Toward a Typology of Transnational Communication among Venezuelan Immigrant Youth: Implications for Behavioral Health

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Abstract

Background.—We identify subtypes of Venezuelan youth based on patterns of technology-based communication with friends in their receiving (US) and sending (Venezuela) countries and, in turn, examine the behavioral health characteristics among different "subtypes" of youth.

Method.—Using data from 402 recently-arrived Venezuelan immigrant youth (ages 10-17), latent profile analysis and multinomial regression are employed to examine the relationships between technology-based communication and key outcomes.

Results.—We identified a four-class solution: [#1] "Daily Contact in US, In Touch with Venezuela" (32%), [#2] "Daily Communication in Both Countries" (19%), [#3] "Weekly Contact: More Voice/Text Than Social Media" (35%), and [#4] "Infrequent Communication with US and Venezuela" (14%). Compared to Class #1, youth in Classes #2 and #3 report elevated depressive symptomatology and more permissive substance use views.

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Discussion.—Findings suggest that how youth navigate and maintain transnational connections varies substantially, and that technology-based communication is related to key post-migration outcomes.

Keywords

immigrants; communication; Venezuela; smartphones; depression

Introduction

In recent years, we have witnessed a massive outmigration of more than 4 million Venezuelans as a result of the nation's acute economic, social, and political challenges (1). Critically, UNICEF (2) has noted that children and adolescents constitute a central part Venezuela's migration crisis, with more than 1 million migrant youth in need of protection and access to basic services. Although the bulk of Venezuelan migrants have relocated to Colombia and other Latin American countries, several hundred thousand have sought refuge in the United States (US) (3-4).

One unique characteristic of the Venezuelan diaspora is that it is occurring in an era of unprecedented transnational connectedness facilitated by multi-purpose mobile phones. The Pew Research Center (5) estimates that virtually all US residents (96%) own a mobile phone that provides easy access to worldwide communication applications like WhatsApp and Facebook Messenger. Recent data also suggest that, despite the severity of Venezuela's economic crisis, most Venezuelans (85%) have easy access to a mobile phone (6). Frontline journalism also indicates that many Venezuelans in diaspora view smartphones as an essential tool for communication (7). Whereas in previous eras most migrants found it difficult to stay in touch, today millions of displaced Venezuelans are able to talk, text, and communicate constantly with others in their new resettling contexts and in Venezuela.

Rapid advances in technology-based communication raise important questions related to post-migration adaptation and health. For instance, how might easy access to friends in one's home country influence the degree to which immigrant youth develop bicultural skills versus remaining "separate" from their new receiving culture? Given our understanding of the links between youth's ability to balance bicultural stressors and their wellbeing (8), we might also ask: Does transnational communication relate to key markers of psychosocial wellbeing (i.e., positive family functioning, school engagement) and behavioral health (i.e., depression, substance use)? It is critical we be mindful of factors such as family functioning and school engagement as we know that these psychosocial factors often function as key predictors of behavioral health among immigrant youth (8). Such questions are especially salient in the lives of adolescent migrants who we know tend to use smartphones and Internet technology more frequently than adults do (9) and experience higher rates of post-migration behavioral health problems compared to those who migrate as adults (9). Moreover, recent evidence suggests that depression and substance use are key outcomes among Venezuelan immigrants (10-11).

In sum, despite massive changes in technology-based communication, our understanding of how migrant youth talk, text, and tweet remains limited as does our understanding of the links between such communication and key psychosocial and behavioral health outcomes.

The Present Study

Using recent data from the Venezolanos en Nuevos Entornos (VENE Youth) Project—a web-based survey conducted between November 2018 and July 2019 with Venezuelan youth ages 10-17 who arrived in the US in 2015 or later—the present study has two primary goals. Notably, given the dearth of research in this area, both goals are exploratory in nature.

First, we aim to examine the degree to which Venezuelan immigrant youth in the US communicate with friends in the US and in Venezuela via smartphone and internet-enabled devices. Specifically, using a person-centered approach, we identify subtypes of youth based on their patterns of phone/voice, text/chat, and social media communication with friends in both their receiving and sending countries. Second, we aim to understand the characteristics among different subtypes of youth. Specifically, we examine demographic, psychosocial, and behavioral health characteristics among youth with varying technology-based communication profiles.

