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Changes and continuity that occurs in individuals' lives over time can positively or negatively impact their personal relationships. This paper introduces a new concept referred to as friendship temporality. Friendship temporality refers to the length of time children have maintained their friendships. The purpose of this study was to identify specific factors that impacted the temporality of children's friendships. Participants in this study were 346 fifth grade students and their mothers from either Black or White ethnic backgrounds. Hierarchical generalized linear modeling was used to determine if both friendship-level (companionship, friendship context, and the number of contexts in which friendships were maintained) and child-level (ethnicity) variables were predictive of friendship temporality. Further, friendship context, number of contexts, and child ethnicity were examined as potential moderators of the association between friendship companionship and friendship temporality.

Both White children and Black children reported friendships from 8 different contexts (school, neighborhood, church, child care, relative-as-friend, parent network, extracurricular activities, and other effort). Friendship companionship and more contexts of friendships increased the likelihood that friendships would be long-term. Friendships maintained within contexts that included parents (neighborhood, family-friend, same-age relative, other efforts) increased the odds that friendships would be long-term rather than

short-term. Friendship context, number of contexts, and child ethnicity did not moderate the relation between friendship companionship and friendship temporality.

THE ASSOCIATION BETWEEN FRIENDSHIP COMPANIONSHIP AND

FRIENDSHIP TEMPORALITY: THE MODERATING ROLES OF

FRIENDSHIP CONTEXT AND ETHNICITY

By

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CHAPTER I

INTRODUCTION

Friendships provide children with opportunities to explore a social realm that

differs considerably from social interactions they experience with family members

(Franco & Levitt, 1998). Friendship interactions assist children in developing social

resources that are needed in order to support their future relationships (Bukowski,

Newcomb, & Hartup, 1996). As compared to relationships with parents, friendships

provide a more egalitarian environment in which children navigate experiences such as

companionship (Newcomb & Bagwell, 1995). The element of equality within

friendships provides children with opportunities to the decide whether to create, maintain,

or terminate friendships (Laursen, Hartup, & Koplas, 1996). Bronfenbrenner (2004)

argued that time (i.e., chronosystem) plays a critical role in the development of

individuals' social relationships. He asserted that characteristics of individuals and their

environments can either remain stable or change over time. Changes in children's lives

such as families moving to a new neighborhood, quitting the soccer team, or attending a

different school can influence children's personal relationships.

The friendship literature provides an extensive examination of children's

friendships; however, little is known about the temporal aspects of children's friendships.

Research has typically used friendship stability as a tool to examine friendships over

time. Research on friendship stability has generally focused solely on children's best

friendships within the school setting. Accordingly, there remain numerous unanswered

questions about children's friendships. One such question involves identifying factors

that contribute to the longevity of children's friendships in general (as opposed to best

friendships). To consider this topic, it is necessary to introduce a new concept that will

allow for comparisons to be made among friendships that are actively maintained as

opposed to those that have ended. Friendship temporality is such a concept and is

defined in terms of the length of time children have maintained a specific friendship.

Given that the current study involves analysis of data from just two points of time,

friendship temporality is a dichotomous variable that distinguishes between friendships

that are at least two years in duration (reported at Time 1 and Time 2) versus those that

are one year or less in duration (reported at Time 2 only). Friendship temporality is not

synonymous with friendship stability because the two concepts have different end points

within the binomial time continuum of friendships. The friendship stability dichotomy

distinguishes stable (intact) friendships from unstable (terminated) friendships, whereas

friendship temporality distinguishes between existing friendships that have been

maintained for shorter, as opposed to longer, periods of time. Friendship stability is

prospective in that friendships that are reported at an initial starting point are contrasted

in terms of whether they are maintained over time. Friendship temporality is retrospective

in that friendships that are reported at an ending point are contrasted in terms of the

length of time over which they have been maintained.

Companionship must exist between friends in order for friendships to be

maintained over time. Research has indicated that stable best friendships have higher

levels of friendship companionship than unstable best friendships (Bukowski, Hoza, &

Boivin, 1994). However, friendship companionship is generally quantified based solely

on children's relationships with their best friends with such ratings then contrasted with

companionship levels reported for non-friends or acquaintances (Fonzi, Schneider, Tani,

& Tamada, 1997). Bronfenbrenner's Process, Person, Context, Time (PPCT) model will

be utilized to examine how levels of companionship either increase or decrease the odds

of children having long-term friendships. Bronfenbrenner's theory suggests that the

contexts in which friendships are maintained can influence the longevity of children's

friendships. When considering the context of children's friendships, friendship studies

typically focus on friendships maintained within the school setting and use a commonly

accepted set of friendship selection criteria (e.g., reciprocated nominations or social

consensus based methodologies) to identify children's friends (Newcomb & Bagwell,

1995). Placing such restrictions on the types of friendships that are considered,

researchers gain limited information concerning the temporal aspects of children's

friendships. This project will consider whether the settings in which children maintain

their friendships are predictive of having long-term friendships. Moreover, this project

will explore whether the context(s) in which children maintain their friendships

moderates the association between friendship companionship and friendship temporality.

According to the PPCT model, developing individual's characteristics such ethnicity and

families' socioeconomic status can influence social and personal relationships.

Controlling for the effects of socioeconomic status, this project considered whether child

ethnicity might moderate the association between friendship companionship and

friendship temporality.

CHAPTER II

THEORETICAL PERSPECTIVE

Bioecological Theory

Friendships are dynamic in nature, spanning time and maintained within multiple contexts. Bronfenbrenner's Process-Person-Context-Time (PPCT) model within the bioecological theory emphasizes individual development as shaped by the context in which it occurs, characteristics of the developing individual, and continuity and change over time. This perspective supports development of an understanding about (a) associations between friendship companionship and friendship temporality, (b) associations between friendship context and friendship temporality, and (c) the manner in which friendship context (e.g., school, neighborhood, child care) and ethnicity may moderate the association between friendship companionship and friendship temporality.

Bronfenbrenner's (1988) PPCT model asserts that individuals develop socially, physically, and emotionally through reciprocal interactions between themselves and their immediate or remote environments. Bronfenbrenner refers to these interactions as *proximal processes* represented as the "process" in the **PPCT** model. Proximal processes are described as the transference of processes or "energy" between developing individuals and the persons, symbols, and objects with which they come in contact across time (Bronfenbrenner and Morris, 1998). Bronfenbrenner and Evans (2000) suggested that in order for individuals to develop emotionally, socially, and morally they must

actively participate in "progressively more complex reciprocal interaction" with individuals who "develop a strong, mutual, irrational attachment, and who, over time, become committed to each other's well-being" (Bronfenbrenner & Evans, 2000, p. 122). Within the current investigation, the concept of proximal processes is represented by the focus on friendship companionship.

Theoretically, in order for children to maintain their friendships, proximal processes must occur in the developing individual's immediate or remote environments with their friends, on a regular basis, and over time. Critical to the development of more complex interactions with friends and maintaining friendships is the concept of time. Inspired by Elder's classic study of the Great Depression, Bronfenbrenner added the concept of time to his PPC**T** model. Time accounts for the continuities and changes occurring in individual development and within contexts (Bronfenbrenner, 2004). For example, children can experience changes such as moving to a new neighborhood, attending a new school, or playing a sport for the first time. Within the current investigation, the concept of time is represented by the focus on friendship temporality which takes into account differences between children's long-term and short-term friendships.

Friendship Companionship and Friendship Temporality

Within friendships, companionship is a direct product of the proximal processes that occur between two friends. Companionship is defined in terms of children's opportunities to spend time together and enjoy one another's company. Companionship within friendships has been characterized as "a willingness to share, cooperate, and help

and by positive affective exchange" (Howes, 1996, pg. 70). Infrequent and inconsistent companionship (i.e., proximal processes) experienced by developing individuals will have an impact on the longevity of friendships. For example, a child may develop a friendship with another child who has recently moved into the neighborhood. Each day during the summer, the two children meet at each others' houses to play. The quality of their friendship increases as the two get to know one another and spend more time together. Their friendship will flourish due to the friendship interactions (i.e., proximal processes) that occur over time and on a regular basis. However, if these two children befriended one another during a family outing to an area amusement park, the proximal processes that occurred during the family outing might not be sufficient to maintain the children's friendship. The friendship in the latter example is not allotted the frequency of interactions (i.e., proximal processes) needed to maintain the friendship.

Bronfenbrenner argued that *exposure* to proximal processes (i.e., companionship) experienced by individuals determines the impact the proximal processes might have on the developing person and thus the longevity of friendships. Exposure varies based on *duration* (length of friendship interactions), *frequency* (how often friends see each other), *interruption* (how often friendship interactions are interrupted), *timing* (when the friendship interactions occur), and *intensity* of the friendship (Bronfenbrenner & Evans, 2000). Within the current investigation, more interactions (as represented by levels of friendship companionship) are hypothesized to be related to a greater likelihood that friendships will be maintained over time (friendship temporality).

The Role of Context with Respect to Friendship Temporality

The bioecological theory asserts that in order to understand human development we must always consider the contexts in which processes (e.g., companionship) take place. Bronfenbrenner describes *contexts* in the PP**C**T model in terms of an ecosystem that can potentially impact proximal processes (e.g., friendship interactions) occurring between developing individuals and other persons. The ecosystem consists of a series of embedded systems (micro-, meso-, exo-, and macro-) that together constitute an individual's environment (Bronfenbrenner, 1988). All of these systems have potential relevance to the study of children's friendships (Bronfenbrenner, 2005).

