

Immigrant advantage? Substance use among Latin American immigrant and native-born youth in Spain

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This article reports the results of a descriptive study conducted with middle school and high school age youth residing in northwestern Spain. The main outcome of the study is to advance knowledge about the drug use attitudes and behaviors of immigrants versus native youth in a social context where Latin American immigrants share a common language and a set of core cultural norms with the host society. The research was conducted by a bi-national Spain–US research team as a preliminary study leading to the development of joint culturally appropriate prevention interventions for youth in the northern region of Galicia, Spain. Surveys were administered in Spring 2005 to 817 students in 7th to 10th grades in 10 urban, secondary schools with high immigrant enrollment. The sample included Spanish natives (two-thirds) and Latin American immigrants (one-third), mainly from Colombia, Argentina, and Venezuela. Multiple regression analyses predicted substance use intentions, and a composite variable measuring lifetime and last 30-day frequency and amount of alcohol, cigarette and marijuana use. Controlling for the fact that the immigrant students were generally older and performing less well academically than natives, and for other predictors, Latin American immigrant youth were less at risk than native youth on their intentions to use substances and on their reported actual substance use. In a mediational analysis, most of the key explanatory variables in youth substance use etiology failed to account for the immigrant versus native differences, including a range of risk and protective factors for substance use, substance use norms, strength of ethnic identity, and degree of social integration within native-born social networks. Differential access to drugs mediated the immigrant–native gap in substance use intentions but did not mediate differences in actual substance use.

Keywords: immigrants; youth; substance use; ethnic identity

Background

Historically, Spain was an immigrant-sending country – largely to Latin America – but in recent decades these immigrant flows have reversed. Unlike some receiving countries, Spain offers Latin American immigrants greater prospects for integration through a shared language and cultural heritage, but these immigrants still face formidable social and economic barriers. Little research has studied adolescents from immigrant families in Spain, particularly those from Latin America. This study examines the adaptation experiences of Latin American immigrant adolescents in

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Galicia, Spain. It aims to advance the understanding of how immigrant status can protect youth from substance use by directly examining possible mechanisms for 'the immigrant advantage' (Crosnoe and Lopez-Gonzalez 2005). In this case immigrant and native youth share Spanish as a common language which provides an opportunity to better differentiate acculturation from language acquisition and the effects of the acculturation process on health outcomes.

Immigrant youth in Galicia, Spain

Located in the northwestern Spain, Galicia is one of the 17 autonomous regions of Spain just north of Portugal. Both Castilian Spanish and the regional language, Gallego, are official languages that are spoken and taught in schools. Concentrated in seven major cities near a jagged coastline, the 2004 population of Galicia was 2,767,524 people, with 132,872 between 15 and 19 years of age (Galician Register of Statistics [Instituto gallego de estadística] 2005).

Although Galicia was a point of departure for immigration to Latin America throughout most of the twentieth century, Galicia is now a significant destination for immigrants, predominantly from Latin America. The number of immigrants arriving in Galicia has increased by 209% from 1998 to 2003, and by 46.8% from 2003 to 2005. In 2005, the largest groups of non-native-born residents in Galicia came from Latin America (51.8%), other European nations (32.2%) and Africa (11.3%) (State Secretariat of Emigration and Migration 2005).

Galicia's schools are facing new challenges to respond to the cultural, psychosocial and health needs of growing numbers of immigrants. Of the non-native students 67.9 come from Latin America, and 60% speak Spanish, 15% speak Portuguese, the language most similar to Gallego, and 25% speak other languages. Approximately half of the immigrant students live in the seven largest cities of Galicia (State Secretariat of Emigration and Migration 2005)

While much research has been conducted on Latin American immigrants in the United States, little research has examined these immigrant youth in Spain. To address this gap, we first describe the substance use context in Spain and in Latin America. Then, we review what is currently known about immigrant adaptation and its relation to substance use, laying out the various factors that may protect Latin American immigrant youth from substance use, relative to their native-born Spanish counterparts.

Extent and causes of substance use in Spain and Latin America

Substance use among adolescents in Spain has been rising sharply and has become a source of public health concern. In a 2004 national survey of youth aged 14–18 years, 82% of students reported lifetime alcohol use, and 66% reported alcohol use in the last 30 days (Spanish Department of Health [Ministerio de Sanidad y Consumo] 2004). Episodes of inebriation were common with many students reporting that they had been drunk at least once in their lifetime (58%) and in the last month (35%). Rates of tobacco use were similarly high, with 60% reporting lifetime use, and 37% reporting use in the last year. Rates of marijuana use were somewhat lower, with 43% reporting lifetime use, and 25% reporting use in the past month. The rate of consumption of other illicit drugs was much lower (20.5% by 12th grade and 7.9% by

8th grade), with relatively few reporting use of cocaine (4%), non-prescribed tranquilizers (2%), amphetamines (2%), and ecstasy (2%). While use of substances like tobacco, alcohol, or tranquilizers has remained constant over time, substances like marijuana and cocaine show a clear increase, and the reported prevalence of inebriation among students has risen by 30% over 10 years.

A study of 8,033 13- and 17-year-old public school students from Argentina, Bolivia, Chile, Ecuador, Peru, and Uruguay showed similar trends. The average age of initiation into alcohol use was 13. Three-fourths of the 17 years olds were regular consumers of alcohol. Tobacco use rates were also high with 37.8% of the 13 year olds and 67.1% of the 17 year olds reporting lifetime cigarettes use. Lifetime marijuana use was less prevalent: 4.5% of 13 year olds and 25.8% of 17 year olds. Eleven percent of the respondents reported having tried other illicit drugs; 3% tried inhalants and 2.5% of them tried cocaine (National Secretariat of Drugs of Uruguay [Junta Nacional de Drogas del Uruguay] 2005).

These data from Spain and Latin America show that gateway drug use becomes common in early adolescence. Early initiation into tobacco and alcohol use seems to be transnational with similar rates of experimentation among adolescents. However, marijuana and other illicit drug use patterns differ across countries, with Latin American youth reporting much lower use rates than youth in Spain.

Prior studies of risk and protective factors for substance use among Spanish youth – including Galician samples – show that the factors that influence adolescent substance use in Spain are similar to those found in US samples (Hawkins *et al.* 1992, Brook *et al.* 2003, Wright and Pemberton 2004). For example, there is a strong association between substance use and disruptive or antisocial behavior (vandalism, aggression, rule-breaking) among Spanish youth (Otero *et al.* 1994).

