Received: 7 February 2021 | Revised: 1 July 2020 | Accepted: 12 April 2021

DOI: 10.1111/sode.12531

ORIGINAL ARTICLE

WILEY

# "Let's hang out!": Understanding social ties among linguistically diverse youth in urban afterschool programs

**Sophia H. J. Hwang**[1] | **Elise Cappella**[1] | **Michael J. Kieffer**[2] | **Miranda Yates**[3]

[1] New York University, 246 Greene Street, 8th Floor, New York, New York 10003, USA

[2] New York University, 239 Greene Street, 5th Floor, New York, NY 10003, USA

[3] Good Shepherd Services, 305 7th Avenue, 9th Floor, New York, NJ 10001, USA

**Correspondence**
Sophia H. J. Hwang, 246 Greene Street, 8th Floor, New York, NY 10003, USA.
Email: sophia.hwang@nyu.edu

**Present address**
Miranda Yates, Robert Wood Johnson Foundation, 50 College Road, Princeton, NJ 08540, USA

Accepted on March 29, 2021 to *Social Development* as part of a Special Feature:

Benefits of Intergroup Connections: Examining the Impact of Peer Networks on Academic and Socio-Emotional Competencies of Diverse Youth

**Funding information**
Institute of Education Sciences, U.S. Department of Education, Grant/Award Number: R305B140037; NYU Institute of Human Development and Social Change; NYU Steinhardt School of Culture, Education, and Human Development

[Corrections made on 21 July 2021, after first online publication: Affiliation details for Miranda Yates has been corrected in this version.]

## Abstract

This study examines the associations among cross-linguistic social ties, individual-level social network and demographic characteristics, and academic and social-emotional outcomes in a sample of third to eighth grade Latine and Black youth attending urban afterschool programs. Guided by social capital and social learning perspectives, this study is one of the first to explore the associations of social ties among Spanish-speaking bilingual youth and native English-speakers in the afterschool setting. We found that youth who have more ties in the classroom social network have more cross-linguistic connections than would be expected given the afterschool classroom composition. Moreover, having more cross-linguistic ties at the start of the year was associated with higher academic and social self-concept in the spring, adjusting for baseline skills and other covariates. These findings suggest that cross-linguistic ties in the afterschool setting may contribute to positive social and developmental outcomes in late childhood and early adolescence.

**KEYWORDS**
afterschool, bilingual youth, linguistic homophily, self-concept, social networks

  

## 1 | INTRODUCTION

In late childhood and early adolescence (approximately ages 8–15), peers become increasingly salient (Crosnoe, 2000; Prinstein & Dodge, 2008), serve as critical sources of social support (Steinberg, 2008), and influence academic and social-emotional development (Brechwald & Prinstein, 2011). Because youth become sensitive reporters of their own and others' social ties during this developmental period (Gest et al., 2001), social network analysis is an appropriate methodological approach to understand relationships in context (Cairns et al., 1995) and the social capital that exists therein (Lin, 1999). A growing body of work specifically investigates "peer social capital" among young people (e.g., Ream & Rumberger, 2008) in education contexts (Coleman, 1988; Dika & Singh, 2002). Peers are more abundant and available than adults to support the development of school-related skills (e.g., Carhill-Poza, 2015); thus, it is critical to study peer-to-peer connections, which allow for the exposure and exchange of information about norms and academic content (Stanton-Salazar, 2004) and opportunities to practice social and academic skills (van Lier, 2002). Viewed through this social capital lens, peers are valuable *resources* (Cappella & Hwang, 2015) that influence not only academic outcomes, but social-emotional outcomes as well (Jørgensen, 2017).

In this study, we integrate the concepts of *bonding* and *bridging capital* from the social capital literature (e.g., Putnam, 2000) with the ideas of *homophily* and *heterophily* from the social network literature (e.g., McPherson et al., 2001) to explore the social connections among bilingual and native-English speaking youth in urban afterschool programs. In late childhood and early adolescence, youth tend to form connections with others who share similar demographic attributes—this phenomenon is called *homophily* (McPherson et al., 2001). For example, social development scholars have studied the prevalence and nature of children's preferences for same-sex peers (e.g., Lee et al., 2007; Neal, 2010) and within-group social ties by racial/ethnic identity (e.g., Cappella et al., 2017; Graham et al., 2014; Shrum et al., 1988). From these connections with homogeneous peers, bonding capital arises as youth experience shared understanding, reinforced identities, and social support (Kiang & Fuligni, 2009). *Heterophily*, or social ties among youth with different demographic characteristics, is linked to bridging capital; these relationships with dissimilar peers lead to the sharing of diverse knowledge, new skills, and different perspectives (Putnam, 2000). Prior research (e.g., McGlothlin & Killen, 2010; Pettigrew & Tropp, 2006) sheds light on the benefit of these connections between dissimilar peers (i.e., heterophilous ties), which give rise to a more integrated, inclusive, and accepting network.

A small body of work in the United States has recently examined social ties in educational settings among native English-speakers and their bilingual or English learner (EL) peers (e.g., Johnson et al., 2019; Kibler et al., 2019). It is timely to study linguistic connections as over 12 million children in the United States are bilingual and speak a language other than English at home (Annie E. Casey Foundation, 2018) and a subset of five million students are identified as English learners in the process of learning English language skills to succeed academically without specialized support (NASEM: National Academies of Sciences, Engineering, & Medicine, 2017; NCES: National Center for Education Statistics, 2020). In the United States, the vast majority of youth who are bilingual or English learners are Spanish-speakers (Gándara & Escamilla, 2017). In this study, our use of the term bilingual broadly includes English learners as well as youth who are proficient in English to describe youth who speak two languages across home and learning contexts, do not use English as their home language, and/or need specialized language support. Although youth tend toward homophily (Shrum et al., 1988), cross-race ties, for example, are associated with decreased intergroup bias (McGlothlin & Killen, 2010), increased academic and social competence (Pettigrew & Tropp, 2006), and positive social adjustment (Kawabata & Crick, 2008, 2011). However, the extent to which linguistic homophily manifests among bilingual and native-English speakers in the elementary and middle grades and the potential academic and psychosocial benefits of cross-linguistic ties, specifically, are not yet well-understood; thus, there is a need for social development scholars to further study the phenomenon of linguistic homophily.

## 1.1 | Social ties in the afterschool setting

Acknowledging the social development tradition of studying development in context (e.g., Bronfenbrenner & Morris, 2006), the majority of the peer relations literature focuses on day school – the primary setting where youth learn and socialize (Seidman & Cappella, 2017). However, the afterschool setting is emerging as an important developmental space, especially in the elementary and middle grades, to study peer relationships and social-emotional and academic outcomes. In the United States, one in four families with school-aged children enroll in publicly-funded afterschool programs (Afterschool Alliance, 2014; McCombs et al., 2017). Afterschool programs provide a safe space for positive youth development and social-emotional competence alongside academic enrichment (Catalano et al., 2004). Challenges also exist as afterschool programs are expected to provide enrichment with limited time, resources, and younger staff with less professional experience in comparison to day school (Larson & Walker, 2010; Vandell et al., 2016). However, because afterschool staff are likely to come from the same communities as the youth and be attuned and responsive to youth needs (Hwang et al., 2020), staff may be better able to integrate youth across diverse academic and language skills in afterschool activities, avoiding the segregation common in day schools (Maxwell-Jolly, 2011). Thus, afterschool programs demonstrate the promise of being a unique, safe space for youth to cultivate connections with peers, both similar or dissimilar, and develop a holistic set of skills.

