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Post-immigration Changes in Social Capital and Substance Use Among Recent Latino Immigrants in South Florida: Differences by Documentation Status

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Abstract

Changing social capital among recent Latino immigrants (RLIs) influences substance use post-immigration. This was a longitudinal study of 476 South/Central American RLIs examining social capital and substance use changes pre to post-immigration. Self-reported measures of social capital and substance use were compared between surveys administered within 1 year of immigration and 2 years post-immigration. Post-immigration, social capital, hazardous drinking and illicit drug use decreased. Women were less likely to engage in hazardous drinking [adjusted odds ratio (AOR) .32, $p < .001$], and less likely to use illicit drugs (AOR .67, $p = .01$). Documented individuals with higher levels of 'business' social capital had increased odds of illicit drug use (AOR 2.20, $p < .05$). Undocumented individuals with higher levels of 'friend and others' social capital had decreased risk for hazardous drinking and illicit drug use (AOR .55, $p < .01$; AOR .56, $p < .05$). Documentation status moderated the relationship between social capital and substance use. RLIs can be targeted for primary prevention of substance abuse.

Keywords

Substance use; Social capital; Immigrants; Documentation status

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Background

Reducing, preventing and eliminating Latino substance use disparities in the US is an urgent priority. Compared to non-Latino substance users, Latino substance users face disparities in the consequences related to substance use including greater risk for hepatitis B and C infection among injection users [20]; higher rates of alcohol-related problems including drinking and driving [4]; confinement [12, 13]; intimate partner violence; and cirrhosis mortality [3, 18].

South Florida receives large numbers of recent Latino immigrants (RLIs) [22]. A significant percentage of RLIs are undocumented, uninsured, economically disadvantaged, and lack access to health care services [7]. During the process of immigration, RLIs have been demonstrated to engage in stress-relieving and coping mechanisms such as substance use (alcohol and illicit drugs) [9, 31].

Documentation status of immigrants can impact changes in social capital by acting as a determinant on whether the individual can access economic resources and material goods (e.g., jobs and economic opportunities, housing, and institutional contacts) [34]. Social capital can be defined as "…those features of social structures—such as levels of interpersonal trust and norms of reciprocity and mutual aid—which act as resources for individuals and facilitate collective action" [6, 15, 27].

Research indicates higher levels of individual social capital are possibly associated with better health outcomes [19, 26, 35]. Changes in social capital can also influence substance use behavior [9]. Kalichman et al. [14] found substance use related to individual social capital proxy variables such as poor education, unemployment, and discrimination, intimating a relationship between social capital and substance use, where social capital may lead to changes in substance use or vice versa. However, the relationship between social capital and substance use among immigrants is inconclusive.

In immigrant populations, social capital has been seen to increase substance use [2] as well as to decrease the likelihood of substance use [11, 28]. Moreover, there is a dearth of research documenting the influence of social capital on the substance use behaviors of recent Latino immigrants [30]. Given that Latino immigrants make up the largest influx of immigrants into the United States (US) in the last decade, studying the relationship between social capital and their substance abuse use behaviors is a worthwhile public health research endeavor.

The purpose of this study was to address prior inconsistent results by analyzing the influence of change in social capital, possibly initiated through the act of immigration, on substance use post-immigration. Specifically, this study sought to address the following questions: (1) Are there significant changes in RLIs' social capital and substance pre to post migration? (2) Is there a significant association between RLIs' social capital and substance use changes over time? (3) Does documentation status moderate the association between RLIs' social capital and substance use changes over time?

Methods

Secondary data analysis was performed using data from two time points of a prospective longitudinal study: baseline data on pre immigration behavior prior to arrival in the US, and data collected at 2 years follow up. Baseline data were not collected in the country of origin, but in the US within 1 year of the time of immigration. Informed consent was obtained from all study participants prior to enrollment. Study protocols were reviewed and approved by Florida International University Institutional Review Board.

Study Population

Participants were recruited from Miami-Dade County using respondent-driven sampling. Face-to-face interviews were conducted in Spanish by college educated, bilingual Latinos. Participants were enrolled if they were in the US for the first time; were in the US ≤12 months; were expected to remain in the US for at least 2 years; resided in Miami-Dade County; and were ages 18–34 years.