Family and peer relations are associated with these differences. Family conflicts, low levels of trust between children and parents, inconsistent disciplinary practices, poor communication between family members, and permissive drug norms and attitudes in the family have been linked to both legal and illegal substance use by adolescents (Otero *et al.* 1989, Luengo *et al.* 1994b, Villar *et al.* 2003). By contrast, family attachment acts as a protective factor against problem behaviors including substance use and abuse (Sobral *et al.* 2000). Peer group socialization, such as the influence of substance-using friends, is one of the strongest predictors of adolescent substance use (Otero *et al.* 1989, Luengo *et al.* 1994a, 1994b). The probability of drug use is increased by friendship selection processes (i.e., youth with attitudinal and behavioral problems choosing similar friends), ready access to drugs, and greater susceptibility to peer influence.

Similar processes have been found at the school level, linking drug use and other at-risk behaviors to unclear or permissive drug norms, especially for students who exhibit high absenteeism, low academic performance, and low school bonding (Luengo *et al.* 1994a, 1994b). These distinct spheres of influence are connected; family characteristics have implications at school and influence associations with deviant friends (Luengo *et al.* 1992, Gómez-Fraguela *et al.* 1997).

Immigrant adaptation and substance use

Most research focusing on substance abuse, mental health, and ethnic minorities has taken place in Northern Europe, the US and Canada, societies with a long history of

immigration and multiculturalism. This research has contributed to our understanding of drug use and migration but has limited applicability to Spain, a country with a relatively young migration history as a receptive country. Like immigrants to other countries, young immigrants in Spain face a double health jeopardy related to drug use and mental health. Migrants undergo a profound individual change, losing vital family connections and supports from the country of origin and facing new languages, customs, and a loss of social status (Marsiglia *et al.* 2004). Immigrants to Spain also experience a lack of acceptance in the host society including its labor market (Kalter and Kogan 2002). These experiences can produce anxiety, depression, obsessive behaviors, hostility, and other stress-related reactions (Escobar *et al.* 2000). One of the few studies documenting the mental health problems related to migration to Spain found that six of every 10 immigrants receiving health care services at the Department of Immigrant Health Services of Cataluña have presented depressive symptoms, while 6.5% were diagnosed as having a mental health condition related to grieving their loss of country of origin and due to the stress related to their undocumented status or unemployment (Jansà and Borrell 2002).

Little substance abuse-specific research has been conducted with immigrants in Spain, but the international literature on immigration has linked substance use in two ways. First, substance use may increase when it serves as a coping response to the stress associated with adaptation to the new society (Beauvais 1998, De La Rosa 2002, Gonzales *et al.* 2002). Second, substance use may increase when an immigrant's culture shifts in ways that involve the adoption of values and behaviors that are more conducive to substance use than the more traditional or conservative values and behaviors of the culture of origin – in other words, as a manifestation of acculturation (Gilbert and Cervantes 1986, Markides *et al.* 1989, Vega *et al.* 1998, Unger *et al.* 2000, De La Rosa 2002, Marsiglia and Waller 2002). In the case of youth, these two pathways may collide, such as when a youth adopts pro-drug attitudes and behaviors and a cultural gap emerges between parent and child, undermining parents' ability to influence the child's behavior and leading to family conflict (Bonnheim and Korman 1985, Caetano 1986, Gutierrez *et al.* 1994, Gonzales *et al.* 2002).

Given these possibilities, it may seem that immigrants would be at greater risk for substance use than native youth. However, immigrants may enjoy various protections against substance use that native members of host societies do not enjoy or enjoy to a lesser extent. These protections may operate to offset the risks for substance use associated with immigrant status and thus, place immigrant youth at lower risk relative to native youth.

Latin American immigrant youth: more protected and less at risk?

At the individual level Latin American immigrant youth may benefit from a positive outlook, characterized by high degrees of optimism, based on their belief as immigrants in the greater opportunities in the host country (Portes and Rumbaut 2001). This perspective may lead them to seek out pro-social activities or avoid antisocial ones, and provide greater motivation to solve problems. US-based studies from the National Epidemiological Survey of Alcohol and Related Conditions (NESARC) have suggested possible associations between nativity, immigration and psychiatric disorders. For example, foreign-born respondents were found to be at

lower risk for psychiatric disorders than US-born respondents. However, the disorder rates among the foreign-born tended to rise to US-born levels the longer they had been in the US (Breslau and Chang 2006). Another NESARC study suggested that the protective effects of low acculturation may explain the more positive psychiatric morbidity profile of foreign-born Mexican Americans (Grant *et al.* 2004).

Latino cultural norms, such as *collectivism* and *personalism*, might protect against drug use among Latino youth (Hill *et al.* 1994, Delgado 1995). Collectivism is related to a group orientation and a preference to work toward shared, rather than individual, goals and needs. It could have a protective effect because it facilitates the involvement of youth in pro-social activities that tend to be organized and sponsored by the community. It is often seen as the counterpart of a more developed sense of individualism prevalent in many parts of Spain where norms tend to be more toward satisfying or addressing personal needs and desires (Megías *et al.* 2000). Personalism reflects appreciation for the individual and interpersonal relationships regardless of an individual's economic or social status. These relationships are considered more important than material goods. Contemporary Spanish society is going through a stage of development characterized by hedonism and consumerism, attitudes and behaviors that are highly correlated with drug use (Megías *et al.* 2000, Díez 2005).

The influence of culture can be seen at the individual level in the form of norms and attitudes that are key mediators of substance use (Elek *et al.* 2006). Latin American youth may have more conservative (i.e., stronger anti-drug) norms and attitudes than native Spanish youth. Research conducted in the US indicates that Latino youth have more conservative substance use norms and attitudes than native-born US youth of European descent (Gilbert and Cervantes 1986, Marsiglia *et al.* 2005, Nieri *et al.* 2005). We may find a similar difference when this group is compared to Spanish youth.

At the family level, Latin American youth may benefit from family-centeredness or *familismo* that is characteristic of many Latin American cultures (Cauce and Domenech-Rodriguez 2002). *Familismo* contributes to strong family ties which in turn buffer against adversity (Olson *et al.* 1983, Suarez-Orozco and Suarez-Orozco 1995, Chandler *et al.* 1999) and to the espousal of values and norms that favor actions benefiting the family over those benefiting the individual (Ramirez 1990). Substance use may be avoided in this context if a youth perceives that its consequences will extend beyond the individual to the family. Immigration may enhance the centrality of the family because it involves leaving behind established social networks of extended kin and friends and reducing the extent of alternative social resources upon which a youth can draw. Good family relations are also important to Spanish youth and adults but only as long as the family allows for personal development and supports its individual members (Megías *et al.* 2000). Thus, the contemporary Spanish approach appears to be more limited than the unconditional *familismo* common in more traditional Latin American countries.