Urban ASPs have high enrollment of low-income, racial/ethnic minority, and also bilingual youth (Afterschool Alliance, 2014), who face disproportionate school-related difficulties and yet contribute assets to the educational context. Bilingual youth in the U.S. are often racial/ethnic minorities and thus face the same challenges experienced by racial/ethnic minorities: compared to native English-speakers, they are more likely to reside in low-income neighborhoods (Kieffer, 2008), attend low-resourced schools (NASEM, 2017), and experience poor academic and social-emotional outcomes (Evans & Kim, 2013). Bilingual youth simultaneously navigate additional challenges due to communication barriers and linguistic stigma (Short & Fitzsimmons, 2007), alongside underperformance in reading and mathematics (Kieffer & Thompson, 2018). Given these difficulties, access to social ties with linguistically dissimilar peers, in which new academic and social skills are practiced and reinforced (Milroy & Milroy, 1985), may serve as a critical support for bilingual youth. Additionally, bilingual learners demonstrate strengths as they contribute diverse experiences, new perspectives, and cultural assets (Garcia & Kleifgen, 2018) and provide models for executive functioning (Poarch & Bialystok, 2015) for their native English-speaking peers. Additionally, it is advantageous for native English-speakers to interact with linguistically diverse peers, as increased perspective taking and exposure to diversity may lead to improved social skills and decreased problem behaviors (Gottfried, 2014). There is a gap in the literature regarding cross-linguistic ties in afterschool settings. Therefore, this study focuses on the afterschool setting to explore the associations of cross-linguistic ties with individual-level predictors and academic and social-emotional outcomes among urban youth at the transition to adolescence.

## 1.2 | Associated predictors and outcomes of cross-linguistic ties

Little is known about the characteristics associated with the extent one forms social ties with linguistically similar or dissimilar peers. There is evidence that both bilingual youth and native English-speakers tend toward linguistic homophily (Aboud & Sankar, 2007). For example, in a sample of emergent bilingual adolescents, only nine percent had ties with native English-speakers (Carhill-Poza, 2015). As identity formation is a key goal during adolescence (Erikson, 1968), spending time with similar peers with shared cultures may enable them to deepen their sense of self or feel a sense of comfort. In a study examining English learners and their peers in middle school classrooms, Johnson and colleagues (2019) found that the number of bridging friendships (e.g., tie between an EL and non-EL) and bonding friendships (e.g., tie between two ELs) varied by EL status: at both the start and end of the school year, ELs had more bridging friendships than bonding friendships, while non-ELs had more bonding friendships than bridging friendships.

However, this difference in the number of bridging and bonding ties by EL status may be an artifact of having fewer ELs in the classroom. Thus, research accounting for the *opportunity* of cross-linguistic ties is needed. Building upon this and accounting for the composition of linguistic diversity in afterschool classrooms, *our first research aim (RA1) explores whether and in what direction bilingual status (i.e., whether a student is bilingual or a native-English speaker) is associated with linguistic homophily*.

Guided by Lin's (1999) network theory of social capital, one's position within the network may provide differential access to bonding and bridging capital. We explore whether an individual's *degree centrality*, one approach of measuring network position, may be associated with linguistic homophily. *Degree centrality* (Freeman, 1979) assesses the number of ties for each youth; this can also be referred to as ego network size (e.g., Neal, 2010). As degree centrality increases, individuals are connected to more peers and resources, and thus have access to greater social capital (Bell & Kornbluh, 2019; Laser & Leibowitz, 2009). Having higher degree centrality has been associated with both higher prosocial behavior and relational aggression (van den Bos et al., 2018). Thus, some youth may be prosocial and skilled at forging ties, including with those who are linguistically dissimilar; others may have many ties, but ignore or bully some youth in the network. During late childhood and early adolescence, relatedness—or connection with others—is considered a basic need (Deci & Ryan, 1987). Youth may satisfy this need by seeking support from similar peers, thus tending towards bonding capital or linguistic homophily, as a source of trust, group solidarity, and emotional support (Lin, 1999). Alternatively, as youth have more social ties, they may be drawn to peers who are different from them and/or have complementary skills and perspectives; this leads to the cultivation of bridging capital via cross-linguistic connections. Therefore, our *second research aim (RA2) tests whether and in what direction degree centrality is associated with linguistic homophily*.

Prior work has provided a preliminary understanding of the psychosocial benefits of cross-group, rather than same-group, connections; however, much of this research focuses on race/ethnicity with little focus on language and cross-linguistic ties. Empirical studies examining cross-ethnic ties in late childhood and early adolescence find that diverse connections are associated with increased social competence, peer support, popularity and prosocial skills (e.g., Kawabata & Crick, 2011; Lease & Blake, 2005). One study, adjusting for the ethnic composition of the classroom, analyzed the peer-nominated friendships of fourth graders in midwestern public schools and reported that having more cross-ethnic ties was associated with greater leadership and peer inclusivity/belonging (Kawabata & Crick, 2008). Generally, the literature on same- and cross-ethnic connections assesses ties between white students and their ethnic minority peers (typically Black and Latine youth); however, an exception is a study by Graham and colleagues (2014). Using peer nomination techniques and structural equation modeling to understand the connections between Latine and African-American sixth graders, they found that youth with more cross-ethnic friendships had greater feelings of school safety and lower peer victimization. Our study builds upon this work and explicitly focuses on cross-linguistic ties among Black and Latine youth in the understudied context of afterschool. Theory suggests that interactions with and observation of peers facilitate and reinforce new social skills (Bandura, 1977). Interactions with linguistically dissimilar peers may foster feelings of tolerance and cooperation (Goza & Ryabov, 2009), which can promote social skill development (Callahan, 2005), positive academic attitudes (Berndt, 1999), and positive self-perceptions (academic, social). In this study, *our third research aim (RA3) examines the magnitude and direction of the associations between linguistic homophily and psychosocial outcomes (i.e., academic self-concept and social self-concept).*

Theoretical perspectives and empirical evidence suggest that cross-linguistic ties are associated with positive academic outcomes. Expanding networks so they are more linguistically diverse likely increases resources and social capital and yields academic benefits for bilingual youth and peers alike (Haneda & Wells, 2008). According to sociolinguistic theory, interactions between bilingual youth and native English-speakers provide models for learning language, which then supports academic outcomes (van Lier, 2002). These findings are corroborated by a handful of other studies highlighting the benefit of linguistically diverse relationships, evidenced by associations with higher language skills and achievement test outcomes (Calderón et al., 2011; Wiklund, 2002). *Our fourth and final research aim (RA4) examines the magnitude and direction of the association between linguistic homophily and academic outcomes, specifically oral reading fluency*.

### 1.3 | Current study

Afterschool programs (ASPs) have a unique opportunity to facilitate social and academic peer interactions across diverse language backgrounds (Durlak et al., 2010). Although interpersonal interactions are considered to be important aspects of afterschool quality, peer relationships—particularly among linguistically and ethnically diverse youth—are not well understood in the afterschool context. In response, this study is the first to explore cross-linguistic ties in the novel context of afterschool programs among Spanish-speaking bilingual youth and native English-speakers during the critical development period of late childhood and early adolescence via four research aims. First, we explore whether and in what direction bilingual status was associated with linguistic homophily at the start of the school year (*RA1*). Second, we test whether and in what direction degree centrality was associated with linguistic homophily at the start of the school year (*RA2*). Third, we seek to understand the associations between fall linguistic homophily and spring academic and social self-concept, adjusting for baseline skills and other covariates (*RA3*). Lastly, we examine the magnitude and direction of the association between fall linguistic homophily and spring reading skills, adjusting for baseline skills and other covariates (*RA4*).

## 2 | METHOD

### 2.1 | Setting and context

Data were derived from a larger research-practice partnership with a multi-service community-based organization (CBO). The study focused on five school-based afterschool programs that were representative of the broader set of programs administered by the CBO in one metropolitan area in the northeast United States. All invited programs agreed to participate in this research study. Participants in these sites mirrored the demographic characteristics of the broader sample of afterschool youth served by the CBO. Youth attended the ASPs for approximately three hours each day throughout the school year. At each site, youth participated in several academic, social-emotional, and athletic activities each day. For this study, we focused on one classroom activity that had an academic emphasis (e.g., STEM, literacy), during which the same group of youth and afterschool staff met two or more times each week.

