

Online Communication Patterns of Chinese and Mexican Adolescents Living in the United States

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Research on adolescent Internet use and communication does not often consider immigrants or children of immigrants and thus remains relatively mute on the ways in which these groups use the Internet to engage in transnational communication. This comes despite the growth in immigrants around the world over the past two decades. Therefore, this study seeks to understand the Internet use and online communication behaviors of two large minority populations living in the United States: adolescents of Chinese and Mexican descent. Results from survey data ($N = 292$) indicate that the transnational communication of Chinese and Mexican youth with friends and family both within and outside the United States, as well as their perceptions of online social connectedness, varies by ethnicity and length of time spent living in the United States. These results have implications for understanding the ways in which the Internet provides unique benefits for immigrant adolescents and children of immigrants.

Keywords: adolescents, migration, ethnicity, Internet, online communication, social connectedness

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Research on adolescent online communication has grown dramatically over the past decade. This work has examined adolescent motivations for using different technologies and social media platforms (e.g., Barker, 2009), as well as the effects of such use (e.g., Jelenchick, Eickhoff, & Moreno, 2013), and has recently begun to consider differential use of platforms, such as whether individuals generally post their own content or view others' content (e.g., Cingel & Olsen, 2018). This body of research, however, often uses homogenous samples of majority groups. As such, we know much less about how minority groups engage in online communication. Even further, we have limited knowledge of how adolescent immigrants, or children of immigrant parents, use the Internet to engage in national and transnational communication, and whether such communication relates to their perceptions of social connectedness. Therefore, in the present article, we examine the transnational communication patterns of immigrant adolescents and children of immigrants living in the United States and study the relations of such communication to perceptions of social connectedness.

This is particularly important as the number of immigrants around the world continues to rise, reaching 244 million in 2015, a 41% increase from 2000 (United Nations, 2016). Empirical work has documented the cultural practices of individuals who come from either ethnic minority (e.g., Nasir, Rosebery, Warren, & Lee, 2015) or immigrant family backgrounds (e.g., Gonzalez & Katz, 2016; Gutierrez, Morales, & Martinez, 2009). Considering that online communication is a dominant activity of childhood and adolescence in the United States (e.g., Rideout, 2015), it is important to consider how adolescents from immigrant families in particular engage in online communication, considering their different needs. Indeed, recent research and theorizing have begun to examine how immigrant children engage in transnational communication to maintain connections to natal countries while building connections in their host country (e.g., de Haan, Leander, Ünlüsoy, & Prinsen, 2014; Elias & Lemish, 2009). There is evidence that adolescents may use these technologies to create and maintain social and information linkages with others within and outside the United States (Gonzalez & Katz, 2016; Lam & Smirnov, 2017; Lam & Warriner, 2012). However, most research of the Internet has overlooked these unique adolescent users.

According to recent U.S. Census data (2014), 15% of the U.S. young adult population is foreign born. We conducted the present study in Chicago, where residents of Mexican origin constitute the largest immigrant group, with 21% of the population, whereas the population of those of Asian origin has increased 18% over the last five years, following a national surge that pushed Asian Americans to be the fastest-growing immigrant group in the country (U.S. Census Bureau, 2014). Thus, in the present article, we consider the online communication practices of Mexican and Chinese adolescents specifically as two of the largest immigrant populations living in the United States.

Literature surrounding transnational communication among adolescents clearly demonstrates that individuals use such communication to build and maintain connections to their home country or their heritage country (e.g., Lam, 2014; Sánchez & Salazar, 2012). The literature does not, however, specify different communication topics discussed by adolescents or how this communication relates to adolescents' sense of social connectedness, a key variable of study among adolescents in general (Valkenburg & Peter, 2009) and among minority adolescents specifically (Wang, Jackson, & Zhang, 2011). Recent work on online communication argues that researchers must move beyond studying online communication more generally and instead examine specific types of communication topics or behaviors (see Cingel & Olsen, 2018; Ellison,

Steinfeld, & Lampe, 2011). Therefore, we conducted a survey ($N = 292$) among adolescents (ages 14–19) of Mexican and Chinese descent² to understand how these groups engage in transnational communication, the topics they discuss transnationally, and how such communication relates to perceptions of social connectedness. We thus first review theory and extant findings on adolescent transnational media use.

Transnational Media Use Among Adolescents

The literature on transnational media use suggests that the experience of mobility and migration affects young people's online communication. A significant body of scholarship on transnationalism has revealed various social, cultural, economic, and political relationships and practices in which migrants participate across national borders (e.g., Khagram & Levitt, 2007; Levitt & Jaworsky, 2007; Vertovec, 2009). Research indicates that the adoption of media technologies, such as mobile phones, email, text messaging, video chat, and social media, among adult migrants allows them to engage in the relationship of care with their parents, children, or other family members and social relations from whom they are separated over long distances (e.g., Benítez, 2012; Horst, 2006; Komito, 2011; Wilding, 2006). Considering the relatively instantaneous nature and polymedia environment of Internet communication, researchers have argued that new communication technologies, such as the Internet, allow for forms of distant co-presence and virtual intimacy among migrants and their relations back home (Baldassar, Nedelcu, Merla, & Wilding, 2016; Madianou & Miller, 2012; Wilding, 2006). Subsequently, this type of communication is theorized to serve to strengthen ties and accelerate the cross-border flows of information, resources, and social obligations among migrant communities.