Methods

Sample and Procedures

The VENE Youth Project, with IRB approval from the lead author's institution, gathered data via a web-based survey. Based on Venezuelan youth and community partner feedback, the survey was designed to be completed in roughly 10-15 minutes. The mean age for the sample was 14 years, and a narrow majority were male (56%). Half of the sample (50%) reported family economic hardship, and most reported arriving in the US in 2017 (42%) or 2018-2019 (25%). Participants were recruited via partner organizations working with Venezuelan immigrant families in Florida. All participants completed the survey in Spanish via Qualtrics® Survey Software and received a $20 Target gift card.

Measures

Technology-Based Communication.—Based on a measure adapted from the Health Behavior of School Age Children (HBSC) survey (12, 13), technology-based communication with friends was measured using the following question in reference to the [a] US and [b] Venezuela: "How often do you communicate with friends in [insert country] via" *phone/voice* (e.g. FaceTime or WhatsApp), *text/chat* (e.g., WhatsApp or Facebook Messenger), and *social media* (e.g., Instagram or Snapchat). Response options for each of the two questions include "almost never/never" (1), "less than weekly" (*menos de seminal*) (2), "weekly" (3) and "daily" (4).

Psychosocial Factors.—We examined two domains of psychosocial factors: family functioning and school engagement. These factors have been identified as important constructs related to wellbeing and behavioral health risk among Latin American youth in the US (9,14).

Two scales were used to examine family functioning, both of which are used as part of the HBSC study. The short version of the clear communication scale from the Family Dynamics Measure-II ($\alpha = .79$) (15) was used to measure *family communication* (1=strongly disagree, 5=strongly agree). Four items from the Multidimensional Scale of Perceived Social Support (α=.70) (16) were used to examine *family support* (1=strongly disagree, 5=strongly agree).

In terms of school engagement, we examined *school satisfaction* by asking youth: "How do you feel about school at this time?" (1=I don't like it at all, 4=I like it a lot). *Academic achievement* was measured by youth responses to the following: "In your opinion, what does your class teacher(s) think about your school performance compared to your classmates?" (1=below average, 4=very good). These items correlate at 0.53 and were derived from the HBSC study.

Behavioral Health.—With respect to behavioral health, we examined two primary domains: based on evidence of elevated depression and substance use among this population (11,22).

We measured *depressive symptomatology* (α=.78) using the Patient Health Questionnaire (PHQ-9) (17). Participants were queried: "Over the last 2 weeks, how often have you been bothered by any of the following problems?" (e.g., feeling down, trouble concentrating; 0=not at all, 3=nearly every day).

Three scales were used to examine youth substance use risk (18-19). A three-item scale measuring alcohol, tobacco, and marijuana use views ($\alpha = .84$) was used to examine *substance use normative beliefs*. Youth were asked, "Is it okay for someone your age to use alcohol / tobacco / marijuana?" (1 = definitely not, 4 = definitely yes). A three-item scale querying youth about alcohol, tobacco, and marijuana use ($\alpha = .67$) was used to examine *substance use intentions*. Youth were asked, "If you had the opportunity this weekend would you use alcohol / cigarettes / marijuana?" (1 = definitely not, 4 = definitely yes). Finally, youth were asked about *substance refusal confidence* ($\alpha = .79$) using the following three questions: "How certain are you that you'd say NO" if offered alcohol, cigarettes, or marijuana by key people (i.e., family member, classmate, close friend) (1 = not at all confident, 4 = very confident).

Sociodemographic Factors.—Sociodemographic factors include age, gender, the HBSC measure of perceived family economic status ("How well off do you think your family is?"), and year of arrival in the US. See Table 3 for the response categories for each item.

Analyses

Analyses were carried out in several steps. First, we identified a sequence of latent profile models ranging from one to five classes by using Latent GOLD® 5.1 (20) software. Five statistical criteria were used to identify the best fitting model: the Bayesian Information Criterion (BIC), Akaike's Information Criterion (AIC), Consistent Akaike's Information Criterion (CAIC), log likelihood (LL), and entropy. In interpreting these criteria, lower BIC, AIC, and CAIC values and higher LL values reflected better model fit. Higher entropy values—approaching 1.00—indicate clear class delineation (21). Parsimony and substantive

interpretability of the solution also function as model selection criteria. After modeling the latent classes, multinomial regression was used to predict class membership using Stata 16.1.