Microsystem. The microsystem is the immediate environment in which the developing individuals engage in daily routines and maintains contact with their interpersonal relationships. Each microsystem has its own unique "physical, social, and symbolic" features (Bronfenbrenner & Ceci, 1993, p. 39). These unique features can encourage, allow, or prevent companionship between friendships. Schools, families, and neighborhoods are examples of microsystems. Fletcher, Troutman, Gruber, Long, and Hunter (2006) found that children create and maintain their friendships across multiple settings. Children created and maintained friendships within school, neighborhood, church, child care, parent network, same-age relatives, and extracurricular contexts. According to Bronfenbrenner's theory, the likelihood of friendship longevity should be greater when friendships are maintained within contexts that support these friendships. Friendship longevity should be less likely in unstable contexts. For example, friendships maintained within contexts such as parent-networks and same-age relatives are likely to

have high continuity over time because such contexts are themselves inherently stable. Contexts such as extracurricular activities and school are less stable in that children enter and leave these contexts over time. For example, a friendship maintained within an extracurricular activity might be affected if one of the two children within the friendship decides not to play the same sport as they did last year, which results in the termination of the context where the friendship was maintained. Within the current study, we consider friendship context as a key microsystem factor that may both impact friendship temporality and moderate associations between friendship companionship and temporality.

Mesosystem. The mesosystem is defined in terms of proximal processes taking place across two or more microsystems, both of which contain the developing person. Within the current study, mesosystem influences may be linked with friendship temporality in several ways. First, mesosystem influences are illustrated in the case of connections between parental friendships and child friendships. Two adults who are friends might encourage and set up opportunities for their children to become friends. Once the children's friendship is established, the parents might provide additional support for the friendship by arranging play dates or sleepovers. Friendship contexts that include both children and parents are likely to increase the odds that those friendships are long-term.

Second, mesosystem influences are at work when parents are present within a friendship context. This is more likely to be the case when friendships are maintained within the contexts of same-age relative, family friend, church, neighborhood, and

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extracurricular activities as compared to friendships maintained within the contexts of school and childcare (Fletcher et al., 2006). The presence of parents within friendship contexts might facilitate the maintenance of children's friendships as parents provide instrumental support for friendships about which they are more knowledgeable and themselves build relationships with children's friends who they see on a more regular basis.

Finally, mesosystem influences are observed when friendships are maintained across multiple contexts. Friendships that are maintained across multiple contexts provide more opportunity for friends to interact with one another. For example, two friends might interact at school during the day, on Sunday during church, and twice a week when participating in soccer practice. This time together allows friends to develop deeper and more meaningful bonds. Multiple contexts will allow children to interact with each other with fewer interruptions, and if interruptions do occur in some of their contexts children can still interact with their friends in other contexts. For example, two children maintain their friendship among school, neighborhood, and extracurricular activity contexts. The two friends are able to spend time together during recess at school, at soccer practice, and on weeknights and weekends in their neighborhood. During the summer, school is no longer in session and soccer season has ended, yet the friendship can still be maintained within the neighborhood context. Having friendships that are maintained within multiple contexts will increase the likelihood that children's friendships will be maintained over longer periods of time.

Exosystem. The exosystem refers to settings in which the developing individual

may not be present, yet is still affected by processes occurring within that person's immediate setting. For example, a friendship maintained within the school context might be affected by a school board's decision to redistrict schools within a community. Two friends would no longer attend the same school and would experience decreases in the amount of time they had to interact with one another. Ecosystem influences are not considered within the current study.

   Macrosystem. The macrosystem is a context represented by the ideologies and beliefs of a particular culture that influence all levels of the ecosystem. Cultural beliefs can impact proximal processes that occur within children's friendships. One societal message that the American culture sends to children is that it is desirable to wear name brand clothing and associate with the "popular" children at school. Children's status or popularity at school might in turn affect their friendships (Bukowski, Newcomb, & Hartup, 1996). Macrosystem influences are considered as they indirectly affect child ethnicity.

The Role of Ethnicity within the PPCT Model

   According to the PPCT model, individual characteristics of children can influence the types of interactions (proximal processes) they experience in their environments. Bronfenbrenner (1988) stated that peoples' experiences within environments can differ systematically based on individual characteristics. Ethnicity is one such individual characteristic. The structure of American society creates barriers and challenges for people of color (Collins, 1993). Within the macrosystem of the American society, differences in children's experiences based on race stem from historic events including

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slavery, racial segregation, the civil rights movement, racism, and most recently, Hurricane Katrina. Black Americans are likely to have experienced discrimination and segregation within their daily lives. These experiences, along with maintaining a minority status in a majority White society, create power and resource differentials between White individuals and Black individuals (Collins, 1993). One way Black Americans have responded to these barriers and challenges is by creating complex social networks of individuals, including both relatives and "fictive kin" on whom they can rely as resources (Townsend, 1998). In terms of children's friendships, ethnicity shapes children's access to specific contexts within which friendships may be maintained and friendship experiences (e.g., companionship) within these contexts. For example, Black children may be more likely to maintain friendships within contexts such as family friend and same-age relative and the association between maintaining friendships within these settings and friendship temporality may be stronger for Black children than for White children.

CHAPTER III

LITERATURE REVIEW

Friendship Temporality

For the purposes of this investigation, the concept of friendship temporality has been defined in terms of the length of time that currently existing friendships have been maintained. To date, no research has been conducted to identify aspects of friendships that are associated with friendship temporality. Instead, research on friendship stability will be reviewed to provide an empirical foundation for friendship temporality. An estimated two-thirds of children's friendships remain stable over the span of an academic year (Berndt & Hoyle, 1985). Children have been found to develop more friendships than they lose during a school year (Berndt, Hawkins, & Hoyle, 1986) and during summer camp (Parker & Seal, 1996). Even so, we know little about differences that might exist between newly formed friendships and already established friendships.

Individuals whose friendships are maintained over time tend to report higher levels of friendship intensity and are more invested in their friends' interests (Hays, 1985). Using a sample of undergraduates, Hays (1985) studied the development of friendships by collecting data at several time points over the course of a single academic semester. Students reported increased levels of friendship intensity (e.g., companionship and communication) across the course of the semester. Aboud and Mendelson (1996) suggested that at the beginning of a friendship, both individuals are more concerned

about their own personal needs as compared to the needs of their friends. As the friendship solidifies, both individuals alter their perspectives and develop a more communal orientation towards their friendship. Children value their close friends more than acquaintances, suggesting that friendships, as opposed to acquaintance relationships, are characterized by a comparatively heavier emphasis on the needs and wants of the other (Hays, 1989).

Associations between Friendship Temporality and Friendship Companionship

In the friendship literature, there has been a heavy emphasis placed on identifying children's friendships and documenting differences in levels of companionship between friends and non-friends within the school setting (Bukowski, Hoza, & Boivin, 1994). Yet little attention has been paid to determining whether friendship companionship is associated with friendship temporality. We do know some characteristics of individuals' friendships that are associated with increased likelihood of friendship creation and stability. Children who are similar in terms of activity involvement, attitudes, and popularity status are more likely to become friends (Bukowski, Newcomb, & Hartup, 1996). Friendship termination has been associated with low levels friendship quality, differences in popularity status, and social withdrawal (Bowker, 2004; Schneider, Richard, Younger, & Freeman, 2000).

From a young age, children are able to reliably report on the quality of their friendships (Ladd, Kochenderfer, & Coleman, 1996), although friendship quality has been quantified in a number of different ways. Berndt (2004) describes friendship quality as having both positive and negative dimensions. Friendships have been empirically

demonstrated to vary based on several aspects of friendship quality, including the level of companionship reported for the friendship (Parker & Asher, 1993), although this variation has generally not been explored relative to friendship temporality. One exception is the work of Bukowski, Hoza, & Boivin (1994), who asked children to report on the quality of relationships that they had with their best friends. Findings indicated that children reported higher levels of friendship quality for stable friendships as compared to non-stable friendships. Children report higher levels of companionship for friendships as compared to non-friendships and acquaintance relationships (Hartup, 1989). In addition, children report higher levels of quality in reciprocated best friendships or close friendships as opposed to reciprocated causal friendships (Cleary, Ray, LoBello, & Zachar, 2002). Over time, levels of reported companionship within friendships increased within a sample of undergraduate college students and their friends (Hays, 1989). Findings such as these suggest that friendship with high levels of companionship will increase the odds that those friendships are long-term.

Association between Friendship Context and Friendship Temporality

Children's friendships are created and maintained across multiple contexts. Knowledge regarding the manner in which friendship context shapes the characteristics of friendships is limited because friendship studies have generally been conducted only within the school context. Yet Fletcher et al. (2006) reported that children's friendships during middle childhood are created and maintained within seven contexts: school, neighborhood, church, child care, family friend (children's parents are also friends), same-age relative, and extracurricular activities. One third of all friendships identified

were maintained within the contexts of school and/or neighborhood. More than half of friendships were maintained within the five remaining contexts. Moreover, seventeen percent of friendships were maintained across multiple contexts such as school and neighborhood or church and family friend.

Berndt and Hoyle (1985) have suggested that the longevity of friendships might be influenced by children's social environments. To support this argument, Neckerman (1996) tracked children's social groups over a one year time period to determine if stability among social groups varied based on the stability of the composition of classrooms when transitioning from the fourth to the fifth grade. She found that fifty percent of children's social groups remained stable within schools that promoted classroom unity (i.e., the same students were in the same classroom from one year to the next). In contrast, only seven percent of social groups remained stable within schools that did not promote classroom unity. Children in unstable classrooms were more likely to maintain their friendships when friends from fourth grade were placed within the same classroom in the fifth grade. Neckerman's findings suggest that the friendship context functions as a mechanism supporting the longevity of children's friendships. As a general rule, the composition of the classrooms from year to year is unstable, suggesting that friendships maintained within the school context would allow for short periods of exposure time and this context will decrease the odds that children's friendship will be long-term (more than one academic year).