Variables

Hazardous Drinking—Data for hazardous drinking were assessed using the 10-item Alcohol Use Identification test (AUDIT) scale. A dichotomous variable was constructed from the summed AUDIT scores, by using a total score of 8 or greater as hazardous drinking, and under 8 as non-hazardous drinking [1].

Illicit Drug Use—Responses on illicit drug use were collected via a timeline follow back calendar which captured any illicit drug use within the past 90 days. Illicit drug was defined as an illegal narcotic (such as cocaine, marijuana or heroine) as well as any non-prescribed medication use. A dichotomous ‘drug use’ variable was coded as any illicit drug use in the past 90 days prior to the assessment or no illicit drug use.

Social Capital—The social capital scale included five continuous subscales with a total of 44 individual items [17]. Each subscale score was calculated by summing individual binary items: a ‘family social capital’ subscale consisting of six items on the existence of spouses, children and other relatives; a ‘friend and others social capital’ subscale consisting of 11 items on study participant’s social bonds such as friends, neighbors, coworkers etc.; a ‘groups and associations social capital’ subscale consisting of 12 items on the individual’s engagement in social groups such as churches, sports clubs and informal social clubs; an ‘agency social capital’ subscale consisting of nine items on more structured civic engagement such as schools, libraries, access to police and hospitals; and finally a ‘business social capital’ subscale consisting of five items related to the individual’s access to financial networks such as neighborhood merchants, lending institutions, and employers. Summed subscale scores were treated as continuous variables with a possible range of 0–44.

Documentation Status—Documentation status was captured by self-report. Participants selected one of the following categories: permanent or temporary residency, visa holder (temporary work, student, or tourist visa), ‘without papers’, or having an expired visa. The responses were recoded for a dichotomous variable as either documented or undocumented.

The responses ‘without papers’ or having an expired visa were coded as undocumented, and all other responses were coded as documented.

Demographic Information—A demographic form was used to collect information on participants’ education, income, along with other demographic information. Covariates included in analyses were marital status (married/unmarried), and gender (male/female).

Analysis

SPSS 18.0 was used to calculate frequencies and means for data, as well as post hoc moderation analyses. Data were assessed for outliers, and violation of model assumptions. Differences between baseline and follow up for hazardous drinking and illicit drug use were compared using a paired *t* test for continuous variables and a Pearson Chi Square and McNemar test for binary and categorical variables. Associations between social capital and the substance use outcome variables were measured using generalized linear model (PROC GENMOD SAS 9.3). There were three models for the aggregate social capital multivariate analysis.

The first model assessed the odds for hazardous drinking and illicit drug use without accounting for the role of time. The second model added the covariates marital status and gender. The third model included the covariates and the interaction terms for time and all social capital variables. Marital status was a time-varying covariate, and the second and third models were run twice with marital status at baseline and follow up. Results were similar with the marital status at baseline and follow up; only results using baseline marital status are reported.

Results

Sample

At baseline there were 527 participants. Fifty-one participants were lost to follow up, leaving a final sample size of 476 for analysis (Table 1). Reasons for lost to follow up included deportation or returning voluntarily to the country of origin, withdrawing consent, incarceration, military enlistment and other unknown reasons.

Participants were generally young with an average age of 27 years at baseline and follow up. Gender distribution was almost equal, and approximately half of the study population was unemployed. Almost one-third of the sample were undocumented immigrants. In the final study sample, Cubans, Colombians and Hondurans together represented the majority of the sample at 42.1, 17.6 and 12.5 % respectively. The remaining participants were from other Central and South American countries.

From baseline to follow up, the sample had a significant increase in the percentage of people employed from 46.9 to 48.7 %, and annual median income from $1,233 to $19,000. The large increase in annual income can also be attributed to the purchasing power and value of local currency in the countries of origin compared to the US dollar. There was a greater loss to follow up among the less educated and older participants. There was <12 % missing data for hazardous drinking or illicit drug use at both time points. There was no significant

change in documentation status. There were more married participants at follow up (23.8 %) than at baseline (21.9 %).

