# INVESTIGATING THE SOCIAL NETWORKS OF ATHLETIC, ACADEMIC, AND TRENDY CHILDREN: HOMOPHILY BASED ON ACTIVITIES AND MOTIVATION

## Timothy D. Immelman & A. Michele Lease, Ph.D. (Educational Psychology)

## Abstract

The current study examines the degree to which activity preferences and motivation to engage in those activities predicts network homophily. Participants included 306 4th and 5th grade students nested within 6 grade-level units from 3 rural elementary schools in the southeastern United States. For each grade unit, participants were asked to nominate groups of students that "hang out together" or "just do a lot together." A social network of each grade unit was constructed to measure each student's peer-nominated attributes (athletic, academic, trendy) and self-reported motivation to engage in athletic, academic, trend-following activity. MR-QAP results indicated that various peer-reported behavioral and self-reported motivational attributes predicted the presence of hanging out relationships. Results suggest that grade levels may be organized by groups that share similar behaviors or interests. Gender and ethnicity predicted hanging-out relationships in all grade units.

## Introduction

Studies on demographic and behavioral homophily abound. The present study examines homophily in the context of activities and motivation to engage in those activities. Here, we examine behavioral and motivational homophily within elementary school peer networks. We hypothesized that grade-level affiliations would be clustered based on individual characteristics. More variation in a student's social network would mean they may be able to share in a wider range of activities and information. More perspectives and possibilities should be beneficial.

## Hypotheses

**H1a:** Athletic behavior (peer nominations) predicts affiliations.
**H1b:** Academic behavior (peer nominations) predicts affiliations.
**H1c** Trendy behavior (peer nominations) predicts affiliations.
**H2a:** Athletic motivation (self-report) predicts affiliations.
**H2b:** Academic motivation (self-report) predicts affiliations.
**H2c:** Trendy motivation (self-report) predicts affiliations.

*Bivariate Correlations Between All Individual-Level Variables (N=306)*

| Variables | M (SD) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. Athletic nom. | .083 (.093) | | | | | |
| 2. Academic nom. | .080 (.012) | .066** | | | | |
| 3. Trendy nom. | .064 (.070) | .137** | .075** | | | |
| 4. Athletic mot. | 16.14 (4.05) | .228** | .044 | .124** | | |
| 5. Academic mot. | 14.85 (3.48) | .106** | .095** | .108** | .730** | |
| 6. Trendy mot. | 14.94 (4.12) | .125** | .028 | .165** | .696** | .744** |

*Note. * p < .05. ** p < .01.*

## Research Design

Participants were from three rural elementary schools in the southeastern United States. The current study included 306 children (160 females and 145 males), 154 fourth grade students and 152 fifth grade students. The sample was 75% White.

**Network Perception**. Social Cognitive Mapping (SCM) procedure was used to collect network data on children's perception of their social networks. Participants were asked to consider the kids in their grade who "hang out together, or just do a lot together." These nominations were aggregated into co-nomination matrices. Nominations that exceeded the 75th percentile of the distribution were considered to be a "tie."

**Athletic, Academic, and Trendy Peer-Reported Nominations**. Calculated by the percentage of students in the specific grade unit who nominated each student for any of the three behavioral attributes included in the present study. Scores were then standardized to control for variability in the size of the grade unit (i.e., potential nominations).

**Athletic, Academic, and Trendy Self-Reported Motivation.** The survey packet included a 5-point Likert scale to reply to items that measured expectancy and value for each attribute. Those four questions were combined to create self-reported motivation to engage.

**Prediction of Hanging-Out Relationships.**
MR-QAP was used to explore the predictive value of each variable and hanging-out relationships. Peer-nomination data were converted into matrices for each grade unit In addition to these matrices, separate matrices were also created for gender and majority/minority ethnicity within each grade unit. Each variable was examined in turn with gender and ethnicity to control for demographics.
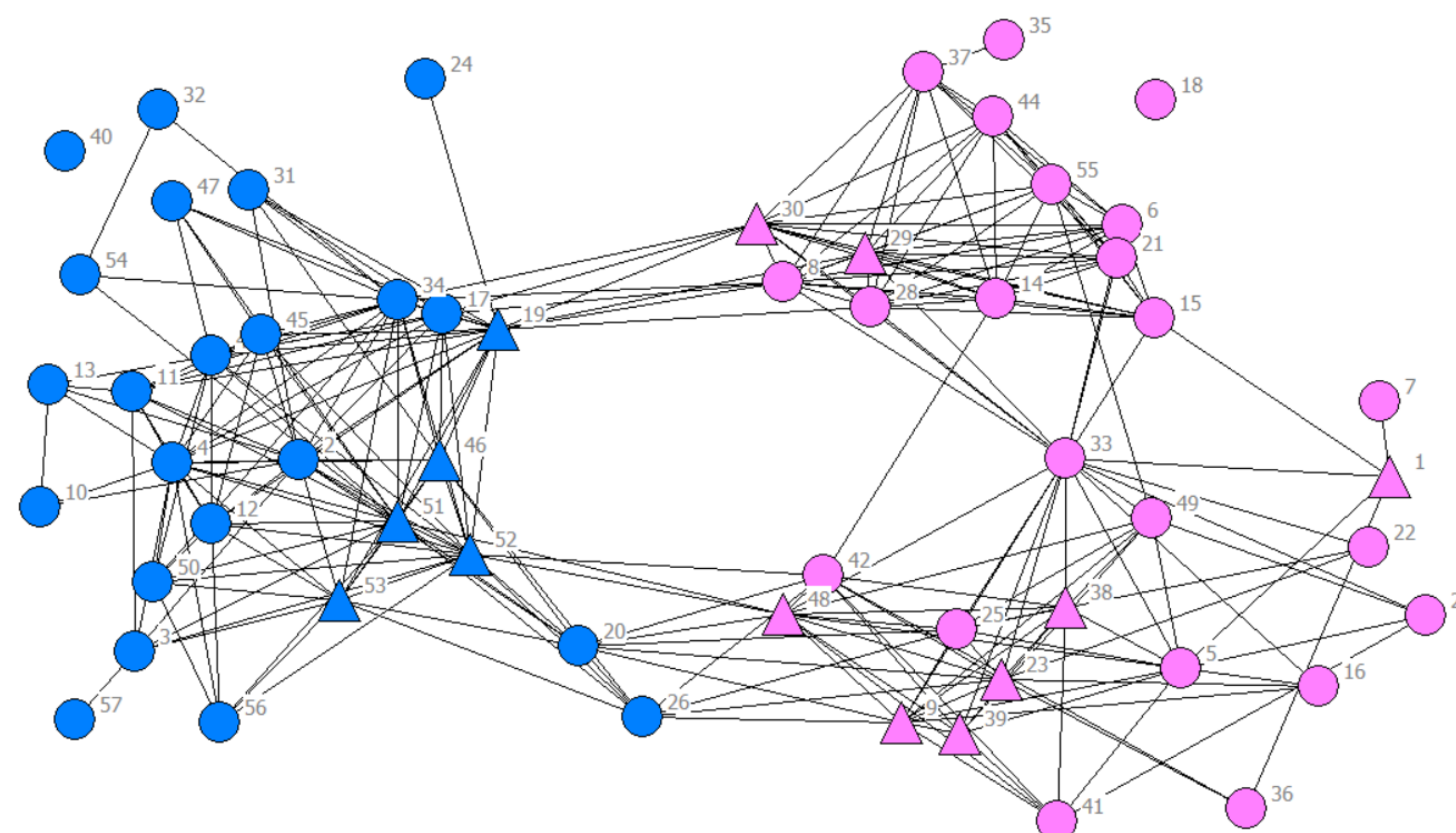