Latin American immigrant youth: isolated from drugs and drug users?

An additional mechanism that may protect Latin American immigrant youth from substance use is greater social isolation. Immigrant youth may have less developed peer networks than native youth, reducing their chances of encountering

substance-using peers. Immigrants' newness to the host society may impede substance use through a lack of familiarity with local drug networks.

Social insulation, and consequently less exposure to substance use offers, may also be the results of discrimination by native Spaniards. Latin American immigrants in Spain have reported that they feel rejected by native Spaniards (Echeverri Buriticá 2005), and these feelings may lead them to avoid natives for fear of being treated badly. Fewer social relationships with native youth may thus protect against substance use. Conversely, the development of a social network with many native youth may lead to acculturation (McCarty 2005) and the adoption of less conservative drug norms and attitudes and consequently, greater substance use.

Latin American immigrant youth: buffered by stronger ethnic identification?

Finally, a third possible explanation for Latin American immigrant youth' protected status, relative to native youth, is greater ethnic identification. Ethnic identity protects against youth substance use (Félix-Ortiz *et al.* 1994, Bankston 1995, Marsiglia *et al.* 2004) and is typically stronger among ethnic minority persons than native-born, ethnic majority persons (Phinney 1992). Therefore, relative to Spanish youth, Latin American immigrant youth are likely to have stronger ethnic identification and thus be less likely to turn to substance use. Strong identification with the culture of origin may not only persist but also be reinforced by problems of acculturation, social integration, and discrimination.

Research questions

Based on the foregoing rationale, there are ample reasons to expect that youth in Galicia from Latin American immigrant families will be less likely than native-born youth to report substance use and intentions to use substances. Past research suggests that a variety of social and familial factors may help to explain these differences. *A priori*, there is inadequate theoretical or empirical foundation for positing which of these factors is likely to be the most potent mediating influence in accounting for any substance use differentials. The aim of the study is not to predict associations between the identified variables but rather to advance knowledge about the phenomenon by describing possible ways in which key variables relate to each other. As an organizing framework for the study, we pursued the general research question that the less well-explored explanation for the immigrant–native difference – degree of ethnic identification – would ultimately be most important in accounting for the difference. The sample, composed of Spanish speakers from Spain and Latin America, provides a unique opportunity to isolate ethnic identity from language acquisition as both groups shared a common language from the start. The principal research questions can be stated as follows:

RQ1: Do Latin American immigrant youth report more desirable outcomes than native Spanish youth on key factors associated with substance use, including fewer risk and more protective factors for substance use, more conservative drug norms, isolation from native born social networks, degree of exposure to substance use opportunities, and stronger ethnic identification?

RQ2: Do Latin American immigrant youth have more desirable substance use outcomes (actual use and intentions to use) than native Spanish youth, after controlling for age, grade level, gender, socioeconomic status, and academic performance?

RQ3: Do differences between Latin American immigrant and native Spanish youth on substance use outcomes narrow after controlling for variables representing risk and protective factors for substance use, adherence to conservative drug use norms, isolation from native born social networks, and exposure to substance use opportunities?

RQ4: Are differences between Latin American immigrant and native Spanish youth reduced to non-significance after controlling for degree of incorporation of Spanish versus Latin American identity.

Data and sample

Data for this analysis came from a pilot study conducted in Spring of 2005. Surveys were administered to students in 10 urban secondary schools in Galicia, Spain. Participating schools had four levels ('cursos') of instruction corresponding chronologically to US grades 7th through 10th. These schools were selected because of their relatively high percentage of students from immigrant families. All students present on survey day completed a self-administered questionnaire that asked about demographics, substance use behaviors and attitudes, exposure and responses to drug offers, substance use risk and protective factors, multicultural attitudes, social networks, and ethnic and national identity. Students from immigrant families answered a set of supplemental questions about their acculturation status, acculturation stress, and sense of perceived discrimination.

Data were collected from 887 students: 29% in 1st course, 29% in 2nd course, 19% in 3rd course, and 23% in 4th course. A majority (72%) were native Spaniards. Over one-fourth (28%) were immigrants (i.e., born outside of Spain). Most immigrants (73%) came from Latin America. The remainder came from Europe (14%), Africa (10%), and other locations (3%). The most common sending countries for immigrants were Colombia (28%), Argentina (24%), and Venezuela (21%). The sample for this analysis was restricted to students who were either Spanish natives or Latin American immigrants ($N=817$), the only subgroups numerous enough to analyze separately.

Measures

The analysis examines two outcomes, a scale measuring substance use intentions and a single factor score measuring actual substance use that is constructed from nine indicators. The substance use intentions scale included three items assessing the likelihood of accepting offers of alcohol, tobacco, and marijuana if the respondents were offered them during the next weekend (Cronbach's $\alpha = 0.76$). Substance use indicators included: both lifetime and last 30-day frequency of use of alcohol, of cigarettes, and of marijuana, all assessed with the same range of responses (0 = 0 times to 6 = 40 or more times): the typical quantities of alcohol used (0 = None to 6 = more than 30 drinks); the number of cigarettes consumed in the last week (0 = None to 6 = More than 20 cigarettes); and episodes of drunkenness in the last year (0 = None to 4 = Every day). All of these measures were scored such that high

values were undesirable. After determining that results were very similar using the nine separate substance use indicators as outcomes in multivariate models, a single composite measure of actual substance use was created using principal component factor analysis. Although they assessed lifetime and recent use of three different substances – alcohol, cigarettes, and marijuana – these indicators cohered around a single factor with very high loadings (0.71–0.91), from which an overall substance use score was calculated. This factor accounted for 71% of all the variance in the component items. If the nine indicators were combined into an additive scale, it would have very high reliability (Cronbach's $\alpha = 0.91$). The factor score can be considered an overall measure that distinguishes the most problematic substance users – those consuming multiple substances and with relative frequency – from non-users, infrequent users, and users of single substances.