Research has examined how youth of migrant backgrounds, specifically, use digital media to construct networks and affiliations to diverse communities. A number of case studies have focused on the online texts produced by immigrant youth and how young people use their personal profiles and self-produced narratives in online journals, instant messaging, and social networking sites to signify their identifications with multiple communities across borders (Mainsah, 2011; McGinnis, Goodstein-Stolzenberg, & Salianni, 2007; McLean, 2010). These signifying practices include the use of written texts, images, and music to reference the national symbols and popular culture of their natal countries and narrative texts that target different audiences and contain references to the social relations and schooling experiences in their different homelands.

Besides serving as a narrative space to express one's multiple affiliations, digital media are also platforms within which young people can cultivate relationships with different communities. Some studies have explored the diverse online networks of youth and the nature of the communicative practices within these networks, particularly how adolescents access and develop social, language, and cultural resources (de Haan et al., 2014; Elias & Lemish, 2009; Lam & Rosario-Ramos, 2009; Stewart, 2014). For example, Elias and Lemish (2009) interviewed 70 immigrant youth from the former Soviet Union who had been living in Israel between six months and five years, and found that the youth used the Internet to connect with their homeland and co-ethnics, as well as to learn about the host society and to create friendships with local

² We do not see variations as characteristics that reside in individuals or collections of individuals, but as variations in people's history of involvement in specific cultural practices (Gutierrez & Rogoff, 2003).

peers. These forms of continuity and simultaneous affiliations are actively cultivated and mobilized by the youth to navigate and circumvent the ruptures and social marginalization they experience in relocation.

In the context of the United States, recent studies with Latino families have examined how they acquire and adopt computer technology in their daily lives and use it in a transnational context to communicate with people across borders (de la Piedra, 2010, 2011; Gonzalez & Katz, 2016; Sánchez & Salazar, 2012). In a study with immigrant Latino families in three cities in the United States, Gonzalez and Katz (2016) interviewed 170 parents and 166 children (ages 6 to 13) and found that transnational family communication strongly emerged as a motivating factor for introducing digital technologies into the household. Children frequently brokered their parents' use of technology by facilitating their connections to the computer and to online media to communicate with family members and friends living abroad. Thus, cross-border interactions can be collaborative experiences where children support their parents' efforts to maintain family continuity and connect to their native language and culture.

Further, Stewart's (2013, 2014) ethnographic study with four recently arrived youth migrants from Latin America shows that digital media was integrated into the lives of the youth for developing and maintaining social relationships across borders. The youths' social activities on Facebook connected them to family and friends back home, maintained their Latina/o identities through music and other forms of popular culture, and enabled them to cultivate relationships with colleagues in their local workplaces.

Finally, Lam's (2009a, 2009b, 2014; Lam & Rosario-Ramos, 2009) recent work with first-generation youth in the United States also found that the use of multiple languages was a characteristic part of youths' online activities as they accessed informational sources and managed diverse sets of interpersonal relationships across national borders. In ethnographic studies with high school youth of Chinese descent, Lam (2009a, 2009b, 2014) documented their interactions with peers in their local immigrant community, communication with former schoolmates and friends in their hometown in China, and globalized, online interest-based practices such as anime and digital art design. The youth perceived their digital communication as contributing to cultivating the social contacts, language skills, and cultural knowledge necessary in different societal settings and for a more mobile future.

The range of studies described prior suggests the significant role of digital media use among youth of migrant backgrounds in creating social networks within and across countries. The creation of these networks via digital platforms allows youth to connect to diverse cultural communities, access symbolic and social resources, and cultivate simultaneous affiliations. Whereas youth who have experienced migration themselves and those who are children of immigrants may both be involved in transnational ties, we expect the role of online communication to be more significant among youth who immigrated more recently and thus have spent more time outside the United States. In this way, transnational communication can be used to build social connections both within their country of residence while maintaining connection to their heritage country (Elias & Lemish, 2009; Lam, 2014; Stewart 2014). Therefore, while theory and previous findings would allow for such a prediction, no study has considered how the topics of transnational communication might differ as a function of migration status. Thus, we offer the following hypothesis and research question:

H1: Adolescents who have spent a smaller percentage of their lives in the United States will report more communication frequency with (a) friends and family living in the United States and (b) friends and family living outside the United States than adolescents born in the United States.

RQ1: Are there differences in communication topics as a function of adolescents' percentage of time spent living in the United States?