Social Capital

Trends in Social Capital—The total social capital score decreased by 38 % from baseline to follow up ($p < .001$) (data not presented in table). The greatest overall decreases for the subcategories of social capital were among 'agency', 'groups and associations' and 'business' social capital. When stratified by gender, men had a greater decrease than women for 'friend and others' social capital (23.9 vs. 20.0 %, $p < .001$), 'agency' social capital (76.3 vs. 69.0 %, $p < .001$), 'business' social capital (40.7 vs. 29.6 %, $p < .001$), and total social capital (40.3 vs. 35.6 %, $p < .001$). Women had a greater decrease in 'groups and associations' social capital compared to men (57.2 vs. 54.8 %, $p < .001$), and the magnitude of decrease for 'family' social capital was similar for both genders.

Trends in Social Capital by Documentation Status—Undocumented individuals had a greater decrease in total social capital (42.4 vs. 36.3 %) (Table 2). However, at follow up, the total social capital score was similar for documented and undocumented participants (11.34 and 11.38). Apart from 'family social capital', undocumented participants had a greater decrease in all other subcategories. The greatest declines for both undocumented and documented participants were among 'group' social capital (61.1 and 53.3 %), 'agency' social capital (73.6 and 72.0 %), and 'business' social capital (43.9 and 32.8 %).

Substance Use

Illicit Drug Use—There were significant decreases in illicit drug use for undocumented and documented people although the change was greater for documented people (Fig. 1). Illicit drug use decreased 23 % post-immigration ($p < .001$,), and there was a greater decline among women (−31.0, $p < .001$) than men (−20.9 %, $p < .001$) (data not in table). In the overall analysis and in undocumented participants, women were less likely to engage in illicit drug use than men ($p < .05$) (Table 3). In the overall sample in models 1 and 2, higher scores of 'business' social capital increased the odds for illicit drug use (AOR 1.94, $p < .01$; AOR 1.85, $p < .01$). Among undocumented individuals in models 1 and 2, higher scores of 'friend and others' social capital decreased the odds of illicit drug use (AOR .52, $p < .01$; AOR .56, $p < .05$). Among documented individuals in models 1 and 2, higher scores of 'business' social capital increased the odds of illicit drug use (AOR 2.33, $p < .0001$; AOR 2.20, $p < .01$). When the interaction terms were included in model three, higher levels of 'time*business social capital' increased the risk of illicit drug use among documented individuals (AOR 4.22, $p < .01$).

Hazardous Drinking—Overall, hazardous drinking decreased 32.9 % ($p < .001$) and there was a greater decline among men (−40.3 %, $p < .001$) than women (−37.5 %, $p = .05$) (data not shown in table). There were significant decreases in hazardous drinking for undocumented and documented people although the change was greater for documented immigrants (Fig. 1). On average women were considerably less likely to engage in hazardous drinking than men (Table 4). For the study sample as a whole, higher scores in 'group' social capital were directly associated with hazardous drinking (AOR 1.24, $p < .05$).

Among undocumented individuals, higher scores in 'friend and others' social capital were associated with decreases in hazardous drinking (AOR .53, $p < .0001$; AOR .55, $p < .05$). Among documented individuals, higher scores in 'family' social capital were also associated with decreased hazardous drinking (AOR .79, $p < .0001$; AOR .83, $p < .05$). When the interaction terms (time with social capital variables) were included in model 3, there was decreased risk for women for hazardous drinking; but no others were significant.

Discussion

To our knowledge, there are no other studies that have focused on patterns of substance use and social capital among RLIs from South and Central America pre to post immigration. According to data from the 2010 Census, distribution of Latinos in Miami-Dade County by specific origin was 34.3 % Cuban, 4.6 % Colombian, 4.2 % Nicaraguan, 2.2 % Honduran and the rest from other countries [33]. Cubans, Colombians and Hondurans are over represented in the study sample possibly due to the method of recruitment. Nevertheless, these findings are pertinent as these populations are understudied.