Immigrant/native status was measured by a dichotomous variable in which Spanish natives were the reference group. Control variables in all models included age in years, school grade (1 = 7th grade equivalent to 4 = 10th grade equivalent), gender (1 = female), average grade received in most school subjects (0 = Insufficient to 4 = Outstanding), and socioeconomic status (higher values indicating greater parental occupational prestige), all of which are known correlates of substance use outcomes (Hawkins *et al.* 1992, Brook *et al.* 2003, Wright and Pemberton 2004).

Key independent variables were grouped by explanatory domain, each including several predictors. The protective factors domain included family relations, parental communication, parental monitoring, productive coping, and pro-social behavior. Family relations were measured by a single item: 'How do you consider the relationship you maintain with your family' (1 = Very bad to 5 = Very good). Parental communication was measured by a six-item scale ($\alpha = 0.82$). (Villar *et al.* 2003) that assessed whether parent-child communications were enjoyable, pleasant, and made a priority, as well as whether parents listened to the child and worked together to solve conflicts. Parental monitoring was measured by a six-item scale ($\alpha = 0.61$) from Li *et al.* (2000) that assessed how much parents inquired about the adolescent's friends, free time and after school activities, as well as their degree of permissiveness regarding the youth's destinations, activities, and curfews. Productive coping was measured by a five-item scale ($\alpha = 0.82$) from Frydenberg and Lewis (1997) that focused on positive ways to solve problems by identifying their sources, considering a range of viewpoints and possible solutions, and applying all one's abilities. Pro-social conduct was measured by a five-item scale ($\alpha = 0.65$) from Marsiglia *et al.* (2003) that assessed frequency of time spent with family, assisting teachers and others in the neighborhood, and school extracurricular activities.

The risk factors domain included family conflict, susceptibility to persuasion/influence, and antisocial behavior. Family conflict was measured by a 16-item scale ($\alpha = 0.89$), a reduced version of the Conflict Behavior Questionnaire (Prinz *et al.* 1979) that focused on parent-child misunderstandings, disagreements, arguments, inconsiderateness, frustration, and defiance or open opposition. Susceptibility to peer influence scale was measured by a five-item scale ($\alpha = 0.46$) (Luengo *et al.* 1999b) that assessed the likelihood of succumbing to peer pressure to use substances, skip class or eschew studying, and engage in risky behavior on a dare. Anti-social behavior was measured by a 20-item scale ($\alpha = 0.83$) (Luengo *et al.* 1999a) covering a variety of behaviors involving fights, thefts, threats, vandalism, use of weapons, and school expulsions.

The pro-drug norms and attitudes (a.k.a. substance use mediators) domain included parental injunctive norms, friends' injunctive norms, positive drug expectancies, and descriptive norms. Parental injunctive norms were measured by the mean of three items capturing students' report of how angry their parents would be if they found out they had drunk alcohol, smoked cigarettes, or smoked marijuana (1 = Very angry to 4 = Not at all angry) (Hansen *et al.* 1988). Friends' injunctive norms were measured by the mean of three items capturing students' report of how their best friends would react if they got drunk, smoked cigarettes, or smoked marijuana (1 = Very negatively to 3 = No reaction to 5 = Very positively) (Hansen *et al.* 1988). Positive drug use expectancies were measured by a 13-item scale assessing views on the benefits and dangers of substance use (0 = Disagree, 1 = Indifferent, 2 = Agree) (Luengo *et al.* 1999b). Items included whether alcohol use improves relationships with friends, make parties more fun, is part of a healthy lifestyle, and impacts school performance; whether tobacco use helps you relax, and is less dangerous than use of other drugs; whether marijuana use is expected among young people, is pleasant, and helps you become part of a group; and whether 'drug use' helps you overcome problems, have happy experiences, stay healthy and sane, and allow you to talk to others about the effects of drugs. Descriptive norms were measured by the mean of three items that captured the students' estimates of the number of 'kids in school' who have ever consumed alcohol, cigarettes, and marijuana (0 = No one to 5 = All). These norms and attitudes scales had good internal consistency (Cronbach's alpha coefficients of 0.76–0.87) and were scored such that high values were undesirable.

The native network integration domain included two variables: the proportion of the respondent's friends who are Spanish natives (0 = No one to 4 = Almost all or all) and the amount of regular home visitors who are Spanish natives (0 = Exclusively non-Spaniards to 4 = Exclusively Spaniards).

The drug exposure domain included three variables: drug access, drug offers, and drug-using friends. Drug access was measured by a four-item scale capturing the ease with which the respondent could obtain alcohol, tobacco, marijuana, or other drugs (0 = Very difficult to 3 = Very easy) ($\alpha = 0.86$). Drug offers were captured by a single item measuring the number of times drugs were offered to the respondent in the last 30 days (0 = Never to 5 = More than 10 times). Drug-using friends were measured by a three-item scale capturing the number of friends who have ever used alcohol, tobacco, or marijuana (0 = None to 5 = All) ($\alpha = 0.89$).

The ethnic identity domain included two variables, each measuring the extent to which the youth identified him or herself as either Spanish or Latin American (0 = Not at all to 4 = A lot).

Analysis strategy

We used SAS version 9.1 to conduct independent sample *t*-tests, bivariate correlations, and OLS multiple regression analyses to test for differences between Latin American immigrant youth and native Spanish youth in substance use behaviors and intentions and to examine alternative explanations for these differences. The multivariate analyses adjusted for differences between the immigrant and native Spanish youth in age, gender, grade level, academic grades, and SES. An initial regression model examined the effects of immigrant status after controlling for

these variables. Explanatory variables were then added by domain to the initial model in subsequent models. If the effect of immigrant status was statistically significant in the initial model and became not significant in the subsequent model, the domain was interpreted as explaining the difference between Latin American immigrant youth and native Spanish youth. Each explanatory domain was added separately in the following order: protective factors, risk factors, pro-drug norms and attitudes, native network integration, drug exposure, and ethnic identity. A final model included controls, immigrant status, and all explanatory domain variables.

The large number of explanatory variables examined in the multivariate analyses introduced the potential for problems due to multicollinearity and missing data. Multiple indicators were included as predictors for each explanatory domain, and correlations among the various domains might be expected to be substantial, for example, between measures of pro-drug norms and access to drugs. Assessments of multicollinearity, even in the most saturated models, did not, however, indicate any problems: variance inflation factors were all less than the recommended maximum of 5 and most were well below 2 (Allison 1999).