### 2.2 | Participants

The afterschool sites served low-income, predominately ethnic minority youth; nearly all youth (90%) were eligible for free/reduced lunch. The analytic sample was derived from a broader dataset and participants were included if three criteria were met. First, only Latine (75.1%) or Black (21.4%) youth were included in these analyses; the small subset of youth (3.5%) who identified as being white, multi-racial, or Asian were excluded. Second, 36.0% of the full sample were identified as being bilingual (details on how students were identified follow in the Measures section). The vast majority of bilingual youth were Spanish-speaking; the two percent of bilingual youth who were non-Spanish speaking (e.g., French, Mandinka) were excluded as they did not have peers who spoke their primary language in their afterschool classroom. Lastly, classes were only included in the analytic sample if they met minimum criteria for diverse student composition (more than one Spanish-speaking bilingual youth and more than one Black native English-speaking youth).

This study's analytic sample included 285 third to eighth grade youth from 15 groups in five ASPs. Nearly two-thirds of the sample (64.6%) were in elementary school (10 groups) and the remainder (35.4%) were middle school students; ages ranged from seven to fourteen ($M = 9.8$ years, $SD = 1.7$) years old. The majority of the sample were Latine (81.8%) and the remainder were Black. Approximately half of the sample (44.9%) were girls and 38.6% were Spanish-speaking bilingual youth. Parental consent and youth assent were obtained from 75% of the youth that met the inclusion criteria

($n = 214$); these youth were considered to be primary participants and eligible to complete the study's assessments and surveys. The remaining youth from whom we did not obtain consent/assent were secondary participants; these youth did not complete surveys or assessments. However, the names of secondary participants were included on the social network survey and the primary participants in their class reported their perceptions of who hung out with whom for each student. Therefore, data about the whole classroom network were obtained, although only primary participants served as reporters. Administrative data were available for all youth in the sample.

## 2.3 | Procedures

Research assistants administered all surveys and assessments in the fall and spring of one academic year. Youth completed surveys via paper and pencil with the exception of the social network surveys, which were administered on electronic tablets. Data collection occurred during the afterschool activity of interest or at another time preferred by the afterschool staff (e.g., homework or snack time). Parental consents and paper-pencil surveys were available in English and Spanish.[*] Bilingual researchers provided direct support to Spanish-speaking students during data collection. At each data collection timepoint, youth spent no more than 30 minutes completing surveys and assessments and received a small prize (e.g., pencil, eraser). The five participating sites each received an incentive of $400 for time spent on research activities. All activities were conducted in accordance with protocols approved by the university institutional review board. The majority of the measures were collected from all youth who joined the study; however, the assessment of reading skills (oral reading fluency) was collected from a stratified random subsample of primary participants to minimize data collection interruptions. Given the smaller number of middle school sites, all participating middle school youth were included in the subsample. In each elementary afterschool group, youth were blocked by gender and eight students (approximately one-third) were randomly selected for the subsample; bilingual youth were oversampled (all bilingual youth were selected into the subsample if there were four or fewer in the class).

## 2.4 | Measures

Youth demographic information and administrative data were collected at the start of the school year. The assessment of reading skills, youth self-reports, and social network surveys were completed in the fall and spring of one academic year.

### 2.4.1 | Bilingual status

In this study, we use the term bilingual to describe youth that required specialized language support to fully participate in academic settings and/or indicated that Spanish was their primary language. Youth were categorized as bilingual if at least one of the following criteria were met: (1) afterschool staff reported that the youth needed additional language support to fully participate in activities; (2) administrative data indicated that the youth was Limited English Proficient; (3) administrative data indicated the youth's primary language was Spanish; and (4) youth reported that the main language they used to speak in school was Spanish. A total of 110 youth were classified as bilingual. Of these, 35 youth met criteria 1 and/or 2 and may be considered English learners; for our purposes, they are not treated separately, but considered as part of the broader bilingual group. An additional 75 youth met criteria 3 and/or 4 and are considered bilingual because they use Spanish as their primary language, but cannot necessarily be considered English learners. Thus, the variable *bilingual status* is dichotomous: "bilingual" (1) captures both the subset of English learners and other bilingual youth, whereas native-English speakers (0) serve as the contrast.

### 2.4.2 | Social network measures

In the fall, youth completed a social network survey where they reported on their own connections with peers in the focal afterschool group and also for every other peer in their group via a cognitive social structures approach (CSS: Krackhardt, 1987; Neal, 2008). Specifically, youth were asked to select the names of other peers they "hang out with often," yielding an understanding of the presence or absence of a social tie (i.e., edge) between each dyad in the group according to each reporter. Following the procedures of earlier studies (Cappella & Neal, 2012; Neal, 2008) and prior work with this population (Cappella et al., 2018), individual peer-reported social networks were: (1) aggregated to the group-level, which sums the number of respondents that stated that a pair of youth hang out with each other often (Krackhardt, 1987); (2) symmetrized to report the average value of the tie from youth A to B and youth B to A; and (3) binarized using a binomial test, which determined whether a tie was present beyond random chance accounting for the number of respondents, youth in the classroom, relational ties reported, and possible classroom ties (see Neal, 2008 for additional details). All analyses were conducted on these cleaned, symmetric classroom adjacency matrices.

*Linguistic homophily*

Using these social network data and guided by previous work (McCormick et al., 2015; Neal, 2010), we calculated a linguistic homophily score for each individual as:

$$\frac{\sum Same\ bilingual\ status\ ties_{ij} / \sum Ties_{ij}}{\sum Same\ bilingual\ status\ peers\ in\ classroom_{ij} / (Class\ Size_j - 1} \quad (1)$$

The numerator of equation 1 captures the proportion of network ties for youth *i* in classroom *j* that have the same bilingual status (i.e., bilingual or native English-speaker). The denominator of equation 1 captures the total number of youth in the classroom with the same bilingual status as youth *i* divided by the class size minus 1 to adjust for youth *i*, which accounts for the opportunity structure of the class (i.e., the opportunity for cross-linguistic ties based on the proportion of bilingual youth in the class). The ratio of the numerator and denominator yields a unique homophily score for each student. This approach applies Freeman's measure of segregation (1977) calculated at the network-level to the individual-level (Neal, 2010). Aligned with prior work (i.e., McCormick et al., 2015), homophily scores were centered by subtracting 1 to aid interpretability. A negative score (i.e., ranging from −1 to 0) indicates that the child is less homophilous than expected, or in other words more heterophilous (e.g., a bilingual youth has more native English-speaker ties), when accounting for the proportion of bilingual youth in the afterschool group. A score of zero indicates that the student has the expected proportion of linguistically similar ties. A score greater than zero and possibly ranging to infinity (there was an upper bound of 3.25 in this sample) demonstrates that the student is more homophilous than expected (e.g., a bilingual individual has more bilingual ties) given the composition of the classroom (McCormick et al., 2015).

*Degree centrality*

Normed *degree centrality* (Freeman, 1979) assessed the number of ties for each youth in the afterschool group divided by the total number of possible ties; this was calculated using UCINET 6 (Borgatti et al., 2002). Degree centrality captures youth's peer connectedness and is comparable across youth in different classrooms as it is expressed as a proportion.

### 2.4.3 | Outcomes

We used Harter's (2012) Self-Perception Profile for Children (SPPC), a validated tool used that captures self-concept from a multidimensional perspective, to measure academic and social self-concept. Both the academic and social

self-concept subscales demonstrated reliability when used in afterschool settings (e.g., Crimarco et al., 2018) and with Black (e.g., Stewart et al., 2009) and Latine (e.g., Erkut et al., 2000) youth. The six items on the *academic self-concept* measured youth perceptions of their own academic ability. Youth read two opposite statements (e.g., "some kids do very well at their classwork BUT other kids don't do very well at their classwork"), selected the statement that was the "most like them," and determined whether the selected statement was "really true" or "sort of true." Responses to each item were on a four-point scale. Internal consistency reliability in our sample for the spring was adequate ($\alpha = .70$).