The trends in social capital by documentation status is interesting as it demonstrates that ultimately, after 2 years residing in the US, both documented and undocumented have relatively equal levels of total social capital. Nevertheless, the type of social capital and role of documentation status were proved to be additional determinants in substance use behavior.

Prior work has demonstrated that alcohol use increases with longer time spent in the US [3, 16]. Our finding of a decline in substance use may be inconsistent with previous literature because our study uses pre-immigration as a baseline measure, and is one of few studies to look at recent Latino immigrants residing in the US for <5 years. The observed decline in hazardous alcohol consumption from pre to post immigration in this paper is congruent with a previously published paper of the same population over a shorter follow-up period [8].

In models 1 and 2 (Table 4), for hazardous drinking, having 'group' social capital increases risk, but when the sample was stratified by documentation status, significance was lost. The loss of significance is probably due to the smaller sample size in the stratified groups. A decline in alcohol use may be attributed to a smaller social network post immigration, as reflected in the overall decline in social capital. Group social capital in particular, which was measured by the level of engagement in social groups (i.e. churches, sports clubs, informal social clubs), was directly associated with hazardous drinking, suggesting that hazardous drinking increases as group social capital increases or as social networks expand. Therefore the decline in group social capital pre to post immigration can partially explain the decline in hazardous drinking post immigration among RLIs.

Figure 1 showed considerable differences in baseline substance use by documentation status, highlighting how documentation status could modify the relationship between types of social capital and the outcome variables. Comparing documented to undocumented participants allowed us to glean more information about the relationship between different measures of social capital and substance use. The association between substance use and

‘agency’ and ‘business’ social capital was stronger in documented participants. Since undocumented individuals have fewer opportunities to access ‘agency’, or ‘business’ social capital, it follows that these subcategories of social capital had weaker associations with substance use behavior. Conversely, only among undocumented participants was there an association between ‘friend and others’ social capital and hazardous drinking.

In the unstratified analysis, an individual with higher levels of ‘business’ social capital was more likely to be engaged in illicit drug use. The association of ‘business’ social capital with increased risk of illicit drug use was consistent throughout all of the analyses. Increasing income and employment affords documented immigrants more opportunities, but can also lead to more risky behavior.

Strengths and Limitations

Strengths of the study include access to an immigrant population for both documented and undocumented individuals who are a relatively understudied and part of a hard-to-reach population; and a longitudinal design with validated instruments. Immigration status is a relevant topic at the forefront of US policy and governmental interest, as immigration reform has been linked with reducing US deficit and economic progress [21].

The primary source of bias in this study is related to recall bias as all pre immigration behaviors were asked retrospectively. Another potential source of bias is the difference between participants who were retained and those who were lost to follow up. Additionally, because of the method of recruitment (respondent driven sampling), the sample may not be representative. Although this method of recruitment can introduce some level of sampling bias, this technique has been shown to be an effective strategy in recruiting participants from hidden or difficult-to-reach populations [29].

Although social capital is typically applicable at a group or community level, in this study social capital is measured at an individual level, and then applied to the group of focus—RLIs. However, there are a number of studies that have used social capital variables at individual levels [2, 5, 24, 25, 28, 32].

It is difficult to require verification of documentation status, and some participants may have misrepresented their documentation status because of deportation concerns. Consequently, a greater proportion of the sample could have been undocumented. Other studies looking at immigration status have used self-reporting/self-identification to categorize immigrant status for study participants [10, 23].

Conclusion

The study provides evidence for changing social capital and substance use among immigrants from pre- to post-immigration. However, the relationship between those changes is not a simple unidirectional association. The decrease in social capital post immigration can be attributed to the change in environment and lack of familiarity with community resources, but the relationship between declining social capital and declining alcohol and illicit drug use is complex and context-dependent.