As predictors were added to regression models, incremental attrition did lead to an accumulation of missing cases, ultimately amounting to nearly half of the sample when all predictors were included. Accordingly, alternate models were tested to determine the impact of handling missing data in different ways. The single largest contributor to missing data was the socioeconomic status variable based on parental occupational prestige, where data for 19% of the cases were missing. Five of the other 26 variables were missing between 6 and 8% of the cases, and all other variables were missing less than 5% of the cases. The proportion of cases missing data were quite similar (differing by less than two percentage points) for native Spanish and Latin American immigrant youth except for measures of anti-social conduct, drug-using friends, and ethnic identification as a Spaniard, where about 5% more of the cases were missing for immigrant than for native youth. The opposite occurred for socioeconomic status, where 20% of the native Spaniards and 16% of the Latin American immigrant youth were missing. Because of the possibility that socioeconomic differences between immigrant and native youth might influence substance use outcomes, the socioeconomic variable was retained in all the models presented in the paper. However, tests with alternate models where this variable was excluded produced essentially similar results to those presented here. Alternate models also were estimated after restricting the analysis to the half of the sample where complete data on all the predictors was available. Except where noted, these analyses reproduced the results presented below in terms of the direction, general size, and statistical significance of the predictors.

Results

Table 1 contains the means and standard deviations for variables used in the analyses, first for the total sample and then separately for Latin American immigrant youth and native-born Spanish youth, as well as the mean differences between the latter two groups. The last two columns present Pearson correlations of the variables with the two outcome variables, the substance use intentions scale and the actual substance use factor score. *T*-tests for differences in means indicated that, relative to native Spanish youth, the Latin American immigrant youth on average were

Table 1. Descriptive statistics for study variables.

	<i>N</i>	Mean (SD) total sample	Mean (SD) Latin American immigrants	Mean (SD) native-born spaniards	Mean difference immigrants versus natives	Correlation with substance use intentions	Correlation with substance use factor score
Family relations	815	4.45 (0.74)	4.54 (0.64)	4.44 (0.74)	0.09 +	-0.217***	-0.223***
Parental monitoring	812	17.56 (3.82)	17.18 (3.73)	17.69 (3.85)	0.51	-0.361***	-0.374***
Family communication	809	15.86 (4.91)	16.22 (4.54)	15.78 (5.00)	0.44	-0.205***	-0.193***
Productive Coping Scale	785	12.58 (4.73)	12.63 (4.57)	12.61 (4.77)	0.02	-0.034	-0.002
Pro-social conduct	769	6.85 (3.85)	6.97 (3.99)	6.83 (3.82)	0.14	-0.166***	-0.150***
Family conflict	799	21.61 (11.22)	20.53 (10.06)	21.82 (11.45)	-1.30	0.282***	0.261***
Susceptibility to persuasion	803	0.87 (1.01)	0.99 (1.04)	0.83 (.99)	0.16 +	0.434***	0.401***
Anti-social conduct	771	4.05 (5.78)	3.93 (4.56)	4.02 (5.99)	-0.09	0.311***	0.301***
Positive drug expectancies	793	5.05 (4.74)	5.38 (4.45)	4.95 (4.83)	0.43	0.476***	0.490***
Parents' injunctive norms	784	4.77 (2.18)	5.27 (2.12)	4.64 (2.18)	0.63***	0.354***	0.374***
Friends' injunctive norms	789	6.37 (2.80)	6.74 (3.08)	6.27 (2.70)	0.47 +	0.407***	0.423***
Descriptive norms	795	7.93 (3.36)	8.14 (3.15)	7.84 (3.41)	0.30	0.317***	0.326***
Spanish friends	811	3.55 (.85)	2.96 (1.13)	3.71 (0.66)	-0.75***	0.025	-0.014
Spanish visitors	809	2.96 (1.05)	1.53 (1.00)	3.36 (0.64)	-1.83***	-0.045	-0.022
Ease of access to drugs	770	5.44 (3.64)	5.34 (3.63)	5.47 (3.64)	-0.13	0.469***	0.469***
Drug offers received	788	1.75 (1.93)	1.91 (1.94)	1.68 (1.92)	0.22	0.475***	0.502***
Drug-using friends	743	5.26 (4.42)	5.72 (4.18)	5.11 (4.45)	0.61	0.608***	0.649***
Identity as spanish	786	3.07 (1.16)	1.71 (1.26)	3.42 (0.83)	-1.71***	-0.118**	-0.140***
Identity as Latin American	749	1.14(1.55)	3.46 (0.96)	0.49 (0.94)	2.98***	0.015	0.010
Substance use intentions	799	1.61 (2.39)	1.69 (2.28)	1.58 (2.41)	0.11	1	0.868***
Substance use factor score	722	0.00 (1.00)	0.05 (0.90)	-0.01 (1.03)	0.02	0.868***	1
Age	795	14.28 (1.48)	14.76 (1.51)	14.13 (1.44)	0.63***	0.416***	0.467***
Grade level	813	2.37 (1.12)	2.54 (1.13)	2.31 (1.11)	0.23*	0.351***	0.399***
Socioeconomic status	659	2.05 (0.94)	2.07 (0.85)	2.05 (0.97)	0.02	-0.021	-0.020
Usual grades	798	1.86 (1.11)	1.58 (0.98)	1.94 (1.14)	-0.36***	-0.284***	-0.291***
	<i>N</i>	Percentage	Percentage	Percentage	Odds ratio		
Immigrant (1) versus Native (0)	805	22	100	0			
Female (1) versus Male (0)	803	53	50	54	0.85		

+*p* < 0.10; **p* < 0.05; ***p* < 0.01; ****p* < 0.00.

significantly older, were enrolled at higher grade levels, and received lower grades. There were no significant SES differences between the two groups, and the gender distribution in the two groups was roughly comparable. Adjustments for these differences by age, grade level, and academic grades are important because they place the immigrant youth at higher risk for substance use both developmentally and academically. Indeed, the direction of the mean differences suggests that immigrant youth on average report stronger intentions to use substances than native youth and report more actual substance use, although these differences were not statistically significant. When examining substance-specific outcome measures (not presented in tables), the immigrant youth reported a higher lifetime prevalence than native youth for alcohol use (51% versus 38%) and cigarette use (49% versus 39%), but lower prevalence of marijuana use (11% versus 16%). Smaller differences, although in the same direction, were found for measures of recent use of alcohol (45% versus 33%), cigarettes (22% versus 19%), and marijuana (6% versus 11%). In the multivariate analyses presented below, however, differences between the two groups all resolved in the same direction after controlling for age and grade level, with the immigrant youth reporting relatively lower levels of substance use than did the native youth.