*Social self-concept* was measured via the *social competence* subscale from the SPPC (Harter, 2012). These six items ($\alpha = .65$) assessed youth perceptions of their own social skills (e.g., "some kids find it hard to make friends BUT other kids find it's pretty easy to make friends").

*Reading skills* were measured with easyCBM (Alonzo et al., 2006), a reliable curriculum-based measure of oral reading fluency associated with reading comprehension, academic achievement, and standardized tests (Reschly et al., 2009; Yeo, 2010). This assessment was administered individually for youth in the subsample. We selected this commonly used measure for progress monitoring (Lai et al., 2013) as it quick and easy to administer, thereby minimizing the burden for both youth and staff. Youth read three leveled reading passages aloud for one minute each, while a trained assessor from the research team tracked errors to calculate the total number of correct words read per minute (Alonzo & Tindal, 2009). Scores on the three probes demonstrated high reliabiltiy ($\alpha = .97$). Analyses used the mean score across the three probes.

### 2.4.4 | Covariates

Baseline levels of the outcomes were collected in the fall and included as covariates when testing research aims 3 and 4 (fall reliabilities: oral reading fluency $\alpha = .97$, academic self-concept $\alpha = .69$, and social self-concept $\alpha = .63$). Additionally, youth covariates included demographic characteristics reported by the youth and/or provided by the CBO's administrative data. Ethnicity identified whether the youth was Black (1) or Latine (0). Gender was dummy coded as female (1) and male (0). School grade span differentiated between middle (1) and elementary (0) school to account for developmental differences by grade or structural differences by school type. Lastly, whether youth completed the social network survey in the fall ("survey respondent": yes = 1, no = 0) was a covariate. The social network survey was only offered to youth from whom the study team obtained child assent and parent consent. Among primary participants, only 19 youth (8.6%) did not compete the social network survey in the fall.

## 2.5 | Analytic plan

The analytic sample includes 285 youth. Due to stratified random sampling, there was planned missingness in the data collection (Missing Completely At Random: MCAR) and a small amount of other missingness, resulting in values missing at random (MAR; Rubin, 1976). Mean missingness was 4.5% (range: 0% to 15.8%) on covariates and the outcomes of academic self-concept and social self-concept among the primary participants who consented into the study. Missingness on the academic assessment outcome was 19.5% among youth randomly selected into the subsample (2.4% of the fall academic assessment was missing). Secondary participants (i.e., youth who did not consent into the study) do not have outcome data, but have social network scores based on peer-reports from primary participants. Across the individuals in the full analytic sample, missingness for social network variables was 7.0% for fall degree centrality (youth who enrolled late in the school year were not asked about on the social network survey and thus do not have degree centrality scores) and 18.6% for fall linguistic homophily (youth who do not have peer connections, i.e., isolates, have missing homophily scores). At the classroom-level, mean missingness was 6.9% for degree centrality (missing from 1–2 youth in the classroom) and 21.3% for linguistic homophily (missing from 3–4 youth in the classroom).[†]

**TABLE 1** Descriptive statistics of fall social network characteristics, fall scores of the outcomes, and spring outcomes by bilingual status

| | Native English-Speaker | | | | Bilingual | | | |
|---|---|---|---|---|---|---|---|---|
| | M | SD | Min | Max | M | SD | Min | Max |
| Fall Linguistic Homophily | 0.04 | 0.46 | −1 | 1 | 0.14 | 0.81 | −1 | 3.25 |
| Fall Degree Centrality | 0.20 | 0.13 | 0 | 0.60 | 0.19 | 0.15 | 0 | 0.63 |
| Fall Academic Self-Concept | 2.96 | 0.70 | 1.17 | 4 | 2.85 | 0.73 | 1.50 | 4 |
| Fall Social Self-Concept | 2.83 | 0.74 | 1.17 | 4 | 2.90 | 0.59 | 1.33 | 4 |
| Fall Reading Skills | 119.77 | 38.94 | 15 | 201 | 103.35 | 41.16 | 14 | 208 |
| Spring Academic Self-Concept | 2.77 | 0.74 | 1 | 4 | 2.60 | 0.76 | 1.33 | 4 |
| Spring Social Self-Concept | 2.75 | 0.75 | 1 | 4 | 2.74 | 0.72 | 1.17 | 4 |
| Spring Reading Skills | 135.93 | 39.51 | 25 | 203 | 115.61 | 42.66 | 10 | 223 |

To account for missingness in the predictors and outcomes under the MCAR and MAR assumptions, full information maximum likelihood (FIML) estimation was used (Enders & Bandalos, 2001).

To answer our research aims, we conducted regression models with individual-level variables and clustered standard errors to account for classroom-level nesting. Models were fitted in Mplus 7 (Muthén & Muthén, 2012) using a robust maximum likelihood (MLR) estimator. For research aims 1 and 2, we examined the extent to which bilingual status (*RA1*) and degree centrality (*RA2*) were associated with fall linguistic homophily, adjusting for other covariates (i.e., race/ethnicity, gender, school grade span, survey response). To test research aims 3 and 4, we conducted three regression models to examine whether fall linguistic homophily was significantly associated with spring academic self-concept, spring social self-concept (*RA3*), and spring reading skills (*RA4*), adjusting for baseline levels of the outcome and other covariates. In all regression models, continuous predictors and covariates were grand mean centered. Binary and dummy coded variables were untransformed.

## 3 | RESULTS

### 3.1 | Descriptive statistics

Table 1 presents the means, standard deviations, and ranges for the fall social network characteristics, baseline scores of the outcomes in the fall, and spring outcomes (i.e., academic self-concept, social self-concept, and reading skills) by bilingual status. Native English-speakers had a mean fall linguistic homophily score of 0.04 ($SD = .46$); a score near zero is interpreted as having the expected proportion of linguistically similar ties. Bilingual youth had a mean fall linguistic homophily score of 0.14 ($SD = .81$); a positive score indicates youth are more homophilous than expected given the class composition. The full range of scores in the analytic sample was −1 to 3.25.[‡] Fall normed degree centrality was 0.20 for native English-speakers and 0.19 for bilingual youth; this indicates that on average, youth from both backgrounds had ties with one-fifth of the other youth in their afterschool group (i.e., approximately four classmates). In the spring, academic self-concept and social self-concept was 2.77 and 2.75, respectively for native English-speakers, and 2.60 and 2.74 for bilingual youth. Self-concept scores ranged from 1–4 with higher scores indicating greater competence. Spring mean reading skills was 127 correct words read per minute for the full analytic sample (136 correct words for native English-speakers and 116 correct words for bilingual youth); passage difficulty and youth fluency varied by grade. When comparing our sample to a normed national sample, youth in this study had a mean proficiency level at approximately the 30th percentile (Anderson et al., 2014).

**TABLE 2** Correlations among fall social network characteristics, covariates, and spring outcomes by bilingual status

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. Fall Linguistic Homophily | – | −0.23* | −0.27* | −0.22 | −0.25[a] | −0.30* | −0.32* | −0.31[b] |
| 2. Fall Degree Centrality | −0.11 | – | 0.03 | 0.06 | 0.27 | 0.11 | 0.19 | 0.28 |
| 3. Fall Academic Self-Concept | −0.16 | 0.10 | – | 0.50***,[c] | 0.30* | 0.63***,[d] | 0.43*** | 0.19 |
| 4. Fall Social Self-Concept | −0.02 | 0.05 | 0.30***,[c] | – | 0.26[e] | 0.41*** | 0.45*** | 0.26 |
| 5. Fall Reading Skills | 0.13[a] | 0.24* | 0.14 | −0.01[e] | – | 0.35* | 0.33*,[f] | 0.91*** |
| 6. Spring Academic Self-Concept | −0.20* | 0.14 | 0.46***,[d] | 0.30** | 0.29* | – | 0.61***,[g] | 0.35* |
| 7. Spring Social Self-Concept | −0.11 | 0.11 | 0.25* | 0.51*** | 0.07[f] | 0.33***,[g] | – | 0.43**,[h] |
| 8. Spring Reading Skills | 0.07[b] | 0.27* | 0.15 | 0.05 | 0.91*** | 0.25 | 0.02[h] | – |

*Note*. Bilingual youth are above the diagonal, native English-speakers are below the diagonal.
Correlation is significantly different from zero:
*$p < .05$.
**$p < .01$.
***$p < .001$.
[a, b, g] = correlations in tested pairs (matched superscripts) are statistically different from each other, $p < .01$.
[c, d, e, f] = correlations in tested pairs (matched superscripts) are statistically different from each other, $p < .05$.
[h] = correlations in tested pairs (matched superscripts) are statistically different from each other, $p < .001$.