In this cohort, substance use declined among RLIs who were in the US for 2 years or less. This may be occurring because these immigrants are still going through the process of assimilation, where there are financial constraints and limited social resources. It is possible that as immigrants become more acculturated, thereby expanding their social network and increasing the likelihood of financial success, substance use trends will change and match findings of other immigrant studies where high risk behavior increases with greater acculturation [3, 16]. For substance use prevention programs/interventions, it may be useful to classify immigrant populations as either *recent* or *more acculturated*, as there is a difference in the level of risk between these two groups.

Undocumented individuals remain a vulnerable population, and need to be considered when developing health policy for immigrants. Based on these findings, substance use prevention policy for RLIs should focus on primary public health interventions that target those with greater access to 'business' social capital, and on men as they may be at greater risk for substance use.

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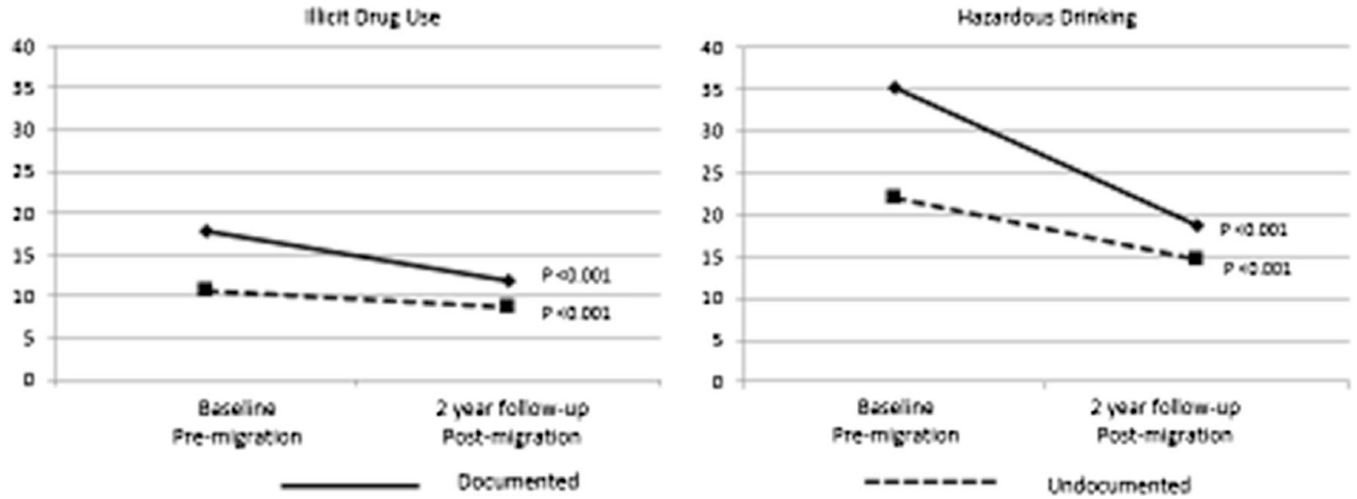

Fig. 1.
Change in substance use pre to post migration by documentation status

Table 1

Demographics of sample population, baseline to follow up (n = 476)

	Baseline	Follow up	*p*
Gender			>.05
Male	54.1 %	54.1 %	
Female	45.9 %	45.9 %	
Employed	46.9 %	48.7 %	≤.05
Documentation status			≤.05
Undocumented	28.5 %	27.9 %	
Documented	71.5 %	72.1 %	
Mean age (18–34)	26.8	27.9	≤.05
Annual median household income (0–140,000)	$1,233	$19,000	≤.05
Marital status			≤.05
Single	54.1 %	49.7 %	
Married	21.8 %	23.8 %	
Common law	12 %	13.4 %	
Divorced	4.4 %	3.1 %	
Separated	8.2 %	9.8 %	
Widowed	.2 %	.2 %	
Education			≤.05
Less than high school	18.1 %	13.1 %	
High school	28.5 %	36.3 %	
Some college	33.1 %	34.2 %	
Bachelor’s	17.1 %	14.3 %	
Graduate	3.2 %	2.1 %	

Paired analysis matching baseline (n = 527) and follow up (n = 476). There were 51 participants lost to follow up