In bivariate tests, immigrant youth did not differ markedly from native youth on risk and protective factors for substance use. Although the direction of mean differences suggested that immigrant youth had somewhat more desirable mean scores on measures of family relations, family communication, parental monitoring, and pro-social coping, none of these differences were significant at $p < 0.05$. Immigrant youth reported less desirable mean scores than natives on all the risk factors – family conflict, susceptibility to persuasion, and anti-social conduct – although again the differences were not statistically significant. Mean scores did not indicate that immigrant youth had more conservative drug norms, but rather the opposite. They reported significantly stronger parental pro-drug injunctive norms, and a nearly significant difference in the same direction for friends' injunctive norms. Although immigrant youth had fewer Spanish friends and Spanish visitors to their home than native youth, the immigrant group did not appear more isolated from drug using opportunities, offers, and friends. Mean differences on those variables, although again non-significant, were sometimes in the opposite direction. There were large mean differences in ethnic/cultural identification. The immigrant group was less likely than natives to identify themselves as 'Spanish,' and more likely to identify as 'Latin American.'

In the sample as a whole the general pattern of correlations was as expected; substance use intentions and actual substance use were negatively associated with most protective factors and positively associated with risk factors, pro-drug norms, access or exposure to drug use opportunities, and drug-using friends. These outcomes were not correlated, however, with socioeconomic status, productive coping, Spanish friends, Spanish visitors, and identity as Latin American. Strong Spanish identification, however, was negatively associated with both of the substance use-related outcomes.

The bivariate relationships raise questions about the existence of many of the hypothesized differences between Latin American immigrants and native-born Spanish youth in their susceptibility to and protection from substance use. Subsequent multivariate analyses assessed whether these differences became more

or less apparent after controlling for the appreciable differences that were demonstrated between the two groups in age, grade level, and academic performance.

Table 2 contains the results from regression models predicting substance use intentions. After introducing a set of standard controls in model 1, the dummy variable contrasting Latin American immigrant youth with native Spanish youth was a significant predictor of intentions to use substances. In this model, the immigrant group, younger respondents, and those with higher grades reported significantly weaker intentions to use substances than did native Spanish and older respondents, and those earning lower grades. Of the standard controls, the effects of age and academic grades usually persisted in models 2 through 7, which introduced variables from each of the explanatory domains in turn. Controlling for one set of explanatory variables – those measuring drug access – reduced the immigrant versus native differences in use intentions to non-significance (model 6). Controlling for the variables from three other explanatory domains (protective and risk factors, models 2 and 3, and ethnic identity, model 7) reduced the estimated difference between immigrant and native youth in use intentions to significance at only the $p < 0.10$ level. Variables representing other explanations – pro-drug norms and isolation from native networks – did not account for the immigrant versus native differences in use intentions. The size of the estimated immigrant versus native effect remained quite stable from models 1 through 4 dropped appreciably only in models 6 and 8, and actually increased in models 5 and 7.¹

The other significant predictors of intentions to use substances included two of the variables from the protective factors domain in model 2, both related to positive family or parental involvement. All of the risk factor variables (model 3), pro-drug norm measures (model 4), and drug access or exposure variables (model 6) were significant predictors of stronger intentions to use substances. Social integration into native Spanish networks produced contrasting results, with larger networks of native Spanish friends operating as a significant predictor of stronger intentions to use substances, but larger numbers of native Spanish visitors to the home predicting weaker use intentions. Degree of ethnic identification with Spain or with Latin America was not a significant predictor of use intentions in model 7, and it did not appear to mediate the immigrant versus native differences in use intentions. In the final model with all predictors, estimated differences between Latin American immigrants and native-born Spaniards were reduced to a level of marginal significance. In this model, one or two of the variables from the risk factor, pro-drug norms, native networks, and drug access domains remained as significant predictors. One of the risk factors – anti-social conduct – reversed direction and became a predictor of weaker use intentions.² The final model again demonstrated no effects of the identity variables. Overall, the models that included pro-drug norms, drug access variables, or both explained the most variance in substance use intentions, from 41 to 54%.

The results from regression models in Table 3 show the predictors of the composite measure of actual substance use, which assessed the frequency and quantity of recent and lifetime alcohol, cigarette, and marijuana use. In model 1, the Latin American immigrant youth were shown to report significantly lower levels of substance use than native Spanish youth after introducing standard controls. The size of the estimated immigrant versus native effect remained quite stable for all

Table 2. Effects on substance use intentions, unstandardized regression coefficients (standard errors).

	1 Controls	2 Protective factors	3 Risk factors	4 Pro-drug norms	5 Native networks	6 Drug access	7 Ethnic identity	8 All predictors
Intercept	-3.497* (1.374)	-2.040 (1.403)	-2.150 (1.314)	-3.711** (1.240)	-3.596** (1.369)	-2.766* (1.306)	-3.487* (1.457)	-2.211 + (1.329)
Latin American immigrant versus Native born	-0.526* (0.212)	-0.381 + (0.216)	-0.395 + (0.205)	-0.430* (0.188)	-0.829** (0.312)	-0.229 (0.207)	-0.751 + (0.404)	-0.147 (0.380)
Age	0.398*** (0.111)	0.292* (0.114)	0.263* (0.107)	0.177 + (0.101)	0.423*** (0.111)	0.255* (0.106)	0.417*** (0.118)	0.135 (0.108)
Grade level	0.254 + (0.138)	0.222 (0.142)	0.309* (0.133)	0.139 (0.129)	0.214 (0.138)	-0.242 + (0.136)	0.208 (0.147)	-0.160 (0.143)
Female	-0.269 (0.176)	-0.306 + (0.181)	-0.292 + (0.168)	-0.477** (0.159)	-0.357* (0.177)	-0.018 (0.162)	-0.315 + (0.187)	-0.285 (0.176)
Socioeconomic status	0.067 (0.087)	0.095 (0.086)	0.150 + (0.082)	0.078 (0.076)	0.048 (0.087)	0.130 (0.081)	0.063 (0.091)	0.106 (0.078)
Usual grades	-0.493*** (0.084)	-0.437*** (0.085)	-0.280*** (0.083)	-0.232** (0.078)	-0.515*** (0.084)	-0.291*** (0.082)	-0.520*** (0.089)	-0.152 + (0.085)
Family relations		-0.269* (0.110)						-0.108 (0.105)
Parental monitoring		-0.456*** (0.103)						-0.169 + (0.100)
Family communication		-0.054 (0.117)						0.112 (0.129)
Productive coping		0.026 (0.095)						0.051 (0.092)
Pro-social conduct		-0.109 (0.099)						0.075 (0.094)
Family conflict			0.230** (0.088)					0.206 (0.132)
Susceptibility to persuasion			0.640*** (0.098)					0.204* (0.102)
Anti-social conduct			0.292** (0.093)					-0.263* (0.109)
Positive drug expectancies				0.164*** (0.019)				0.143*** (0.025)
Parents' injunctive norms				0.146*** (0.041)				0.041 (0.046)
Friends' injunctive norms				0.158*** (0.031)				0.111** (0.036)
Descriptive norms				0.087*** (0.025)				-0.016 (0.029)
Spanish friends					0.261** (0.096)			0.206* (0.090)
Spanish visitors					-0.291* (0.134)			-0.165 (0.132)
Ease of access to drugs						0.092** (0.029)		0.061 + (0.031)
Drug offers received						0.163** (0.052)		0.143** (0.052)
Drug-using friends						0.218*** (0.024)		0.145*** (0.027)