Table 2 presents the correlations among the fall social network characteristics, covariates, and spring outcomes. Correlations for bilingual youth are above the diagonal and native English-speakers are below the diagonal; correlations between the two groups that were significantly different from each other are indicated on Table 2 using superscripts. For bilingual youth, linguistic homophily had significant small-to-moderate negative correlation with fall degree centrality ($r = -.23$, $p < .05$), fall academic self-concept ($r = -.27$, $p < .05$), spring academic self-concept, ($r = -.30$, $p < .05$) and spring social self-concept ($r = -.32$, $p < .05$); such that higher levels of linguistically similar ties were associated with less desirable outcomes in the fall and spring. For native English-speakers, linguistic homophily had a significant negative correlation with spring academic self-concept ($r = -.20$, $p < .05$). Among the spring outcomes, academic and social self-concept had a strong positive correlation for native English-speakers ($r = .33$, $p < .001$), and even stronger association for both bilingual youth ($r = .61$, $p < .001$); these correlations were statistically significantly different from one another ($p < .01$). Spring academic self-concept and social self-concept had a moderate positive correlation with spring reading skills ($r = .35$, $p < .05$ and $r = .43$, $p < .01$, respectively) for only bilingual youth.

## 3.2 | Main analyses

To address research aims 1 and 2, regression models with clustered standard errors to account for youth nested in afterschool classroom were fitted to examine the associations between bilingual status and degree centrality with fall linguistic homophily, adjusting for other covariates. Table 3 reports that bilingual status was not significantly associated with linguistic homophily (*RA1*). Degree centrality had a significant negative association with linguistic homophily (*RA2*), such that students with more social ties had lower linguistic homophily scores (i.e., more cross-linguistic connections; $b = -0.79$, $p < .05$).

For research aims 3 and 4, we examined the extent to which fall linguistic homophily was associated with spring academic and social outcomes, adjusting for fall levels of the outcome, demographic characteristics, degree centrality, and other covariates (see Table 4). Fall linguistic homophily was significantly associated with spring academic self-concept ($b = -.15$, $p < .05$) after adjusting for baseline covariates, such that youth with higher homophily scores, or

**TABLE 3** Associations of fall characteristics with fall linguistic homophily

| | *b* | *SE* |
|---|---|---|
| Bilingual | 0.15 | 0.10 |
| Black | 0.09 | 0.08 |
| Female | 0.10 | 0.08 |
| Middle School | −0.12 | 0.09 |
| Survey Respondent | 0.13 | 0.12 |
| Degree Centrality | −0.79* | 0.35 |
| Intercept | −0.16 | 0.10 |

*$p < .05$.

**TABLE 4** Associations of fall linguistic homophily and characteristics with spring outcomes

| | Model 1: Spring Academic Self-Concept | | Model 2: Spring Social Self-Concept | | Model 3: Spring Reading Skills | |
|---|---|---|---|---|---|---|
| | *b* | *SE* | *b* | *SE* | *B* | *SE* |
| Fall Linguistic Homophily | −0.15* | 0.07 | −0.15* | 0.08 | 1.00 | 2.52 |
| Bilingual | −0.09 | 0.11 | −0.03 | 0.10 | −4.01 | 3.82 |
| Black | 0.07 | 0.16 | −0.07 | 0.19 | −8.69 | 5.41 |
| Female | −0.18* | 0.08 | 0.06 | 0.07 | 5.12 | 4.03 |
| Middle School | 0.02 | 0.11 | 0.21* | 0.09 | −7.10** | 2.78 |
| Fall Score for Outcome | 0.52*** | 0.11 | 0.51*** | 0.08 | 0.98*** | 0.04 |
| Survey Respondent | 0.05 | 0.15 | −0.09 | 0.23 | −6.03 | 3.20 |
| Fall Degree Centrality | 0.23 | 0.35 | 0.41 | 0.44 | 8.65 | 12.62 |
| Intercept | 2.79*** | 0.20 | 2.79*** | 0.24 | 135.88*** | 4.60 |

*$p < .05$.
**$p < .01$.
***$p < .001$.

more within-group linguistic ties, reported lower academic competence (Model 1; *RA3*). Linguistic homophily was also significantly associated with social self-concept: youth with higher fall linguistic homophily reported lower spring social self-concept ($b = -.15$, $p < .05$; Model 2; *RA3*). Fall linguistic homophily was not significantly associated with spring reading skills as measured by oral reading fluency (Model 3; *RA4*).

## 3.3 | Robustness check

The distribution of the homophily score, which measured whether the youth was more heterophilous or homophilous than expected given the composition of the peers in their afterschool group, was asymmetric (i.e., scores could theoretically range to positive infinity, though there was an upper bound of 3.25 in this sample) and not necessarily on an interval scale. To test whether these reported findings are sensitive to the scaling of the homophily variable, we employed a natural log transformation of the homophily scores (Osborne, 2002) and refit the regression models with clustered standard errors testing the four research aims. As in the main analysis, bilingual status was not significantly

associated with linguistic homophily (*RA1*) and degree centrality had a significant negative association with linguistic homophily, such that having more social ties was linked to lower linguistic homophily ($b = -1.18$, $p < .001$; *RA2*). Further, we found that fall linguistic homophily had a significant negative association with both spring academic self-concept ($b = -0.25$, $p < .01$) and social self-concept ($b = -0.37$, $p < .01$; *RA3*). Lastly, fall linguistic homophily was not significantly associated with spring reading skills (*RA4*). Therefore, the results of this robustness check (i.e., direction, magnitude, and significance of the coefficients) using the logarithmic transformation of linguistic homophily support the main analyses.

## 4 | DISCUSSION

This exploratory study is the first to use social network approaches to study diverse linguistic social ties among third to eighth graders attending urban afterschool programs. Using multivariate regression models and guided by social capital and social learning perspectives, we aimed to explore the links among bilingual status, degree centrality, and linguistic homophily, and whether linguistic homophily was associated with social and academic outcomes. Results reveal that at the start of the school year, youth with more network connections have more cross-linguistic ties and youth with fewer network connections have fewer cross-linguistic ties. Findings also indicate that youth with more linguistically similar connections at the start of the school year had lower academic and social self-concept in the spring; however, linguistic homophily was not significantly associated with reading skills. These results were robust to the logarithmic transformation of the linguistic homophily score. Thus, there is preliminary evidence that cross-linguistic ties in the afterschool setting contributed to positive developmental outcomes for bilingual youth and native English-speakers alike. In the following section, we will discuss our findings, study limitations, and future directions.

We first sought out to better understand the associations of linguistic homophily with individual-level characteristics. In our sample, bilingual status was not associated with linguistic homophily (*RA1*). Though our analyses were at the individual-level, these findings were similar to prior work taking a setting-level approach in which the proportion of ELs in the class was not associated with the degree of linguistic integration (Kibler et al., 2019). In essence, we did not detect that linguistic homophily was driven by either bilingual youth or native-English speakers. Additionally, we found that youth with more social connections had more cross-linguistic ties (*RA2*). This may be explained by contact theory (Allport, 1954) in that, as youth forged more social ties, the increased interactions may have reduced bias and increased social skills, leading to more cross-linguistic connections. Viewed from a social capital and developmental perspective, youth with higher degree centrality or greater sense of relatedness and connection with others, had more optimal positions in the network to access to more bridging capital with youth who were linguistically dissimilar. However, in addition to these substantive and theoretical explanations, we acknowledge that methodologically, youth with more social ties may simply be more likely to have more cross-linguistic connections.