Parents can have a critical role in supporting children's friendships (Rubin, Coplan, Nelson, Cheah, and Lagace-Seguim, 1999). Knoester, Haynie, and Stephens

(2006) found that parent supervision influenced their adolescents' affiliation with either

negative (delinquent) or positive (prosocial) peer networks. Franco and Levitt (1998)

suggested that parents are strong influences on their children's social network during

middle childhood. Parents can provide opportunities for their children to spend time with

their friends (e.g., play dates, sleepovers, and transporting their children to and from their

children's friends' houses). Additionally, within the parent-network context, parents

having friendships with their children's friends' parents may well lead to parents

arranging meetings with their adult friends thus enabling children to interact more

frequently with their friends. No research to date has examined the association between

children's friendships being maintained within contexts that include parents and

friendship temporality. Theoretically, when friendships are maintained within contexts

that contain both children's parents and friends (family friend, same-age relative,

neighborhood, and church) it will increase the odds that those friendships will be long-

term. Having friendships within contexts that do not include parents (school, child-care,

and extracurricular activities) may decrease the odds that children's friendships will be

long-term. There are no studies that have examined the association between the number

of contexts in which children maintain their friendships and friendship temporality.

Friendship Context as a Potential Moderator of Associations between Friendship

Companionship and Friendship Temporality

It is possible that when children maintain friendships with certain contexts, it has

the effect of either strengthening or weakening the association between friendship

companionship and friendship temporality. Yet to date there exists no research that has

considered this possibility. An argument in support of such a possibility rests on the following logic. Some contexts are inherently characterized by interruptions while others are not. For example, children who maintain friendships within the school context have limited opportunities to interact with these same friends outside of school (Fletcher, Rollins, Nickerson, 2004). School friendships are also characterized by extended periods of time during which friends are apart from one another (such as summer breaks) and children are assigned to new classrooms each year, a practice which results in separation of individuals who may have established friendships during the previous year. Friendships established and maintained in these highly unstable contexts will be more likely to dissolve due to characteristics of the contexts that have nothing to do with companionship. In fact, such contexts may actually render the potential benefits of friendship companionship powerless. Accordingly, there is likely to be little or no association between companionship and temporality for friendships maintained exclusively within unstable contexts that do not include parents such as school, childcare, and possibly extracurricular activities.

In contrast, contexts characterized by greater stability provide friendships the opportunity for friendship companionship to operate freely with respect to temporality. Of critical importance in this respect is the role of parents in providing opportunities for children to interact on a continual basis. Due to parents' abilities to provide such opportunities, friendships that are maintained within contexts that include parents (parent-oriented contexts: neighborhood, family friends, same-age relative), will be characterized by positive associations between companionship and temporality. In

theory, such contexts would allow the effects of companionship to be expressed.

However, there is no empirical literature to support this prediction.

Children's Ethnicity as a Potential Moderator of the Association between Friendship

Companionship and Friendship Temporality

Ethnicity-based stereotypes can impact children's decisions concerning friendship partners and the availability of such partners (Graham & Cohen, 1997; Meyer, Park, Grenot-Schwartz, & Harry, 1998). Fletcher et al. (2006) found that Black children reported more friendships than White children in the context of relatives-as-friends. Black Americans report high levels of interaction with relatives and are likely to live in close proximity to their relatives (Taylor, 1986). Black Americans also report extensive social networks that consist of both relatives and extended kin (Harrison, Wilson, Pine, Chan, & Buriel, 1990). Fletcher et al. (2006) also found that White children reported more friendships than Black children in the contexts of school, neighborhood, childcare, and extracurricular activities. During middle childhood, White children are more likely than Black children to engage in extracurricular activities (Kleiner, Nolin, & Chapman, 2004). It appears that the number of friendships reported by Black and White children differs based on the contexts in which friendships are maintained. Yet no studies have examined how ethnicity might be associated with friendship temporality within friendship settings.

Heretofore, the friendship literature has explained differences in children's friendships based on ethnicity using the similarity hypothesis (Shrum, Cheek, & Hunter, 1988). The similarity hypothesis suggests that children create and maintain friendships

with peers who are similar in personality, interests, and popularity status (Aboud & Mendelson, 1996). This psychological-based hypothesis might partially explain children's patterns of friendship maintenance. However, it is likely that contextual factors also play a role. Children from Black versus White ethnic backgrounds may be more or less likely to report friendships within specific contexts and ethnicity may moderate associations between companionship and temporality, but it is difficult to predict the exact nature of such differences. Accordingly, it is of interest to examine ethnicity as a potential moderator of associations between companionship and temporality as well as whether ethnicity and context may work together to moderate this association. Such examinations would be considered exploratory, with no specific hypotheses offered with respect to such questions.

Socioeconomic status is highly correlated with ethnicity. On average, Black families are more likely to be within a lower social class bracket than White families (DeNavas-Walt, Proctor, & Lee, 2005). Research had indicated that children's interactions with peers vary based on SES. Canadian children ages 5-7 (followed over two years) from higher SES families were more likely to interact with peers in non-school settings and children from lower SES families spent less time with peers in the community (Schneider, Richard, Younger, Freeman, 2000). Additionally, parents from higher SES families are more likely to have their children involved in sports and art activities (Schneider, Richard, Younger, Freeman, 2000). Ladd, Hart, Wadsworth, and Golter (1988) found that children from higher SES families spend more time playing in their neighborhoods than children from low SES families. Evidence such as this suggests

that SES must be used as a control variable in research examining ethnic differences in friendship temporality. This approach will be taken in the current effort.

Research Questions and Hypotheses

Bronfenbrenner's PPCT model (Bronfenbrenner & Evans, 2000) suggests that the frequency and quality of children's interactions with friends (proximal processes, as operationalized in terms of friendship companionship) should maintain and enhance such relationships, resulting in an increased likelihood of friendship longevity. The PPCT focus on characteristics of the microsystem, mesosystem, and developing individual as key factors impacting development also suggests that friendship context and ethnicity may play key roles with respect to temporality. This premise is supported by an empirical literature which, although centered around the concept of friendship stability, generally supports the premise that friendship longevity should be predicted by higher levels of friendship companionships and this association is likely moderated by friendship context and possibly by child ethnicity as well. The following research questions and hypotheses emerge from the bioecological theory as it can be applied to the study of children's friendships and empirical literature on this topic.

Research Question 1: Does friendship companionship increase the likelihood that children's friendships will be long-term?

Hypothesis 1: Higher levels of friendship companionship will increase the likelihood that children's friendships will be long-term.

Research Question 2: Do the contexts in which children maintain their friendships predict friendship temporality?

Hypothesis 2: Friendships that are maintained in contexts that include parents (parent network, same-age relative, church, and neighborhood) will be more likely to be long-term. Friendships maintained in contexts that do not include parents (school, child care, extracurricular activities) will be less likely to be long-term.

Research Question 3: When controlling for socioeconomic status, does child ethnicity predict friendship temporality?

Hypothesis 3: Given the exploratory nature of this research question, no specific hypotheses are offered.

Research Question 4: Does the number of contexts where friendships are maintained increase the likelihood that friendships will be long-term?

Hypothesis 4: The greater the number of contexts in which children's friendships are maintained, the more likely that the friendship will be long-term.

Research Question 5: Does friendship context moderate the association between friendship companionship and friendship temporality?

Hypothesis 5: The relationship between friendship companionship and friendship temporality will be stronger when friendships are maintained within contexts that include parents (parent network, same-age relative, neighborhood, church) than when friendships are maintained within contexts that do not include parents (school, child care, extracurricular activities).

Research Question 6: Does the number of contexts in which friendships are maintained moderate the association between friendship companionship and friendship temporality?

Hypothesis 6: The relationship between friendship companionship and friendship temporality will be stronger when friendships are maintained across more contexts.

Research Question 7: Does child ethnicity moderate the association between friendship companionship and friendship temporality?

Hypothesis 7: Child ethnicity will moderate the association between friendship companionship and friendship temporality. However, given the exploratory nature of this research question, no specific hypotheses are offered.

Question 8: Do child ethnicity and friendship context work together to moderate the association between friendship companionship and friendship temporality?

Hypothesis 8: Child ethnicity and friendship context will work together to moderate the association between friendship companionship and friendship temporality. However, given the exploratory nature of this research question, no specific hypotheses are offered.

CHAPTER IV

METHODS

Participants

An existing data set was used to address the research questions of interest. Data

are from a three-year longitudinal study designed to focus on associations between social

network closure across the multiple contexts of children's lives and indicators of child

well being. For this effort, I will be using data from the in-home interviews from Waves 2

and 3 of the study. Families who participated in interviews during Wave 2 but not Wave

3 were excluded from the final sample. The resulting sample consisted of 346 children

and their mothers who participated in both Waves 2 and 3 of the study. Due to missing

data, 341 children and their mothers will be used for data analyses. Fifty-three percent of

children are female and 47 percent male. The sample is 39% Black and 61% White.

Socioeconomic status (SES) was calculated for families using the Hollingshead Four

Factor Index of Social Status (Hollingshead, 1974). The Hollingshead scores for the

complete sample range from 15 (unskilled laborers) to 66 (major business professionals).

The mean Hollingshead score is 43.67 (medium business personnel and minor

professionals), with a standard deviation of 11.52. Mean levels of social class differed by

ethnicity $t(279.02) = -8.31$, p = .01. The mean social class was 47.43 for White families

and 37.72 for Black families. However, it is important to note that both White families

and Black families within this sample were relatively affluent, representing mostly

middle class backgrounds.

Measures

Demographic Variables. Demographic data were collected through a family roster

interview with mothers. Demographic control variables for this study include ethnicity

(dummy coded with Black as the reference group), sex (dummy coded with female as the

reference group), and socioeconomic status. Mothers reported household members'

ethnicity, sex, and relationship to the target child. Mothers were also asked to report

educational levels and occupations for themselves and target children's fathers. This

information was used to calculate the Hollingshead Four Factor Index of Social Status

(1979). Hollingshead values can range from 6 to 66. Fathers' information was excluded

from the calculation if mothers perceived that fathers did not play an active role in target

children's lives. Demographic data were collected during all years of the project. For the

current effort, Year 2 demographic data will be used.