Table 2

Trends in social capital pre- to post-immigration by documentation status

	Documented					Undocumented				
Social capital	**Sample size (n)**	**Pre immigration**	**Post immigration**	**% Change**	***p***	**Sample size (n)**	**Pre immigration**	**Post immigration**	**% Change**	***p***
Family	134	3.81	3.50	(−8.13)	.005	336	3.56	3.34	(−6.18)	<.001
Friend	134	4.73	3.75	(−20.7)	<.001	336	5.02	3.68	(−27.1)	<.001
Group	132	2.68	1.25	(−53.3)	<.001	332	3.88	1.51	(−61.1)	<.001
Agency	132	5.00	1.12	(−72.0)	<.001	332	4.06	1.07	(−73.6)	<.001
Business	133	2.56	1.72	(−32.8)	<.001	333	3.12	1.75	(−43.9)	<.001
Total	134	17.81	11.34	(−36.3)	<.001	336	19.72	11.38	(−42.2)	<.001

Table 3

Association of social capital with illicit drug use from pre immigration to post immigration using generalized linear model by documentation status

	Overall			Undocumented			Documented		
	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†
Family social capital	.93	.99	.96	.96	.98	1.00	.93	1.00	1.07
Friend and others social capital	.58**	1.59**	.73	.52**	.56*	.84	.68	.69	.19
Agency social capital	.74	.74	.89	1.03	1.00	.86	.63	.62**	1.00
Group social capital	1.04	1.06	1.11	1.04	1.19	.84	.93	.97	.78
Business social capital	1.94**	1.85**	.94	1.37	1.36	1.89	2.33***	2.20**	1.41
Time	1.52	1.60	1.63	1.49	1.49	5.04	1.53	1.75	.51
Marital status		1.35	1.08		1.34	1.18		1.44	1.29
Gender		.67*	.32***		.37*	.28		.88	.85
Time × family social capital			.61			.46			.34*
Time × friend and others social capital			.89			.09			4.26
Time × agency social capital			1.04			1.75			.31***
Time × group social capital			1.34			1.76			1.44
Time × business social capital			1.61			.40			4.22**

Time 0 = baseline, 1 = 2 year follow up; marital status 0 = unmarried, 1 = married; gender 0 = female, 1 = male. Odds ratios presented for lower ordered variables

*$p < .05$;

**$p < .01$;

***$p < .0001$

†Model 1 adjust for time; Model 2 adjusted for time, marital status at baseline and gender; Model 3 adjusted for time, marital status at baseline, gender, and time interaction terms with social capital variables

Table 4

Association of social capital with hazardous drinking from pre immigration to post immigration using generalized linear model by documentation status

	Overall			Undocumented			Documented		
	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†	Model 1 AOR†	Model 2 AOR†	Model 3 AOR†
Family social capital	.85*	.90	.96	.99	1.03	1.08	.79***	.83*	.91
Friend and others social capital	.76	.81	.73	.53***	.55**	.91	1.02	1.05	.73
Agency social capital	.83	.93	.89	1.07	1.19	1.41	.75*	.84	.84
Group social capital	1.32**	1.24*	1.11	1.27	1.28	.92	1.18	1.13	1.02
Business social capital	1.15	1.06	.94	.95	.88	1.23	1.27	1.15	.91
Time	1.35	1.34	1.63	.80**	2.45**	1.49	1.06	1.02	.99
Marital status		1.13	1.08		1.16	1.16		1.15	1.08
Gender		.32	.32***		.19***	.18***		.36***	.37***
Time × family social capital			.61			.91			.51
Time × friend and others social capital			.89			1.40			1.07
Time × agency social capital			1.04			1.80			.00
Time × group social capital			1.34			1.17			1.32
Time × business social capital			1.61			.56			2.36

Time 0 = baseline, 1 = 2 year follow up; marital status 0 = unmarried, 1 = married; gender 0 = female, 1 = male. Odds ratios presented for lower ordered variables

*$p < .05$;

**$p < .01$;

***$p < .0001$

†Model 1 adjusted for time; Model 2 adjusted for time, marital status at baseline and gender; Model 3 adjusted for time, marital status at baseline, gender, and time interaction terms with social capital variables