Online Social Connectedness

As demonstrated, theory and extant findings suggest that transnational communication can help adolescents maintain ties with their natal country while building connections with their host country and culture (e.g., Gonzalez & Katz, 2016; Lam & Smirnov, 2017; Lam & Warriner, 2012). In general, adolescence is a time during which building and maintaining social connections with peers becomes increasingly important (McGrath, Brennan, Dolan, & Barnett, 2012). Indeed, Valkenburg and Peter (2009) argue that instead of connecting with strangers, adolescents use the Internet primarily for maintaining already existing relationships. Considering the body of work on transnational communication, as well as adolescents' developmental needs, it is highly likely that immigrant youth have relatives and friends who live in other countries and that these adolescents use digital media to maintain and build their connections with these previously existing relationships while working to build new ones in their host country.

Valkenburg and Peter (2009) further theorize in their Internet-enhanced self-disclosure hypothesis that the use of social media to *maintain* preexisting relationships relates to *increases* in feelings of social connectedness. Furthermore, Valkenburg and Peter (2009) argue that online communication among adolescents can be beneficial to their development, overall connectedness, and well-being. Internet use gives socially competent adolescents the opportunity to strengthen their already existing relationships while giving less social or more socially anxious adolescents the opportunity to make up the connectedness they are missing in their offline environment (Valkenburg & Peter, 2007). Research suggests that general communication relates to social connectedness (e.g., Valkenburg & Peter, 2007). Further, specific types of communication, in which adolescents provide information about themselves and learn about others from the information they provide, relates to social connection (Wang et al., 2011), although it is not clear how this would generalize to specific topics of communication. Therefore, communicating with others online can build perceptions of online social connectedness among adolescents. Existing work has not yet examined how different topics of conversation may relate to online social connectedness among immigrant adolescents, which is especially important given these adolescents' unique needs to maintain connection to their natal country while building connection in their current home country. Therefore,

H2: Online communication frequency will be positively related to perceptions of online social connectedness.

RQ2: Does topic of communication differentially relate to perceptions of online social connectedness?

Differences as a Function of Ethnicity

Finally, the work on transnational communication among immigrant adolescents does not often compare differences as a function of ethnicity. In the specific context of media technologies, however, large-scale, nationally representative surveys of adolescents living in the United States consistently show differences in media access and use as a function of ethnicity. This suggests that, while immigrant adolescents are likely to engage in transnational communication, their abilities to do so may differ as a function of their access to technology or the ways in which technology is integrated into the home media ecology (e.g., Lauricella, Cingel, Beaudoin-Ryan, Robb, Saphir, & Wartella, 2016). For example, minority youth, including Black, Hispanic, and Asian 8- to 18-year-olds, report using media 4.5 hours more each day than White youth in the United States (Rideout, Lauricella, & Wartella, 2011).

There are also differences between ethnicities as a function of the *type* of technology used. Specifically, Hispanic youth watch significantly more television than Asian youth and are more likely to have a television in their bedroom. Conversely, however, Asian youth report using computers significantly more than Hispanic youth in the United States. Overall, Asian youth report using a computer nearly three hours a day, compared with less than two hours for Hispanic youth (Rideout et al., 2011). They also report having more computers in their homes compared with Hispanic youth and are more likely to have a computer in their bedroom. Indeed, results from a recent survey of parents of 8- to 18-year-olds suggests that Hispanic parents hold significantly more concerns about their children's Internet use compared with other parents (Lauricella et al., 2016). Thus, work clearly indicates that ethnicity plays an important role in how youth in the United States use different media technologies and how parents integrate media technologies into the home, suggesting that Asian youth spend more time using computers while Hispanic youth spend more time watching television.

Far less work, however, has considered *what* minority adolescents communicate about when using media technologies, *who* they communicate with, and *how* these might differ as a function of ethnicity. One study found that among Chinese adolescents, the amount of time spent communicating online related positively to self-disclosure, but self-disclosure did not relate to friendship quality (Wang et al., 2011). This study, however, did not consider different topics of conversation or have a comparison group. A related study found that online communication was positively related to Chinese adolescents' subjective well-being, but, again, did not consider differences as a function of communication topic (Wang & Wang, 2011). Although this research focuses on computer use, recent research suggests no ethnicity differences in terms of tablet use and only slight differences in terms of smartphone use (Rideout, 2015). Thus, it seems probable that Chinese adolescents will communicate with friends and family more frequently online, considering their heightened computer use relative to Hispanic adolescents. It is not clear from the literature, however, whether there will be differences in communication topics or with whom adolescents communicate. Thus,

H3: Chinese adolescents will report more communication frequency with (a) friends and family living in the United States and (b) friends and family living outside the United States than Mexican adolescents.

RQ3: Are there differences in adolescent communication topics as a function of ethnicity?