     Social Contexts of Friendships (SCF) Measure.[1] During Years 2 and 3, mothers

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[1] The SCF measure was developed in response to concerns focusing on the use of parent or child reports of children's friendships in isolation. Fletcher, Troutman, Madison, and Hunter (2005) have reported that collaboration between mothers and children in the identification of children's friendships reduces reporting errors observed in mother and child reports in isolation. While many researchers identify children's friendships based on reciprocated nominations, there have been mixed findings when comparing levels of friendship quality based on children's reciprocal versus unilateral nominations. Newcomb and Bagwell (1995) suggested that using a reciprocated nomination criterion in order to identify children's friendships is not essential. This argument is based on their meta-analysis that indicated few differences in friendship quality for reciprocal versus unilateral friendships. In order to evaluate friendship quality, differences between reciprocated and unilateral friendships, Bowker (2004) categorized friendship into three categories: individuals with reciprocated best friends, individuals with nonreciprocated best friends, and individuals with best friends reciprocated as close friends. When comparing friendship quality across the three categories, Bowker reported that individuals within reciprocated friendships had greater knowledge of their best friends than was observed within the other two categories. However, there were no group differences for closeness of friendships, security, help, and conflict. Moreover, both reciprocated and unilateral friendship remained relatively stable over time (Erdley, Nangle, & Gold, 1998). The use of the SCF measure will provide for more accurate identification of children's friendships would reciprocation. Reciprocation is limited because it relays on full participation from all individuals in a

and children worked together to create a list of no more than 10 same-age non-sibling children they both considered to be target children's friends. Target children and mothers then provided additional information for each child nominated. This information included friends' sex and ethnicity, the context in which the friendship was maintained, whether the target child and friend attended the same school and were in the same classroom, and whether friends were biologically related to the target child. Fletcher et al. (2006) found that asking mothers and children to work together to generate list of children's friendships increased reliability and validity for identification of children's friendships. Mothers assisted children in clarifying distinctions between friends versus acquaintances and children assisted mothers in identifying friendships from contexts that did not include parents. Previous analyses of data (Fletcher et al., 2006) indicated that children maintained friendships in the following contexts: School, Neighborhood, Church, Childcare, Extracurricular Activities, Children of Family Friends (children were friends due to a prior relationship among parents), and Relatives as Friends. Coding of six of the seven friendship contexts yielded inter-rater reliability coefficients (kappas) ranging from .95 to .98. The kappa for the remaining context (childcare) was .85. Rater disagreements were resolved by the principal investigator. The total number of friendships for each child was calculated by summing the number of friends identified through the SCF procedure.

Friendship Temporality. Friendship temporality is defined as the amount of time a friendship is maintained. In theory, friendship temporality is a continuous concept in

context in order to identify reciprocated friendships.

that friendships can be maintained for periods of time ranging from weeks to lifetimes. However, limitations of data analyzed for this project resulted in friendship temporality being defined as a dichotomized variable: short-term versus long-term friendships. Friendship temporality was coded as (0) short-term and (1) long-term. Short-term friendships were defined as friendships maintained for less than a one-year period of time. Short-term friendships were operationalized as friendships identified only during Time 2 (Year 3 of the longitudinal study). Long-term friendships were defined as friendships maintained for more than a one-year period of time. Long-term friendships were considered to be present when a given friendship was nominated during both Time 1 and Time 2. The number of short-term or long-term friendships could theoretically range from 0 to 10 friends.

Friendship Companionship. Children answered questions designed to assess the level of companionship for each friendship identified through the SCF procedure. The companionship scale was taken from Bukowski, Hoza, and Boivin's (1994) Friendship Qualities Scale. The friendship qualities scale considered several different dimensions of friendships including companionship, conflict, trust, transcending problems, and affective bond. Participants were asked in Year 3 to "rate friendships according to the way it is now and not how you want it to be." Companionship scale (4 items) items were "Sometimes my friend and I just sit around and talk about things like school, sports, and things we like," "My friend thinks of fun things for us to do together," "My friend and I spend all our free time together," "My friend and I go to each others houses after school and on weekends." Response options to all items were (1) *not at all true*, (2) *a little true*,

(3) *somewhat true*, (4) *pretty true*, and (5) *really true*. The Cronbach's alpha for the companionship scale was .72.

Procedure

Parents with third grade children enrolled in 9 elementary schools in the southeastern region of the United States during the 2001-2002 academic year were contacted and asked to participate in a school-based data collection. Data from this school-based portion of the study will not be analyzed for the proposed project. Consent for participation for the school-based study was provided by parents of 85% of third grade children. Criteria for participation in home interviews included White or Black ethnicity, children residing with biological mothers or adoptive mothers, children born in the United States, and children having participated in the school-based portion of the project. Mothers were contacted by telephone and asked to participate in home interviews. Four hundred and four families (79% of eligible families) agreed to participate in home interviews. Time 2 interviews were conducted during target children's 4th grade school year and Time 3 interviews were conducted during target children's 5th grade school year (unless children were retained or skipped a grade).

The majority of home interviews were conducted at participants' homes; however, some mothers specified other locations to complete interviews (e.g., a local university or library). Interviews were completed in approximately one hour and fifteen minutes. Two research assistants conducted each interview. At least one research assistant was always of the same ethnicity as mothers and children and at least one research assistant was always female.   One research assistant was assigned to read

questionnaires to children and record their responses. The second research assistant was

assigned to mother interviews. Questionnaires were read aloud to mothers when research

assistants observed mothers having difficulty reading questionnaires or if mothers

requested assistance. Mothers received $35.00 as compensation for their time completing

interviews and children received a small school related gift. To minimize attrition,

families who moved to a different region of the country between waves of data collection

were asked to complete interviews over the telephone and to complete mail-in

questionnaires.

Data Analytic Strategy

Two-level hierarchical generalized linear modeling (HGLM) was used to identify

friendship level and child level predictors of friendship temporality, a dichotomous

outcome variable (Raudenbush & Bryk, 2002). This approach provided the statistical

tools needed to overcome the limitations of using ordinary least square (OLS) regression

when analyzing nested data. Limitations for using OLS regression when data are nested

include aggregation bias, misestimated standard errors, and heterogeneity of regression

(Hofmann, Griffin, Gavin, 2000).

Children's friendships were nested within children, as illustrated in Figure 1.

Friendships were considered as the level 1 factor (within factor) and children were the

level 2 factor (between factor). HGLM involved performing regressions at level 1 and

using the level 1 (within factor) intercepts and slopes as level 2 dependent variables.

Based on the research questions, a series of HGLM analyses were performed.

There were three types of level 1 equations. The first predicted temporality from

companionship and all contexts entered simultaneously. Equation 1a illustrates this level

1 equation, where η_{ij} is the binary indicator of friendship temporality (0 = short-term

friend and 1 = long-term friend) for observation i in group j (Tate, 2004). β_{0j} represents

the intercept of the regression equation for group j and β_{1j} through β_{9j} are the main

effects of the individual variables listed. The effect of friendships being maintained

across multiple contexts is controlled for by placing all contexts in the level 1 equation.

Friendship context variables were dichotomously coded as 0 if the friendship was not

maintained within a context and 1 if the friendship was maintained within the context. In

contrast, companionship was a continuous predictor variable.

Level 1 equation:

$Logit\ \eta_{ij}\ (friendship\ temporality) = \beta_{0j} + \beta_{1j}companionship_{1ij} + \beta_{2j}school_{2ij}$
$+ \beta_{3j}neighborhood_{3ij} + \beta_{4j}church_{4ij} + \beta_{5j}childcare_{5ij} + \beta_{6j}parentnetwork_{6ij} + \beta_{7j}relative_{7ij}$
$+ \beta_{8j}extracurricular_{8ij} + \beta_{9j}othereffort_{9ij}$

(Equation 1a)

The second type of level 1 equation, illustrated in equation 1b, was used to predict

temporality from the continuous number of contexts measure and to examine how

number of contexts might moderate the association between companionship and

temporality. β_{0j} represents the intercept of the regression equation for group j and β_{1j}

and β_{3j} are the main effects of the individual variables listed. As suggested by Aiken

and West (1991), β_{3j} is the interaction term was created by mean-centering the

companionship variable, then multiplying the value by the number of contexts in which

friendships were maintained. All variables in the HGLM equation are grand mean

centered.

Level 1 equation:

$$Logit\ \eta_{ij}\ (friendship\ temporality) = \beta_{0j} + \beta_{1j}companionship_{1ij}$$
$$+ \beta_{2j}number\ of\ contexts_{2ij} + \beta_{3j}companionship_{1ij} * number\ of\ contexts_{2ij}$$

(Equation 1b)

The third type of level 1 equation, illustrated in equation 1c, was used to identify

specific contexts as moderators of associations between friendship companionship and

friendship temporality. A series of level 1 equations was constructed, each including an

interaction term (e.g., companionship x context) for a single context. As in standard

regression, interaction terms were created in the data set to be used in the HGLM

analyses. The companionship variable was mean-centered, then multiplied by the

relevant context variable prior to entering the term in the HGLM equation. Interaction

terms were created for all eight contexts. For example, β_{10j} is the within-level

interaction between companionship and school context. There were a total of eight level

1 equations, each introducing a unique interaction term for a specific context (e.g.,

companionship x neighborhood, companionship x childcare, etc…). All variables in the

HGLM equation are grand mean centered.