Results

Descriptive Information:

Rates of Technology-Based Communication by Country and Age—Table 1 displays the mean values for technology-based communication with friends in the US and in Venezuela. Paired *t*-tests indicated that the mean value for each type of communication was significantly greater (p<.001) with friends in the US as compared to the mean value for friends in Venezuela. One sample *t*-tests also indicate that the mean values for communication for all variables examined in the US and Venezuela were significantly greater among youth ages 14-17 as compared to their younger counterparts.

We also conducted supplemental analyses in which we generated scales for communication with friends in the US (α=.74) and in Venezuela (α=.81) and, in turn, conducted linear regression to examine the degree to which communication in each country predicted key behavioral health variables (i.e., depressive symptoms, substance use risk) while controlling for sociodemographic factors. In terms of depressive symptoms, we found that greater communication with friends in the US was inversely associated with depressive symptomatology (β=−.18, p<.01); however, no significant association was observed for communication with friends in Venezuela (β=.09, p=.10). Communication with friends in the US was not significantly associated with any of the substance use risk variables examined. In contrast, communication with friends in Venezuela was positively associated with permissive substance use norms (β=.20, p<.001) and inversely associated with refusal skill confidence (β=−.18, p<.001).

Person-Centered Analysis:

Identification of Latent Classes—An analysis of latent profile models suggested that a four-class solution is the statistically and conceptually best fitting model. As shown in Table 2, we see an accelerated flattening of the LL, BIC, AIC, and CAIC values with the addition of a fifth class, suggesting that anything beyond a four class model would not be parsimonious. Additionally, the entropy R^2 value for the four-class solution was more than adequate and the difference in entropy between the four and five class solutions was negligible.

The conceptual fit of the latent profile models was examined by plotting the mean values for the six communication variables by each of the latent classes. We provided descriptive names for each of the classes based upon our interpretation of the "shape" of each class.

Characteristics of Latent Classes—Below we describe the communication characteristics of each of the classes and, in turn, compare the demographic, psychosocial, and behavioral health characteristics of class members.

<u>Communication Characteristics:</u> The four-class solution is as follows (see Figure 1):

Class #1: "Daily Contact in US, in Touch with Venezuela" (32%).: Class #1 is characterized by very high levels of engagement with friends in the US via phone/voice, text/chat, and social media, but far less frequent levels of communication with friends in Venezuela (between "less than weekly" and "weekly").

Class #2: "Daily Communication in Both Countries" (19%).: Class #2, in contrast, is characterized by very high levels of technology-based communication with friends in both countries, reflecting a robust transnational connectedness.

Class #3: Weekly Contact: More Voice/Text Than Social Media (35%).: Class #3 shows more modest levels of phone/voice and text/chat communication with friends in both countries (weekly in the US, between weekly and daily and Venezuela). Notably, levels of social media engagement are markedly lower in this group.

Class #4: Infrequent Communication in US and Venezuela (14%): Finally, Class #4 is marked by less than weekly communication with friends in the US and even lower levels of communication with friends in Venezuela.

Demographic Characteristics: In terms of demographic factors, few statistically significant differences were observed (see Table 3). Youth in Class #4 were, compared to Class #1 (the reference class throughout) significantly more likely to be between ages 10-13 (RR=3.58, 95% CI=1.81-7.08). Similarly, youth in Class #2 were more likely to be boys as compared to youth in the reference class (RR=2.04, 95% CI=1.12-3.72). The highest levels of perceived family economic hardship were observed for Class #3 (55% of youth), and Classes #2 and #3 had the highest levels of youth arriving in the US in 2017 (48 and 49%, respectively).