Method

Participants and Procedure

We recruited participants from a neighborhood high school in Chicago, Illinois. We selected this high school because it has a large percentage of students who are Hispanic and Asian. The school is located in a predominantly Mexican American neighborhood that has seen a significant growth of Asian residents in the last five years. An official report of the school demographics in the year 2013–2014 showed that the school enrolled 2,314 students. Just over 80% of the students were Hispanic, 15.2% were Asian, 1.8% were Black, and 2% were White, while 94.8% were low income and 18.8% were English language learners.

Members of the research team worked with participating classrooms to recruit adolescent participants. Our research team included members who are proficient in Spanish and Chinese, and we worked with the school administration and participating teachers while conducting the survey. On the days of data collection, members of the research team went to participating classrooms and provided information about the nature of the research study. Students received an informed consent form to take home to their parents. Students who returned a completed parent consent form, and who gave their own verbal and written assent, were eligible to complete the survey instrument. All participants completed the 30-minute paper-and-pencil survey in their classroom. Surveys were written in English but translated into Spanish and Chinese. Students could choose the language of the survey instrument. All participants were entered into a lottery to win one of 30 gift cards.

In all, 322 adolescents completed the survey. Participants were asked, "How would you describe your ethnicity? (check all that apply)" and were given the following seven options: 1) African American, 2) American Indian or Alaska Native, 3) Asian, 4) Caucasian or White, 5) Hispanic or Latino, 6) Pacific Islander, 7) other (in which they could fill in the blank). A follow-up question asked where the participant's mother and father were born. We used this information to ensure all participants' families were from either China or Mexico. For clarity of the sample, we removed 20 adolescents who were not of either Chinese or Mexican descent. We also removed 10 participants who reported that both their parents were born in the United States: all other participants reported that at least one of their parents was born *outside* of the United States. This left a final sample of 292 adolescent participants of either Chinese or Mexican descent with at least one immigrant parent; 101 adolescents of Chinese descent (35%) and 191 adolescents of Mexican descent completed the survey (65%).³ A majority of respondents were female ($n = 172, 59\%$), and participants' average age was 17.16 ($SD = 1.07$).

³ All surveys were completed at the school site. Researchers went into World Language classes (Spanish classes and Chinese classes) as well as some ESL/Bilingual classes to do the survey. The reason we were able to recruit more Chinese students than their demographic representation in the school was that the Chinese language classes were mostly attended by students of Chinese heritage in comparison to the Spanish language classes.

Survey Measures

Time Spent Living in United States. All students were asked about their U.S. birth status in one question, "How long have you lived in the U.S.?" with response options of "since I was born" or "I moved here when I was ___ (age)." Approximately half of respondents were born in the United States ($n = 157$, 54%); of those born outside the United States, the average age of immigration to the United States was 10.78 ($SD = 4.87$) years. To compute the percentage of time spent in the United States, we subtracted the child's age at time of immigration, in months, from their age when they completed the survey. We then divided the remainder by their age at the time of taking the survey, giving us the percentage of their life they have lived in the United States. Overall, participants reported living in the United States for 70% ($SD = 0.38$) of their lives.

Online Communication Frequency. Participants were asked how often they communicate with friends and family (1) living in the United States and (2) living in other countries via email, messaging, social networking, video chat, blog, microblog, and photo sharing (e.g., Instagram). Responses were measured on a Likert-type scale anchored by 1 (*never*) and 5 (*very often*). A total online communication frequency was calculated by summing all the online communication practices for communicating with individuals in the United States ($M = 2.74$, $SD = 0.80$, $\alpha = .71$) and transnationally ($M = 2.35$, $SD = 0.88$, $\alpha = .78$).

Online Communication Topics. We asked participants to report how frequently they talk about the following topics when communicating online with friends or family that live (1) in the United States and (2) in other countries: (a) news about each other, (b) school work, (c) school events, (d) family life, (e) interests or hobbies, (f) jobs or career, (g) news or current events, (h) celebrity news or pop culture, (i) political or social issues (issues important to society like poverty, violence, health and safety, civil rights), and (j) religion. We measured each item on a 5-point Likert-type scale anchored by "never" and "very often." A factor analysis with oblimin rotation and principal components extraction indicated a two-factor solution (both eigenvalues > 1). These two dimensions explained 53.83% of the variance. The first dimension was *personal communication* topics (M [within the United States] = 3.51, $SD = 0.76$, $\alpha = .80$; M [transnationally] = 3.34, $SD = 0.91$, $\alpha = .80$), which included news, school work, school events, family, interests, and jobs. Items were retained on the dimension if they loaded at greater than .60 and lower than .40 on the other factors. One item, "interests," loaded at .58, but was retained because of a low factor loading on the other dimension. *Societal communication* topics (M [within the United States] = 2.35, $SD = 0.78$, $\alpha = .66$; M [transnationally] = 2.12, $SD = 0.89$, $\alpha = .71$) included current events, celebrity news, political issues, and religion (all factor loadings $\geq .64$).