Sample Level 1 equation (for the moderating effect of school context):

$$Logit\ \eta_{ij}\ (friendship\ temporality) = \beta_{0j} + \beta_{1j}companionship_{1ij} + \beta_{2j}school_{2ij}$$
$$+ \beta_{3j}neighborhood_{3ij} + \beta_{4j}church_{4ij} + \beta_{5j}childcare_{5ij} + \beta_{6j}parentnetwork_{6ij} + \beta_{7j}relative_{7ij}$$
$$+ \beta_{8j}extracurricular_{8ij} + \beta_{9j}othereffort_{9ij} + \beta_{10j}companionship_{1ij} * school_{2ij}$$

(Equation 1c)

At level 2, illustrated in equation 2a, two child level predictors (SES and ethnicity) were included as predictors of friendship temporality and also as potential moderators of associations between friendship companionship and friendship temporality. SES was included in the level 2 equation as a control variable. Equation 2a corresponds with the level 1 equation from equation 1a. Y_{00} is the grand mean intercept of friendship temporality across groups. Y_{01} represents the main effect for SES and γ_{02} represents the main effect for ethnicity. U_{0j} through u_{9j} represents the residual variance. Y_{10} through γ_{90} denotes the main effect for companionship and specific contexts (school, neighborhood, church, parent network, etc…). Level 2 interaction effects between β_1 and ethnicity γ_{12}, controlling for SES γ_{11}, were included to test whether ethnicity moderated the association between friendship companionship and friendship temporality. Level 2 equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}SES + \gamma_{02}ethnicity + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}SES + \gamma_{12}ethnicity + u_{1j}$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}SES + \gamma_{22}ethnicity + u_{2j}$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}SES + \gamma_{32}ethnicity + u_{3j}$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}SES + \gamma_{42}ethnicity + u_{4j}$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}SES + \gamma_{52}ethnicity + u_{5j}$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}SES + \gamma_{62}ethnicity + u_{6j}$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}SES + \gamma_{72}ethnicity + u_{7j}$$
$$\beta_{8j} = \gamma_{80} + \gamma_{81}SES + \gamma_{82}ethnicity + u_{8j}$$
$$\beta_{9j} = \gamma_{90} + \gamma_{91}SES + \gamma_{92}ethnicity + u_{9j}$$

(Equation 2a)

Equation 2b illustrates the level 2 equation that corresponds with the level 1

equation 1b. Using SES γ_{ij} and ethnicity γ_{ij} as control variables, γ_{00} is the grand mean

intercept of friendship temporality across groups. Y_{10} through γ_{30} denote the main

effects of companionship, number of contexts, and the interaction of companionship and

number of contexts. U_{0j} through u_{3j} represent random effects.

Level 2 equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}SES + \gamma_{02}ethnicity + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}SES + \gamma_{12}ethnicity + u_{1j}$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}SES + \gamma_{22}ethnicity + u_{2j}$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}SES + \gamma_{32}ethnicity + u_{3j}$$

(Equation 2b)

Equation 2c illustrates the level 2 equation that corresponds with the level 1

equation 1c. Of particular interest was the interaction of companionship and friendship

context (in this case school context). Y_{100} denotes the effect of the interaction term

(companionship x school context) across groups. In this equation, the school friendship

interaction term was entered and in doing so β_{3j} through β_{9j} were identified as fixed in

the level 2 equation. Additional equations were created for each specific context and β_{ij}

was identified as fixed when the context of interest was not considered. For

example, β_{2j} and β_{4j} through β_{9j} were identified as fixed when considering the role of

neighborhood context. Level 2 interaction effects involving β_{10} and ethnicity γ_{102},

controlling for SES γ_{101}, were included to determine whether child ethnicity and

friendship context worked together to moderate the association between friendship

companionship and friendship temporality.

Level 2 equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}SES + \gamma_{02}ethnicity + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}SES + \gamma_{12}ethnicity + u_{1j}$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}SES + \gamma_{22}ethnicity + u_{2j}$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}SES + \gamma_{32}ethnicity$$
$$\beta_{4j} = \gamma_{40} + \gamma_{41}SES + \gamma_{42}ethnicity$$
$$\beta_{5j} = \gamma_{50} + \gamma_{51}SES + \gamma_{52}ethnicity$$
$$\beta_{6j} = \gamma_{60} + \gamma_{61}SES + \gamma_{62}ethnicity$$
$$\beta_{7j} = \gamma_{70} + \gamma_{71}SES + \gamma_{72}ethnicity$$
$$\beta_{8j} = \gamma_{80} + \gamma_{81}SES + \gamma_{82}ethnicity$$
$$\beta_{9j} = \gamma_{90} + \gamma_{91}SES + \gamma_{92}ethnicity$$
$$\beta_{10j} = \gamma_{100} + \gamma_{101}SES + \gamma_{102}ethnicity + u_{10j}$$

(Equation 2c)

Descriptive statistics for level 1 and level 2 variables for HGLM analyses are

presented in Table 1.

CHAPTER V

RESULTS

Children's Friendships

     Contexts of Children's Friendships. The number of child friendships ranged from one friend to ten friends which resulted in a total of 2,179 friendships. Children reported an average of 6.42 friendships with a standard deviation of 2.34. Children's friendships were maintained across 8 contexts. Specifically, 64% of friends were from schools, 23% were friends from neighborhoods, 20% were friends from extracurricular activities, 10% were friends from churches, 7% were friends from their parent's friendships, 7% were friends who were same-age relatives, 3% were friends from child care settings, and 7% were friends from "other efforts." Friendships coded as other efforts were friendships that were initially established in contexts such as school, neighborhood, or daycare. However, children no longer occupied these contexts at the time of data collection, so these friendships were maintained by other efforts such as phone calls, emails, and home visits. Thirty-four percent of friendships reported were maintained across multiple contexts.

     Table 2 reports descriptive statistics for number friendships per context for the entire sample and separately for White versus Black children. White children reported more friendships than Black children in the contexts of school, $t(302.57) = 4.80$, p = .01, and extracurricular activities, $t(320.85) = 7.87$, p = .01. Black children reported more friendships than White children in the context of same-age relatives as friends, $t(181.71)$

= -3.95, p = .01.

Bivariate correlations presented in Table 3 indicated that children with higher socioeconomic status backgrounds reported more friendships within school, $r(341) = .20$, $p = .001$, and extracurricular activities, $r(341) = .29$, $p = .001$. However, children with lower socioeconomic status family backgrounds reported a higher number of friendships within the same-age relative context, $r(341) = -.18$, $p = .001$.

Number of Long-Term and Short-Term Friendships by Context. Within the 2,179 reported friendships, 50.3% of friendships were short-term friendship and 49.7% of friendships were long-term friendships. Means and standard deviations for the number of long-term and short-term friendships within each context for the entire sample are provided in Table 4. Two sets of t-tests were calculated to understand group differences with respect to friendship temporality. First, I calculated t-tests to compare the mean number of short-term versus long-term friendships within each context for the total sample, for Black children, and for White children. These t-tests indicated that the combined group of Black children and White children did not differ in number of short-term versus long-term friendships. When examined separately by ethnicity, Black children reported more short-term friendships than long-term friendships in the school context, $t(209.22) = 2.06$, p = .05. Among White children, there were no differences in the number of long-term versus short-term friendships in any context.

Next, I calculated t-tests comparing the average number of short-term friendships maintained by White children versus Black children within each context, then the average number of long-term friendships maintained by White children versus Black children

within each context. White children reported more long-term friendships than Black children in the contexts of school, $t(215.26) = 5.48$, p = .01, extracurricular activities, $t(18.36) = 2.83$, p = .05, and other efforts, $t(56.68) = 2.30$, p = .05. Black children and White children did not differ in number of short-term friendships.

Friendship Companionship Levels for Long-term versus Short-term Friendships within Different Contexts. Mean levels of friendship companionship are provided in Table 5 separately for each context. Again, I conducted two sets of t-tests to test for group differences. First, t-tests were calculated comparing mean levels of companionship for short-term versus long-term friendships for the total sample, Black children, and White children. Results indicated no significant difference in levels of companionship for long-term friendships versus short-term friendships within any context for the total sample. There were also no significant differences in levels of companionship for long-term friendships versus short-term friendships among Black children and White children examined separately. Next, I conducted t-tests comparing the mean levels of companionship for Black children versus White children calculated separately by context and friendship type (short-term versus long-term). Black children reported higher levels of companionship than White children for short-term friendships in the other efforts context $t(17.88) = -2.13$, p = .05.

Bivariate correlations (Table 6) indicated that children from lower socioeconomic family backgrounds reported low levels of companionship for short-term friendships in the church context, $r(66) = -.26$, $p = .05$.

HLM Results

  Child Level Predictors of Friendship Temporality. Table 7 presents HGLM

results for the prediction of friendship temporality based on equations 1a and 2a. The

value of the intercept $\gamma00$ was not significant, indicating that when all predictors were

equal to zero, the likelihood of a friendship being long-term versus short-term was

equivalent. Ethnicity was a significant predictor of friendship temporality as indicated by

the significant $\gamma01$ coefficient, ($\gamma = .50$, *SE* $= .13$, *t* $(338) = 3.81$, *p* $< .01$). The direction

of the effect was positive, indicating that the odds of a friendship being long-term were

1.65 times greater for White children as compared to Black children. The SES $\gamma02$

coefficient was significant and positive, indicating that SES was associated with

friendship temporality, ($\gamma = .01$, *SE* $= .01$, *t* $(338) = 2.02$, *p* $< .05$). The odds of a

friendship being long-term increased by 1.01 for one standard deviation increase in SES.

  Friendship Companionship as a Predictor of Friendship Temporality. As shown

Table 7, the companionship coefficient $\gamma10$ was a significant predictor of temporality, (γ

$= .30$, *SE* $= .10$, *t* $(338) = 3.23$, *p* $< .01$), indicating that when friendship companionship

levels increased by one standard deviation and holding all other predictors constant,

friendships had 1.37 greater odds of being long-term as opposed to short-term.