Psychosocial and Behavioral Health Characteristics: Table 4 displays the behavioral health and psychosocial characteristics of youth in Classes #2-4 as compared to youth in Class #1 (specified as the reference in multinomial logistic regression). We see a very clear pattern of findings in which youth in Classes #2 and #3 report significantly higher levels of depressive symptomatology, as well as more permissive substance use views and lower levels of substance refusal confidence. Indeed, the mean PHQ-9 depressive symptomatology score for youth in Class #1 (M=2.16, SD=3.33) is distinctly lower than that of Class #2 (M=3.19, SD=3.35) and Class #3 (M=3.29, SD=3.19). Although no significant difference was observed, the depressive symptomatology score for youth in Class #1 was noticeably lower than that of Class #4 (M=3.04, SD=3.16).

We also see that youth in Classes #2 and #3 report lower levels of family functioning (i.e., poor family communication, less family support), and are less likely to report enjoying school and academic success, compared to Class #1. For all behavioral health and psychosocial variables examined, no differences were observed between Class #1 (the reference group) and Class #4.

Discussion

Technology-based communication represents a tool at the disposal of many Venezuelan youth as they resettle and, in some cases, nurture and maintain transnational connections. Results from the present study provide new insight into the role of technology-based communication in the lives of recently-arrived Venezuelan youth and the association between [a] how (and with whom) youth communicate and [b] behavioral health and psychosocial factors. Below we highlight a number of key findings from our study.

One key finding is that, when it comes to communication, not all Venezuelan adolescents make use of technology in the same way. For instance, we see that roughly one in five youth (19%) maintain transnational connections via daily communication with friends in both the US and in Venezuela via phone, text, and social media. On the other end of the spectrum, we also see that an important subset of youth (14%), are largely not using technology to communicate with friends in the US and have little-to-no contact with friends in Venezuela. We also found that roughly one in three (32%) Venezuelan youth have become profoundly connected with friends in the US, with daily phone, text, and social media exchanges, while still remaining in contact with friends in Venezuela, albeit with far less regularity. Importantly, we also see that these youth—those tightly connected with friends in the US and "in touch" with those in Venezuela—fare far better than their counterparts in terms of both mental health and substance use risk.

There are several possible explanations for the exceptionalism of this *Daily Contact in US, in Touch with Venezuela* (or "In Touch") class. One possibility is that youth in this group have struck a healthy balance. Whereas youth in the *Daily Communication in Both Countries* class are constantly communicating between worlds, youth from the *In Touch* class are dedicating energy to forging and fostering new friendships in their receiving context in a way that has primacy over geographically distant relationships back home. In other words, it seems as though youth in the *In Touch* class may be experiencing a successful social transition to their new place of residence without losing connection with their sending community. Indeed, it is possible that, while still maintaining transnational ties, some degree of separation (represented by weekly/monthly, rather than daily, contact with friends in Venezuela) is integral to what appears to be the success of youth in the *In Touch* class as compared to their more transnationally connected peers.

We should also note that an important subset of youth (14%) reported uniquely low levels of communication with friends in the US and Venezuela via voice, text, and social media. Perhaps unsurprisingly, youth in this class tended to be younger—more than half were between the ages of 10 and 13—and nearly one third report having arrived in the US in 2018 or 2019 (the highest rate of all classes). It may be that these younger participants are not taking part in technology-based communication with friends simply because they either do not own their own phones or because their parents limit access more often than they might with older teens.

Study Limitations

Findings from this study should be interpreted in light of several limitations. For one, all data are based on respondent self-reports and all data are cross-sectional. Second, for recruitment we relied exclusively on convenience sampling and peer referral. Third, per the request of our community partners, our survey was quite short, thereby omitting some variables of interest. Finally, we make use of several one- or two-item measures—it would be preferable to use multi-item measures that allow for the calculation of reliability.

Future Studies

Future studies can build upon our work in a number of ways, including the use of multiple reporters (e.g., youth and parents), prospective data collection methods to examine change over time, the use of more representative sampling methods (e.g., respondent driven sampling), and a more exhaustive examination of factors related to health. Additionally, it is critical that we gather information on youth communication with family and mentors/trusted adults. Such data collection will complement our understanding of the role of friends in the broader constellation of transnational relationships.

Conclusions

Study findings suggest that many Venezuelan youth are in touch with friends in both the US and Venezuela on a daily or weekly basis, but not all youth communicate in the same ways. Notably, we see that youth who report daily communication with friends in the US while also remaining "in touch" with friends in Venezuela are markedly distinct from many of their peers as they exhibited less depressive symptomatology and lower substance use risk, as well as greater family communication and greater school satisfaction and achievement. These findings suggest that how young people navigate and maintain transnational connections varies substantially, and that technology-based communication is related to key post-migration outcomes.