Online Social Connectedness. To assess online social connectedness, students were asked to indicate how much they agreed or disagreed with nine statements about how socially connected they feel as a result of online experiences. Work suggests conceptual differences between offline and online social connectedness (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013); thus, this variable refers only to online social connectedness. Given the nature of this project, individual items assessed perceptions of connectedness within the United States, as well as perceptions of connectedness to other countries and cultures. Previously used measures of social connectedness either are platform specific (e.g., Grieve et al., 2013) or measure the size of the social network (e.g., Jung, Kim, Lin, & Cheong, 2005). Characteristics of online social connectedness are perceptions of connections to others, active involvement with different people and topics, and ability to keep in touch with friends and family. Thus, since we were interested in measuring a more general sense of online

connectedness, and not one that is platform specific, we created a measure based on the characteristics of connectedness identified in the literature. A factor analysis with oblimin rotation and principal components extraction indicated a one factor solution (eigenvalue > 1); thus, we created one variable using all items. Responses were measured with a 5-point Likert-type scale anchored by "strongly disagree" and "strongly agree" ($M = 3.42$, $SD = 0.52$, $\alpha = .81$). For a complete list of items, please see the Appendix.

Results

Descriptive Statistics

Of the Chinese respondents ($n = 101$), 20% were born in the United States, and 80% were born in China. Of those born in China, the average age of migration to the United States was 13.28 ($SD = 3.38$) years. Overall, among Chinese participants, the average percentage of life spent in the United States was 37% ($SD = 0.37$). Of the Mexican respondents ($n = 191$), 75% were born in the United States, and 25% were born in Mexico. Of those born in Mexico, the average age of migration was 7.09 ($SD = 4.39$) years. Overall, among Mexican participants, the average percentage of life spent in the United States was 88% ($SD = 0.24$).

Regression Analyses

Given our interest in examining ethnicity and percent of time living in the United States as predictors of online communication, and past literature demonstrating that gender (Correa, Hinsley, & de Zúñiga, 2010), age (Correa et al., 2010), and parent education (as a proxy for socioeconomic status; Lenhart, Purcell, Smith, & Zickuhr, 2010) can influence such communication, we controlled for these variables in all models. We ran hierarchical regression models for each analysis; the first model included the control variables, the second included percentage of time in the United States and ethnicity, and the third included the interaction term between these two variables. The first analysis examined the relationship between percentage of time living in the United States (H1a) and ethnicity (H3a) on the frequency of communication with friends and family living *within* the United States. The first model with the control variables was not significant ($R = .13$, $R^2 = .02$, $F[3, 251] = 1.39$, $p = .25$). The second model was significant ($R = .28$, $\Delta R^2 = .06$, $\Delta F[2, 249] = 8.50$, $p < .001$). Percentage of time living in the United States was negatively related to adolescents' frequency of communication with friends and family living in the United States. Ethnicity was not related. The interaction term was also not significant ($R = .29$, $\Delta R^2 = .01$, $\Delta F[1, 248] = 1.92$, $p = .17$) This indicates that adolescents who have spent a greater proportion of their lives living outside the United States communicate more frequently with friends and family domestically than those adolescents born within the United States, regardless of ethnicity. Please see table 1. Therefore, H1a was supported, but H3a was not.

The second analysis examined the relationship between percentage of time living in the United States (H1b) and ethnicity (H3b) on the frequency of communication with friends and family living *outside* the United States. The first model was not significant ($R = .08$, $R^2 = .01$, $F[3, 167] = .39$, $p = .76$). The second model was significant ($R = .29$, $\Delta R^2 = .08$, $\Delta F[2, 165] = 6.10$, $p = .001$). Once again, ethnicity was not significantly related. The percentage of time living in the United States, however, was negatively related to adolescents' communication with friends and family living *outside* the United States, indicating that adolescents who have spent a greater proportion of their lives living outside the United States communicate more frequently with

friends and family internationally than those born within the United States. The interaction term was not significant ($R = .32$, $\Delta R^2 = .01$, $\Delta F[1, 164] = 2.42$, $p = .12$). For a complete listing of relationships, see table 1. Therefore, H1b is supported, while H3b is not supported. Overall, ethnicity did not influence communication with friends and family living within and outside the United States; however, percentage of time living in the United States was negatively related to communication with friends and family living within and outside of the United States.