  Friendship Context as a Predictor of Friendship Temporality. The contexts of

children's friendships were examined to determine if they were predictors of friendship

temporality. As shown in Table 7, the coefficient for neighborhood context $\gamma30$ was

significant, ($\gamma = .42$, *SE* $= .14$, *t* $(338) = 3.08$, *p* $< .01$), and the accompanying odds ratio

was 1.53. In other words, a friendship maintained in the neighborhood context was 53

percent more likely to be a long-term friendship than if the friendship was not

neighborhood based. A significant family friend context coefficient $\gamma 60$, ($\gamma = 1.48$, $SE =$

.24, t (338) = 4.38, $p < .01$) yielded an odds ratio of 4.38. A friendship that was with a

family friend was 4.38 times more likely to be long-term than was one that was not with a

family friend. A significant same-age relative context coefficient $\gamma 70$, ($\gamma = .70$, $SE = .27$, t

(338) = 2.58, $p < .01$) yielded an odds ratio of 2.01. A friendship that was with a same

age relative was 2.01 times more likely to be long-term than was a friendship not with a

family friend. A significant coefficient $\gamma 80$ for children's friendships maintained by other

efforts, ($\gamma = 1.37$, $SE = .25$, t (338) = 5.39, $p < .01$) yielded an odds ration of 3.92. A

friendship that was maintained through other efforts was 3.92 times more likely to be

long-term than was a friendship not classified in this way. School, church, child care, and

extracurricular contexts did not predict friendship temporality.

Number of Contexts as a Predictor for Friendship Temporality. Table 8 presents

findings yielded by equations 1b and 2b examining number of contexts in which

children's friendships were maintained as predictors of friendship temporality. The

number of contexts coefficient $\gamma 10$ was a significant predictor of temporality, ($\gamma = .22$, *SE*

= .13, t (338) = 3.81, $p < .01$) holding all other variables constant. Specifically, one

standard deviation increase in the number of friendships contexts (adding one context)

increased the odds that a friendship would be long-term by 1.25 times.

Friendship Context as a Potential Moderator of the Association between

Friendship Companionship and Friendship Temporality. The coefficients in Table 9 were

based on the eight HGLM models illustrated in equations 1c and 2c and considered

whether specific contexts moderated the association between companionship and temporality. Each HGLM model was unique in that it examined a specific interaction term for a single context and friendship companionship (e.g., school x companionship, church x companionship). For the sake of parsimony, only the coefficients of interest (i.e., interaction term) were included in Table 9. No Y100 coefficient was statistically significant. In other words, specific friendships contexts did not moderate the association between friendship companionship and friendship temporality.

Number of Contexts as a Moderator of the Association between Friendship Companionship and Friendship Temporality. Table 10 presents the interaction term (number of contexts x companionship) predicting friendship temporality. The interaction term coefficient $\gamma 30$ was not statistically significant at a $p < .05$ significance level in predicting friendship temporality. In other words, number of contexts did not moderate the association between friendship companionship and friendship temporality.

Ethnicity as a Potential Moderator of the Association between Friendship Companionship and Friendship Temporality. Controlling for socioeconomic status, it was hypothesized that child ethnicity would moderate the association between friendship companionship and friendship temporality. Table 11 presents child ethnicity $\gamma 22$ coefficients from the eight HGLM models described in equations 1c and 2c focusing on interaction terms specific to each context. Interaction coefficients for all eight models were not statistically significant at a $p < .05$ significance level. Ethnicity did not moderate the association between friendship companionship and friendship temporality.

Ethnicity and Friendship Context as Potential Joint Moderators of the Association between Friendship Companionship and Friendship Temporality. Three way interactions were examined to determine whether child ethnicity and friendship context worked together to moderate the association between friendship companionship and friendship temporality. Table 12 provides the key coefficients of interest for the eight HGLM models, one for each friendship context (equations 1c and 2c). A significant ethnicity x school context x companionship coefficient $\gamma 42$ predicted friendship temporality, ($\gamma = -.84$, *SE* = .31, t (338) = -2.75, $p < .01$). In addition, a significant ethnicity x other efforts context x companionship coefficient $\gamma 42$ predicted friendship temporality, ($\gamma = .50$, *SE* = .13, t (338) = 3.81, $p < .01$). To aid in interpretation of these interaction effects, I then split the sample by ethnicity and repeated analyses examining the interaction of context (school and other efforts) and companionship as a predictor of temporality. All other predictors in these equations were identical to those described in equations 1c and 2c with the removal of ethnicity-based variables. When examined separately by ethnicity, the γ coefficients for context x companionship interaction terms failed to reach statistical significance in either ethnic group.

CHAPTER VI

DISCUSSION

Heretofore, the majority of research focusing on children's friendships has been limited to the study of relationships that exist between children within the school context. By considering the larger ecosystem, this study has indicated that children create and maintain friendships across a number of contexts. These contexts include school, neighborhood, church, child care, same-age relative friend, family friend, extracurricular, and other efforts. There were also ethnic differences in the number of friendships reported within specific contexts. White children reported more friendships than Black children in the contexts of school and extracurricular activities. However, Black children reported more friendships than White children in the context of same-age relatives as friends. Children's friendships were evenly split between long-term (maintained for more than one year) and short-term (maintained for less than one year). The average number of long-term friendships reported by White and Black children differed based on the context within which friendships were maintained. On average, White children reported more long-term friendships than Black children in school, extracurricular activities, and other efforts contexts. Black children reported more long-term friendships than White children in the context of same-age relatives as friends. The main focus of this study was to examine the temporal nature of childhood friendships by considering

both friendship-level and child-level variables as predictors of friendship temporality. Specifically, I considered whether the longevity of children's friendships was predicted by levels of companionship within children's friendships, the contexts within which friendships were maintained, the number of contexts within which friendships were maintained, and child ethnicity. Further, I examined whether friendship context, number of contexts, and child ethnicity were potential moderators of the association between friendship companionship and friendship temporality. Finally, I sought to determine if child ethnicity and friendship context worked together to moderate the association between friendship companionship and friendship temporality.

Friendship companionship, friendship context, the number of friendship contexts, and child ethnicity were all associated with friendship temporality. Specifically, friendships with higher levels of companionship were more likely to be long-term rather than short-term. Friendships were more likely to be long-term rather than short-term when they were maintained within the contexts of neighborhood, family-friend, same-age relative, and other efforts contexts. The odds of having long-term friendships increased as the number of contexts within which friendships were maintained increased. When taking into account all friendships, White children's friendships were more likely than Black children's friendships to be long-term. When considered separately, friendship context, number of friendship contexts, and child ethnicity did not moderate the association between friendship companionship and friendship temporality.

It was hypothesized that higher levels of friendship companionship would increase the likelihood that children's friendships would be long-term. This hypothesis

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was supported in that children's friendships that were characterized by higher levels of companionship were more likely to be friendships that had been maintained for more than one year than to have been formed within the preceding 12 months. Companionship is the core element of friendships. Without exposure to the interactions that are a defining feature of companionship, friendships are likely to dissolve. According to Bronfenbrenner's bioecological perspective, companionship between friends provides opportunities for individuals to increase the complexity of their interactions (i.e., proximal processes) which will strengthen friendships. This finding is consistent with predictions based on Bronfenbrenner's theoretical perspective. This perspective on the evolution of friendships is consistent with findings reported by Hayes (1985), who noted that young adult friendships increased in frequency of interaction over time. Increased interactions between friends likely result in higher levels of trust and intimacy within friendships (Furman, 1996). Higher levels of companionship likely allow children to maintain friendships even in the presence of changes within the ecosystem that might otherwise contribute to dissolution of friendships. In addition, when friends experience lower levels of companionship, individuals may lose the motivation to maintain relationships, resulting in friendship termination (Hardy, Bukowski, & Sippola, 2002).

The nature of contexts within which children's friendships were maintained was also related to friendship temporality. This finding partially supported my hypothesis that friendships in contexts that included parents would be more likely to be long-term. Friendships being maintained within the contexts of family friend, same-age relative, neighborhood, and other efforts increased the odds that a friendship would be long-term

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as opposed to short-term. Such contexts were characterized by the presence of parents and likely resulted in intersections between child-parent and child-friend microsystems. I suggest that such intersections are key factors encouraging the maintenance of friendships over time. According to Bronfenbrenner's bioecological perspective, mesosystem influences are those that involve points of connection between two or more Microsystems. Friendship contexts that include both children and their parents are consistent with Bronfenbrenner's definition of Mesosystem influences. The finding that such friendships are more likely to be long-term is consistent with a prediction, based on Bronfenbrenner's theory, that such points of connection have meaning for the nature of children's peer relationships. Mesosystem influences of this type make it easier for parents to support the development and maintenance of children's friendships. The role of parents in supporting the maintenance of children's friendships may take various forms. For example, parents may be active agents for the longevity of their children's friendships. Parents may provide children with additional opportunities to interact with friends (Rubin et al, 1999), may monitor their children's social relationships and interactions (Knoester, Haynie, & Stephens, 2006), and can expand their children's social networks (Ladd & Golter, 1988; Uhlendoriff, 2000). Parental strategies such as these have been identified as ways in which parents attempt to directly influence preschool-aged children's friendships and social relationships (Ladd & Hart, 1992).

Parents have a vested interest in children's friendships that are maintained within the family friend and same-age relative contexts. Specifically, parents within these contexts have their own relationships with their children's friends' parents.