We found that youth with higher linguistic homophily had lower spring academic and social self-concept (*RA3*). This adds to the broader literature regarding the proximal benefits of intergroup ties (e.g., Kawabata & Crick, 2011; Pettigrew & Tropp, 2006) – but does so with a focus on language and in the unique context of afterschool. Youth with more cross-linguistic ties in their fall afterschool group tended to have more positive perceptions of their spring academic and social competence. These positive psychosocial associations of intergroup connections were salient for both bilingual youth and native English-speakers; thus, cross-linguistic connections benefitted all youth. Youth who spend time with linguistically dissimilar peers may have increased opportunities to practice novel skills and engage in social learning (Bandura, 1977). These cross-linguistic ties may have fostered a sense of appreciation for differences in culture or background and also contributed to their own process of identity-formation during this key developmental period (Erikson, 1968) —which could then translate into more positive academic and social self-concept.

However, we did not find evidence to support the association between linguistic homophily and reading skills as measured by oral reading fluency (*RA4*). Prior studies that reported an association between linguistic homophily and language ability take place in day school, which has a targeted focus on academic language development (Carhill-Poza,

2015) or test a specific intervention to increase academic language support from peers (Kibler et al., 2019). Literacy instruction occurs in afterschool, but it may be difficult to generate academic gains without a formal curriculum or explicit lessons. Prior research also measures the specific use of academic language among peers to promote positive language development (Carhill-Poza, 2015, 2018); given the emphasis on social-emotional development in afterschool, youth may be engaging a higher proportion of social versus academic interactions in comparison to day school. Additionally, although oral reading fluency is commonly measured, it may be less ideal for capturing the oral language skills, increased vocabulary, and extended discourse that might result from heterophilous connections. In sum, given that the measure for reading skills represented a more distal than proximal outcome, we are unsurprised by the inability to detect a significant association with linguistic homophily.

## 4.1 | Limitations and future directions

This study has a number of limitations to be acknowledged and addressed in future work. First, although we used strong measurement methods, we relied mainly on youth self-report and had only one assessment of academic skill. Additionally, we obtained lower reliability for social self-concept than has been found in prior work with this established measure (Harter, 2012). However, given that the estimate for social self-concept corroborated the finding for academic self-concept, we have confidence in these results. Second, our sample is Spanish-speaking bilingual youth and native English-speaking Latine and Black youth in urban afterschool programs. This enables a focus on intra-minority peer relationships, which is important given the increasing ethnic and linguistic diversity in the U.S. (de Brey et al., 2019), but understudied in the empirical literature (for an exception, see Graham et al., 2014). It is important, however, not to generalize the results beyond this population. Third, although we begin to disentangle the effects of language status and ethnicity, future studies are needed to examine the independent and interactive influence of linguistic homophily alongside ethnic homophily, including for White, Asian, Native, and multi-ethnic youth, to fully understand classroom interpersonal dynamics. Additionally, there is an opportunity for future studies to examine specific classroom practices that can be implemented in afterschool settings to foster linguistic integration and specifically test linguistic homophily in a longitudinal mediation framework. Finally, our results cannot be interpreted in a causal framework and it is possible that reverse effects may exist, such that improved academic and social self-concept may predict linguistic homophily. Future research with research designs that enable causal inference and multi-reporter, multi-dimensional outcomes, is needed.

Overall, this study contributes to the larger body of work examining peer social capital and diverse intergroup connections by focusing on cross-linguistic ties in the afterschool setting. Bilingual youth and native-English speakers offer support and connection to their fellow within-group peers and also contribute assets, diverse perspectives, and rich experiences via intergroup interactions. Our findings enable hypothesis generation and inform future research on targets for intervention to increase peer connectedness across demographic groups as a potential means toward stronger academic and social outcomes for youth in late childhood and early adolescence.


### ORCID

*Sophia H. J. Hwang* https://orcid.org/0000-0002-2341-6303


### ENDNOTES

* A professional translator adapted the Harter's (2012) Self-Perception Profile from a validated Spanish version (Broc, 2014) to match the study's regional Spanish and translated the other English materials.

† The range of missingness for degree centrality at the classroom-level was 0-20.0%. The range of missingness for linguistic homophily at the classroom-level was 0-30.0% and one outlier classroom had 77.8% missingness. Analyses are robust to the inclusion or exclusion of this one classroom with nine youth; thus findings include this classroom.

‡ One student had a fall linguistic homophily score of 3.25. Results were conducted with and without this outlier and the findings are consistent. Thus, the findings include this student.

## ACKNOWLEDGMENTS

The current work was supported by the Institute of Education Sciences, U.S. Department of Education, through grant R305B140037 to New York University (NYU). The opinions expressed are those of the authors and do not represent views of the Institute or the U.S. Department of Education. Additional financial support was provided by the NYU Institute of Human Development and Social Change and NYU Steinhardt School of Culture, Education, and Human Development. The authors do not have any conflicts of interest to disclose. The authors wish to thank Dr. Mariah Kornbluh and the many colleagues and students who supported the project's partnership, data collection, and analyses. Lastly, this work is only possible due to the support and encouragement from Good Shepherd Services' youth, families, and staff.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

## REFERENCES

Aboud, F. E., & Sankar, J. (2007). Friendship and identity in a language-integrated school. *International Journal of Behavioral Development*, *31*(5), 445–453. https://doi.org/10.1177/0165025407081469

Advancing Collaborative Research in Out-of-School Settings (2020); ACROSS data from SY2015-2016; Available upon request. [Dataset]

Afterschool Alliance. (2014). *America after 3PM: Afterschool programs in demand*. Retrieved from http://afterschoolalliance.org/documents/AA3PM-2014/AA3PM_National_Report.pdf

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Alonzo, J., & Tindal, G. A. (2009). *Alternate form and test-retest reliability of easyCBM reading measures* (Technical Report No. 0906). Behavioral Research and Teaching, University of Oregon. Retrieved from http://files.eric.ed.gov/fulltext/ED531558.pdf

Alonzo, J., Tindal, G., Ulmer, K., & Glasgow, A. (2006). *EasyCBM online progress monitoring assessment system*. Center for Educational Assessment Accountability.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215. https://doi.org/10.1037/0033-295X.84.2.191

Bell, S., & Kornbluh, M. (2019). Networking in the digital age: Identifying factors that influence adolescents' online communication and relationship building. *Applied Developmental Science*, 1–18. http://doi.org/10.1080/10888691.2019.1702042

Berndt, T. J. (1999). Friends' influence on students' adjustment to school. *Educational Psychologist*, *34*(1), 15–28. https://doi.org/10.1207/s15326985ep3401_2

Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). UCINET for Windows: Software for social network analysis. Harvard, MA: Analytic Technologies.

Brechwald, W. A., & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, *21*(1), 166–179. https://doi.org/10.1111/j.1532-7795.2010.00721.x

Broc, M. A. (2014). Harter's self-perception profile for Children: An adaptation and validation of the Spanish version. *Psychological Reports: Measures & Statistics*, *115*(2), 444–466. https://doi.org/10.2466/08.07.PR0.115c22z5

Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (pp. 793–828). Wiley.