Table 1. Relationships Between Ethnicity and Percentage of Time in the United States on Adolescent Communication.

| | U.S. Communication | Transnational Communication |
|---|-----------------------|--------------------------------|
| Model 1 | | |
| Parent Education | -.01 | -.05 |
| Gender | -.11 | .04 |
| Age | .06 | -.06 |
| R^2 | .02 | .01 |
| Model 2 | | |
| Parent Education | .02 | -.02 |
| Gender | -.11 | .01 |
| Age | .12* | .02 |
| Ethnicity | .09 | .03 |
| % of time in United States | -.31*** | -.32*** |
| ΔR^2 | .06*** | .08*** |
| Model 3 | | |
| Parent Education | .03 | -.01 |
| Gender | -.11 | .02 |
| Age | .14* | .03 |
| Ethnicity | -.01 | -.18 |
| % of time in United States | -.63** | -.87* |
| Ethnicity \times % of time in United States | .47 | .73 |
| ΔR^2 | .01 | .01 |
| Total R^2 | .09 | .10 |

Note: For gender, female = 1. For ethnicity, Chinese = 1; Mexican = 2. Reported coefficients are standardized beta weights. Differences between ΔR^2 and total R^2 may be attributed to rounding.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

The next set of analyses examined if percentage of time living in the United States (RQ1) or ethnicity (RQ3) influenced adolescents' *topics of communication* with friends and family living both within and outside the United States. Please see table 2 for a list of all relationships. We first examined adolescents' personal and societal communication *topics* with friends and family living *within* the United States. For *personal* communication topics, neither the first ($R = .17, R^2 = .03, F[3, 259] = 2.57, p = .06$) nor the second models ($R = .18, \Delta R^2 = .00, \Delta F[2, 257] = .41, p = .66$) were significant. The interaction term was significantly related, however ($R = .24, \Delta R^2 = .02, \Delta F[1, 256] = 6.57, p = .01$). This indicates that Chinese adolescents who spent more time living outside the United States communicate more often about *personal* topics with friends and family in the United States than Chinese adolescents born within the United States.

Regarding *societal* communication topics with friends and family living *within* the United States, model one ($R = .11, R^2 = .01, F[3, 255] = .99, p = .40$), model two ($R = .13, \Delta R^2 = .01, \Delta F[2, 253] = .80, p = .45$), and model three ($R = .16, \Delta R^2 = .01, \Delta F[1, 252] = 2.02, p = .16$) were not significant. This indicates that ethnicity, percentage of time in the United States, and their interaction term do not relate to societal communication topics with friends and family living in the United States.

Additionally, we examined relationships about *personal* and *societal* communication topics with friends and family living *in other countries*. With *personal communication topics* as the dependent variable, the first model was not significant ($R = .14, R^2 = .02, F[3, 190] = 1.35, p = .26$), although both the second ($R = .28, \Delta R^2 = .06, \Delta F[2, 188] = 5.77, p = .004$) and third were ($R = .36, \Delta R^2 = .05, F[1, 187] = 11.43, p = .001$). Ethnicity, percentage of time living in the United States, and the interaction between these two variables were all significantly related to communicating about *personal* topics with friends and family living outside the United States. Thus, Chinese adolescents and adolescents who have spent more time living outside the United States communicate more often about *personal* communication topics with friends and family living in other countries than Mexican adolescents or adolescents who have spent more time living in the United States.

Results did not follow the same pattern for *societal* communication topics with friends and family living *outside* the United States. Model one ($R = .10, R^2 = .01, F[3, 187] = .64, p = .59$), model two ($R = .16, \Delta R^2 = .01, \Delta F[2, 185] = 1.36, p = .26$), and model three ($R = .17, \Delta R^2 = .00, \Delta F[1, 184] = .73, p = .39$) were not significant. These results help answer RQ1 and RQ3: adolescents, especially Chinese adolescents, born outside the United States, communicate more about *personal* communication topics with friends and family living both within and outside the United States. Conversely, percentage of time living in the United States is not associated with discussing *societal* communication topics with friends and family living both within and outside the United States.

Table 2. Relationships Between Ethnicity and Percentage of Time in the United States on Topics of Communication.

| | U.S. Communication | | Transnational Communication | |
|---|--------------------|----------|-----------------------------|----------|
| | Personal | Societal | Personal | Societal |
| Model 1 | | | | |
| Parent Education | -.01 | -.08 | .00 | .01 |
| Gender | -.16* | -.06 | -.13 | -.09 |
| Age | -.07 | .01 | .07 | -.04 |
| R^2 | .03 | .01 | .02 | .01 |
| Model 2 | | | | |
| Parent Education | .00 | -.09 | .02 | .02 |
| Gender | -.16** | -.07 | -.15* | -.10 |
| Age | .08 | .01 | .13 | -.01 |
| Ethnicity | .06 | -.10 | .02 | -.05 |
| % of time in United States | -.07 | .07 | .26** | -.09 |
| ΔR^2 | .00 | .01 | .06*** | .01 |
| Model 3 | | | | |
| Parent Education | .02 | -.08 | .02 | -.02 |
| Gender | -.15** | -.07 | -.14* | -.10 |
| Age | .11 | .03 | .17* | .00 |
| Ethnicity | -.28 | -.29 | -.41** | -.17 |
| % of time in United States | -.68** | -.27* | -1.38*** | -.37 |
| Ethnicity \times % of time in United States | .87** | .49 | 1.47*** | .38 |
| ΔR^2 | .02** | .01 | .05*** | .00 |
| Total R^2 | .05 | .03 | .13 | .03 |

Note: For gender, female = 1. For ethnicity, Chinese = 1; Mexican = 2. Reported coefficients are standardized beta weights. Differences between ΔR^2 and total R^2 may be attributed to rounding.