Acknowledgments

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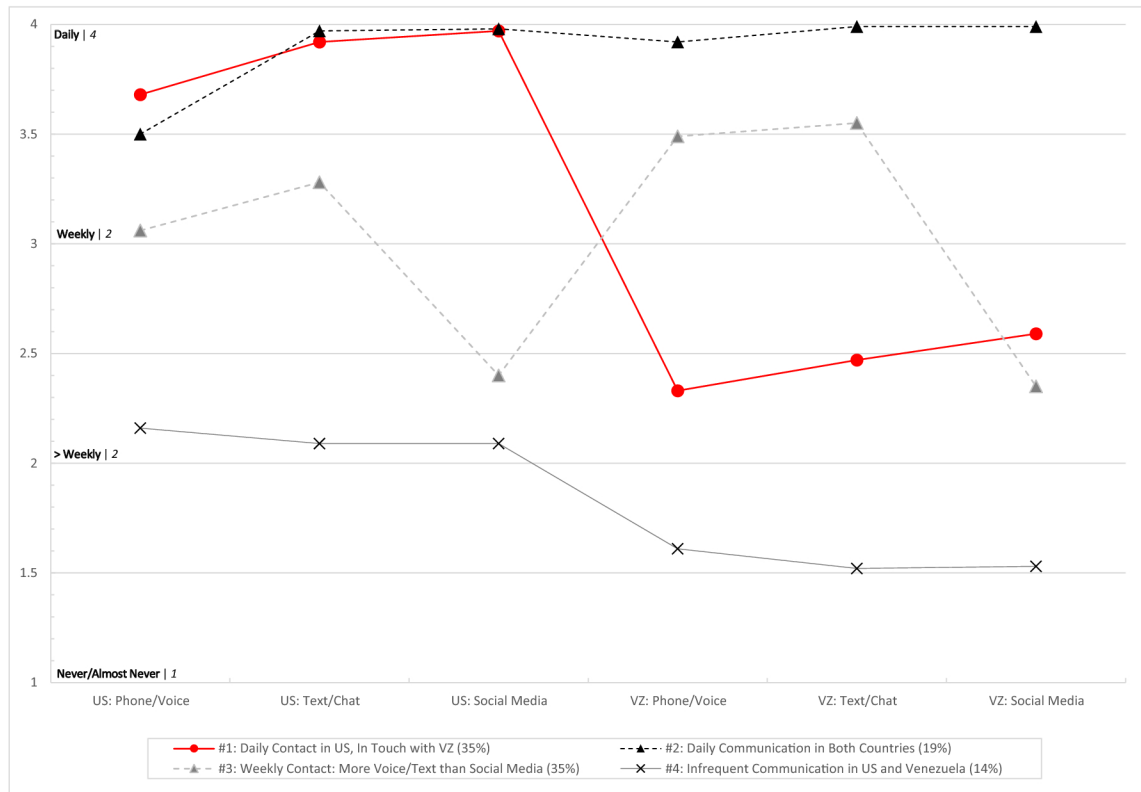
Figure 1.
Mean Levels of Communication by Latent Class

Table 1.

Technology-based Communication with Friends among Venezuelan Immigrant Youth in the US

	All Youth | [100%]		Ages 10-13 | [28%]		Ages 14-17 | [72%]		*t*-test
	M	(SD)	*M*	(SD)	*M*	(SD)	
Communication w/ Friends in the <u>US</u> *via…*							
Phone/Voice	3.21	(1.06)	3.03	(1.18)	3.29	(1.00)	2.21 *
Text/Chat	3.44	(0.90)	2.98	(1.12)	3.62	(0.72)	6.79 ***
Social Media	3.16	(1.06)	2.79	(1.11)	3.30	(1.01)	4.36 ***
Communication w/ Friends in <u>Venezuela</u> *via…*							
Phone/Voice	2.93	(1.06)	2.74	(1.04)	3.01	(1.06)	2.30 *
Text/Chat	3.00	(1.02)	2.69	(1.04)	3.12	(0.98)	3.80 ***
Social Media	2.62	(1.12)	2.51	(1.09)	2.66	(1.13)	*ns*

Note: Mean values(*M*) for each variable were significantly greater (p < .001) in the US as compared to the corresponding variable for Venezuela (e.g., phone/voice in US v. phone/voice in Venezuela). One sample *t*-tests compare the *M* for youth ages 10-13 and 14-17. SD = standard deviation.