Cairns, R. B., Leung, M. C., Buchanan, L., & Cairns, B. D. (1995). Friendships and social networks in childhood and adolescence: Fluidity, reliability, and interrelations. *Child Development*, *66*(5), 1330–1345. https://doi.org/10.1111/j.1467-8624.1995.tb00938.x

Calderón, M., Slavin, R., & Sánchez, M. (2011). Effective instruction for English learners. *The Future of Children*, *21*(1), 103–127. https://www.jstor.org/stable/41229013 https://doi.org/10.1353/foc.2011.0007

Callahan, R. M. (2005). Tracking and high school English learners: Limiting opportunity to learn. *American Educational Research Journal*, *42*(2), 305–328. https://doi.org/10.3102/00028312042002305

Cappella, E., Hughes, D. L., & McCormick, M. P. (2017). The hidden role of teachers: Child and classroom predictors of change in interracial friendships. *The Journal of Early Adolescence*, *37*(8), 1093–1124. https://doi.org/10.1177/0272431616648454

Cappella, E., & Hwang, S. H. J. (2015). Peer contexts in schools: Avenues toward behavioral health in early adolescence. *Behavioral Medicine*, *41*(3), 80–89. https://doi.org/10.1080/08964289.2015.1034646

Cappella, E., Hwang, S. H., Kieffer, M. J., & Yates, M. (2018). Classroom practices and academic outcomes in urban afterschool programs: Alleviating social-behavioral risk. *Journal of Emotional and Behavioral Disorders*, *26*(1), 42–51. https://doi.org/10.1177/1063426617739254

Cappella, E., & Neal, J. W. (2012). A classmate at your side: Teacher practices, peer victimization, and network connections in urban schools. *School Mental Health*, *4*(2), 81–94. https://doi.org/10.1007/s12310-012-9072-2

Carhill-Poza, A. (2015). Opportunities and outcomes: The role of peers in developing the oral academic English proficiency of adolescent English learners. *The Modern Language Journal*, *99*(4), 678–695. https://doi.org/10.1111/modl.12271

Carhill-Poza, A. (2018). Silenced partners: Language learning and the role of bilingual peers in high school. *Teachers College Record*, *120*(11), 1–28.

Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The Annals of the American Academy of Political and Social Science*, *591*(1), 98–124. https://doi.org/10.1177/0002716203260102

Coleman, J. S. (1988). Social capital in the creation of human capital. *The American Journal of Sociology*, *94*, S95-S120. https://doi.org/10.1086/228943

Crimarco, A., Mayfield, C., Mitchell, N., Beets, M. W., Yin, Z., & Moore, J. B. (2018). Determinants of attendance at a physical activity focused afterschool program in elementary school children. *International Journal of Exercise Science*, *11*(5), 137–151.

Crosnoe, R. (2000). Friendships in childhood and adolescence: The life course and new directions. *Social psychology quarterly*, *63*, 377–391. https://doi.org/10.2307/2695847

de Brey, C., Musu, L., McFarland, J., Wilkinson-Flicker, S., Diliberti, M., Zhang, A., Branstetter, C., & Wang, X., (2019). *Status and trends in the education of racial and ethnic groups 2018 (NCES 2019–038)*. U.S. Department of Education: National Center for Education Statistics. http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019038

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, *53*(6), 1024–1037. https://doi.org/10.1037/0022-3514.53.6.1024

Dika, S., & Singh, K. (2002). Applications of social capital in educational literature: A critical synthesis. *Review of Educational Research*, *72*(1), 31–60. https://doi.org/10.3102/00346543072001031

Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*(3-4), 294–309. https://doi.org/10.1007/s10464-010-9300-6

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling*, *8*(3), 430–457. https://doi.org/10.1207/S15328007SEM0803_5

Erikson, E. H. (1968). *Identity: Youth and crisis*. Norton & Company.

Erkut, S., Szalacha, L. A., Garcia Coll, C., & Alarcón, O. (2000). Puerto Rican early adolescents' self-esteem patterns. *Journal of Research on Adolescence*, *10*(3), 339–364.

Evans, G. W., & Kim, P. (2013). Childhood poverty, chronic stress, self-regulation, and coping. *Child Development Perspectives*, *7*(1), 43–48.

Freeman, L. C. (1977). A set of measures of centrality based on betweenness. *Sociometry*, *40*(1), 35–41.

Freeman, L. C. (1979). Centrality in social networks: Conceptual clarification. *Social Networks*, *1*(3), 215–239.

Gándara, P., & Escamilla, K. (2017). Bilingual education in the United States. *Bilingual and Multilingual Education*, 439–452.

García, O., & Kleifgen, J. A. (2018). *Educating emergent bilinguals: Policies, programs, and practices for English learners*. Teachers College Press.

Gest, S. D., Graham-Bermann, S. A., & Hartup, W. W. (2001). Peer experience: Common and unique features of number of friendships, social network centrality, and sociometric status. *Social Development*, *10*(1), 23–40. https://doi.org/10.1111/1467-9507.00146

Gottfried, M. A. (2014). The positive peer effects of classroom diversity: Exploring the relationship between English language learner classmates and socioemotional skills in early elementary school. *The Elementary School Journal*, *115*(1), 22–48. https://doi.org/10.1086/676948

Goza, F., & Ryabov, I. (2009). Adolescents' educational outcomes: Racial and ethnic variations in peer network importance. *Journal of Youth and Adolescence*, *38*(9), 1264–1279. https://doi.org/10.1007/s10964-009-9418-8

Graham, S., Munniksma, A., & Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Development*, *85*(2), 469–483. https://doi.org/10.1111/cdev.12159

Haneda, M., & Wells, G. (2008). Learning an additional language through dialogic inquiry. *Language and Education*, *22*(2), 114–136. https://doi.org/10.2167/le730.0

Harter, S. (2012). *Manual for the self-perception profile for children (revision of the self-perception profile for children, 1985)*. University of Denver.

Hwang, S. H. J., Watford, J. A., Cappella, E., Mui, S., Nix, J., & Yates, M. (2020). Fostering positive youth and staff development: Understanding the roles and experiences of the afterschool workforce. *Journal of Community Psychology*, *48*(8), 2457–2473. https://doi.org/10.1002/jcop.22425

Johnson, H. E., Molloy Elreda, L., Kibler, A. K., & Futch Ehrlich, V. A. (2019). Creating Classroom Communities in Linguistically Diverse Settings: Teacher-Directed, Classroom-Level Factor Effects on Peer Dynamics. *The Journal of Early Adolescence*, *40*, 1087-1120. https://doi.org/10.1177/0272431619891238

Jørgensen, C. H. R. (2017). 'Peer social capital'and networks of migrants and minority ethnic youth in England and Spain. *British Journal of Sociology of Education*, *38*(4), 566–580. https://doi.org/10.1080/01425692.2015.1131144

Kawabata, Y., & Crick, N. R. (2008). The role of cross-racial/ethnic friendships in social adjustment. *Developmental Psychology*, *44*(4), 1177–1183. https://doi.org/10.1037/0012-1649.44.4.1177

Kawabata, Y., & Crick, N. R. (2011). The significance of cross-racial/ethnic friendships: Associations with peer victimization, peer support, sociometric status, and classroom diversity. *Developmental Psychology*, *47*(6), 1763–1775. https://doi.org/10.1037/a0025399

Kiang, L., & Fuligni, A. J. (2009). Ethnic identity and family processes among adolescents from Latin American, Asian, and European backgrounds. *Journal of Youth and Adolescence*, *38*(2), 228–241. https://doi.org/10.1007/s10964-008-9353-0

Kibler, A. K., Molloy Elreda, L., Hemmler, V. L., Arbeit, M. R., Beeson, R., & Johnson, H. E. (2019). Building Linguistically Integrated Classroom Communities: The Role of Teacher Practices. *American Educational Research Journal*, *56*(3), 676–715. https://doi.org/10.3102/0002831218803872

Kieffer, M. J. (2008). Catching up or falling behind? Initial English proficiency, concentrated poverty, and the reading growth of language minority learners in the United States. *Journal of Educational Psychology*, *100*(4), 851–868. https://doi.org/10.1037/0022-0663.100.4.851

Kieffer, M. J., & Thompson, K. D. (2018). Hidden progress of multilingual learners on NAEP. *Educational Researcher*, *47*(6), 391–398. https://doi.org/10.3102/0013189X18777740

Krackhardt, D. (1987). Cognitive social structures. *Social Networks*, *9*(2), 109–134. https://doi.org/10.1016/0378-8733(87)90009-8

Lai, C. F., Alonzo, J., & Tindal, G. (2013). *easyCBM reading criterion related validity evidence: Grades 2–5*, Behavioral Research and Teaching. https://files.eric.ed.gov/fulltext/ED545272.pdf

Larson, R. W., & Walker, K. C. (2010). Dilemmas of practice: Challenges to program quality encountered by youth program leaders. *American Journal of Community Psychology*, *45*(3), 338–349. https://doi.org/10.1007/s10464-010-9307-z

Laser, J. A., & Leibowitz, G. S. (2009). Promoting positive outcomes for healthy youth development: Utilizing social capital theory. *Journal of Sociology & Social Welfare*, *36*(1), 87–102.