* $p \leq .05$.

** $p \leq .01$.

*** $p \leq .001$.

The second hypothesis predicted that online communication frequency would relate positively to perceptions of online social connectedness. After entering the control variables in the first model ($R = .23$, $R^2 = .05$, $F[3, 119] = 2.18$, $p = .09$), and percentage of time living in the United States and ethnicity in the second ($R = .23$, $\Delta R^2 = .00$, $F[2, 117] = .07$, $p = .93$), the third model with United States communication frequency and transnational communication frequency resulted in a significant change in R^2 ($R = .39$, ΔR^2

= .10, $\Delta F[1, 116] = 13.64, p < .001$). Average frequency of communication with friends and family living *outside* the United States was significantly related to social connectedness ($\beta = .33, p < .001$). Thus, H2 is partially supported: online communication is positively related to social connectedness, but only for communication with friends and family living outside the United States.

Finally, we examined the association between communication topics and perceptions of online social connectedness (RQ3). We ran one regression examining the relationship between personal and societal communication topics with friends and family living in the United States and a second regression examining the two communication topics with friends and family living outside the United States. For the former, the first model with the control variables was not significant ($R = .19, R^2 = .04, F[3, 170] = 2.23, p = .09$), and neither was the model with ethnicity and percentage of time spent living in the United States ($R = .20, \Delta R^2 = .00, \Delta F[2, 168] = .04, p = .96$). The third model with communication topics was significant ($R = .38, \Delta R^2 = .11, \Delta F[2, 166] = 10.58, p < .001$). Specifically, the frequency of discussing personal communication topics with friends and family living in the United States was positively related to perceptions of online social connectedness ($\beta = .22, p = .02$); societal topics were not related ($\beta = .15, p = .10$).

Results were similar when examining the relationship between discussing personal and societal communication topics with friends and family living outside the United States and perceptions of online social connectedness. The first ($R = .12, R^2 = .02, F[3, 133] = .66, p = .58$) and second models ($R = .13, \Delta R^2 = .00, \Delta F[2, 131] = .09, p = .91$) were not significant. The third model was significant, however ($R = .35, R^2 = .10, F[2, 129] = 7.62, p = .001$). The frequency of discussing personal communication topics with friends and family living outside the United States was positively related to perceptions of online social connectedness ($\beta = .38, p = .001$); societal topics were not related ($\beta = -.05, p = .61$). Thus, although ethnicity and percentage of time living in the United States did not relate to online social connectedness, results indicated that the frequency of discussing personal communication topics with friends and family living both within and outside the United States related positively to perceptions of online social connectedness.

Discussion

Summary of Results

The goal of the present study was to examine transnational communication among Chinese and Mexican immigrant adolescents and children of immigrants, specifically examining how transnational communication about different topics (personal and social) related to online social connectedness. We found that percentage of time spent living in the United States influenced transnational communication. For example, adolescents who spent more time living outside of the United States reported communicating more frequently with friends and family both within and outside the United States compared with adolescents who spent a higher percentage of their lives in the United States. Additionally, Chinese adolescents with a lower percentage of time spent in the United States communicated more about *personal* topics with friends and family outside the United States. In summary, percentage of time spent living in the United States seems to influence the frequency and topics of communication more so than adolescent ethnicity, indicating that

the opportunities for transnational communication granted by these digital technologies may be of particular use for immigrant adolescents who have spent a lower percentage of their lives living in the United States.

Regarding perceptions of online social connection, we found that average frequency of communication with friends and family living outside the United States related to online social connection, as did specifically discussing personal communication topics. Percentage of time spent living in the United States and ethnicity did not influence these relationships. Thus, transnational communication, specifically about personal communication topics, is positively related to adolescents' sense of online social connection.

Implications

These data have important implications for researchers' understanding of transnational communication practices among immigrant adolescents and children of immigrant parents. First, these results provide important insight into the way in which Internet communication tools offer special opportunities to minority and immigrant adolescents. Specifically, digital media, such as the Internet, allow adolescents to build and maintain ties with friends and family transnationally, a key goal of individuals who have experienced migration (e.g., de la Piedra, 2010, 2011; Gonzalez & Katz, 2016; Lam & Warriner, 2012). In this article, we argue that these connections to one's home country facilitated by digital technologies are particularly important in the context of adolescence, an age at which individuals focus on building and maintaining friendships and other connections. Immigrant and minority adolescents face similar challenges to non-immigrant adolescents as they seek to create and maintain connections; however, this is potentially more challenging as many of their connections, including friends and family, live in different countries or in their natal country.