Theoretically, it has been proposed that when parents develop strong relationships with their children's friends' parents, it promotes well being for parents and children alike. Coleman (1988) referred to these relationships as being characterized by high levels of social network closure. Moreover, Coleman argued that closure relationships allow parents to have open lines of communication that will benefit children psychologically and behaviorally. Fletcher et al. (2006) have argued that closure relationships promote the maintenance of children's friendships. For example, both the family friend and same-age relative contexts provide children with parental resources to draw upon when conflicts occur between children or when children wish to schedule play dates and sleepovers. Children's friendships that are maintained within the family friend context provide parents increased opportunities to socialize with their own adult friends while children are interacting with one another. Friendships within the same-age relative context are characterized by levels of commitment that distinguish them from other types of friendships. Such friendships are initially formed based on strong emotional bounds between kin. Although children have some choice concerning whether or not they will maintain friendships with their same-age relatives, the familial nature of such relationships allows them to be more easily maintained over time due to increased frequency of contact and shared relational histories.

Friendships maintained within the neighborhood context likely provide children opportunities to interact with their friends over time without interruptions, contributing to such friendships being more likely to be maintained over time. Interestingly, neighborhood context was a predictor of friendship temporality while school context was

not. Traditionally, American children who live in the same neighborhood attend the

same school. However, the demise of neighborhood-based schools, the emergence of

school choice programs, and the prevalence of public versus private school options have

made this less inevitable than in past eras. In addition, larger schools draw students from

numerous neighborhoods, making it likely that many potential social partners within the

school context will not reside in a given child's neighborhood. Friendships maintained

within schools experience interruptions based on time spent apart during academic breaks

(summer and holiday) and friends from one school year may be separated into different

classrooms during subsequent years. Such factors may make it less likely that school

friendships will be maintained over time. This stands in contrast to neighborhood

friendships, which provide opportunities for interactions among children on a more

consistent basis. In addition, parents may be likely to know their children's friends'

parents within the neighborhood context, which may also contribute to friendship

longevity for the reasons outlined previously.

Friendships maintained within other efforts context were more likely to be long-

term rather than short-term. This finding was unexpected. Such friendships have no

structural context to maintain relationships and continue to exist only through other

efforts on the parts of both children and parents (telephone calls, emails, or play dates).

Such friendships remain intact through the determination and efforts of children and the

willingness of parents to support such friendships. These friendships may be long-term

because they constituted particularly strong and important relationships in children's lives

when they were maintained within a specific context, providing motivation for children to maintain these relationships.

I hypothesized that when children's friendships were maintained in more contexts, it would increase the odds that friendships would be long-term and a greater number of friendship contexts increased the odds that a friendship would be long-term. Seven percent of children's friendships were maintained across more than one context. The association between number of contexts and longevity is consistent with Bronfenbrenner's theoretical propositions in more contexts for a given friendship likely increases children's exposure to proximal processes (friendship interactions) that are implicated in relation to longevity. Having friendships that are maintained within multiple contexts provides children with opportunities to interact with friends on different types of occasions and for more time overall. For example, a child might maintain a friendship across the contexts of school, neighborhood, extracurricular activities, and church. Such a child experiences considerable time in the company of this friend and has the opportunity to experience different types of interactions within each context. These experiences likely strengthen friendships, increasing the likelihood that they will be long-term. In addition, having friendships maintained within more than one context can promote long-term friendship maintenance because if one context ceases to exist (e.g., soccer season ends) friends will still be able to interact within other contexts (e.g., school, neighborhood, and church). However, we must be cautious and not conclude that the number of contexts strengthens the association between companionship and temporality because no such moderating effect was observed within these data.

When taking into account all friendships and controlling for the effects of socioeconomic status, White children's friendships were more likely than Black children's friendships to be long-term, although child ethnicity did not moderate the association between companionship and friendship temporality. Several factors may explain the main effect of ethnicity. Race and ethnicity can be viewed as an organizational force that shapes children's friendships. According to Bronfenbrenner's perspective, race and ethnicity can be viewed in terms of macrosystem influences within contemporary American society that set a context within which children experience images, symbols, and interactions that systematically create disparities between White families and Black families. Specifically, there may be racial differences in resources available to parents and stressors experienced within families and such factors may impact friendship temporality. Coleman suggested that social capital (resources available within parents and children's micro- and macro-systems due to the presence of social relationships within such systems) assist individuals in achieving needs and wants. Coleman proposed that social network closure relationships (relationships among parents whose children are friends) put into place systems of social connections that allowed social capital influences to be expressed. Fletcher et al. found that even after controlling for socioeconomic status, levels of social network closure were higher for White children than for Black children. Lower levels of closure relationships among Black families may make it more difficult for Black children to maintain friendships over time.

In addition, differences in resources such as time available to families might result in White children having more opportunities than Black children to interact with their

friends within various contexts. When comparing White children and Black children, White children reported higher number long-term friendships than short-term friendships than Black children in school, extracurricular activities, and other efforts contexts. These may represent contexts within which parental time commitments are a prerequisite to permitting children to engage in proximal processes within and/or outside of individual contexts. For example, school friendships can only be continued during the summer months if parents have the time and inclination to arrange for children to get together outside of the school context. Extracurricular friendships can only be continued outside the season of a particular activity if similar efforts are displayed by parents. The other efforts context is virtually defined by the ability and willingness of parents to arrange contacts among children.

A final explanation for ethnic differences in friendship temporality might be the number of friendships reported for Black children versus White children in the school context. On average, Black children reported more friendships in the school context than any other context. Given that school friendships are particularly likely to be unstable (largely due to classroom assignments changing from year to year), the greater reliance on schools as sources of friendships for Black children may be partially responsible for the association between ethnicity and friendship temporality.

Limitations and Directions for Future Research

The findings from this study have highlighted factors contributing to the temporal nature of children's friendships within middle childhood, an area of inquiry that has been understudied among friendship researchers. Yet despite the importance of this line of

research and the findings I have reported, there are limitations to the current study. First, accurately identifying children's friendships can be challenging. The study has relied upon collaborative efforts of mothers and children to identify children's friendships. Unlike virtually all other research on childhood friendships, we did not restrict children's friendships to those that were reciprocated. The downside of this approach is that we cannot be sure that the perceptions of children/mothers are shared by friendship partners. The names generated by mother/child dyads may, to some extent, be reflective of those individuals who were desired social partners but who might not themselves have reported meaningful social relationships with target children. Yet the upside of our approach is that it has allowed us to identify friendships across contexts other than school, which has been the virtually exclusive context within which reciprocated friendship nominations have been studied. Future research should examine predictors of friendship temporality using various types of friendship nomination criteria. This would provide reliable and valid information about the nature of children's short-term versus long-term friendships.

The findings from this study should not be generalized to the entire middle childhood population because the sample population was not randomly selected and families were located in a single county in the southeastern region of the United States. We also restricted our focus to Black children and White children residing within this region. Accordingly, we cannot be certain that our findings would generalize to other regions or ethnic groups. Further research in this area should use both random and nonrandom sampling strategies and should consider predictors of friendship temporality within samples that are diverse with respect to factors such as the ones we have

mentioned and others. Moreover, time series studies extending over multiple time periods would be particularly helpful when studying the progression of children's friendships. Finally, our findings of ethnic difference in friendship temporality beg the question of how more complex considerations of ethnicity might be related to friendship temporality. For example, future studies should examine differences in friendship temporality based on cross-race and same-race friendships that are maintained across diverse contexts.

The focus of this study has been on the identification of factors that shape the temporality of children's friendships as they are experienced within children's ever-changing ecosystems. The use of HLM has allowed me to consider predictors of temporality regarding aspects of children's social relationships (friendship-level variables), characteristics of children themselves (child-level variables), and the interactions of the two in an approach that has acknowledged that children maintain multiple friendships, each with its own constellations of characteristics. It is only by adopting a conceptual and statistical approach that explicitly acknowledges the existence of such factors that we can fully understand the manner in which friendships evolve over time.

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APPENDIX. TABLES AND FIGURE

Table 1

Descriptive Statistics for Level 1 and Level 2 Variables in the HLM Analyses

Variables	Mean	SD	Range
Level 1 (Friend)			
Temporality	0.50	0.50	0 - 1
Companionship	3.55	0.86	1 - 5
School	0.64	0.48	0 - 1
Neighborhood	0.23	0.42	0 - 1
Church	0.10	0.30	0 - 1
Child care	0.03	0.16	0 - 1
Parent network	0.07	0.25	0 - 1
Same-age relative	0.07	0.26	0 - 1
Extracurricular activities	0.20	0.40	0 - 1
Other effort	0.07	0.25	0 - 1
Number of contexts	1.40	0.62	1 - 5
Level 2 (Child)			
Ethnicity	0.61	0.49	0 - 1
Socioeconomic Status (SES)*	43.67	11.52	15 - 66

* Control variable

Table 2

Distribution of Friendships Across Contexts

Context		School	Neighbor-hood	Church	Child Care	Parent Network	Same-age Relative	E.C.	Other Effort
Total Sample N = 361	Mean # Friends	4.09	1.45	0.65	0.17	0.42	0.45	1.24	0.42
	SD	2.44	1.75	1.12	0.61	0.91	0.99	1.93	0.87
White Children N = 220	Mean # Friends	4.57	1.47	0.73	0.20	0.37	0.26	1.78	0.46
	SD	2.46	1.74	1.17	0.65	0.87	0.70	2.16	0.97
Black Children N = 141	Mean # Friends	3.34**	1.40	0.52	0.13	0.50	0.74**	0.40**	0.36
	SD	2.19	1.79	1.03	0.56	0.96	1.28	1.05	0.69

