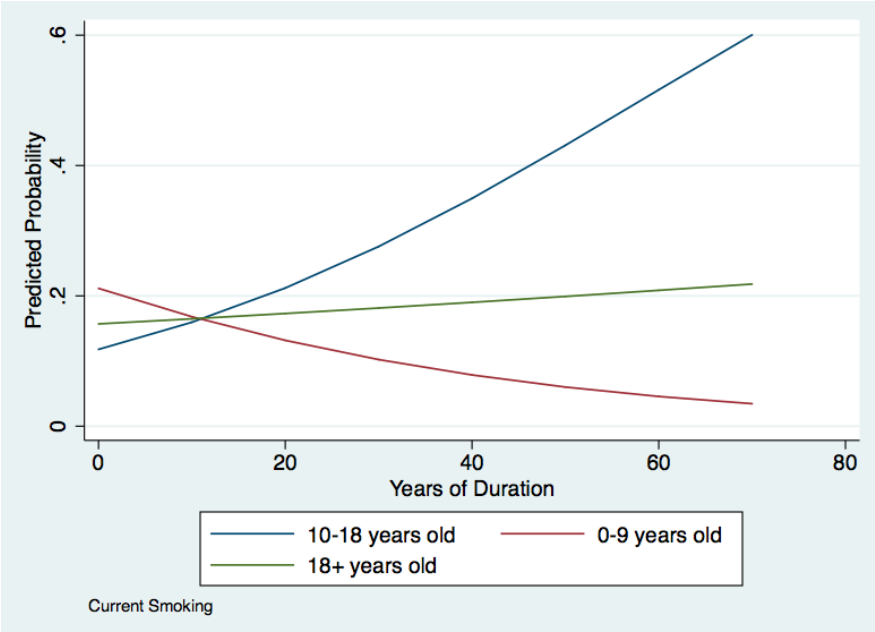

Figure 1. Predicted Probabilities of Current Smoking, by Age at Migration and Years of Duration

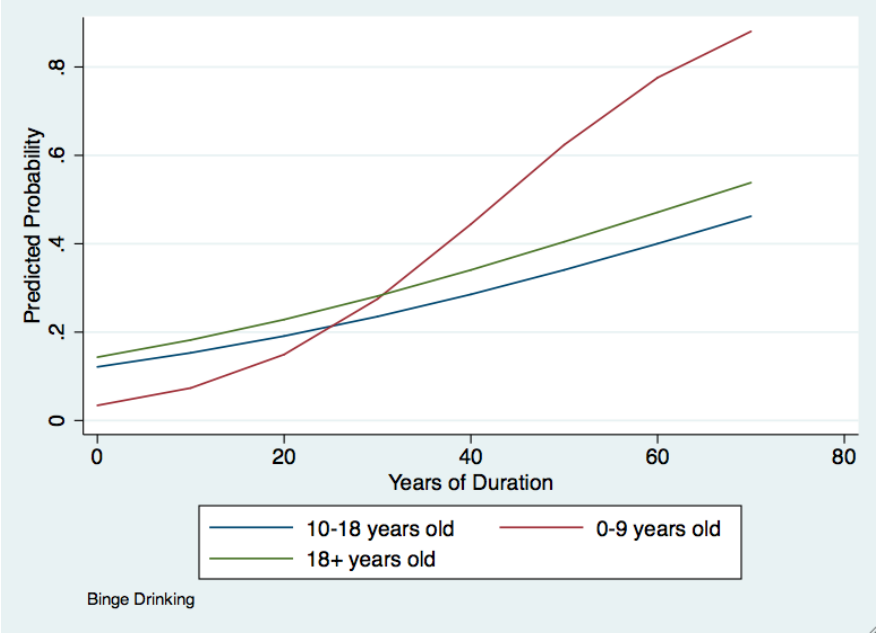

Figure 2. Predicted Probabilities of Binge Drinking, by Age at Migration and Years of Duration