Therefore, as evidenced by these data, Internet-based communication tools provide adolescents with opportunities to seek out and communicate with more individuals who share similar interests and experiences, including friends and family living in other countries, thereby assisting in the creation and maintenance of national and transnational connections. While previous work in this area has examined child and adolescent use of digital media technologies to communicate transnationally (e.g., Gonzalez & Katz, 2016; Stewart, 2013, 2014), the present article adds to the existing literature by considering the *specific* communication topics that adolescents discuss when communicating with friends and family both within the United States and transnationally. Many studies of adolescent Internet or social media use consider the total time spent on a website without considering exactly what adolescents are doing or communicating about in these environments (see Cingel & Olsen, 2018; Ellison, Steinfield, & Lampe, 2011 for exceptions). Adding to this literature, we found that communicating nationally and transnationally about *personal* communication topics relates to perceived social connectedness, but we found no such connection for societal communication topics.

This suggests that, although a number of studies have considered the role of Internet-based communication in perceptions of social connectedness (for a review, see Valkenburg & Peter, 2009), future research must consider how the nature of that communication might influence online communication practices and the potential outcomes of such behaviors. For example, Valkenburg and Peter (2009) theorized that online communication related positively to self-disclosure, which further influenced the quality of

adolescents' relationships and subsequent well-being. Their hypothesis did not consider how different types of communication topics might influence these relationships. Therefore, the current findings provide nuance to researchers' understanding of adolescent Internet use and communication by examining different types of communication practices, suggesting differential outcomes of transnational communication based on communication topic. This is particularly so in the case of one variable of well-being, online social connection.

The data from this study also suggest that adolescents' percentage of time spent in the United States, more so than ethnicity, may influence the way in which these online communication tools are used to aid adolescents in maintaining and growing connections both nationally and transnationally. The youth in our sample who immigrated more recently, thus spending a smaller percentage of their lives in the United States, are particularly active users of the Internet and engage in online communication to develop relationships and navigate multiple social contexts both within the United States and in other countries. This study echoes the survey findings of Drotner and Kobbernagel (2014) on the active use of social networking media and interpersonal communication among youth who are immigrants or children of immigrants in Denmark. The analysis examining percentage of time spent living in the United States further shows the significance of online communication among youth who immigrated more recently in terms of building social connections both within their country of residence and across countries, as well as the potential role of digital communication in cultivating personal and social resources. This transnational media use and communication likely allows these adolescents to negotiate their ties to the country of their birth or to the country from which their parents immigrated to the United States. This connection is important and necessary to adolescents who recently migrated to the United States, thus explaining why we did not detect as many differences in transnational Internet use based on ethnicity. Therefore, this research adds to the growing body of literature that examines how immigrant children and adolescents integrate digital media into their lives in an effort to communicate with friends and family transnationally, thereby maintaining and growing connections across countries.

Limitations and Directions for Future Research

This study has many strengths but also carries limitations. First, data were survey self-reports of Internet use, thus relying on student recollection of behaviors. Newer data scraping tools may be better able to provide specific examples of the communication practices that adolescents engage in online, as well as the specific topics of communication. Second, while the sample size was relatively large, there were nearly twice as many Mexican respondents as Chinese respondents. More equal sample sizes and an inclusion of non-Mexican and non-Chinese populations as a comparison group would have increased the comparability of the data. Finally, our measure of the percentage of time spent living in the United States was not sensitive enough to detect if adolescents had moved to a country other than the United States for a period of time before moving back to the United States. Therefore, we may have overestimated the percentage of time that adolescents spent in the United States, but this would occur across the sample, and we have no reason to believe this would disproportionately influence the data for one group of adolescents compared with the other.

Despite these limitations, we used data from a relatively unique sample of immigrant adolescents and children of immigrant parents to examine how this population uses the Internet to engage in

communication with friends and family living in the United States as well as transnationally. These findings have important implications for researchers' understanding of how these groups communicate and the topics they discuss with friends and family around the world. We believe there is special importance in considering how different communication topics relate to feelings of online social connectedness, as this provides more nuance to our understanding of the possible outcomes of online communication among diverse populations of different national origins.

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Appendix

Measure of Online Social Connectedness

1. I feel I've been able to connect with friends and family members in other countries because of my online activities.
2. I feel online activities help me to create different sorts of friendships than I would be able to create otherwise.
3. I feel I've gotten to know people from other countries because of my online activities.
4. I've had online conversations with people who are very different from the people I spend time with in person.
5. I feel I've gotten new perspectives on societal issues because of my online activities.
6. I feel I've learned more about events in other countries because of my online activities.
7. I feel I've learned more about events in other countries as a result of my family and friends who I see outside of my online activities (reverse coded).
8. I feel that online conversations are not as effective at developing or maintaining relationships as offline conversations (reverse coded).
9. I feel like the Internet lets me explore interests and parts of my identity that I can't explore with the people I spend time with in person.
10. I feel I've been able to express myself (artistically, politically, etc.) with new media and the Internet in ways that I could not otherwise.