Table 2 (Continued)

	1 Controls	2 Protective factors	3 Risk factors	4 Pro-drug norms	5 Native networks	6 Drug access	7 Ethnic identity	8 All predictors
Identity as spanish							-0.158 (0.101)	0.026 (0.089)
Identity as Latin American							-0.004 (0.099)	-0.013 (0.084)
Adjusted R^2	0.200	0.261	0.327	0.413	0.212	0.423	0.210	0.543
N	600	556	560	552	595	524	544	433

+ $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

models except model 5, where it increased, and model 8 where it dropped to non-significance.³

Mirroring results from the predictors of substance use intentions, older students, males and students with poor grades were shown to be more at risk of actual substance use in most models. Grade level and socioeconomic status were either non-significant or very weak influences.⁴ The same two protective factors in model 2 that assessed positive family or parental involvement predicted less actual substance use, just as they had predicted weaker substance use intentions. All of the pro-drug norms measures (model 4) predicted higher substance use levels, as did all except one of the risk factor variables (family conflict) (model 2) and all but one of the drug access or exposure variables (ease of access) (model 6). Social integration into native Spanish networks and ethnic identity variables were not significant predictors of actual substance use. Age, academic grades and gender were salient factors. As was found with substance use intentions, in nearly all models the students more at risk of use were older respondents, and those with poorer grades. Unlike the results for use intentions, males reported higher actual substance use than females in most models predicting actual substance use. In the final model with all predictors, estimated differences between Latin American immigrants and native-born Spaniards were reduced again to a level of marginal significance. In this model, one of the protective factors (positive family relations), two of the pro-drug norms variables (positive substance use expectancies and friends' injunctive norms), and two of the drug access variables (number of offers and drug-using friends) remained as significant predictors. The final model again demonstrated no effects of the identity variables. As was found in predicting substance use intentions, the models that included pro-drug norms, drug access variables, or both explained the most variance in substance use intentions, from 47 to 57%.

Discussion

In this sample of youth from immigrant and native-born families in Galicia–Spain, differences in substance use and intentions to use emerged, but in unexpected ways, and results failed to support several explanations that posit the key social and cultural sources of these differences. First, the results failed to confirm that the Latin American immigrant youth would have better outcomes than native Spanish youth on many of the key mediators of substance use that have been established in prior studies. The immigrant youth did not report more protective factors or fewer risk

Table 3. Effects on substance use, unstandardized regression coefficients (standard errors).

	1 Controls	2 Protective factors	3 Risk factors	4 Pro-drug norms	5 Native networks	6 Drug access	7 Ethnic identity	8 All predictors
Intercept	-3.118*** (0.576)	-2.585*** (0.588)	-2.563*** (0.566)	-3.142*** (0.528)	-3.157*** (0.578)	-2.613*** (0.538)	-3.305*** (0.609)	-2.274*** (0.558)
Latin American immigrant versus Native	-0.296** (0.092)	-0.259** (0.094)	-0.245** (0.091)	-0.257** (0.082)	-0.375** (0.135)	-0.227* (0.088)	-0.290+ (0.172)	-0.116 (0.162)
Age	0.245*** (0.046)	0.210*** (0.048)	0.195*** (0.046)	0.145*** (0.043)	0.254*** (0.047)	0.176*** (0.044)	0.269*** (0.049)	0.110* (0.045)
Grade level	0.072 (0.058)	0.049 (0.060)	0.088 (0.058)	0.024 (0.056)	0.058 (0.059)	-0.107+ (0.056)	0.023 (0.062)	-0.063 (0.061)
Female	-0.143+ (0.074)	-0.164* (0.077)	-0.150* (0.073)	-0.203** (0.068)	-0.163* (0.075)	-0.080 (0.068)	-0.167* (0.079)	-0.202** (0.074)
Socioeconomic status	0.022 (0.036)	0.032* (0.036)	0.058 (0.035)	0.030 (0.032)	0.018 (0.037)	0.059+ (0.033)	0.025 (0.038)	0.054+ (0.033)
Usual grades	-0.210*** (0.036)	-0.194*** (0.037)	-0.142*** (0.036)	-0.095** (0.034)	-0.217*** (0.036)	-0.136*** (0.034)	-0.214*** (0.038)	-0.067+ (0.037)
Family relations		-0.138** (0.048)						-0.102* (0.046)
Parental monitoring		-0.215*** (0.043)						-0.083+ (0.042)
Family communication		0.038 (0.050)						0.086 (0.056)
Productive coping scale		0.051 (0.041)						0.030 (0.039)
Pro-social conduct		-0.018 (0.043)						0.024 (0.040)
Family conflict			0.049 (0.038)					0.015 (0.056)
Susceptibility to persuasion			0.236*** (0.043)					0.045 (0.043)
Anti-social conduct			0.132** (0.041)					-0.007 (0.047)
Positive drug expectancies				0.067*** (0.009)				0.056*** (0.011)
Parents' injunctive norms				0.069*** (0.017)				0.038+ (0.019)
Friends' injunctive norms				0.068*** (0.014)				0.046** (0.016)
Descriptive norms				0.037*** (0.011)				-0.006 (0.012)
Spanish friends					0.058 (0.041)			0.025 (0.038)
Spanish visitors					-0.071 (0.058)			-0.040 (0.057)
Ease of access to drugs						0.022+ (0.012)		0.005 (0.013)
Drug offers received						0.082*** (0.022)		0.075*** (0.022)