Lease, A. M., & Blake, J. J. (2005). A comparison of majority-race children with and without a minority-race friend. *Social Development*, *14*(1), 20–41. https://doi.org/10.1111/j.1467-9507.2005.00289.x

Lee, L., Howes, C., & Chamberlain, B. (2007). Ethnic heterogeneity of social networks and cross-ethnic friendships of elementary school boys and girls. *Merrill-Palmer Quarterly*, *53*(3), 325–346. https://doi.org/10.1353/mpq.2007.0016

Lin, N. (1999). Building a network theory of social capital. *Connections*, *22*(1), 28–51.

Maxwell-Jolly, J. (2011). English learners and out-of-school time programs: The potential of OST programs to foster EL success. *Afterschool Matters*, *14*, 1–12.Retrieved from https://eric.ed.gov/?id=EJ980180

McCombs, J., Whitaker, A., & Yoo, P. (2017). *The value of out-of-school time programs*. Retrieved from https://www.rand.org/content/dam/rand/pubs/perspectives/PE200/PE267/RAND_PE267.pdf

McCormick, M. P., Cappella, E., Hughes, D. L., & Gallagher, E. K. (2015). Feasible, rigorous, and relevant validation of a measure of friendship homophily for diverse classrooms. *The Journal of Early Adolescence*, *35*(5-6), 817–851. https://doi.org/10.1177/0272431614547051

McGlothlin, H., & Killen, M. (2010). How social experience is related to children's intergroup attitudes. *European Journal of Social Psychology*, *40*(4), 625–634. https://doi.org/10.1002/ejsp.733

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*(1), 415–444. https://doi.org/10.1146/annurev.soc.27.1.415

Milroy, J., & Milroy, L. (1985). Linguistic change, social network and speaker innovation. *Journal of Linguistics*, *21*(2), 339–384. https://doi.org/10.1017/S0022226700010306

Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7th edn.). Muthén & Muthén.

National Academies of Sciences, Engineering, and Medicine. (2017). *Promoting the educational success of children and youth learning English: Promising futures*. National Academies Press.

National Center for Education Statistics. (2020). *The condition of education: English language learners in public schools*. Institute of Education Sciences. Retrieved from https://nces.ed.gov/programs/coe/indicator_cgf.asp

Neal, J. W. (2008). "Kracking" the missing data problem: Applying Krackhardt's cognitive social structures to school-based social networks. *Sociology of Education*, *81*(2), 140–162. https://doi.org/10.1177/003804070808100202

Neal, J. W. (2010). Hanging out: Features of urban children's peer social networks. *Journal of Social and Personal Relationships*, *27*(7), 982–1000. https://doi.org/10.1177/0265407510378124

Osborne, J. (2002). Notes on the use of data transformations. *Practical Assessment, Research, and Evaluation*, *8*(6), 1–7.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 751–783. https://doi.org/10.1037/0022-3514.90.5.751

Poarch, G. J., & Bialystok, E. (2015). Bilingualism as a model for multitasking. *Developmental Review*, *35*(2015), 113–124. https://doi.org/10.1016/j.dr.2014.12.003

Prinstein, M. J., & Dodge, K. A. (Eds.). (2008). *Understanding peer influence in children and adolescents*. Guilford Press.

Putnam, R. D. (2000). *Bowling alone: America's declining social capital*. Palgrave Macmillan.

Ream, R. K., & Rumberger, R. W. (2008). Student engagement, peer social capital, and school dropout among Mexican American and non-Latino white students. *Sociology of education*, *81*(2), 109–139. https://doi.org/10.1177/003804070808100201

Reschly, A., Busch, T. W., Betts, J., Deno, S. L., & Long, J. D. (2009). Curriculum-based measurement oral reading as an indicator of reading achievement: A meta-analysis of the correlational evidence. *Journal of School Psychology*, *47*(6), 427–469. https://doi.org/10.1016/j.jsp.2009.07.001

Rubin, D. B. (1976). Inference with missing data. *Biometrika*, *63*(3), 581–592. https://doi.org/10.1093/biomet/63.3.581

Seidman, E., & Cappella, E. (2017). Social settings as loci of intervention. In M.A. Bond, I. Serrano-García, C. B. Keys & M. Shinn (Eds.), *APA handbook of community psychology: Methods for community research and action for diverse groups and issues*. Vol., *2*. (pp. 235–254). American Psychological Association Press.

Short, D., & Fitzsimmons, S. (2007). *Double the work: Challenges and solutions to acquiring language and academic literacy for adolescent English language learners- A report to Carnegie Corporation of New York*. Alliance for Excellent Education.

Shrum, W., Cheek, N., & Hunter, S. (1988). Friendship in school: Gender and racial homophily. *Sociology of Education*, *61*(4), 227–239. https://doi.org/10.2307/2112441

Stanton-Salazar, R. D. (2004). Social capital among working-class minority students. In M. A. Gibson, P. Gándara, & J. P. Koyama (Eds.), *School connections: U.S. Mexican youth, peers, and school achievement* (pp. 18–38). Teachers College Press.

Steinberg, L. (2008). *Adolescence* (8th edn.). McGraw Hill.

Stewart, P. K., Roberts, M. C., & Kim, K. L. (2010). The psychometric properties of the Harter self-perception profile for children with at-risk African American females. *Journal of Child and Family Studies*, *19*(3), 326–333. https://doi.org/10.1007/s10826-009-9302-x

The Annie E. Casey Foundation. (2018). KIDS COUNT Data Center. Retrieved from https://datacenter.kidscount.org

van den Bos, W., Crone, E. A., Meuwese, R., & Güroğlu, B. (2018). Social network cohesion in school classes promotes prosocial behavior. *Plos One*, *13*(4), 1–16. https://doi.org/10.1371/journal.pone.0194656

van Lier, L. (2002). An ecological-semiotic perspective on language and linguistics. In C. Kramsch (Ed.), *Language acquisition and language socialization: Ecological perspectives* (pp. 140–164). Continuum.

Vandell, D. L., Simzar, R., O'Cadiz, P., & Hall, V. (2016). Findings from an afterschool STEM learning initiative: Links to professional development and quality STEM learning experience. *Journal of Expanded Learning Opportunities*, *1*(3), 27–36.

Wiklund, I. (2002). Social networks from a sociolinguistic perspective: The relationship between characteristics of the social networks of bilingual adolescents and their language proficiency. *International Journal of the Sociology of Language*, *2002*(153), 53–92. https://doi.org/10.1515/ijsl.2002.005

Yeo, S. (2010). Predicting performance on state achievement tests using curriculum-based measurement in reading: A multilevel meta-analysis. *Remedial and Special Education*, *31*(6), 412–422. https://doi.org/10.1177/0741932508327463

**How to cite this article:** Hwang, S. H. J., Cappella, E., Kieffer, M. J., Yates, M. (2021). "Let's hang out!": Understanding social ties among linguistically diverse youth in urban afterschool programs. *Social Development*, 1–17. https://doi.org/10.1111/sode.12531