*
p < .05

**
p< .01

***
p< .001

Table 2.

Fit Indices for Latent Classes

Class Solution	Log Likelihood l LL	Bayesian Information Criterion l BIC	Akaike's Information Criterion l AIC	Consistent Akaike's Information Criterion l CAIC	Entropy R^2
1 Class	−2892.86	5893.65	5821.72	5911.65	n/a
2 Class	−2706.30	5586.50	5470.60	5615.50	0.82
3 Class	−2602.39	5444.65	5284.79	5484.65	0.84
4 Class	−2491.54	5288.91	5085.09	5339.91	0.87
5 Class	−2422.99	5217.76	4969.98	5279.76	0.89

Table 3.

Demographic Characteristics by Latent Class

Demographic Factors	Class One I [32%] "Daily Contact in US, In Touch w/ Venezuela"		Class Two I [19%] "Daily Communication in Both Countries"		Class Three I [35%] "Weekly Contact: More Voice/Text than Social Media"		Class Four I [14%] "Infrequent Communication in US and Venezuela"	
	N	%	N	%	N	%	N	%
Age								
10-13	31	24.22	9	11.84	43	30.71	**30**	**51.72**
14-17	97	75.78	67	88.16	97	69.29	28	48.28
Gender								
Girl	66	51.56	25	32.89	59	42.14	25	43.10
Boy	62	48.44	51	**67.11**	81	57.86	33	56.90
Perceived Family Economic Hardship								
No	64	50.39	41	53.95	63	45.32	33	57.89
Yes	63	49.61	35	46.05	76	54.68	24	42.11
Year of Arrival								
2015-2016	46	36.51	21	28.00	42	30.66	20	35.71
2017	45	35.71	36	48.00	67	48.91	18	32.14
2018-2019	35	27.78	18	24.00	28	20.44	18	32.14

Table 4.

Behavioral Health and Psychosocial Correlates of Class Membership

	Class Two I [19%] "Daily Communication in Both Countries"		Class Three I [35%] "Weekly Contact: More Voice/Text than Social Media"		Class Four I [14%] "Infrequent Communication in US and Venezuela"	
	RR	95% CI	*RR*	95% CI	*RR*	95% CI
Behavioral Health						
Mental Health						
Depression (PHQ-9)	**1.12**	**(1.02-1.23)**	**1.12**	**(1.03-1.22)**	1.05	(0.94-1.18)
Substance Use						
Norms Beliefs	**2.71**	**(1.58-4.65)**	**3.14**	**(1.92-5.14)**	0.80	(0.37-1.74)
Intentions to Use	**2.24**	**(1.01-4.98)**	**3.95**	**(1.99-7.86)**	1.43	(0.52-3.97)
Refusal Confidence	**0.44**	**(0.28-0.68)**	**0.43**	**(0.29-0.64)**	0.84	(0.47-1.48)
Psychosocial Factors						
Family						
Communication	**0.58**	**(0.36-0.93)**	**0.48**	**(0.31-0.73)**	0.82	(0.46-1.46)
Support	**0.63**	**(0.47-0.85)**	**0.69**	**(0.52-0.91)**	0.86	(0.58-1.27)
School						
Satisfaction	**0.29**	**(0.20-0.44)**	**0.44**	**(0.31-0.64)**	0.63	(0.39-1.01)
Achievement	**0.62**	**(0.44-0.88)**	**0.67**	**(0.50-0.91)**	0.82	(0.55-1.24)

Note: The "Daily Contact in US, In Touch w/ Venezuela" (Class 1, 32%) is specified as the reference class for multinomial regression models. Relative risk ratios (RR) and 95% confidence intervals (CI) in bold are significantly (p < .05) different from Class 1 while controlling for the demographic factors shown in Table 2.