*Blue = Boy. Pink = Girl. Triangle >10% peer-nominated trend-following behavior. Grade Unit 5C.

## Results and Discussion

Results showed that activity preference and motivation predicted homophily 24 out of 36 chances, controlling for gender and ethnicity. Preference for trend-following behavior predicted homophily in all six grade units, and motivation to engage in trend-following behavior predicted homophily in four of six grade units. Preference for academic behavior predicted homophily in five or six grade units, and motivation to engage in academic behavior predicted homophily in three of six grade units. Preference for athletic behavior predicted homophily in four of six grade units, and motivation to engage in athletic behavior predicted homophily in three of six grade units. The next step is to determine whether motivation to engage in these behaviors predicts homophily above and beyond peer-nominated preference for the behavior.

| Analysis | Adj. R² | Std. † | p |
|---|---|---|---|
| **Grade Unit 4A** | | | |
| Co-Nominations | | | |
| Eq 1: Gender and Ethnicity | .113 | | .000** |
| Eq 1c: Trendy nom. | .151 | .149 | .000** |
| **Grade Unit 5A** | | | |
| Co-Nominations | | | |
| Eq 2: Gender and Ethnicity | .093 | | .000** |
| Eq 2b: Academic nom. | .097 | .068 | .048* |
| Eq 2c: Trendy nom. | .131 | .196 | .000** |
| Eq 2f: Trendy mot. | .122 | .172 | .000** |
| **Grade Unit 4B** | | | |
| Co-Nominations | | | |
| Eq 3: Gender and Ethnicity | .071 | | .000** |
| Eq 3a: Athletic nom. | .081 | .103 | .015* |
| Eq 3b: Academic nom. | .091 | .142 | .000** |
| Eq 3c: Trendy nom. | .121 | .225 | .000** |
| **Grade Unit 5B** | | | |
| Co-nominations | | | |
| Eq 4: Gender and Ethnicity | .128 | | .000** |
| Eq 4a: Athletic nom. | .153 | .160 | .000** |
| Eq 4c: Trendy nom. | .151 | .153 | .000** |
| Eq 4d: Athletic mot. | .141 | .116 | .003** |
| Eq 4e: Academic mot. | .137 | .137 | .012* |
| Eq 4f: Trendy mot. | .141 | .116 | .002** |
| **Grade Unit 4C** | | | |
| Co-Nominations | | | |
| Eq 5: Gender and Ethnicity | .095 | | .000** |
| Eq 5a: Athletic nom. | .097 | .043 | .032* |
| Eq 5b: Academic nom. | .104 | .098 | .000** |
| Eq 5c: Trendy nom. | .096 | .040 | .041* |
| Eq 5d: Athletic mot. | .098 | .055 | .015* |
| Eq 5e: Academic mot. | .098 | .060 | .008** |
| Eq 5f: Trendy mot. | .104 | .095 | .000** |
| **Grade Unit 5C** | | | |
| Co-Nominations | | | |
| Eq 6: Gender and Ethnicity | .144 | | .000** |
| Eq 6a: Athletic nom. | .164 | .145 | .000** |
| Eq 6b: Academic nom. | .148 | .061 | .033* |
| Eq 6c: Trendy nom. | .153 | .095 | .007** |
| Eq 6d: Athletic mot. | .152 | .090 | .023* |
| Eq 6e: Academic mot. | .151 | .085 | .032* |
| Eq 6f: Trendy mot. | .157 | .113 | .002** |

*Note. Number of permutations: 5,000; * p < .05; ** p < .01*
†Standardized coefficients

References available upon request.