* *p*<.05; ***p*<.01

Table 3

Correlation between Socioeconomic Status and Number of Friendships per Context

Variable	1	2	3	4	5	6	7	8	9
1. SES	--								
2. School	.19**	--							
3. Neighborhood	.02	.10	--						
4. Church	.08	.15**	-.12*	--					
5. Childcare	-.03	.15**	-.14*	.03	--				
6. Family Friend	-.02	-.06	-.06	.08	.07	--			
7. Same-age Relative	-.18**	-.19**	-.08	-.02	.02	.04	--		
8. Extracurricular Activity	.29**	.40**	-.01	.25**	.03	.02	-.08	--	
9. Other Efforts	.00	-.24**	-.15**	-.05	-.04	-.09	-.01	-.14**	--

* $p < 0.05$; ** $p < 0.01$

Table 4

Distribution of Long-term and Short-term Friendships Across Contexts

	Context	School	Neighbor-hood	Church	Child Care	Parent Network	Same-age Relative	E.C.	Other Efforts
Total Sample N = 341	Mean # Long-term Friends	2.50	1.86	1.58	1.50	1.46	1.42	2.17	1.52
	SD	1.47	1.07	0.83	0.76	0.75	0.75	1.41	0.85
	Mean # Short-term Friends	2.75	1.82	1.48	1.40	1.23	1.76	1.81	1.25
	SD	1.52	1.09	0.71	0.60	0.50	1.18	1.14	0.65
White Children N = 209	Mean # Long-term Friends	2.79	1.87	1.55	1.47	1.45	1.52	2.25	1.69
	SD	1.54	1.03	0.83	0.74	0.78	0.87	1.43	1.00
	Mean # Short-term Friends	2.72	1.76	1.46	1.36	1.27	1.53	1.81	1.24
	SD	1.47	1.05	0.71	0.50	0.59	1.06	1.09	0.66
Black Children N = 132	Mean # Long-term Friends	1.88	1.86	1.67	1.60	1.47	1.36	1.42	1.27
	SD	1.08	1.17	0.84	0.89	0.72	0.68	0.90	0.45
	Mean # Short-term Friends	2.80	1.91	1.52	1.50	1.19	1.88	1.80	1.27
	SD	1.59	1.14	0.71	0.84	0.40	1.24	1.32	0.65

Table 5

Mean Levels of Friendship Companionship by Context

Context		School	Neighbor-hood	Church	Child Care	Parent Network	Same-age Relative	E.C.	Other Efforts
Total Sample N = 341	Companionship Mean Score for Long-term Friends	3.58	3.67	3.36	3.34	3.51	3.51	3.54	3.49
	SD	0.67	0.63	0.73	0.73	0.67	0.63	0.65	0.68
	Companionship Mean Score for Short-term Friends	3.57	3.59	3.49	3.49	3.54	3.60	3.59	3.55
	SD	0.65	0.66	0.67	0.67	0.57	0.64	0.57	0.57
White Children N = 209	Companionship Mean Score for Long-term Friends	3.53	3.64	3.37	3.40	3.52	3.51	3.55	3.42
	SD	0.66	0.60	0.73	0.95	0.59	0.45	0.64	0.63
	Companionship Mean Score for Short-term Friends	3.54	3.56	3.44	3.27	3.48	3.41	3.60	3.42
	SD	0.68	0.58	0.65	0.83	0.45	0.53	0.50	0.53
Black Children N = 132	Companionship Mean Score for Long-term Friends	3.65	3.73	3.31	3.14	3.49	3.52	3.44	3.59
	SD	0.69	0.68	0.75	0.75	0.77	0.72	0.77	0.75
	Companionship Mean Score for Short-term Friends	3.62	3.63	3.57	3.41	3.59	3.72	3.54	3.85*
	SD	0.66	0.76	0.70	0.67	0.68	0.68	0.81	0.57

* $p < .05$

Table 6

Correlations Between Socioeconomic Status and Friendship Companionship

Variable	Long-term Friendships	Short-term Friendships
School	-0.06	-0.06
Neighborhood	0.01	-0.04
Church	-0.08	-0.26*
Childcare	0.09	-0.17
Family Friend	-0.02	0.02
Same-age Relative	-0.08	-0.28
Extracurricular Activity	0.03	-0.07
Other Efforts	-0.05	-0.02

* $p < 0.05$

Table 7

HGLM: Prediction of Friendship Temporality

Predictor	γ	*SE*	t-ratio	Odds Ratio	*p*
Intercept (γ00)	-0.07	0.06	-1.27	0.93	0.21
Ethnicity (γ01)	0.50	0.13	3.81	1.65	0.01**
SES (γ02)	0.01	0.01	2.02	1.01	0.04*
Companionship (γ10)	0.31	0.10	3.23	1.37	0.01**
School (γ20)	-0.08	0.14	-0.55	0.93	0.58
Neighborhood (γ30)	0.42	0.14	3.08	1.53	0.01**
Church (γ40)	0.26	0.18	1.40	1.29	0.16
Child Care (γ50)	0.15	0.34	0.45	1.17	0.65
Family Friend (γ60)	1.48	0.24	6.19	4.38	0.01**
Same-age Relative (γ70)	0.70	0.27	2.58	2.01	0.01**
Extracurricular (γ80)	0.23	0.17	1.32	1.26	0.19
Other Efforts (γ90)	1.37	0.25	5.39	3.92	0.01**

* $p < .05$; ** $p < .01$

Table 8

HGLM: Prediction of Friendship Temporality from Number of Contexts

Predictor	γ	*SE*	t-ratio	Odds Ratio	*P*
Intercept ($\gamma00$)	-0.04	0.05	-0.99	0.95	0.33
Ethnicity ($\gamma00$)	0.35	0.11	3.13	1.42	0.01**
SES ($\gamma00$)	0.01	0.00	1.72	1.01	0.09
Number of Contexts ($\gamma10$)	0.22	0.09	2.41	1.25	0.02*

* p < .05; ** p < .01

Table 9

HGLM Analyses Considering Context as a Moderator of the Association Between Friendship Companionship and Friendship Temporality

Predictor	γ	*SE*	t-ratio	Odds Ratio	*P*
Companionship x School (γ100)	-0.05	0.13	-0.41	0.95	0.69
Companionship x Neighborhood (γ100)	0.18	0.17	1.05	1.20	0.29
Companionship x Church (γ100)	-0.15	0.21	-0.73	0.86	0.47
Companionship x Child Care (γ100)	-0.35	0.34	-1.04	0.70	0.30
Companionship x Family Friend (γ100)	0.50	0.28	1.78	0.60	0.08
Companionship x Same-age Relative (γ100)	0.54	0.39	1.40	1.72	0.16
Companionship x Extracurricular (γ100)	0.30	0.23	1.28	1.35	0.20
Companionship x Other Efforts (γ100)	0.01	0.25	0.06	1.01	0.95

Table 10

HGLM Analysis Considering Number of Contexts as a Moderator of the Association Between Friendship Companionship and Friendship Temporality

Predictor	γ	*SE*	t-ratio	Odds Ratio	*P*
Intercept ($\gamma00$)	-0.05	0.05	-1.02	0.95	0.31
Ethnicity ($\gamma00$)	0.37	0.12	3.14	1.44	0.01**
SES ($\gamma00$)	0.01	0.00	1.77	1.01	0.08
Number of Contexts ($\gamma10$)	0.20	0.10	2.16	1.22	0.03*
Companionship ($\gamma20$)	0.19	0.16	1.21	1.21	0.23
Companionship x Number of Contexts ($\gamma30$)	0.01	0.11	0.05	1.01	0.96

* p < .05; ** p < .01

Table 11

HGLM Analyses Considering Ethnicity as a Moderator of the Association Between Friendship Companionship and Friendship Temporality

Predictor	γ	*SE*	t-ratio	Odds Ratio	*p*
Ethnicity x Companionship in School Model ($\gamma11$)	0.31	0.22	1.42	1.37	0.16
Ethnicity x Companionship in Neighborhood Model ($\gamma11$)	-0.15	0.18	-0.85	0.86	0.40
Ethnicity x Companionship in Church Model ($\gamma11$)	-0.20	0.15	-1.33	0.82	0.19
Ethnicity x Companionship in Child Care Model ($\gamma11$)	-0.21	0.15	-1.45	0.81	0.15
Ethnicity x Companionship in Family Friend Model ($\gamma11$)	-0.20	0.15	-1.34	0.82	0.18
Ethnicity x Companionship in Same-age Relative Model ($\gamma11$)	-0.22	0.15	-1.48	0.80	0.14
Ethnicity x Companionship in Extracurricular Model ($\gamma11$)	-0.20	0.15	-1.36	0.81	0.18
Ethnicity x Companionship in Other Efforts Model ($\gamma11$)	-0.28	0.15	-1.89	0.76	0.06

Table 12

HGLM: Prediction of Friendship Temporality, Ethnicity x Friendship Context x Friendship Companionship

Predictor	γ	*SE*	t-ratio	Odds Ratio	*p*
Ethnicity x School x Companionship ($\gamma 101$)	-0.84	0.31	-2.75	0.43	0.01**
Ethnicity x Neighborhood x Companionship ($\gamma 101$)	-0.08	0.40	-0.21	0.92	0.83
Ethnicity x Church x Companionship ($\gamma 101$)	0.09	0.46	0.20	1.10	0.84
Ethnicity x Child Care x Companionship ($\gamma 101$)	1.27	0.88	1.45	3.56	0.15
Ethnicity x Family Friend x Companionship ($\gamma 101$)	0.16	0.65	0.25	1.17	0.81
Ethnicity x Same-age Relative x Companionship ($\gamma 101$)	1.04	0.71	1.48	2.85	0.14
Ethnicity x Extracurricular x Companionship ($\gamma 101$)	-0.23	0.58	-0.39	0.80	0.70
Ethnicity x Other Efforts x Companionship ($\gamma 101$)	1.33	0.58	2.31	3.80	0.02*

* p < .05; ** p < .01

Figure 1

Nested Data

Level One — Friend 1, Friend 2, Friend 3, Friend 4, Friend ≤ 10

Level Two — Child