Table 3 (Continued)

	1 Controls	2 Protective factors	3 Risk factors	4 Pro-drug norms	5 Native networks	6 Drug access	7 Ethnic identity	8 All predictors
Drug-using friends						0.089*** (0.010)		0.060*** (0.012)
Identity as spanish							-0.058 (0.043)	0.004 (0.038)
Identity as Latin American							-0.035 (0.042)	-0.040 (0.036)
Adjusted R ²	0.272	0.325	0.360	0.470	0.274	0.480	0.276	0.573
N	553	515	519	510	548	486	503	409

+*p* < 0.10; **p* < 0.05; ***p* < 0.01; ****p* < 0.001.

factors for substance use, and they were not less exposed to substance use offers and opportunities. Where there were significant differences in norms toward substance use, it was the native rather than immigrant youth who reported more conservative norms. To some degree the lack of differences, or their unexpected direction, may reflect other developmental and academic differences between the two groups. Compared to native Spanish youth the immigrant group was significantly older, enrolled at higher grade levels, and earning poorer grades in school.

After adjusting for these last differences, there was strong evidence that Latin American immigrant youth reported lower levels of actual substance use and intentions to use than native Spanish youth. Although many of the variables representing hypothesized explanations for these differences were significant predictors of both of the substance use-related outcomes, they failed to account clearly for the immigrant/native differentials. The differences between the immigrant and native Spanish youth in substance use outcomes persisted even after controlling for all explanatory variables except those representing access to drugs, which was a mediator for substance use intentions. Immigrant versus native differences in actual substance use became negligible only in full models that included all the controls and explanatory variables. Also contrary to initial expectations, ethnic identity variables – representing in turn attachment to a Latin American and to a Spanish identity – failed to predict the outcomes independently after adjusting for the control variables.

The findings portray both important differences and similarities between Latin American immigrants and native Spanish youth in Galicia in their susceptibility to substance use problems. Even when drawn from the same classrooms, the immigrant youth appear more at risk due to their somewhat older ages and poorer academic performance, both of which may reflect disruptions of the immigration process and a difficult navigation of Spanish school systems and communities. Compared to native youth at the same developmental and academic performance levels, however, the immigrant youth appear less at risk. But why do the most commonly cited factors in the epidemiology of youth substance use fail to account more clearly for these differences, even when they do continue to predict substance use outcomes for the two groups considered together? One answer was suggested by the findings that the two groups did not differ significantly on most of the explanatory variables, or the differences were in the unexpected direction of immigrant youth being in a position of greater vulnerability to substance use. It is possible that protective family,

community, and personal factors that may be present in the immigrants' cultures of origin may be undermined in their host society, at least partially. Conversely, immigrant adjustment processes may exacerbate certain risk factors, such as family conflict due to acculturation gaps between parents and children, which in turn may increase the immigrant youth's susceptibility to peer influence and distance them from their cultural roots. Moreover, differences in culture and identity across the immigrant groups from a variety of sending nations may complicate efforts to reinforce cultural values, practices, and identities in the Galician social context.

Findings from the mediational analyses hinted at the possible role of these immigrant adaptation processes. Controlling for degree of access or exposure to drugs, drug offers, and drug-using friends – all of which predicted stronger intentions to use substances – immigrant versus native differences were reduced to non-significance for intentions to use. This suggests that the immigrant group benefits from some form of insulation from drug using networks. On the other hand, controlling for the degree of integration in native Spanish social networks increased the estimated immigrant versus native difference, both in actual substance use and use intentions, suggesting that the most highly integrated youth from immigrant families enjoy an enhanced level of protection from substance use. Both of these intriguing findings deserve more detailed investigation in future research.

As an exploratory study, this analysis was subject to certain limitations. Although the sample of 10 Galicia secondary schools was purposive, and was designed to encompass the region's largest cities where immigrant families are most numerous, it was not a random sample. The findings may thus not adequately represent all Latin American immigrant youth in Galicia, much less the rest of Spain. Although the sample was quite sizable overall, the immigrant sub-sample was too small to be broken down into particular sending countries. Moreover, many questions relating to identity processes were restricted to the immigrant group, preventing their use in analyses that included the much larger native-born group. The general lack of explanatory power of the ethnic identity variables raises questions about how to measure and model the influence of complex identity processes in the Galician context. Immigrant youth navigate within a social context where their immigrant identities are shaped by sometimes invidious distinctions that are made among different immigrant groups from Africa, Europe and the Americas, and where the acquisition of a host society identity involves choices among competing regional (Gallego), Spanish, and European identities.

Despite the limitations, the study was able to demonstrate that immigrant youth in Galicia from Latin American origins do appear to enjoy a certain level of protection from substance use compared to youth who are similar developmentally and academically. Identifying the source of that protection may require more extensive comparisons among subgroups of immigrants, and a consideration of additional factors in substance use etiology, perhaps including more elaborate or more tailored instruments and procedures for assessing the impact of identity processes.

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Notes

1. The standardized estimate of the immigrant versus native effect ranged from 0.07 to 0.09 in models 1 through 4; it increased to 0.14 in model 5 and to 0.13 in model 7; and dropped to 0.04 in model 6 and to 0.02 in model 8. Standardized effects of similar size to those in Table 2 were also obtained in alternate models that restricted the sample to cases that had complete data on all predictors.
2. Additional model tests demonstrated that this reversal could be attributed to the simultaneous inclusion of two other predictors (positive drug expectancies and drug-using friends) which were moderately and positively correlated with the anti-social conduct scale. Variance inflation factors in Table 2 model tests, however, did not indicate there was unacceptable multi-collinearity among these or any of the other predictors.
3. The standardized estimate of the immigrant versus native effect ranged from 0.09 to 0.12 in models 1 through 4 and model 6; it increased to 0.15 in model 5 and to 0.13 in model 7; and dropped to 0.04 in model 8.
4. Although the VIF diagnostics did not indicate a problematic level of collinearity, grade level was related closely to another predictor – age. Because of educational interruptions related to migration and different educational systems in Latin America and Spain, Latin American immigrant youth could be expected to be older than their native-born classmates, as well as at different grade levels. These differences could operate separately or in tandem. Thus, it was desirable to control for both of these related variables simultaneously unless they were found to be unacceptably collinear.

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